TREE OF LIFE

How to get well & stay healthy

A Comprehesive manual with natural remedies for the whole family

Dr.Konstantinos Mouroutis
Physiatrist-Neuroscientist MD.PhD,ScD(Med)

Note to Reader:

The information in this book is presented for educational purposes. It is not intended to replace the services of healing professionals for conditions that require them.

Legal Notices

ACKNOWLEDGEMENTS

The preparation of a comprehensive book of natural therapies and preventive medicine involves many individuals. Much of the background for this project came from teaching at the **Wildwood Lifestyle Center and Hospital,** located in Wildwood, Georgia.
Special appreciation must be paid to Doctors Bernell and Marjorie Baldwin—physiologists, scientists, researchers, medical mentors and friends. W. D. Frazee, founding president of the above institution, has been a great inspiration to me, and deserves much credit for the incentive to write this book.
Great thanks to Agatha Thrash MD,for allowing to use lots of her material as well.
Each nurse, cook, therapist, secretary, health educator, administrative leader and teammate contributed to the healing experience from which this volume is written.
Special thanks to my editor Gerassimos & Vali for their help and aid in publishing this work.
My spouse ,faithfull co-worker and everlasting friend, Maria for her love, affection and great compassion in the hours which I was “absent” from her life.
In the memory of my father ,who he has ignited the spark to go forth doing this ministry of healing.
To all those poor souls who suffer under diverse conditions and maladies,with the hope that this small volume will contribute to the least (or most) for their total and full restoration of health.

Especially, however, it is to the Lord, that my highest gratitude belongs—for the strength and wisdom and health, without which it would be impossible to practice the healing arts, write coherently, or devise new and rational methods to approach in a physiologic manner the needs of patients, students, and families. To this great and merciful Creator, all true thanksgiving and praise ascends.

The editor

Dr. Konstantinos Mouroutis

PREFACE

There has never been a time in history when greater need exists for true preventive medicine and lifestyle changes to transform our society. New and mysterious diseases appear on the horizon each year. Preventable killer diseases, such as heart attacks and cancer, must be addressed and the death toll modified. *Tree of Life* has been published to help husbands, wives, fathers, mothers, children, physicians, students, and people everywhere to understand common symptoms, to learn to administer simple home remedies, and cooperate better with nature and their physicians in the treatment of common diseases.

It is not with any desire to criticize conventional medicine that *Tree of Life* was written. Rather, it is to inform average individuals, laymen as well as homemakers, in the art and the science of medicine, thereby saving not only needless medical expenses, lost time with unnecessary illnesses, but possibly many lives as well. Careful application of the preventive principles in this book will, without doubt, produce better health at home and offer more intelligent approaches to disease.

When using this book as a ready reference, please consult the table of contents and the index frequently. Both of these, as well as other tables, charts, and appendices will make *Tree of Life* even more valuable as a handbook for emergencies, a reference for study, and a guide to health and healing in your home. Remember nevertheless, to consult your physician. Seek professional advice for a detailed diagnosis in cases of serious accident, or any prolonged illness, especially in children.

Tree of Life has been written, not only for laymen, but also for those special physicians and nurses who are seeking rational and natural approaches to common diseases. Together with detailed and systematic study of the medical literature, this introduction to simple remedies contains knowledge with which every medical practitioner should be familiar. This author anticipates that *Tree of Life* will become one of the most valued health references in every family library. It is to the health and happiness of you, dear reader or patient, that time has been devoted in translating a unique medical education into terms understandable by everyone.

Dr. Konstantinos Mouroutis

Βιογραφικό σημείωμα

Ο Κωνσταντίνος Μουρούτης είναι Φυσίατρος με περαιτέρω κατάρτιση στις Νευροεπιστήμες(Master's Degree) και περαιτέρω εκπαίδευση στις Κυτταρικές & Μοριακές Βιοεπιστήμες(Doctor of Philosophy), και το διάστημα αυτό ολοκληρώνει τις σπουδές του στον χώρο της Θεολογίας.

Επιστρέφοντας από την Γερμανία με την σύζυγο του το 2005, η οποία είναι νοσηλεύτρια, με εκπαίδευση στην παιδοψυχολογία και σύμβουλος υγείας, δημιούργησε και διευθύνει το Ελληνικό Ινστιτούτου Νέας Ζωής(ΕΙΝΖ).

Συνεργάζεται και διδάσκει σε διάφορα Πανεπιστήμια και ιδιωτικές σχολές στην Ελλάδα και στο εξωτερικό ως προσκεκλημένος επιστήμονας ,ενώ παράλληλα είναι Καθηγητής Επιστημών Υγείας & Νευροεπιστημών στο European University Cyprus στην Κύπρο, στο Natural Health Science College στην Αθήνα,

Ο Dr. Μουρούτης είναι άτομο με αρκετά ανεπτυγμένες ευαισθησίες σε σχέση με το «ευ ζην» των συνανθρώπων του. Για τον λόγο αυτό παρουσιάζει σειρά ομιλιών και σεμιναρίων με θέματα υγείας, φέρνοντας την σύγχρονη Ιατρική κοντά στον απλό άνθρωπο, εξηγώντας τις αιτίες που διέπουν στην εμφάνιση διαφόρων νόσων καθώς επίσης και την οδό προς την ίαση και θεραπεία αυτών.
Το πρόγραμμα υγείας N.E.W.S.T.A.R.T (Καινούργια Αρχή), το οποίο εισηγείται, έχει χαρίσει υγεία & ευεξία σε αρκετούς ανθρώπους στην Υδρόγειο.Ο Dr. Μουρούτης είναι συχνά προσκεκλημένος σε ραδιοφωνικές & τηλεοπτικές εκπομπές, φέρνοντας κοντά στους ανθρώπους τα καλά νέα της υγείας.

Ο Dr. Μουρούτης είναι μέλος σε αρκετούς Ελληνικούς & διεθνείς επιστημονικούς οργανισμούς , συμμετάσχοντας άμεσα ή έμμεσα σε έρευνα, μελέτη και προώθηση της υγείας και ευεξίας των ανθρώπων. Μέχρι τούδε, έχει γράψει 7 βιβλία που σχετίζονται άμεσς με την υγεία και ευεξία.

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CHAPTER ONE

INTRODUCTION TO HEALTH AND DISEASE

It is possible for you and your family to be healthy. You, my friend, may **choose** to enjoy better health. However, that means much more than the mere absence of illness. True health involves physical, mental, emotional, and spiritual dimensions. It does not come by accident; vigorous health is a positive **achievement**. This book will introduce you to the exciting adventure of really knowing your body. The proper understanding of physical and mental health, and its mortal enemy, disease, will safeguard you against many worries. **Fear** of illness, disability, or suffering is a major destroyer of peace. Welcome now to the greatest adventure. We will become good friends in the exploration of true healing, jointly in partnership with our bodies.

Sickness in the home always presents numerous problems. There is usually anxiety in the heart of every family member, when a loved one becomes ill. Naturally, we harbor uncertainty concerning the diagnosis. Moreover, there is our built-in fear of death to be understood, as well as the frequent frustration experienced just caring for a sick person. Sometimes the numerous symptoms that characterize our health problem can be misinterpreted. They may be either trivial and self-limited, or much more serious than they really appear. All this must be studied.

Looking at illness from the viewpoint of home treatment, you must first consider the various possible **causes**. One author defined disease as an *effort of nature* to free the system from conditions that result from violation of the laws of health. That definition looks at the various symptoms as evidences that the body is trying to rid itself of poisons, toxins, or foreign invaders. In

fighting for a speedy return of health, your body generates numerous symptoms and signs - for example, fever or pain.

Approaching disease from this vantage point, we must first endeavor to **ascertain the true causes.** The cause may be *infectious* in nature, or it may be related to various *degenerative* processes of the body. Disease can in addition result from an *accident, injury,* or another form of *trauma.* The accumulation of toxins or foreign *viruses* may result in the development of a growth, usually referred to as *a neoplasm* or tumor. Other causes of common diseases include *allergic* reactions, *emotional* problems, *hormone* imbalances, *nutritional* disorders, and occasionally *inherited* tendencies.

Correcting wrong personal habits that have contributed to the cause of an illness may require a major dietary change. Exercise often needs to be

encouraged, or sometimes curtailed, depending upon the type of illness. Specific treatment recommendations will be presented in subsequent chapters as we consider individual diseases. Simple treatments in the home, such as water taken internally or applied externally—the use of hot or cold baths and showers—as well as simple poultices or herbs, may be therapeutically employed in any home setting to combat numerous ailments.

Most of the following natural methods *assist* "Nature" in her effort to restore right conditions and re-establish a normal balance to all of the body' s processes. It naturally follows then, that a proper understanding of physiology and some knowledge of the structure of our bodies, especially our anatomy, is crucial to a person seeking assistance to combat disease in a home—like, natural setting. Wise progressive physicians today encourage more independent judgment on the part of their patients, while teaching modern mothers how properly to care for their children. This **self—help trend** became increasingly important in the recent decade as medical costs skyrocketed. It could be even more vital in the future when specialized health care becomes unaffordable.

RATIONAL APPROACHES to ILLNESS

In dealing with any disease, the first step toward diagnosis is found in the **health history** and its interpretation. All facts of significance in the lifestyle of the individual up to the time of illness should be evaluated as possible contributors to the present problem. Allergies to drugs, foods, or environmental factors should also be evaluated in the face of present illness. Second, the careful analysis of the illness under question with all of its various symptoms, including other factors that have ensued from the first onset to the present need to be considered. Most diseases fit certain patterns. As organ systems and their disorders are discussed, these patterns will become obvious. Thus, the intelligent interpretation of a medical history

provides one of the most valuable clues to understand illness and its proper diagnosis.

Remember this one caution in the proper interpretation of health history. Accurate recall for the patient is very important. However, most sick individuals color their subjective awareness of symptoms with substantial concern over the consequences of illness to their families. **Fear** of disease, disability, and even death may affect the person's response to the otherwise clear question or stimulus. Although the story of every illness is extremely important, in most cases, it is not definitive, but rather narrows the number of diagnostic possibilities, and thus guides any subsequent investigation. A physician's skill, knowledge, wisdom, and experience are most clearly evidenced in his history taking. Likewise, the thorough analysis of symptoms in home health care will provide your best clues toward understanding disease.

COMMON SYMPTOMS and THEIR INTERPRETATION

Some generalizations are in order to help you evaluate the most common symptoms of disease. These questions may be asked: When did it begin? What were you doing when the problem started? Have you ever had such a problem before? What measures seem to give relief? Has the disease progressed; or, is it getting better? Are there measures that promote comfort? Where does the primary problem seem to be located? Are there other

symptoms that appeared to begin at the same time?
This approach to history taking, whether applied to pain, headache, stomachache, and many other common symptoms, will help you elicit the true story of illness in a direct and constructive manner.

Loss of Appetite

The medical term for this is *anorexia.* This symptom may be associated with a disease of the digestive system, such as an ulcer, or some problem located elsewhere in the body, such as an infection or emotional reaction.

Nausea and Vomiting

Nausea is a feeling of discomfort in the region of the stomach, often associated with loss of appetite. When vomiting occurs, the patient throws up the contents from the stomach through his mouth. This action results from a sudden strong contraction of the diaphragm and stomach muscles. Strong emotional reactions, effects of drugs or their withdrawal, excessive fatigue, and many diseases such as ulcer, appendicitis, gallstones, even brain tumor, are examples of diseases that produce nausea and vomiting.

Diarrhea

An increased number of loose or watery stools is known as *diarrhea.* The frequency may vary from one or two, to thirty or forty per day. Usually diarrhea is a symptom of irritation in the bowel and not an actual disease. The body tries to rid itself of this irritation by increasing the movements of the intestines. Because of the rapid passage of the intestinal contents, there is more fluid in the stool, and sometimes its passage is associated with abdominal pain or cramping. In severe cases, dehydration may occur, resulting in thirst and dryness of the mouth and skin. A sudden and excessive loss of fluid is especially dangerous in infants and small children.
There are many causes of diarrhea. Nervousness may produce this condition. Many types of laxatives produce an increased number of loose stools. Spoiled food, over-ripe fruit, contaminated canned foods, all irritate the intestines. Diarrhea may also be a symptom of intestinal obstruction, infection of the intestine, or inflammation of the colon, called **colitis.** Microorganisms, such as the amoeba, typhoid bacillus, and other bacteria may cause diarrhea.

Constipation

The individual who produces fewer stools than usual has constipation.
The fecal material may be hard and dry. This condition may be a symptom of organic disease, such as an obstruction in the bowel or just increased muscle tone. Nervous conditions can also cause constipation. In such a situation, the colon becomes spastic, preventing normal elimination. Lack of exercise may result in constipation, as does a diet low in roughage, fruits, and vegetables. Drinking an insufficient amount of fluid or taking narcotic drugs for pain may inhibit intestinal contractions *(peristalsis)* and trigger this symptom.

Dehydration

This results from the loss of water within the body's tissues. Normally water makes up over 75% of your body's weight. Replacement of water is the body's most urgent dietary requirement. A patient who is dehydrated has extreme thirst, dry tongue, parched lips, dry skin, and reduced amount of urine. If this disturbed water balance is not corrected, particularly in the infant, the patient may lose consciousness or die. Loss of fluid may result

from excessive perspiration, from diarrhea or excessive urination, from hemorrhage, or persistent vomiting. Inability to drink fluids occurs in unconscious patients and in those with nausea and vomiting, and severe loss of appetite. Complications in the aftermath of surgery may result in slight dehydration due to fever or vomiting.

Edema

Fluid retention in the cellular tissues results in swelling. *Edema* is the medical term for *dropsy.* It may be a symptom of heart disease, kidney disease, or a local obstruction of lymphatic or venous circulation. Edema usually occurs in the part of the body that is closest to the ground and tends to settle by the action of gravity.

Chills

When a patient has a chill, he feels cold, and shivers and shakes. This increased muscular activity raises the body temperature. It can be compared with the shivering that occurs when a person is cold and trying to get warm. When the chill is the result of nervousness, the patient generally does not have a fever. However when chills are symptoms of infection, fever commonly results.

Fever

A patient with a fever has a body temperature above normal. The average normal temperature varies in different parts of the body, but in the mouth it is 37° Centigrade or 98.6° Fahrenheit. The rectal temperature is slightly higher at 38° C. or 100.4° F. Fever is usually a symptom of infectious disease. However, strenuous exercise, heat stroke, and dehydration can also cause a fever. This is one of the most important defenses of the body against infection. Measures to reduce fever should not be used too frequently, except in cases of extreme temperature elevation.

Cough

Coughing is a violent expulsion of air following a deep respiration, as a rule occurring involuntarily. Usually it is a symptom of irritation in the respiratory tract, but it may be a nervous habit or a means of attracting attention. A cough usually, however, is a symptom of a disease. Sore throats, tuberculosis, whooping cough, bronchitis, pneumonia, or lung tumors can all cause coughing spells. Inhalation of food particles, or irritating substances, such as tobacco smoke, dust, or other toxic gases, can trigger a coughing episode. At times blood will be present in the sputum. This alarming event, called *hemoptysis,* may occur in patients with heart failure or diseases of the lung, such as pneumonia, cancer or lung abscesses. When a chronic cough causes persistent respiratory distress, the cause should promptly be identified.

Shortness of Breath

A patient who has difficulty breathing may be showing signs of obstruction in the respiratory tract or of lung disease, heart disease, or some

blood disease, such as anemia. Medically, this condition is called *dyspnea,* and basically refers to shortness of breath.

Cyanosis

When the skin around the mucous membranes, the lips, or the nail beds turn bluish in color, the patient has *cyanosis.* This is a sign of inadequate oxygen transport in the red blood cells. Sometimes in lung disease an

insufficient supply of oxygen is obtained from the air. In other conditions the circulation becomes stagnated and cyanosis is seen.

Nose Bleeds

Bleeding from the nose usually occurs from injury. A delicate blood vessel within the nostril gets ruptured. Seen particularly in children, this may be secondary to picking the nose. Medically this condition is called *epistaxis.* Nosebleed may also be a symptom of certain disease conditions, such as high blood pressure, rheumatic fever, measles, influenza, or a disorder of blood clotting mechanism. Injuries, trauma to the face, and the excessive use of certain drugs, such as aspirin, may cause nosebleeds.

Variation in Heart Rate

Sometimes the heart can beat exceptionally slowly. This may be a symptom of disease and is medically termed *bradycardia.* Kidney failure, underactive thyroid gland, heart disease, or overdose of certain cardiac drugs, such as digitalis may produce slowness of the heartbeat.

At times the heart beats too rapidly. This is called *tachycardia.* This may be associated with fever, an overactive thyroid gland, emotional excitement, hemorrhage, heart failure, or just a normal effect of exercise. When the heartbeat is irregular, the diagnosis is more difficult. This may be the result of aberrant contraction in the heart or a complete instability of heart rhythm. An electrocardiogram is usually needed to establish the precise diagnosis.

Pain

Pain is one of the most common symptoms that prompt an individual to receive therapy. It results from irritation and stimulation of nerves that carry the feeling of pain to the brain. Actually, pain is a protective mechanism of the body. It is usually a warning that certain parts of the body are either diseased or injured. Sometimes, however, pain may be felt in an area of the body that is not diseased. This is called *referred pain.* Study the next chapter for a more comprehensive outline to various causes of pain and their rational treatment.

Convulsions

Convulsions are sometimes called spasms or fits. This usually is a sign of serious disease in the body. Such problems as epilepsy, a brain tumor, brain injury, stroke, or high blood pressure can cause convulsions. Some poisons, and drug overdoses (such as Insulin), may also produce seizures. First aid requires the patient’s protection from injury. A rapid and careful diagnosis, then, is important to understand the mystery of these seizures.

These symptoms and many others comprise the signs of diverse disease states. It is easy to see how complicated actually determining the cause may become. Nevertheless, an important review of these signals, and their interrelationships,

may provide the missing link to understanding the real causes of illness.

EXAMINATION OF THE BODY

Generally, the examination is called the **physical**. This involves a look at the patient, his skin, his eyes, his level of alertness, and any defects visible in any part of the body. It is important to touch and feel certain areas where there is pain, to see if it is due to afflictions in the skin, the muscles, or deeper structures. At times percussion is used to elicit areas of deeper tenderness. Tapping skillfully over an organ, such as the heart or liver, serves to outline

its size, as well as compare that area with others for tenderness or distention, as when the bowel is obstructed and there is accumulation of gas.
Finally, the use of a *stethoscope* has achieved a degree of prominence in medical diagnosis and many uses of this may be learned by the layman, with a little practice. This instrument, invented by Laennec about 1816, has gone through many refinements in recent years. The stethoscope is commonly used to take the blood pressure. This measurement is extremely important in a physical examination, and can be done by anyone who understands the physiology involved and has practiced to attain proficiency.
The **blood pressure** is measured by wrapping the inflatable cuff, connected to a measuring device, around the arm, or sometimes the leg. Usually this is done with the patient in a sitting position, but it can also be done lying down or standing up, if the position of the patient is noted and the blood pressure compared with other postures. The standard of measurement is that of mercury barometer. Usually the pressure is measured in millimeters of mercury. The pictured instrument measures the blood pressure on a round dial. It is called an *aneroid*—type device, or *sphygmomanometer*.
The blood pressure cuff, after being calibrated, is inflated by closing the screw knob on the blood pressure cuff. Careful listening over the artery detects the beginning of a sound. This is intermittent and corresponds to the beat of the heart, pumping blood through the now opened vessel. The

pressure continues to drop; where it just begins to fade, a second muffled sound occurs, termed the diastolic pressure. The two figures are conventionally recorded as a fraction, i.e., 120/80. This is called the blood pressure. It is felt that although the pressure increases with advancing age in most people, a pressure higher than 140/90 is abnormal. Usually the lower values correlate with a lessened risk of cardiac disease or stroke
The **pulse** is also an important measurement. It can be obtained by counting the pulsations in any artery of the body. The radial artery on the thumb side of the wrist, the carotid arteries in the neck, the femoral arteries in the groin, or small vessels in the forehead can also be used to measure the number of beats per minute the heart makes. More skill is required to assess the character of the pulse.
The *thermometer* should be held between two fingers only, shaking it down with a quick thrusting motion before taking the temperature.
To read the thermometer, hold it at eye level and rotate it slightly until the mercury column becomes visible behind the scored degree markers.
Recording the temperature of the body is a useful marker of physical health, After the patient holds the thermometer under his tongue for three or more minutes, a careful reading of the thermometer usually gives the accurate temperature. If water or cold liquids have been taken just before the measurement, it will not be accurate until the mouth has returned to its previous temperature. Rectal temperatures can be taken and should always be used in children under four years of age. A patient who is comatose or unable

to hold a thermometer in his mouth, and conditions where extreme shortness of breath prevents the taking of the temperature orally likewise require a rectal or axillary approach. Newer electronic thermometers are useful and safe in children, though more expensive. Most thermometers are available with

directions that explain how they can be read. Disinfecting the thermometer in alcohol between patients is important for household hygiene.

Examination of the **head** can detect many health problems. The nose should be inspected to see if one side or the other is blocked, and if the blockage is due to mucous, blood, or some foreign material. Symmetry of the organs of the face, including eyes, ears, nose, and mouth, as well as the facial muscles, smiles and grimaces, can also be a helpful sign.

Inspection of the **ear** canals can be done with a flashlight or even better with an *otoscope.* This instrument has a small light, operated by batteries, attached to a speculum— a tiny plastic cone— that is inserted carefully into the ear to visualize the drum.

Shine a light into the **eyes** to reveal if both pupils are of equal size. Both should constrict when the light is beamed on them. The eyes should both track back and forth, and up and down in a normal direction.

The **teeth** should be in good condition with no inflammation, redness, or swelling of the gums. The tongue should be a healthy pink color. Redness of the **tongue** may indicate an inflammation, such as scarlet fever or a B vitamin deficiency. If the throat contains pus or a material resembling cottage cheese, infection with *Streptococcus* or yeast is quite likely. In children the tonsils protrude and could actually block the oral cavity, hindering swallowing or respiration. Unusual coating of the tongue is seen in certain disease states, particularly in tobacco users and in those who are dehydrated.

Careful palpation of the **neck** to estimate the size of the thyroid gland, to assess the quality of the pulses in the carotid arteries, and to detect any enlargement of the lymph nodes is advisable. At times stiffness in the neck, in association with high fever may be the first sign of meningitis, a serious infection in the lining of the brain and spinal cord.

Respiration should be free and unhindered. Both sides of the chest should expand equally and there should not be unusual retractions of soft tissues between the ribs during the phase of inhalation. Listening with the stethoscope over the lungs may disclose the presence *of wheezes.* These musical sounds are caused by bands of mucus in the bronchial tubes and may be associated with asthma, emphysema, or pneumonia. *Rales,* or crackling sounds, resemble the rubbing of hair between the fingers. They may indicate fluid in the small air sacs of the lungs. This is often found in pneumonia, and sometimes can also indicate congestion from heart disease.

The **heart sounds** are of particular interest and the “lub dup” sounds are familiar to anyone who has listened to the heart. The chest usually does not rise markedly, although a thrust may be felt with the hand on the left side of the breast bone, during heart contraction. Listening with the stethoscope should disclose a regular rhythm. Murmurs are sounds produced by damaged valves, where blood is flowing either in the wrong way or under difficulty, and may sound like the rushing of water through a pipe that is narrowed. These murmurs should be brought to the attention of a physician.

The **abdomen** should be soft. The liver edge is sometimes felt below the right rib margin. Tenderness in the right lower corner of the abdomen should be observed for possible appendicitis. Unusual bulges in the lower abdomen or groin may indicate a *hernia.* This rupture sometimes requires surgical repair. Listening with a stethoscope over the abdomen should disclose the

presence of bowel sounds. These occur intermittently and are a gurgling or rushing in nature. The abdomen should not be unusually drum—sounding *(tympanitic),* as when distended by air, or completely dull—sounding to percussion, as when there is an excess of fluid accumulation.
The examination of the external *genitalia* may give some clue to disease. Female disorders will be covered in the chapter on obstetrics.
The **extremities** should move freely with a normal range of motion. *Varicose veins* are dilated blood vessels in the legs. These may be troublesome. Occasionally thrombosis or clotting occurs. The calves of the legs should not be tender and the ankles should move freely. Stiffness in the ankles or pain in the calves when the foot is raised may be an early indicator of a clot in the veins, called *thrombophlebitis.*
Reflexes may be assessed by stroking the abdomen to elicit a muscle contraction. Tapping just below the knee cap, with the leg hanging in a relaxed position, should elicit a kicking motion. The Achilles' tendon behind the heel can be tapped briskly with a small blunt object to provoke a foot contraction in a downward direction. The *Babinski* sign is an abnormal reflex, except in infants, and involves a spreading of the toes with raising of the great toe when the bottom of the foot is stroked with a sharp object. This indicates central nervous system disease, and is often seen after a stroke or in multiple sclerosis.
The gait is evaluated by having the patient walk, noticing if there is tremor, unsteadiness, limping, or lack of coordination. Balance can be tested at the same time. Coordination of all the extremities is important in evaluating a person for neurological disease.

LABORATORY TESTING

Most laboratories today require requisitions from a physician to run various tests. New self-care home kits are now available for many screening tests, which can be done at home. Some of these are as follows: pregnancy test, blood cholesterol, blood glucose, and stool testing for occult blood. The latter is useful to periodically evaluate possible blood loss, as well as causes for anemia. Urine testing for protein or sugar, and fasting blood sugar measurements, are good screening tests for diabetes. These tests can be done on a group basis at health fairs, and for a considerably reduced cost.
Cholesterol and **triglyceride** evaluations are periodically performed in coronary screening programs, and occasionally, it is possible to secure chest x-rays, electrocardiograms, and even treadmill tests from public health groups or private groups screening for cardiovascular disease. Sometimes the YMCA, religious camp meetings, or special health fairs in shopping centers will provide these tests at a very reasonable cost. Cooperative physicians may provide other laboratory determinations in the case of acute disease.

TYPES OF THERAPY

In the privacy of your home, there are several types of therapy that deserve particular attention. Naturally, it is our instinctive tendency to look for the simplest way of getting well. Often people resort to **drugs** in an attempt to cure themselves, only to find that the drug has changed the form and location the disease, producing new symptoms or complications that might even be worse than the original disease. Furthermore, the expense of drugs, together with their long term risk are reason for great caution in their

use by the home health practitioner.

Diet is an extremely important type of home treatment. In case of illness, the patient's diet should be simpler than is usually eaten. Sometimes a fruit fast for a few days will help a person recover without a grain of medicine. Juices have a more limited place. Sometimes skipping a meal and drinking water or fruit juice will allow nature a chance to build up defenses against the invader. This should be done at mealtimes, not drinking juices all through the day.

Herb teas have a valued place in healing. Hence, a special chapter is being devoted to their use. Medicinal teas are usually prepared by mixing one teaspoon of the herb in a cup of boiling water and allowing it to steep for three to five minutes, until the tea is ready. The herb is strained out before drinking. Other herbal beverages made with parsley or comfrey, create the so called "green drink," which is popular in health food stores today. There are many common symptoms that can be treated safely with herbs, making it unnecessary to consult a physician nearly as often as we do these days.

Hydrotherapy seems to be the most neglected home remedy. These treatments involve the use of water, and include such remedies as the hot half bath, cold shower, cold mitten friction, contrast bath, the heating compress, and other therapies discussed in chapters devoted to the specific treatments. Hydrotherapy offers a powerful technique of shifting the circulation in your body. Its purpose is to decongest certain areas, then improve the ability of an organ to fight infection and overcome any invasion of germs. *Perfect health depends upon perfect circulation.* Water therapy is one of the most valuable ways to achieve this goal.

Exercise is also a valuable remedy in the treatment of many diseases, particularly those of degenerative nature. The chapters on heart disease, vascular disease, respiratory problems, and nervous disorders will particularly contain advice in regard to therapeutic exercise.

Sunlight, fresh air, abstinence from harmful substances**, rest,** and the mind healing influence of **trusting in Divine power** are also powerful remedies that one can use in the home to combat disease and restore right conditions within the system. We will apply these in the next chapter to approach the subject of pain, one of the most common symptoms that afflicts mankind.

General Problems-Fatigue

DEBILITY (Weak, Debilitated Conditions)

SYMPTOMS—A feeling of exhaustion all or much of the time.

CAUSES—This can be caused by a number of dietetic, physical, or hormonal problems, some of which are mentioned below.

TREATMENT—

• Some weak individuals only need rest, fresh air, sunshine, pure water, nutritious meals, and freedom from worry.

• Some need to clean the toxins from their body. Those who do so, may feel weaker for a few days, but afterwards will generally feel much better and stronger.

• Over-indulgence in sex is an excellent way to debilitate the body. Worry wears out the life forces. The use of coffee, tea, tobacco, alcohol, and processed and junk foods are also sources of trouble.

• Trust in God, obey the Ten Commandments, and live as healthfully as you can.

• A good program of better nutrition, more rest, less tension, and taking time to go outdoors and work or walk 30-60 minutes at a time will do much to build the body. A cold morning shower invigorates the body.

• As an aid in rebuilding the body after acute or chronic illnesses, the following herbal formula is quite helpful. It combines nutritional benefits with herbal tonics:

Mix together 1 oz. parsley root, 1 oz. alfalfa; 1/2 oz. of each of the following: dandelion root, comfrey root, yellow dock root, burdock root, nettles leaves, and dulse. Place in an uncovered pot with a quart of water and simmer for 20 minutes. Let it cool, then strain. Place the liquid back in the pot and simmer uncovered for one hour or until it is reduced to one cup.

Stir in one cup of unsulphured blackstrap molasses and refrigerate. Take one tablespoonful 3 times a day.

• A variant method would involve taking the powdered, mixed, dry herbs (not having gone through the cooking stage), place them in #00 capsules, and take 2-4 caps with each meal.

EMOTIONAL FATIGUE SYNDROME

SYMPTOMS—A variety of symptoms could be involved: continual tension and stress, anxiety, depression, loss of interest, no zest for life, inability to cope with everyday problems, mental and physical fatigue, loss of confidence, fear of failure, panic attacks, a sense of hopelessness, mood swings, muscle spasms, sensitivity to noise, negative attitudes, and constant worrying.

CAUSES—Emotional stress depletes the nervous system, weakens emotional stability, and fatigues the body. Such stress weakens the functions of the body organs (such as the stomach and liver). This in turn results in malnourishment and a release of toxins into the system. Primary causes would include constipation, autointoxication, nutritional deficiencies, a negative outlook on people and circumstances, and negative input from other people.

TREATMENT—

• Learn to relax, as well as exercise out-of-doors. Do everything with an attitude of thankfulness toward and trust in God, believing that He will work everything out for the best.

• Eat high fiber foods, fruits, vegetables, juices, sprouts, grains, nuts, seeds, and beans. Vitamins A, D, C, and E are important. Take a multivitamin tablet twice a day. Make sure you are getting enough calcium, magnesium and potassium.

CHRONIC FATIGUE

SYMPTOMS—A continual feeling of exhaustion.

CAUSES—Fatigue is a symptom pointing to other problems; it is not a disease itself. Chronic fatigue is generally caused by a high-fat and refined carbohydrate diet, along

with emotional stress. Any of the following only adds to the exhaustion: drugs, caffeine products, smoking, alcohol, poor eating habits.

Chronic fatigue can forewarn of an undetected problem such as anemia, hypoglycemia, diabetes, allergies, malabsorption of nutrients, candidiasis, poor circulation, hypothyroidism, Epstein Barr virus (EBV), mononucleosis, or cancer.

It can also be caused by weight loss, obesity, and, if characterized only by a lack of energy, boredom.

TREATMENT—

• Obtain adequate rest, exercise, and a well-balanced diet.

• Deficiencies of vitamin B complex, C and D, or iron may cause fatigue. Also needed: vitamins A, pantothenic acid, B12, folic acid, C, E, iron, calcium, magnesium. Acidophilus is very helpful to improve digestion and the production of certain B vitamins in the bowel.

• Exercise every day outdoors. Try to induce some perspiration. Also helpful are ice-cold foot baths, daily morning bare-foot grass walks, alternative hot and cold showers, "salt glow" skin rubs, and a dry friction rub with a skin brush.

• Helpful herbs include American ginseng, lavender, rosemary, sweet flag, pasque flower.

EPSTEIN BARR VIRUS (Chronic Fatigue Syndrome)

SYMPTOMS—Recurrent upper-respiratory tract infections, exhaustion, extreme fatigue, sore throat, swollen lymph nodes, achy joints and muscles, memory loss, low-grade fevers, headaches, poor concentration, night sweats, irritability, and deep depression. Because the symptoms resemble flu and other viral symptoms, EBV is not always diagnosed correctly. In fact, it is frequently misdiagnosed as hypochondria, depression, or psychosomatic illness.

CAUSES—Chronic fatigue syndrome is caused by the Epstein Barr virus (EBV). This condition has become widespread in America. the CDC in Atlanta estimates that tens of thousands of people are infected with it. Yet they are unaware of it since symptoms are frequently not prominent.

This virus is also the cause of infectious mononucleosis. When mononucleosis occurs, the person becomes very ill for two to four weeks, or longer if the diet is not corrected.

EBV is a type of herpes virus, and is related to the viruses that cause genital herpes and shingles.

Keep in mind that chronic fatigue syndrome can also be caused by certain other factors: candida albicans (yeast infection), anemia, chronic mercury poisoning from dental amalgam tooth fillings, hypoglycemia, insomnia, and hypothyroidism. *(All of the above problems are dealt with in articles in this book.)*

Once EBV is contracted, it always remains in the body. Fortunately, most people develop antibodies to it. The problem occurs when they become run-down and overworked—and then the dormant EBV strikes. It is more likely to reveal its presence when other diseases are also present, such as arthritis, lupus, multiple sclerosis, cancer, or AIDS.

EBV causes the body to overreact, resulting in a burn-out of the immune system.

Epstein Barr virus is very contagious, and can be transmitted by close contact, kissing, sharing food, coughing, and through sex.

Blood tests for antibodies against candida albicans, EBV, HBLV and CMV are available for specific diagnosis. Yet the fact remains that EBV symptoms are similar to those for many infections, anemia, parasites, endocrine diseases, and AIDS.

TREATMENT—

• Antibiotics do not help since EBV is a virus. Recovery takes time, rest, and good nutrition. Drink lots of water; at least 8 glasses a day. Regularity in bowel movements are essential. Add fiber to the diet. Cleansing enemas should be used occasionally. Get plenty of rest. Do not overexert yourself with heavy exercise.

• Remove from the diet all junk foods, processed foods, fried foods, stimulants (coffee, tea, soft drinks, sugar), and white flour products (bread, spaghetti, etc.)

• It is said that 60 percent of those with EBV also have candida, therefore it is best to eat some form of acidophilus. Eliminate sugar, alcohol, mushrooms and all fungi, molds and yeast, fermented foods such as sauerkraut, soy sauce, dry roasted nuts, potato chips, soda pop, bacon, pork, lunch meats, and all types of cheese.

• Eat some brand of "greens" tablets. Chlorophyll is vital to proper diet and healing. Make green drinks from whizzed up greens and pineapple juice.

• Take no aspirin, since it may induce Reye’s syndrome (especially in children).

• Helpful herbs include red clover to cleanse the blood, echinacea to help the glands, garlic as an antibiotic, and saffron to help reduce pain.

CANDIDIASIS **(Yeast Infection, Candida, Thrush, Chronic Fatigue Syndrome)**

SYMPTOMS—Symptoms include bad breath, constipation, chronic infections, depression, fatigue,
food cravings, gas, headaches, adrenal and thyroid problems, hiatal hernia, indigestion, insomnia, mental confusion, discomforting odors, panic attacks, and menstrual problems.

CAUSES—This is an infection caused by *candida albicans,* a normally harmless yeast *(saprophyte)* found in your intestines. Some of it is also regularly found in your mouth, throat, and genital tract. But this organism goes wild when its competitors, the normal bacteria of the intestines, are killed by long term use of antibiotics. This enables the candida to greatly increase in number.

Stress causes a reduced production of stomach acid, which lets candida enter the stomach—a place where it normally is never found. As a result, less digested food enters the intestines, much to the liking of the candida which feeds upon it.

This yeast-like substance proliferates so massively that it enters the blood stream and is carried to many parts of the body, weakening the immune system and causing various problems.

In the oral cavity, candida is called thrush. White sores may develop on the tongue, gums, and inside the cheeks.

In the vagina, it results in vaginitis. Large amounts of a white, cheesy discharge and intense itching occur.

Other effects are food allergies, athlete's foot, ringworm, jock itch, and even diaper rash.

Candida is not transmitted sexually, but mothers may pass thrush on to their newborn children. The baby's tongue will appear red and be covered with white spots (generally appearing 8-9 days after delivery) that will appear like milk spots. On the buttocks, thrush may resemble diaper rash.

Because their vaginal environment is more conducive to the growth of yeast, diabetic women can contract candida easier than diabetic men.

You may wish to request a blood test for antibodies against *C. albicans*. A skin test, similar to a TB tine test, is also available. A positive result is clear-cut. Unfortunately, a negative one provides less certainty that one does not have it. Candida is difficult to diagnose, since a culture cannot be used. This is because this yeast is a normal constituent of everyone's intestines.

TREATMENT—Try to eliminate food allergies, hypoglycemia, any infections, and indigestion.

• Replant *Lactobacillus acidophilus.* This is the friendly intestinal bacteria which the "wonder drugs" earlier killed off. Lactobacillus is a primary competitor of candida for food in the intestine. Use a retention enema containing 4 oz. warm water and 10

billion organisms (empty twenty 500,000 organism capsules into the water). Use 3 times weekly, 10 minutes each time.

• Helpful herbs include burdock, echinacea, ginger, golden seal, bee pollen, kelp, lobelia, passion flower, pau d'arco, psyllium, slippery elm, ginkgo, and suma.

• Useful nutrients include vitamin B complex with extra biotin: 100 mg 3 times a day. / B12 lozenges: place 2,000 mcg lozenge under tongue 3 times a day between meals. / Essential fatty acids: Wheat germ oil, primrose oil, etc. / Garlic capsules: 2 caps 3 times a day. / Multivitamin cap, 2-3 times a day. Take vitamin C up to bowel tolerance.

• Also helpful: vitamin A: 25,000 IU one to two times a day; B6: 100-250 mg one to two times daily; vitamin E: 400-800 IU daily; biotin; aloe vera juice: 2 oz. four times per day.

• Do not use oral contraceptives while you have candida. Do not use sugary foods. Do not use cheese, alcohol, chocolate, fermented food, gluten grains (wheat, oats, rye, and barley). Do not use meat, pickles, raw mushrooms, vinegar, or any yeast products.

• Yeast thrives on sugars and carbohydrates. A vegetarian nondairy diet of protein, unrefined grains, and vegetables is best. Onions and garlic are very helpful. Fresh, raw garlic is the best. Avoid meat-based proteins, since these are associated with abnormal bowel flora development. Avoid yeasted grain foods.

• Avoid antibiotics and steroids, because they destroy the competing bacteria and allow candida to overgrow.

• Wear cotton underpants, rather than close-mesh synthetic or silk.

• An alternative to douching is the sitz (sitting) bath. Fill a shallow tub to the hip with warm water, then add salt (enough to make the water taste salty, about 1/2 cup) to match your body's natural saline state. Add 1/2 cup vinegar to help rebalance the vaginal pH to 4.5. Then sit in the water, knees apart, until it gets cool. The bath will do the cleansing. Douching can be done with a similar mixture (4 teaspoons vinegar to 1 pint of water).

INFANT THRUSH—Four percent of infants have oral thrush. Keep rubber nipples clean, as well as all objects going into baby's mouth. If bottle-feeding, boil nipples and bottles 20 minutes after thorough washing (candida spores are heat resistant). Give plain water to cleanse the mouth after every feeding. Inspect the mouth before each feeding, and begin treatment if thrush is seen. Swab infected areas with saturated solution of baking soda 3-4 times a day. Garlic overpowers candida, so it may be swabbed on the lesions several times a day.

JET LAG

SYMPTOMS—Fatigue, lethargy, irritability, inability to sleep, trouble concentrating and making decisions, perhaps even diarrhea and a lack of appetite.

CAUSES—Jetting across several time zones produces a sudden violation of your body's inner clocks. If, from America for example, you fly to Australia or Europe, you will experience jet lag—for you will suddenly be thrust into meals and wakefulness in the middle of "your night," and awake when your body tells you it is time for sleep.

DEALING WITH IT—Here are several suggestions, one or more of which may help:

• Get extra sleep beforehand. Drink plenty of fluids and be quiet and relaxed during the flight. Fly by day, arrive at night—and then soak up some extra rest. Get out in the sunshine the next day; this will help your body adapt. Obtain some exercise after arriving. Some people try living by their home clock—but most cannot do that.

• Try to avoid important decisions during the adjustment days. The general rule is that it will take one day of adjustment for each time zone crossed. So be prepared.

• When crossing only two or three time zones, it is known that going west is easier on the body than going east. This is because it is easier to get more sleep on arriving, since you experience more hours that particular day

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NAUSEA

SYMPTOMS—A sick feeling in the stomach, similar to motion sickness.

CAUSE—A variety of things can induce nausea, including nutritional deficiencies, food allergies, pregnancy, and cancer.

A common cause of nausea is worms or constipation. *See both topics.*

TREATMENT—

• Use the treatments suggested for motion sickness; especially the charcoal and ginger root. It is said that powdered ginger root will definitely eliminate nausea. Do not forget the final solution: Go ahead and vomit.

FAINTING **(Syncope)**

SYMPTOMS—The person passes out and becomes unconscious.

CAUSES—Fainting points to some other problem, such as hysteria, epilepsy, insulin shock, heat exhaustion, lack of oxygen, or anemia.

TREATMENT—

• Immediately check the pulse, heart beat and breathing. Often a dash of cold water in the face helps. Loosen tight clothing, open windows and doors, and have others stand back so the person can get more air. Use your fist to pound slightly on the back between the shoulders to stimulate the heart. When able to drink, give him a little cold water.

• If you have it, place 8 drops of antispasmodic tincture on the back of the tongue. If you know in advance that the person has these fainting problems, you may want to prepare the tincture and keep it on hand.

• Sometimes artificial respiration or oxygen is needed. As soon as the person is conscious, try to find the cause and deal with it.

• If a person has frequent fainting spells, give him an herb tea of mint, skullcap, catnip, rue, mistletoe, rosemary, and small amounts of cayenne.

Heat to neck; short cold application to chest and face. Alternate Compress to spine; percussion of the chest with the hands dipped in cold water or with the end of a cold towel; vigorous centripetal friction; rhythmical traction of the tongue

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HEAT EXHAUSTION

SYMPTOMS—Thirst is generally the first symptom of heat exhaustion, followed by general malaise, weakness, tiredness, a loss of appetite, headache, pallor, dizziness, and a general flulike feeling that may include nausea and even vomiting. Sometimes the heart races and concentration becomes more difficult.

Heat exhaustion is less severe than heat stroke, and may occur over several days out in the sun. Dehydration may eventually lead to blood volume loss, poor heat regulation, and shock.

CAUSE—Heat exhaustion is generally caused by water depletion (dehydration), and more rarely by a lack of salt in the diet (salt depletion). When we sweat, we lose both water and salt (as well as potassium and sodium).

TREATMENT—

• First, get out of the sun, so the body temperature will not continue to rise and the body will not lose more water and salt. If you remain in the sun, even though resting and drinking fluids, your temperature will continue to rise! Do not return to the sun for many hours!

• In the early stages, drink large amounts of mineral-rich vegetable and fruit juices to replace water and electrolyte loss in perspiration. Water, by itself, does not replace electrolytes. Potassium-rich vegetable broths are helpful.

PREVENTION—Plan ahead, so you will not come down with heat stroke later:

• Drink water. Drink diluted electrolyte drinks. Avoid salt tablets. They do the opposite of what they are supposed to do. The increased salt in the stomach keeps fluids there longer.

• Do not use caffeine, alcohol, or tobacco. The first two accelerate dehydration, and the smoking constricts blood vessels.

• Over several days' time, adapt yourself slowly to the sun. Do not overexert when out in it. Avoid working in the mid-day. Wear a hat, and keep on a light-colored shirt.

• Pour water over your head and shirt, especially if the air is not humid. Keep drinking lots of water.

HEAT STROKE—1 (Sunstroke)

SYMPTOMS—The body temperature goes very high (105^{o} F. or more!), sweating is reduced, there is a strong headache, accompanied by tingling, numbness, confusion of mind and delirium. The pulse becomes rapid, and breathing is faster. Blood pressure rises.

DANGER—Heat stroke is a serious emergency. If not properly cared for, the person can go into convulsions, permanent brain damage, and even death.

TREATMENT—

• You must begin the cooling treatments immediately; do not wait. Be sure to immediately apply a cold cloth to the head.

• If near a hospital, wrap him in an ice-cold sheet and immediately take him to the hospital. Continue to apply more ice-water as you travel. Take his temperature at least every 5-10 minutes, and do not let it go below 101^{o} F. Once below this, you can stop the ice treatment but monitor the temperature that it continues to move towards normal and not back up.

• If you are not near a hospital, put him into a ice-cold bath and use fans to aid cooling. If an ice bath is not available, use a cold stream or lake until medical help can be obtained. While he is in the cold bath, rub the arms, legs, hands, and feet to increase circulation.

HEATSTROKE (SUNSTROKE)—2 (J.H. Kellogg, M.D., Formulas)

SUNSTROKE—Increase the body's heat elimination. From a height, pour water (60^0 F., or less) onto him while two people rub him vigorously. Give special attention to the spine. Ice Compress to the head and neck. Continue until the temperature falls to 101^0 F.; Cool Enema; cold water drinking when possible. Ice Bag to the head and neck during the Cold Pail Pour. As soon as the temperature falls to near the normal point, give a sweating Wet Sheet Pack.

AFTER-TREATMENT—Should consist of daily graduated cold applications (Tonic Frictions) to slowly build up the body. The head should be thoroughly cooled before each application.

HEAT EXHAUSTION—Hot Full Bath, 3-8 minutes; Hot Blanket Pack; Hot Enema followed immediately by short Cold Mitten Friction, Cold Wet Sheet Rub, afterward wrapping in warm blankets.

THREATENED CARDIAC FAILURE—Cold bag over heart for 15 minutes every hour; Cold Mitten Friction every 2 hours; Hot Blanket Pack for 10 minutes, followed by Cold Towel Rub; Hot Enema followed by Cold Enema; artificial respiration.

- These are all very grave conditions and must receive immediate attention. Immediately call your physician and begin water treatments.

MOTION SICKNESS (Car Sickness, Sea Sickness)

SYMPTOMS—Nausea, excessive salivation, vomiting, cold sweat, queasy feeling, stomach churning. Possible dizziness, sometimes fainting.

CAUSE—The semicircular canals in the inner ears detect your vertical position. When there is too much jostling back and forth, movement which you do not have control over (as when riding in cars, planes, or boats), your sensory system may become overloaded. Since the eyes also sense vertical balance, when what you see does not seem to agree with what your labyrinthine receptors in the inner ear sense,

then mental confusion results. Nausea occurs when the brain does not know what to tell the body to do. This weakens the stomach.

The experts say that nausea at such a time also indicates that your liver is not doing well.

TREATMENT—

• If at sea, lie down and close your eyes. If in a car seat, rest your head back on the headrest, so it is somewhat faced upward. This relaxes the semi-circular canals.

• Charcoal tablets may help settle the stomach.

• Ginger capsules are highly recommended.

PREVENTION—

• Prevention is the best. Do not eat heavily processed meals, drink liquor, or eat junk food. Some people do well eating a few whole-grain crackers before and during the trip. Avoid smoke and food odors. Stay cool, and get fresh air!

• You may wish to take 5 charcoal tabs, one hour before the trip begins. Another method is 2 ginger tablets every 3 hours, beginning one hour before the trip. Ginger helps prevent motion sickness, by absorbing acids and thus preventing nausea.

• Some recommend additional magnesium (500 mg, one hour before trip) and vitamin B6 (100 mg one hour prior to trip) to relieve anticipated nausea.

• In order to settle the stomach before a trip, use the nervine herbs: hops, scullcap, chamomile, and valarian root.

Here are more preventative suggestions:

• Travel at night. When it is dark, what you see conflicts less with what you sense, and the air tends to be fresher.

• Avoid junk food, smoking, and alcohol. Keep a window open and stay near it, all the while breathing that fresh air.

• Sit still and do not look around very much.

• Look straight ahead. If you are in the driver’s seat, you will sense (and have) better control of the movements taking place. Do not read while riding. Keep your eyes on something stationary far ahead.

COLDS

CATARRH (Excess Mucus)

SYMPTOMS—

• Runny nose, headaches, postnasal drip, sore throat, sinusitis, gastritis, glue ear syndrome, and respiratory problems.

CAUSE—Catarrh is the excess mucus which occurs with many different nasal, throat, tracheal and bronchial infections; for example, croup and whooping cough.

TREATMENT—

• Although excess mucus is normal with some diseases, yet avoiding certain foods will lessen the amount of mucus produced. Some foods are high mucus-forming. Overcooking of food is part of the problem. Pasteurized milk, white flour, sugar foods, and meat should be avoided if you want to cut down on mucus. Eat more fresh fruit and vegetables. If you have cooked food at a meal, begin with raw food. This will help the digestive system handle the increased load that cooked food places upon it.

• Indigestible food also forms higher levels of mucus in the body. Any specific allergen (a food or substance toward which you are allergic) may cause catarrh. Orientals are particularly sensitive to milk products (up to 85% of them lack the digestive enzyme needed to handle milk sugar, which is lactase).

• Other irritants include fumes, smoke, foreign objects, chemicals, drugs, spicy foods, salt, pepper, alcohol, and poor food combinations.

• Use steam to break up the catarrh (mucus) so you can sleep well. Eucalyptus oil also helps. Be sure and drink enough water. As intake decreases, the mucus thickens and cuts off breathing.

• During the illness, you may drink primarily of fluids (fruit juices) at times. But at those times when you eat, emphasize a high fiber diet using raw food. When grains are eaten, they should be whole grains, such as brown rice, millet, and buckwheat. You may wish to take a psyllium seed and herbal mixture to clean out the digestive tract of mucus. Herbs for this purpose could include burdock, aloe vera, ginger, alfalfa, cascara sagrada, kelp, and slippery elm.

NUTRIENTS—Vitamins A, B, complex, C, and bioflavonoids are important. Also needed are calcium, magnesium, and potassium.

Helpful herbs include chickweed, mullein, plantain, sorrel, white oak bark, bayberry bark, comfrey, eucalyptus leaves, white pine needles, and oregano.

COMMON COLD

NOTE—Most of the following recommendations would also apply to coughs and flu.

SYMPTOMS—Colds are a general inflammation of the mucus membranes of the respiratory passages. Symptoms include nose and throat irritations, watery eyes, fever, headaches, chills, muscle aches, and temporary loss of smell and taste.

A heavy cold may take the form of acute or chronic infection, such as flu, grippe, tonsillitis, sinusitis, bronchial catarrh, chronic cold, or similar virus-type infection.

Children who frequently have colds or flus may have thyroid malfunctions.

COLDS AND FLU—How can you tell whether it is a heavy cold—or the flu? Here is the difference:

Headache - prominent in flu, but rare in a cold.

Fever - frequent and sudden in flu; rare in a cold.

Fatigue - extreme in flu and can last 2-3 weeks; there is only mild fatigue with a cold.

General aches - common and often severe in flu; slight in a cold.

Runny nose - occasionally in flu; common with a cold.

Cough - common with flu and can become severe; only mild to moderate in a cold.

Sore throat - sometimes with flu; common with a cold.

CAUSES—In one sense, the cause is a variety of viruses. But in another, the person has allowed himself to become run-down so that the virus was able to take hold. Factors which lower the body's resistance to virus infection are overexposure to cold, fatigue, recent or present infections, allergic reactions, and inhalation of irritating dust or gas, overeating, wrong eating, and sugar or alcohol consumption.

The common cold is not an infection that leaps out and attacks an innocent passerby. It is not even a disease. A cold is the cure of a pre-diseased condition. and the symptoms are attempts by the body to reestablish normal conditions. The body is carrying out a "spring cleaning."

The cold virus can change size and shape, making it impossible to produce a suitable vaccine. There are more than 100 different viruses which cause colds. Symptoms last for 7-14 days regardless of therapy. The incubation period is very short (1-3 days), instead of the 10-21 days for most viruses. The cold seems to suddenly appear. When you get a tingling nose and throat, nasal mucus, or scratchy throat; do not wait for the coughing, weakness, and fever to begin! Go to bed.

TREATMENT—

• A cold is the result of not living on the best level. Once it arrives, it cleanses toxins from the system and, along with the rest, enables the person to get back into better

shape. A cold is actually a blessing, for it forces people to rest who, otherwise, would prematurely develop debilitating, chronic, and life-threatening diseases.

• A cold is always in the upper respiratory tract (nose, mouth, throat, and upper bronchials). If congestion develops in the chest, the cold is worsening into something even more serious!

• Do not ignore a cold and drag on with your work. As soon it develops—go to bed, drink fresh lemon juice in water, and settle down to getting well!

• If you do not know how to take care of yourself, you had better contact a physician, especially if:

(1) Chills and shortness of breath occur.
(2) An accompanying fever goes above 101^{o} F. for more than three days, or any fever above 103^{o}F.
(3) Yellow or white spots appear in the throat.
(4) The lymph nodes under the jaw and in the neck become enlarged.
(5) Any hot, extreme pain, such as earache, swollen tonsils, sinus pain, or aching lungs or chest occurs.
(6) There is excessively large amounts of sputum or sputum that is greenish or bloody.
(7) There is extreme difficulty swallowing.
(8) Wheezing occurs.
(9) There is shortness of breath.

• If you have a sore throat, beware of white or yellow patches on the throat. These can be *Group A beta-hemolytic streptococci,* which can damage the heart muscle. Have a throat swab done when there might be a question about this.

• Children with high fevers should see a physician within 24 hours.

• Treatment should include as much vitamin C as you can take, without producing diarrhea (up to 5,000 mg at a time). In acute cases, 1,000 mg of C every other hour. Also take bioflavonoids (200-600 mg), small amounts garlic. (along with vitamin C, it is an excellent germ fighter), vitamin A (50,000 units for not more than one month; then down to 25,000 units), calcium lactate or gluconate (6 tablets), brewer's yeast, B6 (100 mg; it is a natural antihistamine, as well as providing helpful protein), vitamin E (600 units), betaine hydrochloride, zinc gluconate lozenges, and vitamin F (unsaturated fatty acids) reduces the frequency and duration of colds.

• In acute stages when fever is present, the person should abstain from all solid foods and only drink fresh fruit and vegetable juices, diluted (50-50) with water, plus herb teas. The proper treatment of colds is to encourage elimination through all channels, so that elimination through one channel does not become excessive.

• As soon as the crisis subsides, let the person have some protein and other food.

• Drink potato peeling broth twice a day. The peelings should be one-half inch thick (throw away the centers). Boil it for about 20-30 minutes; strain, cool, and drink. Make it fresh every day.

• Avoid chills, get adequate bed rest, and take a little salt to replace that lost in sweat.

• After the fever subsides, a low calorie raw fruit and vegetable diet can be eaten. This should include plenty of raw juices and herb teas, sweetened with a little honey. Some raw seeds and nuts can be eaten, but should be chewed well.

• Herb teas can include rose hips, golden seal, chamomile, peppermint, slippery elm, ginger, desert tea. Eucalyptus oil is helpful. Put 5 drops in a hot bath or 6 drops in a cup of boiling water. Put a towel over your head and, without burning yourself, inhale it. Licorice root tea, drunk daily, soothes an irritated throat and relieves coughing. You might wish to take hop tea to help you get to sleep at night.

• Avoid aspirin (especially for children), since it causes internal bleeding. There is also another problem: What you think is of little consequence may be flu or chickenpox—which are caused by a virus. Colds are also. When children who have certain viral infections take aspirin, their risk of developing Reye's syndrome is greatly increased! This is a rare but fatal brain and liver disease. The same warning applies to cold medications containing aspirin.

• As already mentioned, take vitamin C, zinc, and garlic. Avoid being depressed; try to be cheerful. There is healing in this. Keep looking to Jesus and praying to God. Let a friend read a Bible promise to you every so often; think about it. Rest and relax and do not worry. Keep warm, but get fresh air from time to time. Take a lot of liquids. Gargle three times a day with saltwater (1 glass of warm water with 1 teaspoon of salt mixed in). Take a hot shower.

There are a variety of water treatments which can be applied:

• Take a hot mustard foot bath to increase eliminations and reduce head and sinus congestion.

• Take a hot Epsom salt bath while drinking sweating teas. Pour Epsom salts (1-2 lbs.) into a hot tub. While soaking, drink 2-3 cups of hot pleurisy root tea. Immediately after the bath, get into bed and cover with plenty of blankets, so profuse sweating can begin.

• Take a hot ginger chest compress.

• Use salt water nasal douche to open the sinuses.

• Apply a trunk pack. Apply a full cold trunk pack each evening. The objective is to stimulate skin elimination and induce perspiration. Leave it on for at least 3 hours at night.

• Take a steam inhalation, using eucalyptus, pine needles, cloves, and/or thyme.

• Apply a cold compress to the neck, and leave it on for 1-3 hours or all night. It must (must) dry out before morning, or the value has been lost. If it does not change into a heating compress, it can increase the sore throat condition.

PREVENTION—Once contracted, a cold must run its course. So it is better, far better, to prevent it than cure it. The best prevention is to live right, eat right, get enough out-of-door exercise to strengthen the body, and get enough rest. Do not skimp on sleep at night, especially in the colder months. Do not share food with someone who has a cold. Be sure and dress warmly enough when it is cold. Do not sit in a draft. Do not go outside with a wet head.

Many people, who are especially susceptible to colds, never get them. They have learned to live above the level where they contract such infections. Learn the distant early warning signs.

COUGHS

SYMPTOMS—Frequent coughing, either productive (producing phlegm) or not.

CAUSES—Coughs often accompany colds and other infections, and are a reflex action to clear the airways of mucus, foreign bodies, an irritant, or some type of blockage.

A bronchial cough is tight and painful. A sinus infection generally drips mucus down the throat, producing a cough.

Croupy coughs produce a loud raspy sound, bringing up phlegm with difficulty. A few drops of lobelia herb under the tongue every few minutes will relax the cough muscles and may loosen the mucus. Be sure and drink enough water and other liquids, so the mucus does not become thick.

Damage to the lung tissues, caused by pneumonia, can result in a chronic cough.

While on the subject of coughs, there are two other kinds of cough:

Lung cancer or tumors can produce a mild cough, which gradually becomes worse, possibly accompanied by blood.

Then there is smoker’s cough. Lung cancer may follow, unless the tobacco is thrown away.

If there is any suspicion of tuberculosis, read that article.

TREATMENT—

• Apply eucalyptus oil inhalations, 10 min. a day, will help.

• An excellent cough syrup is made by mixing equal parts lemon juice and honey, with a little cayenne pepper tea. Take 1 tsp. when needed.

• Boil a quart of water; lower the fire as much as possible and add a half tsp. cayenne pepper. Wait a few minutes, then wet a towel in the water, wring it out and wrap it around the neck. Keep the water hot and change this fomentation every 3-4 min, doing this for a half hour while feet are soaked in hot water.

• Helpful herbs include licorice, fig leaves, mullein, vervain, oregano, bay leaves, hyssop, and thyme. Take 3 cups a day (1 tsp. granulated herbs per cup boiling water. Never boil the herbs. Never use aluminum ware).

• Mix thick flaxseed tea with 1-2 drops eucalyptus oil, and drink slowly.

• Add a tsp. salt to a pint of soft, warm water; snuff it up the nose, then blow it out gently. Repeat till the nose is entirely clean of mucus. Then gargle the throat and rinse the mouth out thoroughly with similar salt water.

• Whenever there is a cold, keep the nose and mouth clean. This will tend to keep the cold from going down into the lungs.

• Cleanse the colon with high enemas. Continue until they reach the upper part, where the transverse colon is.

• If there is any nausea or bad feeling in the stomach, take an emetic to vomit it out. Lukewarm water, or water with a little salt in it will generally help do this. Drink all the water possible, and then run the finger down the throat. Repeat till the stomach is clean. Then drink a few cups of a hot herb tea (such as sage, hyssop, yarrow, black cohosh, peppermint, or chamomile). Later in the day, drink some more.

• Keep quiet and stay in bed. Take only fruit juices (or lemon juice in hot water). Later drink the broth of thick white potato peeling soup (also called potassium broth).

HYDRO—Heating Chest pack, to be changed every 6 hours. If temperature is elevated, change chest pack every 2-4 hours. Copious water drinking, 2-3 pints daily.

Fomentation to spine; sipping hot water; Chest Pack. Cold Compress to the throat; gargling hot water several times daily; Steam Inhalation 15 min. every hour, sipping half a glass of hot water when inclined to cough.

For irritable cough, without expectoration: Sipping very hot water; gargle hot water; Steam Inhalations; avoid mouth breathing; keep air of room warm (75-80^{o} F.), and moist with steam; carefully avoid exposure of back of neck, chest, or shoulders to drafts, or to chill by evaporation during treatment.

For cough with viscid expectoration: Copious hot water drinking; fluid diet; Fomentation to chest every 2 hours, followed by Heating Compress.

For painful cough: Fomentation to chest every 2 hours; tight bandage about chest to restrain movement if necessary; Revulsive Compress for 15 min. every 2 hours or often as needed. Dry cotton Chest Pack between applications.

For ineffective cough: Increase expulsive power by rubbing, or percussion of the chest with the hand dipped in ice water, or slapping the chest with a cold, wet towel.

CHILLS

SYMPTOMS—Sweating, shaking, trembling and unable to feel warm even when bundled up with blankets.

CAUSES—Chills often occur with flu and other virus infections.

TREATMENT—

• Do warm-ups with clothing covering the head and neck.

• It is very likely that something serious is developing. Immediately start on a cleansing program. Go to bed, fast on fruit and vegetable juices, or lemon juice. Soak the feet in hot water, get into a tub of hot water, or take a steam bath.

• Herbs include blue vervain, cayenne, chamomile, oregano, hyssop, skullcap, peppermint, white willow, and catnip.

VIRAL INFECTIONS

SYMPTOMS—fever, muscular aches, chills, and headaches.

CAUSES—Viruses can be especially serious. Viral infections include the common cold, measles, influenza, tonsillitis, croup, infectious hepatitis, mononucleosis, asthma, and certain bladder infections.

TREATMENT—

• The various chemical drugs (including antibiotics) fight bacterial invasion. But they are powerless against viral infections. Yet, in contrast, the body uses the same variety of powerful defenses to resist and overcome both bacterial and viral crises! So help your body win the battle. The Lord has placed strong defenses against sickness within each of us. We can claim them more fully if we are living according to the laws of health.

• Vitamins C, A, and B6 are especially helpful. Also see the rather complete list of helpful suggestions under Common Cold.

• Vitamin A is a powerful antioxidant and free radical eliminator. Vitamin B complex and selenium (500-1,000 mcg/day) are other effective agents.

• Vitamin C (2,000-10,000 mg daily, in divided doses) works in the white blood cells to produce a powerful antiviral task force.

• Zinc (50-100 mg daily) is also important in adding the body's own immune functions.

• Helpful herbs include echinacea and goldenseal, Garlic is another powerful helper.

PREVENTION—When the invaders are strong and many, and the body is in a weakened condition, then trouble begins. Keep yourself in good health. Get enough rest, exercise in the open air, and maintain a balanced, nourishing diet.

INFLAMMATION

SYMPTOMS—Swelling, heat, pain, tenderness, fever, discharges, edema, and/or allergies.

CAUSES—Inflammation can result from injury, strain, arthritis, bacterial infection, and cancer. A part of the body is reacting to trauma or infection. Any organ or tissue can become inflamed. When internal, it is often associated with bacteria.

Inflammation is a reaction of the body to defend and heal itself after something occurs (a bruise or injury, etc.). Heat, redness and swelling are generally present. When severe, a fever may accompany it. If not cared for promptly, infection could develop.

TREATMENT—

The treatment is similar to that for the other conditions discussed in this section on Infections.

• Bromelin, taken on an empty stomach and with a small amount of magnesium and L-cysteine, has anti-inflammatory activity. Calcium, kelp, and alfalfa are also important. Primarily eat raw foods, and avoid all junk food.

• Charcoal poultices or clay packs are helpful.

• Drink a tea of hyssop, chickweed, vervain, mint, and sage. Read again the section on the Common cold.

Place a compress of fenugreek or chamomile on the area.

INFLUENZA—1 (Flu, La Grippe)

SYMPTOMS—Prostration, fever, chills, high fever, sore throat, headache, aching behind the eyes with light sensitivity, abdominal pain, hoarseness, cough, enlarged lymph nodes, aching of the back and limbs, and frequent vomiting and diarrhea. The person feels cold and shaky, but is sweating. Serious complications, such as pneumonia, sinus infections, and ear infections, can develop.

The earliest signs are similar to those for the common cold: weakness, headache, and aching in the arms, legs, and back. He may feel feverish, and then chilly. The flu also generally brings on a dry throat and cough, and extreme weariness.

CAUSE—Also known as "the flu," influenza is a highly-contagious viral infection of the respiratory tract. It is easily spread by sneezing and coughing. Individual strains continually change, so vaccines are not very successful.

There are three main types of influenza: A, B, and C. Type A is the most common; all are air-born and most frequently spread by droplets (coughing, sneezing, kissing, and using drinking glasses and towels). Flu epidemics occur every 1-3 years, generally in the autumn or winter. A major epidemic occurs about every 10 years, because the virus type has changed.

Because it is a viral infection, influenza may appear suddenly after an incubation of only 1 to 3 days (most frequently 48 hours after exposure). So begin treating it as soon as you can. The quicker you start treating a physical problem, the easier and more quickly it can be solved. After 2-3 days the fever usually subsides and, if cared for properly, the other acute symptoms rapidly diminish. But the cough, weakness, and fatigue may persist for several days or weeks.

TREATMENT—

• Give fluids (fruit juices, vegetable soups) to replace fluid and electrolytes lost through sweating, diarrhea, fever, and vomiting. Drink at least 10 glasses of water a day to keep lung secretions thin. Give vitamin C to bowel tolerance (3,000 mg or more, spaced through the day). Also vitamin A and zinc (50 mg thrice daily), and B complex. Vitamin A protects the lining of the throat.

• Eat lightly and carefully. When it is time to make the transition from liquids to food, emphasize bland, starchy foods. This would include dry toast (so it will be chewed better), bananas, applesauce, boiled rice, cooked cereal, and baked potatoes.

• Antibiotics have no effect on the flu virus, and should not be used. Do not smoke, drink liquor, use coffee, or eat junk food.

• Because influenza can lead to secondary bacterial pneumonia, it is also well to include echinacea and goldenseal.

• Take an enema at the first symptom. For fever, take catnip tea enemas, plus a 1/4 to 1/2 teaspoon of lobelia tincture every 3-4 hours until the fever drops. This is also for children.

• The eucalyptus oil vapors are also good.

• Another worthwhile formula is slippery elm bark powder (1 tablespoon), mixed with boiling water (1 quart) and honey (half a cup). Put in a jar and give one teaspoon every 3-4 hours for cough and sore throat.

• Gargle with salt water to help relieve the sore throat (1 teaspoon salt in 1 pint warm water). Soak the feet in hot water to ease a headache or nasal congestion. Occasionally breath deeply in and out to refresh and strengthen the lungs, and remove wastes.

• Humidify the air in the room. Make sure the air is warm, but also has a current of air to keep it oxygenated. But it should not be drafty. (A draft on the patient is defined as occurring when the skin becomes cooler than the forehead, or the patient is not comfortable.) Keep warm. Wear warm, close-fitted bed clothes. Back rubs may be given to increase comfort.

• Helpful herbs include cinchona bark, ginger, eucalyptus, slippery elm, sea buckthorn, yarrow, white willow, and wormwood.

PREVENTION—Be careful, for influenza is sometimes fatal, especially for children and the elderly. Those who are not hardy and poorly nourished are especially susceptible. If you have a respiratory ailment (asthma, emphysema, pneumonia, etc.), solve it as soon as possible. One thing can lead to another till you are prostrated with sickness. The flu can often lead to ear infections, pneumonia, and sinus infection.

Children who frequently come down with the flu should be checked for hypothyroidism. Check his temperature under the arm with a thermometer.

A case of flu is becoming serious if the voice becomes hoarse, he develops pains in his chest, he has difficulty breathing, or he starts bringing up yellow- or green-colored phlegm. It may be best to see a physician, if this has not already been done.

INFLUENZA—2 (La Grippe) (J.H. Kellogg, M.D., Formulas)

INCREASE GENERAL VITAL RESISTANCE AND AID ELIMINATION OF POISONS—Sweating (Full) Baths, followed by vigorous cold applications (Cold Pail Pours, Showers, Frictions, etc.); Hot blanket Pack or Hot Full Bath; Hot Leg Bath with Fomentations to chest or spine, followed by Cold Mitten Friction, Cold Towel Rub or Wet Sheet Rub; Sweating Wet Sheet Pack. Copious water drinking; large Enema once or twice daily.

PAIN IN HEAD, BACK, AND LEGS—Very Hot Leg Pack till general perspiration begins, followed by Cold Mitten Friction, or Cold Towel Rub, keeping limbs very warm.

FEVER—Sweating Wet Sheet Pack and Neutral Bath; Cold Mitten Friction; Cold Towel Rub; copious water drinking; Cooling Enema.

HEADACHE—Hot and Cold Head Compress, Fomentation to face and especially over eyes (but be sure eyes are closed and covered with dry cloth).

NAUSEA—Ice Bag over stomach.

VOMITING—Hot and Cold Trunk Pack; withhold liquids.

ENEMA—Neutral Enema after each bowel movement. Cold Abdominal Compress, changing every 15 minutes.

COLIC—Hot Enema; hot Fomentation over abdomen.

INFLAMMATION OF EYE OR EAR—Fomentation over affected part; derivative treatment to legs; Hot Leg Bath; Hot Foot Bath; Prolonged Leg Pack.

RHEUMATOID INFLUENZA—Hot Blanket Pack 2-3 hours once or twice daily, followed by Cold Mitten Friction carefully given and wrapping in dry flannels. Repeat pack twice a day. Fomentation over especially painful parts, several times daily, followed by Heating Compress in interval between.

GENERAL METHOD—Combat lung and visceral congestion by maintaining warmth and activity of the whole cutaneous surface, giving special attention to the lower extremities so as to divert blood away from the cranial and pulmonary cavities. Sweating procedures may be employed with vigor and frequently repeated if followed by short Cold Frictions given in such a way as to avoid general chilling of the surface.

FEVER

SYMPTOMS—A fever is an elevation of body temperature above normal. A fever is not a disease, but a symptom that an infection or disease is present. Fevers are common in a wide variety of diseases, from mild to severe.

Symptoms include headache, flushed face, body aches, nausea, little or no appetite, and sometimes diarrhea or vomiting. Skin may be warm with some perspiration, or hot and dry. The elevated temperature is an effort by the body to burn out infection, and the perspiration helps eliminate toxins. Therefore a partial fever may be helpful to the body in fighting the infection. If the fever does not get too high, let it run its course. Many enzymes, antibodies and white blood cell responses are better during slightly elevated temperatures.

MORE ABOUT FEVERS—Normal is generally considered to be within a range of 97^{o} to 99^{o} F., but it can vary among individuals. If it is 100^{o} F. or above, it is a fever. One should not have undue concern unless the body temperature rises above 102^{o} F. in adults or 103^{o} F. in children. Then call a doctor immediately.

When body temperature is not more than 5^{o} above normal, it does not completely interfere with body functions. But levels above 105^{o} F. are dangerous; at 106^{o} F., convulsions are common; at 108^{o} F., irreversible brain damage frequently results.

TREATMENT—

• If the fever gets too high (above 102^{o} F. in adults or 103^{o} F. in children), immediately immerse the body in tepid water to lower the temperature.

• Other suggestions would include: ice packs on the forehead, running cool water over the wrists, cool baths and drinking certain herb teas, such as feverfew, cinchona bark, and/or white willow. Others include meadow-sweet, sea buckthorn, European holly, and mugwort. A poultice can be made from echinacea root to lower fever. Linden tea can induce sweating to break a fever. Black elder tea is also good.

• Keep in mind that the fever is not the infection; the infection must be solved, as well as the fever.

• Vitamin C and lemon juice are especially helpful. Other nutrients include vitamin A, B complex, B1, D, calcium, potassium, and sodium.

• There is a loss of protein during a fever. Caloric needs are higher, and metabolism is increased. Greater fluid intake is required. As fluid is lost, sodium and potassium are lost. Drink plenty of distilled water; also fruit and vegetable juices. It is important that solid food be avoided until the fever reduces.

• Nutrient-rich juices are especially helpful: beet juice, carrot juice, etc.

• For a feverish child, embed a grape or strawberry in a cube of frozen fruit juice, and let him suck on it.

• Never give aspirin to children. It can trigger Reye's syndrome, a potentially fatal neurological illness.

• He needs lots of oxygen. Make sure there is a current of air in the room; open the window. Get smokers out of the house.

• Wet compresses help reduce temperature. Remove them and apply new ones as he heats the old ones. Apply them to the forehead, wrists, and calves. Keep the rest of the body covered.

• Cool tap water can be sponged on the skin to dissipate excess heat. Wring out a sponge and wipe one section at a time, keeping the rest of the body covered. Because of rapid evaporation, you will not need to dry him with a towel.

• Some people shiver when they have a fever. In such cases, immerse them in a tub of warm water. This will also lower temperature. For babies, give room-temperature baths. Sandwich them between wet towels, which are changed every 15 minutes.

• If very hot, remove more covers and clothes; if chilly, add them.

• When signs of fever are gone, be sure to prevent chilling.

• Putting too many clothes on a child can actually cause a fever.

REOCCURRENCE—If feverish flu-like symptoms keep reoccurring; in children this might indicate diabetes, and in teenagers and adults Epstein Barr virus.

FEVER DISEASES, ACUTE (J.H. Kellogg, M.D., Formulas)

FEVER DISEASES (ACUTE): COMPLICATIONS—This section deals with a number of complications that commonly arise during febrile (fever) disorders.

GASTRITIS—Fomentation every 3 hours, followed in intervals between by Heating Compress at 60^0 F., to be changed every 30 minutes.

ENTERCOLITIS—Large Hot Enema (l00^0F.), followed by Neutral Enema (96^0 F.) after each bowel movement. Fomentation to abdomen every 3 hours. Heating Compress at 60^0 F. during intervals in between, changed every 30 minutes.

PERITONITIS—Hot Enema 3 times daily; Fomentation every 3 hours; Heating Compress at 60^0 F. during the intervals between, changing every 30 minutes.

PERICARDITIS and **ENDOCARDITIS—**Fomentation for 30 minutes every hour, followed by Ice Bag or Cold Compress, to be removed for 5 minutes every 15 minutes. Hot Hip and Leg Pack if extremities are cold. Cold Mitten Friction to maintain surface circulation.

PHLEBITIS, ARTHRITIS—Hot Blanket Pack followed by Cold Mitten Friction, carefully avoiding the affected part, or Hot Pack to affected limb 15 minutes every 3 hours. The Hot application should be followed by the Heating Compress which is changed after the next hot application, and retained during the interval between.

LARYNGITIS—Steam Inhalation; Fomentation to throat every 3 hours with Heating Compress during the interval in between, renewed every 15 minutes at first, later once an hour. Derivative applications to legs, Hot Foot Baths, Hot Leg Packs, Heating Leg Pack. Repeat 3-4 times daily. Fomentation for 15 minutes every 3 hours, with well-protected Heating Compress between, changing once an hour. Derivative treatment to lower extremities. Steam Inhalation 15 minutes every hour.

BRONCHOPNEUMONIA—Fomentation to chest every 2 hours, Heating Compress at 60^0 F., during the interval in between, changing every 30 minutes; Hot Blanket Pack for 15 minutes, followed by Heating or Sweating Wet Sheet Pack, 1-3 applications each 24 hours.

PLEURISY—Fomentation every 15 minutes until pain is relieved. Repeat every 3 hours; well-protected Heating Compress during the interval between. Tight bandage about chest, if needed to control pain.

NEPHRITIS, ALBUMINURIA—Hot Blanket Pack for 30- 60 minutes 2-3 times in 24 hours. Follow by Cold Friction. Protect the surface and maintain vigorous surface circulation. Large Enema 3 times a day; copious water drinking; Fomentation to lower back region every 4 hours for 30 minutes, followed by Heating Compress during interim between; Ice Bag over lower sternum.

EDEMA—The same treatment as for Nephritis, Albuminuria, just above, with the addition of the Cold Compress over the heart for 15 minutes every 2 hours.

DELIRIUM—Ice Cap; Ice Collar; Heating Wet Sheet Pack continued 1-2 hours. Prolonged Tepid or Neutral Bath.

PARALYSIS—Ice Cap, ice to spine; alternate with Fomentation for 3 minutes every 15 minutes, repeating 4 times. Repeat every 4 hours.

CONVULSIONS—Ice Cap; ice to spine; Hot Hip and Leg Pack. Hot Full Bath 105^0 F., 5-8 minutes, with ice to head and neck.

ABSCESS—Fomentation for 15 minutes every 2 hours; Heating Compress at 60^0 F. during the interval between. Renew every 15-30 minutes.

VISCERAL INFLAMMATION—Large hot Fomentation over inflamed part for 15 minutes every 2 hours. During the interval between, Heating Compress at 60^0 F., renewed every 15 minutes during the acute stage. Later, Fomentation 3 times a day, with continuous Heating Compress during intervals between.

THREATENED GANGRENE—Alternate Compress every 3 hours, Heating Compress or dry heat during the intervals between.

TYPHOID STATE—Aseptic diet; copious water drinking; Neutral Enema at 95^0 F. daily; prolonged Neutral or Tepid Bath; Graduated Bath.

SMALLPOX—1 (Variola)

SYMPTOMS—It takes 12-14 days for the disease to develop after exposure. Several days of discomfort is followed by a severe chill, intense headache, terrible pain in the back and limbs, vomiting, fever, loss of appetite, and sometimes convulsions.

Then the fever lowers and the eruptions appear. The pain disappears, but the highly contagious disease can still be given to others.

The rash of smallpox initially consists of dark red papules, especially on the forehead, neck and wrists. They gradually fill with clear serum, becoming vesicles, which become depressed at their centers and then fill with pus (called pustules).

CAUSES—Unsanitary living conditions, and poor diet.

TREATMENT—

• Call a physician.

• Keep the sick person in bed with the windows darkened, yet maintaining ventilation and an even, moderate temperature.

• Put him on a fast of juices, give plenty of lemon juice. Follow with a light diet of vegetable broth, oatmeal water, and fruit juices.

• Give high herb enemas, and clean out the bowels.

• When the skin is hot and dry, give him fluids every hour until there is free perspiration.

• If the fever rises above 103^{o} F., reduce it by means of tepid sponges, and tepid enemas.

• Hot fomentations can partially relieve pain in the legs and back.

• Bathe him with goldenseal root tea, or yellow dock root, or burdock root.

• Open the pustules by pricking with a sterilized needle, about 4 days after they come to a head. Then bathe them with hydrogen peroxide.

• Bathing the pustules with goldenseal tea will often keep pitting from occurring. Another formula is to mix goldenseal with Vaseline and apply to the pustules to keep from pitting. Yet another formula is bathing the skin with a tea of yellow dock root and goldenseal.

SMALLPOX—2 (J.H. Kellogg, M.D., Formulas)

GENERAL—Spare, aseptic diet; water drinking.

LUMBAR (LOWER BACK) PAIN—Fomentation or Hot Trunk Pack every 3 hours; Heating Pack during interval between, changing every 30-40 minutes.

NAUSEA AND VOMITING—Ice Bag over stomach, Hot and Cold Trunk Pack.

CONSTIPATION—Cold Enema daily; colonic at 70^0 F. daily.

DIARRHEA—Enema at 95^0 F. after each movement; Fomentation to abdomen; Cold Compress to be changed every hour.

DELAYED ERUPTION—Hot Blanket Pack or Hot Bath followed by Sweating Wet Sheet Pack.

FEVER—Graduated Bath; Prolonged Tepid Bath; Cooling Wet Sheet Pack; Cool Enema, with simultaneous Fomentation to back if necessary to prevent chill; large Cooling Compress.

STAGE OF SUPPURATION (PUS FLOW)—Prolonged or Continuous Neutral Bath.

SWELLING OF FACE—Hot Compress to face for 5 minutes every hour; Cold Compress during interval at 60^0 F., renewed every 20 minutes.

PITTING—Cooling Compress, using red cloth, covering face completely; Red curtains to windows.

HEADACHE and **DELIRIUM—**Ice Cap, Ice Collar. Hot and Cold Head Compress.

CONTRAINDICATIONS—After the eruption appears, avoid the Wet Hand Rub, Cold Mitten Friction, and all Friction Baths.

GENERAL METHOD—Keep the temperature down, and maintain activity of the skin by Prolonged Neutral and Tepid Baths; aid elimination by copious water drinking; prevent visceral complications by continuous cold to the head and the frequently changed Abdominal Compress. In confluent cases, general septicemia is prevented by Prolonged Full Baths.

- If any of the following related problems exist, see under their respective headings: Broncho-Pneumonia, Endocarditis, Laryngitis, Nephritis, Inflammation of Eye.

CHOLERA—1

SYMPTOMS—A few hours or days after contracting the disease, it suddenly begins, often with sudden cramps in the back, legs, or arms. Often there is severe vomiting. So much fluid is lost that he becomes extremely thirsty, and the skin becomes dry.

Stools become thin, and contain small, white, curdlike masses.

Some cases of cholera are very light, and have few symptoms other than the diarrhea.

CAUSES—

Cholera occurs especially in hot, tropical climates. Filthy living conditions is generally the primary factor. Bowel discharges from those with cholera must be boiled to kill the germs. When this is not done, the disease spreads. Flies, cockroaches, ants and mice all carry the disease.

But one cannot get it if he only eats and drinks that which has been boiled. Water and milk must be boiled. Vegetables and fruits must be washed, and then immersed in boiling water for a few seconds, then peeled.

TREATMENT—

• Call a physician.

• Keep him quiet in bed. Provide fluids to compensate for the vomiting and fever. Diluted peppermint or spearmint tea is helpful. Have him drink a pint, then put your finger down his throat and help him get it out. This cleanses the stomach. (If he is too weak, do not do that.) Then give him a cup of hot peppermint tea to settle the stomach.

• If vomiting of mucus resumes, repeat the process.

• Goldenseal tea is also helpful.

• Give enemas white oak bark, bayberry bark, and wild cherry.

• Give hot fomentations over the bowels and the full length of the spine.

• All stools and discharges should be burned or disinfected. No one should touch what is used by the patient. Caregivers should wash their hands frequently.

• A diet of oatmeal water or slippery elm water is both nourishing and soothing. Combine with some soy milk to provide a balanced protein.

CHOLERA—2 (J.H. Kellogg, M.D., Formulas)

IMMEDIATE CONSIDERATION—Secure rest to the stomach and bowels by withholding food. Rest in bed.

VOMITING—Ice Bag over stomach. Ice pills; Ice Compress to the throat. Fomentation to spine; Ice Bag to spine; Hot and Cold Trunk Pack.

DIARRHEA—Hot Enema after each bowel movement; Fomentation over abdomen every 2 hours, duration 20 minutes during interval between Heating Compress at 60^0 F., renewed every 30 minutes. If the temperature is above 102^0 F., Prolonged Neutral Bath or Hot Blanket Pack followed by Cold Mitten Friction or Cold Towel Rub.

COLLAPSE—Hot Blanket Pack for 15 minutes, followed by Cold Mitten Friction.

CARDIAC WEAKNESS—Ice Bag over heart.

MALARIA

SYMPTOMS—Chills occur for several hours, followed by drenching sweats every 1-3 days.

CAUSES—There are four types of parasites which are introduced into the bloodstream by the anopheles mosquito. If the disease becomes chronic (recurrent), it results in general debility, anemia, and an enlarged spleen.

Severe cases can be very debilitating. An especially deadly form is called blackwater fever. The skin takes on a yellow tint and the urine becomes progressively darker in color. Few people survive three attacks of blackwater fever.

This disease generally occurs only in tropical climates, but it can and does occur in the United States as well.

TREATMENT—

• Call a physician.

• There are two primary ways to treat malaria:

• One way is by taking quinine. This is an extract of the bark of the cinchona tree. Quinine will generally eliminate the malaria, but a mild to severe hearing loss may also result.

• The other way is to give hot and cold water treatments to the person. This takes work. The result is equally good, but no hearing loss results.

• During the fever, give cold applications (cool wet sheet packs, sponge him off with cool water, etc.). During the chills, give him hot applications (hot packs).

• Give goldenseal tea.

TYPHOID FEVER

SYMPTOMS—Onset comes 1-4 weeks after the germs enter the body. First a tired feeling and general weakness, then possibly a headache and nosebleed. The fever rises higher each day, until by the end of the first week it be 104^{o} F. The evening temperature is distinctly higher than in the morning. Appetite is poor, the tongue is coated, and the teeth and lips have a brownish coat. There is either diarrhea or constipation, and stools are offensive. The abdomen is distended.

CAUSES—Typhoid fever is an acute infectious disease caused by the typhoid bacillus.

Germs are taken into the body through food or drink that has been directly or indirectly contaminated by bowel or kidney discharges from a typhoid fever patient.

If the body was kept clean and only pure food and water was consumed, there would by no typhoid.

TREATMENT—

• Call a physician.

• Put him to bed and give him air and moderate warmth, and lots of water to drink.

• Place him on a diet of fruit juices and vegetable broths. All patients with typhoid fever must have raw garlic to eat.

• Give at least one hot bath every day. Have him remain in the tub as long as possible (30 minutes or longer). Put cold cloths on the head and throat if weak or faint. Finish with a cold towel rub or spray.

• Give a daily high enema.

• Red clover tea and goldenseal tea are both good. Add 1 tsp. red clover blossoms to a cup of boiling water. Steep, and drink 5-12 cups a day.

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YELLOW FEVER—1

SYMPTOMS—Illness begins about 3-6 days after the mosquito bite. Onset is extremely abrupt (within a few hours), with a rapid rise in temperature from normalcy to 103^{o} F. or more. Face is flushed and swollen, and eyes bloodshot. There are severe pains in the head, and down the spine and legs. Pulse is rapid early in the disease.

CAUSES—Caused by the bite of the *Aedes aegypti* mosquito, or one of several closely related species.

TREATMENT—

• Give a high enema (preferably with a saline enema), and put the patient to bed. He should eat no food for 3 days; instead, squeeze juice of 2-3 lemons into a quart of water and drink 2 quarts unsweetened every day. Drink a quart of an herb tea .

• If vomiting is severe, so water cannot be retained in the stomach, give an enema every 2 hours, of about a half pint of tepid water with half tsp. of baking soda dissolved in it. Give these enemas slowly.

• Give an emetic if there is a lot of phlegm.

• On fourth day, begin giving him light, nutritious food. Give fomentations to the spine, with cold foot bath and cold compress to the head, twice a day.

• To avoid liver damage, do not use tobacco, alcohol, drugs, excess salt, cooked foods, fried foods, processed foods, etc.

YELLOW FEVER—2 **(J.H. Kellogg, M.D., Formula)**

MAINTAIN GENERAL VITAL RESISTANCE—Short hot applications followed by Cold Mitten Friction or Wet Towel Rub every 3-6 hours. Copious water drinking; Cool Enema twice a day, more often if vomiting is persistent.

ELIMINATION OF POISONS—Prolonged Neutral Bath; water drinking; Enemas.

CHILL—Dry Pack; hot water drinking.

HEADACHE—Ice Cap; Hot and Cold Head Compress.

PAIN IN LOINS AND LEGS—Hot Hip and Leg Pack, Trunk Pack. Fomentation over lower back.

DELIRIUM—Ice Cap, Wet Sheet Pack to heating stage.

CEREBRAL CONGESTION—Ice Cap, or Ice Collar; Hot Leg Pack; Prolonged Neutral Bath.

GASTRIC IRRITATION—Fomentation over stomach every 2 hours; In between: Heating Compress at 60^0 F., renewed every 20 minutes; Ice Bag above stomach; Hot and Cold Compress over stomach, or Hot and Cold Trunk Pack.

VOMITING—Ice Pills; if necessary, withhold liquid foods, and give food and water by enema; Ice Bag over sternum; Ice to spine; Fomentation over stomach.

CONSTIPATION—Cold Enema twice daily; Enema.

ALBUMINURIA—Fomentation to the back every 2 hours for 15 minutes each time; In between: Heating Compress, well-protected; Hot Blanket Pack for 30 minutes, followed by short Cold Friction and wrapping in dry blankets; repeat every 4 hours. Ice Bag over sternum; continuous Moist Abdominal Bandage, changing every 2-3 minutes. Copious Enema twice daily.

COLLAPSE—Hot Blanket Pack; Hot Enema; Cold Mitten Friction; Cold Compress over heart; Fomentation over heart for 30 seconds; Cold Compress for 10 minutes; repeat.

JAUNDICE—Prolonged Neutral Bath; large Hot Enema twice daily; copious water drinking; Fomentation over liver every 3-6 hours for 15 minutes each time, with Heating Compress in intervals between.

CONVULSIONS—Short Hot Bath, followed or accompanied by Cold Pail Pour to head and spine; Alternate Compress to spine; Heating Wet Sheet Pack.

COMA—Alternate Compress to spine or Sponging to spine; Hot Enema; Cold Friction; Ice Cap.

GENERAL METHOD—Combat visceral congestion from the start by maintaining a warm and active skin. Copious Enemas and water drinking will encourage elimination of the poison while the frequently repeated cold rubs (Cold Frictions) stimulate vital resistance.

WEAKENED AUTOIMMUNE SYSTEM

SYMPTOMS—It is the immune system which fights infections, and it does this by triggering defenses against invading bacteria. The antibodies and antitoxins of this system recognize these foreign bodies and send white blood cells to attack them. With his immune system weakened, a person is less able to withstand Epstein Barr virus, candidiasis, food allergies, arthritis, multiple sclerosis, cancer, etc. Infections occur more easily. The person is more susceptible to colds, infections, and viruses.

CAUSES—Autoimmune disorders can result from conditions ranging from rheumatoid arthritis to kidney disease. Unrelenting stress, chronic allergies, chronic infections can exhaust the immune system. Medicinal drugs, such as cortisone, prednisone and chemotherapy cause immune depression! Beware of them! Other causes of a weakened immune system are vaccinations and immunizations against common childhood and epidemic diseases. The thymus gland seems to be the most affected by this weakening. The thymus gland is especially important due to its production of T-helper cells.

Prolonged stress, or toxic exposure to chemicals or radiation can weaken the immune system. Severe infections can both result and cause it. An example of this would be allergies (resulting from immune malfunction) which follow a severe case of rheumatic fever, hepatitis, mononucleosis, or other acute viral or bacterial disease. Lack of proper rest is yet another cause.

Yet another cause are nutritional deficiencies. Some natural healing specialists believe that any infectious disease may be considered an immune deficiency problem.

The taking of aspirin has been linked to Reye's syndrome, asthma, low birth weight and birth defects. Meat contains hormones, antibiotics, and bacteria which brings on disease. Alcohol, nicotine, and a high-sugar diet weaken the immune system. Air pollution is yet another problem (move out of the city!) Hypothyroidism can also result in immune deficiency. Marijuana, cocaine, and the morphine family are other culprits. Mercury amalgam fillings are yet another incipient cause.

TREATMENT—

• Eat lots of fresh fruit and vegetables. Obtain adequate protein from vegetables, not from meat. Eat broccoli, brussel sprouts, cabbage, onions, garlic, and similar worthwhile food. Skip the junk food.

• High doses of vitamin A in the form of carrot juice (beta carotene) are especially helpful. That, along with vitamin C, may be the most important vitamins for the immune system. Essential fatty acids (fresh or newly purchased flaxseed oil is

especially good); zinc at 50 mg, three times a day; selenium at 300-900 mcg per day, germanium at 50 mg/day.

• Vitamin B complex, especially B6, B12, folic acid, and pantothenic acid. Vitamin E: 400-800 units.

• Herbs include echinacea root, dandelion, red clover, and kelp.

LUPUS

SYMPTOMS—It usually begins suddenly with fever, fatigue, arthritis and/or joint pain. Those with it are frequently misdiagnosed as having rheumatoid arthritis. Ninety percent of lupus occurs in women in their 30s. Other symptoms include a characteristic facial "butterfly" rash, severe hair loss, and papular skin lesions. This rash forms over the nose and cheeks in something of a butterfly shape (which tends to intensify because of sunlight).

The skin lesions are small, yellowish lumps. They leave scars when they disappear. ("Lupus" means "wolf" in Latin; indicating the rough-skinned appearance it gives to the skin.)

Also generally present are kidney disease (in 50% of those with lupus) and low white blood cell count.

All this, in turn, produces inflammation of the joints and/or blood vessels, affecting many parts of the body.

Sometimes the first appearance of the problem is an arthritic-like condition, with swelling and pain in the joints and fingers. Severe cases can affect the brain and heart.

Sometimes the central nervous system is affected, and deep depression, amnesia, seizures, or psychosis can result.

CAUSES—Lupus is an inflammatory disease of the connective tissue. It has been classified as an autoimmune disease, since the body is attacking itself.

Ultraviolet rays in the sun can trigger the first attack. Stress, childbirth, fatigue, infection, chemicals, and certain drugs can also bring it on.

TREATMENT—Dr. Max Gerson used a careful, very nourishing diet, including vegetable and fruit juices and vitamin-mineral supplementation to eliminate lupus in his patients, but the dietary change had to be total or no progress was made. All meat, gravy, fats, junk food, fried food, soft drinks, caffeine, alcohol, etc. had to be eliminated from the diet. The diet had to be low in fat and salt (thus helping the weakened kidneys).

• It is best to eliminate all unsaturated fats. Fats quickly become rancid and, in that form, harm the connective tissue, and wear away the myelin sheath which covers the nerves.

• Avoid eating alfalfa sprouts, for they contain canavain which, in your body, replaces its arginine.

• A vegetable juice fast would be very helpful.

• Do not take birth control pills; they can intensify the lupus.

• Up to 10% of the lupus cases originate by taking medicinal drugs *(New England Journal of Medicine)*. Pollutants, additives, chemicals, and certain foods can also bring it on. When the cause is drugs, the kidneys or nervous system are generally not affected, the lupus is a milder case, and it tends to stop when the drug is no longer taken.

• Parasites are associated with lupus. The parasites excrete droppings which interfere with body functions. Until the blood stream is cleansed and the parasites removed, healing cannot commence.

• Allergies can be another causative factor. Search them out and eliminate them. Here are several to consider: beef, cow's milk, wheat, corn, ammonia, hair spray, formaldehyde, perfume ethanol, pesticides.

• Those with Raynoud's disease should live carefully, for they are also prone to contracting lupus. Those with lupus are often misdiagnosed as having syphilis. Lupus is not AIDS. HIV destroys the body's immune system, but lupus is one's immune system destroying his body.

• Obtain enough rest and exercise. Avoid all stress.

• Echinacea, yucca, red clover, pau d'arco, and goldenseal are helpful herbs.

SJOGREN'S SYNDROME

SYMPTOMS—A variety of symptoms keyed to a lack of mucous-secreting glands to not function properly: dry or parched mouth, burning throat, trouble chewing or swallowing, gritty or sandy eyes, eyes which feel like they have a film over them.

Other symptoms include tooth decay, joint pain, digestive problems, dry nose, dry skin, lung problems, vaginal irritations, muscular weakness, kidney problems, burning tongue, and extreme fatigue.

CAUSES—Sjogren's syndrome (pronounced *SHOW-grens*) is a chronic autoimmune disease which was first identified by a Swedish physician, Henrik Sjogren, in 1933.

As an autoimmune disorder, Sjogren's syndrome causes the body's immune system to work against itself, destroying mucous-secreting glands, including salivary and tear-producing tissues.

Although not life-threatening, Sjogren's is progressive, debilitating, and can permanently damage the eyes and mouth if symptoms are not treated.

When Sjogren's occurs alone it is considered "primary." When patients also have an additional connective disease, Sjogren's is called "secondary." These other diseases include rheumatoid arthritis, lupus, polymyositis (inflammation of the muscles), scleroderma (thickening and stiffening of the skin) or poyarteritis nodosa (inflammation of the arteries).

Anyone at any age can be afflicted with this disease. In the U.S., estimates run to 200,000 to 4 million; of which 90% are women.

Because each symptom affects different parts of the body, physicians and dentists often treat the symptom which applies to their field as minor and of little consequence.

Tests are available to diagnose the disease. The cause is, so far, unknown. And, to date, there are no known cures. The treatments, some of which are noted below, only help a person live with the condition, rather than solving it. Yet, if it can save your eyesight or an internal organ, it is worth it.

AGING

SYMPTOMS—You are getting old, and you know it.

WHAT TO DO ABOUT IT—Some people age more rapidly than others. Causes can include heredity, or a debilitating disease. But there can be other reasons.

• Exercise is important. Lack of it causes loss of bone and muscle mass, and inevitable physical degeneration. Walk out of doors every day! Your life depends on it. Breathe deeply. Be positive and cheerful as you walk. Hold your head up and enjoy it.

• Hearing loss can accompany aging. Too much fat in the diet, and lack of vitamin A can cause hearing problems. Some physicians suggest that hearing loss is a sign of later heart disease.

• Processes of aging are accelerated by poor living, wrong eating and drinking habits, and dangerous activities. Some people make themselves prematurely old.

• Older people do not absorb nutrients as well as younger people. This includes vitamins, minerals, and amino acids. Enzymes and co-enzymes are not produced as abundantly as they formerly were. Food supplements are needed even more than in earlier years.

• Eat good, nourishing food, but do not overeat. You are not working hard physically, as you once did. Experimental rats were given much less in food calories, and lived 50% longer.

• Systematic undereating is one of the key secrets of longevity. Lose weight and keep slim. Extra weight rapidly ages you.

• Eat lots of fresh fruits and vegetables. A high fiber diet is important. If you are not hungry, then do not eat very much.

• Brittleness and fragility of bones result as calcium is more poorly absorbed. Make sure you are obtaining an adequate supply of calcium, vitamin D, and copper.

• Drink freshly-made carrot juice every day.

• If possible, drink only spring or steam-distilled water. Keep your body's water table high. It will go a long way toward protecting you against later heart and blood vessel problems.

• There is increased oxidation of cells with the advance of years. Take vitamin E to help safeguard against this. Vitamins A and C are also antioxidants.

• The B complex are needed for good brain function, proper digestion, sound nerves, and physical stamina.

• Vitamin C in your diet will lessen the likelihood of strokes and blood vessel ruptures. It strengthens the body, and promotes healing of wounds. It fights infection.

• Make sure you are obtaining enough minerals. Take a vitamin/mineral supplement so you will get enough potassium, iron, selenium, zinc, and all the rest.

• Eat a little Nova Scotia dulse or Norway kelp each day to get those needed trace minerals.

• Stop smoking, drinking, and living in excess. Throw out the caffeine and processed foods. Go to bed on time. If you cannot sleep in the middle of the night, pray and thank God for your blessings. Go outside and breathe deeply of the good night air, then go back to bed and to sleep.

• As much as you can, stay away from medicinal drugs, and you will be happier for it.

• A person who is depressed or negative will age faster. Cheer up, go to God and surrender your life to Him. Obey His Ten Commandment laws and trust your life to Him. Be peaceful in Christ. Find in Him your strength and hope.

• It can be more difficult to deal with stress as you get older. God can help you with that also.

• Find someone to help, write to, and pray for.

• Helpful herbs include ginseng, gotu kola, echinacea, cayenne, pau d’arco, hawthorn, and suma.

CHAPTER TWO

CAUSES, TREATMENTS,AND REMEDIES FOR PAIN

Pain, it has been said, is one of nature's first signs of illness. Most will agree that *pain* stands preeminent among all unpleasant sensory experiences by which people perceive disease within themselves. There are very few illnesses which do not have painful phases. In many conditions, pain is characteristic of the illness, without which the diagnosis must remain in doubt. In order to understand the subject of pain, every individual should understand normal *anatomy.* Pain is perceived as an unpleasant sensation, because of the stimulation of certain nerves in the skin or internal organs. These electrical messages are carried through our nerves to the spinal cord, then up specific pathways to the brain. An unpleasant sensation is first perceived in a portion of the brain called the **thalamus**. A rendezvous with nerve connections to the highest nerve centers, finally sends a message on to the cortex, our outer covering of the brain. There it is interpreted as to location, type, intensity, and integrated with past experiences and avoidance mechanisms that will protect your body from damage.

Pain may be perceived from any of your nerves. Cold, heat, pin prick, pressure, muscle spasm, distention of hollow organs, lack of oxygen to certain areas, and other stimuli may be perceived as pain. Some types of pain, such as phantom pain, occur after an amputation, following less known pathways, but presumably they result from irritation of nerve endings. Direct pressure on a nerve, as in degenerative disc disease of the spinal column or other conditions where peripheral nerves are compressed can also be painful. Infections of the nerves, such as that produced by the *shingles* virus may

produce severe unrelenting pain. So, there are many mechanisms, many syndromes, and a most careful study is necessary to understand the causes of the pain response.

Several **types of pain** can be confused. The stimuli that arouses pain varies from organ to tissue. For example, the intestinal tract is not responsive at all to pin prick, burning, cutting or pressure. But it responds with exquisite pain to the distention produced by stretching, as in an obstruction or the mere presence of excessive gas. In contrast, the skin is exquisitely sensitive to pin prick, burning, freezing, and cutting. Each of these sensations is carried through separate nerve receptors. The nerve impulse is mediated by specific chemical agents. Such substances as acetylcholine, serotonin, histamine, and bradykinin are released by tissue injury, and have been found to elicit pain when applied to the base of a blister.

It is felt that the **threshold** for perception of pain is approximately the same in all persons. This threshold is lowered by inflammation, in alcoholics, and is influenced by certain other analgesic drugs as well as strong emotions, such as fear or rage. Greatly varying, however, is the degree of emotional reaction, and the verbalization (or complaint) in response to pain. The personality and character of the individual influences this reaction greatly.

Superficial Pain

The largest pain fibers are used in transmitting a pricking type of pain. Sharp sensations are conducted much more rapidly than a sense of burning.

Most normal individuals can localize instantly such pains with precision. This surface sensitivity to the place where a stimulus is applied helps us distinguish superficial pain from deeper types.

Visceral Pain

Deep pain, including that of the internal organs and skeletal structures, has basically the quality of severe aching. However, intense, visceral pain may also be sharp or knife-like. Occasionally there is a burning type of deep pain, as in the case of heartburn from esophageal irritation, and rarely, in the angina pectoris of heart disease. These pains are felt beneath the body surface. Localization is poor and the margins of pain are not well outlined, presumably because of the scarcity of nerve endings in these organs.

Deep Musculoskeletal Pain

The same common nerve system transmits the impulse of both deep skeletal pain and visceral pain. Hence, their characteristics as to type, localization, and referral are similar. These pains are usually corresponding to the nerve roots coming from the spinal cord. A knowledge of nerve anatomy

helps to localize these pains as to origin, although the exact origin is often obscure.

Referred Pain

Deep pains within the body organs tend always to be referred to the surface structures within the similar and corresponding spinal segment. In the case of pain from the heart muscle, these nerve impulses refer such pain primarily to the chest wall overlying the heart. Sometimes this extends up to the shoulder and the neck, most commonly on the left side. Pain from the rectum, prostate or female organs is usually referred into the low back. Sometime the back of the neck is involved in the referral from pain in the sinus region. Since a similar nerve innervates the shoulder and the diaphragm, irritation under the diaphragm as in a liver or gallbladder condition, or upper abdominal abscesses can be felt near the shoulder blade.

Radicular Pain

This type of pain usually refers to the shooting extension of pain from the neck or low back. A disc that is pinching part of a root of the sciatic nerve usually sends a shock-like sensation down the nerve along the side or the back of the leg. This may coexist with numbness in the involved extremity, and, at times, weakness or lack of reflexes can also be seen. Similar types of radicular pain are present in the upper extremities from disease in the spine at the neck.

Psychological Aspects of Pain

The emotional state can influence greatly the perception of pain and its effect upon the body in general. Ambrose Pare, a French Huguenot barber and surgeon, remarked, “There is nothing that abateth so much the strength, as pain.” Continuous pain can be observed to have an adverse effect on the entire nervous system. There is increased irritability, fatigue, troubled sleep, poor appetite, and loss of emotional stability.

Courageous men are sometimes reduced to a whimpering, pitiable state in their reaction to severe pain. They become irrational about illness and may make unreasonable demands on their family. This condition is sometimes called “pain shock,” and, when established, requires delicate, but firm management. Depression is common, especially in chronic pain syndromes. At times unfortunately, the demands for and dependency on narcotic drugs often

complicate the picture.
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SPECIAL TYPES OF PAIN
Headache
The term *headache* encompasses all aches and pains associated in the head. Along with fatigue, hunger, and thirst, headache represents man's most frequent discomfort. It must always be kept in mind that headache is a symptom, not a disease, and its cause should always be ascertained. Some types of headaches are quite easy to diagnose. Infection or blockage of sinuses is usually accompanied by pain over the sinus area and in the forehead. It is often associated with tenderness of the skin in the same area. Sometimes the head seems to throb. Often headaches tend to return at the same hour of the day.

Headache originating in the eye is usually located near the eye or in the forehead. It is of steady, aching type and tends to follow prolonged use of the eyes in close work. Muscle imbalance is often involved. A careful examination of the eyes by your doctor is recommended.

Headaches accompanying diseases of the ligaments, muscles, and joints in the upper spine are usually referred to the back of the head and nap of the neck. Later in life, these pains are seen frequently in arthritis and also tend to occur after whiplash injuries. Massage very deeply in the area and you may disclose the presence of tender nodules near the insertion of the neck muscles. Moist heat, as well as skillfully performed massage is particularly helpful in relieving this type of pain.

The headache of irritation in the meninges or coverings of the brain, is usually of an acute onset and becomes severe, deep seated, and constant. Usually this occurs in conjunction with fever. Whenever the neck becomes stiff, immediate consultation with a physician is recommended. Both meningeal infections or brain hemorrhages can cause this type of pain. Lumbar puncture in about 20% of normal patients may produce a transient headache. Usually this is relieved in the lying position and subsides after a few days.

Migraine
The term *migraine* refers to periodic, throbbing headaches on one side of the head, which usually begins in childhood or adolescence, and occur with diminishing frequency during advancing years. Sometimes, along with the headache, nausea and vomiting may actually disable the affected individual for several hours each time the migraine occurs. Some variations are seen. Many are forced to lie down and to shun light and noise for what they call a "sick headache." Other milder forms do not require withdrawal from accustomed activities. Between attacks the migraine sufferer is essentially normal. In fact, the headache seems to be brought on during the "let down" period after many
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days of hard work or stress. Spasm in the blood vessels has been implicated and many powerful hormones are often released that perpetuate discomfort for several hours.

Tension Headache
This type of headache usually occurs over both sides of the head and often settles at the base of the neck. A fullness, tightness, or pressure is often described. Sometimes these headaches show the peculiarity of being

continuous day and night for long periods of time. Sustained muscle tension, as well as vascular changes may be involved. Sometimes a similar headache may follow injury (auto accidents, head trauma) and gradually resolves over many months.

Simple remedies may be used with success in the treatment of headache. A person should lie down in a quiet area, apply a cold compress to the head, and seek to put the mind at rest. Often a drink of water or mild nerve-calming tea such as catnip or chamomile tea can relax the person until the headache passes. More severe types of headaches can be treated with the hot foot bath. This is described in the section on hydrotherapy. Adding mustard to the foot bath may also bring relief through acting as a *counterirritant* as well as pulling blood to the lower extremities (called *derivation)* to relieve congestion in the head. Extra hours for sleep, daily nature walks, or a change of pace may be needed. General hygienic recommendations for a more healthful diet, systematic exercise, and improved stress control are valuable preventives.

Chest Pain

There is very little parallel between the severity of chest pain and the seriousness of its cause. A frequent problem exists in distinguishing trivial disorders from coronary artery disease or other serious health hazards. It is important to avoid the long tradition now shown to be myth, that pain beneath the left breast or radiating into the left arm is always of cardiac origin. Such pain is often observed in patients who are tense, easily fatigued, or anxious.

Oxygen deficiency of the heart muscle can produce pain. This is the syndrome medically termed *angina pectoris.* When the oxygen supply is deficient in relation to the need, pain will develop in the heart muscle. This may be aggravated by exercise, or occur during a stressful situation, or after a heavy meal. Atherosclerosis (narrowing) of the coronary arteries is the most common cause. Spasms of the small cardiac vessels may also trigger this pain *(angina),* which usually subsides with a short rest. Further approaches to treatment are described in Chapter Four.

Pain in the esophagus usually results from acid irritation of the lining (mucous membrane) of the esophagus. Spasm of the swallowing muscles or the presence of obstruction can also produce this deep chest pain. Accompanying symptoms of difficult swallowing, regurgitation, and weight loss direct attention to the esophagus.

Pain in the pleura or the lining of the lung is very common. It results from stretching of the inflamed membrane and occurs in viral, as well as bacterial, pneumonia. Sometimes air in the chest cavity *(pneumothorax)* and tumors can mimic this type of pain. Inflammation of the outer covering of the heart *(pericarditis)* can also produce it. It is usually aggravated by coughing or deep breathing. Sometimes swallowing or a change in bodily position produces the same type of pain, Applications of moist heat and rest are important in the relief of these deeper pains.

Tension is also a common cause of chest wall pain. Usually the discomfort is experienced as a sense of tightness, sometimes called aching. It may occur on various occasions and in different areas of the chest, and is usually associated with fatigue or emotional strain. It is important to distinguish these and the above categories of chest pain from various abdominal problems,

some of which are described below.

Abdominal Pain

The correct interpretation of acute abdominal pain is one of the most challenging demands made of any physician. Sometimes proper therapy requires urgent action. A great deal of experience and judgment is needed to elucidate the cause.

A number of mechanisms can produce abdominal pain. Inflammation of the lining of the abdomen *(peritoneum)* can produce pain of steady, aching character. This pain is usually located directly over the inflamed area and the area will also be quite tender. Release of a small amount of stomach acid will cause much more pain than even contaminated intestinal contents will when the appendix ruptures.

Another type of pain occurs in the distention or obstruction of hollow organs. This is usually intermittent or cramping in nature. *Colic* in the abdomen can be produced from obstruction of bile duct, the gallbladder, the ureters, or the intestines. Since all of these may cause vomiting, the location of the pain and other related symptoms must be considered in arriving at a rapid diagnosis. Finally, it is important to consider the blood vessels in the abdomen as causes of potential pain. An out pouching of the aorta *(aneurysm)* may produce pain, developing slowly, increasing gradually, or in a sudden rupture, may become quite catastrophic. Abdominal angina occurs when the vascular supply to the intestines becomes clogged with cholesterol

deposits and this pain, similar to the angina pectoris of the heart, occurs following a heavy meal.

Referred pain from the chest, the spine, or the pelvic organs, may also make diagnosis difficult. Compression or irritation of nerve roots in the spine is usually intensified by coughing, sneezing, or straining. Pressure on the genital organs will usually be very painful and show the origin immediately of this referred pain. Respiratory origin is usually indicated by obvious interference with breathing.

It is important to become acquainted with the clinical pictures of these various abdominal problems. Knowledge of anatomy of abdominal organs, as well as their function is essential in understanding abdominal pain. Some types can be treated safely at home. In these cases, moist heat and temporary abstinence from food is often helpful. There are conditions requiring surgical intervention. Basically keeping in mind these possibilities will help an individual to seek a physician promptly at the appropriate time while avoiding unnecessary dependence on drugs or expensive diagnostic testing in the more self-limited and trivial conditions.

Back Pain

Pain in the lower back, as well as the neck is very common in America. Many related, but distinct conditions can produce discomfort here. Disease of the spine, although less common than other problems, is often related to injury. An auto accident or sudden fall, causing acute flexion of the back, may compress and fracture one of the vertebral bodies. It may be an early sign of osteoporosis, thinning of the bones due to calcium deficiency. X-ray is often necessary to diagnose this condition accurately. Immobilization on a straight board, with the avoidance of any flexion, standing, or walking is extremely important First Aid in dealing with these acute injuries. Braces, which keep

the back in extension, are often worn for several months in the treatment of a fractured spine.

Local pain in the low back can be caused by any process, which irritates nerve endings. Straining of the muscles, protrusion of a disc, rupture of a ligament, and many less common problems can injure the tissues and aggravate this pain. Tenderness is usually found upon pressure in the region involved. Associated muscle spasm may produce pain around the involved area. At times, the pain may be referred or projected into regions lying in the area of the associated nerve roots. For example, pain produced by diseases in the upper part of the lumbar spine is usually referred to the front of the thighs and legs. That from the lower part of the lumbar spine, is referred to the buttocks, posterior thighs, and calves. *Radicular* or root pain has some similar characteristics, but usually is much more intense and is often

aggravated by a cough, sneeze, or strain. Any motion, which stretches the nerve, such as straight leg raising, may have a similar effect.

Proper examination of the back is an art requiring considerable knowledge of muscle, nerve and skeletal anatomy. Often tenderness over the lumbosacral junction, the sacroiliac joint, the costovertebral angle over the kidneys, or a specific vertebra can help the examiner in accurate diagnosis. The usual testing of the blood, urine, and x-rays of the back are often adjuncts in understanding the cause. Appropriate exercises may then be used, together with rest or the use of moist heat in bringing relief to all but the most stubborn condition. Special problems may be treated effectively in a lifestyle center.

Musculoskeletal Pain

Pain involving the ligaments and muscles is often seen in athletic injuries. When the ligament is torn, the injury is called a *sprain.* This often occurs in the ankle, the knee, the low back, or shoulder. Muscles that are bruised often become painful and when the injury is considerable, that is called a strain. These small ligaments and muscle fibers may actually be torn, but heal without any residual weakness, after a short period of rest.

Inflammation of the bursa *(bursitis)* may occur as the result of trauma, arthritis, infection or other disorders. Common locations include the shoulder, hip, knee, elbow and heel. Severe local pain and tenderness is often present. Sometimes calcium deposits are seen on x-ray. Immediate application of cold in the form of snow or an ice bag is one of the most helpful remedies, followed by mild exercise and gentle hot and cold compresses, after the acute inflammation subsides.

The **tendon** sheath of the hand or wrist may become inflamed, Some of these are due to constriction of tendons or nerves, and may require surgery. In the wrist this is called carpal tunnel syndrome. Others are seen in conjunction with rheumatoid arthritis, discussed in chapter five.

A number of metabolic problems can produce skeletal pain, muscle cramps, or deep visceral pain. The sudden restriction of oxygen supply, disorders of the adrenal glands, and the so-called *autoimmune* diseases, may produce severe weakness or muscle pain.

Three forms of vascular obstruction particularly deserve mention. Arteriosclerosis of the large and medium sized arteries is the most common vascular disease of man. This often leads to pain in the muscles, particularly in

the legs induced by exercise *(intermittent claudication).* Diabetic patients are particularly susceptible. Often the pulses in the lower extremities are reduced. Changes occur in the skin with hair loss, deterioration of the nails, and even gangrene. **Buerger's disease** *(thromboangiitis obliterans)* is a disease of

young and middle-aged male cigarette smokers. This hypersensitivity to tobacco produces spasm in the small vessels of the hands and feet. Sometimes a smoker is so addicted to nicotine, that he continues to pursue the habit, in spite of progressive gangrene and amputation of fingers, feet, legs, and even hands. I have often seen these unnecessarily handicapped patients suffering the terrible sequels of nicotine addiction.

Raynaud's disease is often caused by cold. Women are most commonly afflicted. With exposure to cold, their fingers become white, then blue, and finally red. Pain and tingling are common during this crisis, due to the lack of blood supply. Exercising by whirling the arm in a windmill motion can help to bring blood to the involved areas. Another occupational complication of a similar nature may produce ulceration in fingertips or toes. These are more commonly seen in smokers and those with auto-immune disorders.

Obstruction of the lymphatic return may produce a type of edema, associated with pain. Also, *thrombosis* of the veins is usually painful, involving the overlying skin with redness and swelling. When larger veins are involved, the muscle and entire extremity is very painful.

Most of these pain syndromes can be approached effectively by the intelligent home health observer. With a knowledge of anatomy and physiology, and a few simple remedies, they can bring relief to many cases. It is important first to ascertain the *cause* of these pain responses. Wrong habits may need to be corrected. Then nature is assisted in her efforts to restore right conditions within the nerves, muscles, and other involved organs. The relief of pain will always evoke profound gratitude from chronic sufferers. Its study can challenge the layman or specialist for at least a lifetime.

CHAPTER THREE

COMMON INFECTIONS

The majority of human illnesses with known causes are produced by infectious agents. In fact, some of the greatest medical discoveries in the twentieth century have resulted in the controlling of many contagious diseases through public health measures, sanitary engineering, immunization, etc. Although there remain some exceptions to this rule, infectious diseases as a class are more easily prevented and cured than any other major group of disorders. Yet, despite the elimination of certain infectious diseases and a profound reduction in the death statistics of others, man is by no means free of infection. Only a modest decrease in the total effect of disease has been produced through these control measures. I am thinking primarily of smallpox vaccinations and malaria control.

Additionally, numerous **new** infections have resulted from the widespread use of broad spectrum antibiotics, immune suppressive agents used in transplant procedures, the progressive longevity of people with chronic degenerative disease, and high-risk lifestyles such as drug abuse and homosexuality. Life threatening diseases that were never seen before this decade are now invading the immune deficient. These infections are termed *opportunistic.*

There is a very complex interaction between the microorganism and man when an infectious disease occurs. Much has been learned about the way microbes enter the body, the ways they produce injury to the tissues, and the resistance of a person (the host), as well as the mechanism of recovery. Unfortunately, though, it is often difficult to transfer much of this scientific information to help the individual patient with his infection. It is well known that microorganisms of different species or different strains of the same species, vary widely in their capacity to produce disease. Furthermore, we know that human beings are not equally susceptible to disease caused by a

given bacterium or virus. Fortunately for us, the mere presence of an organism in the body does not always lead to clinical illness. Often there is a *carrier* state (like the story of Typhoid Mary) or a hidden *(subclinical)* infection. Several factors are involved in the mechanism of getting an infectious disease.

Most microorganisms that are capable of producing disease vary in several ways. *Their virulence,* that is, the degree of capability to produce illness, can be distinguished from their *invasiveness,* or their ability to spread and disseminate in the body. A few parasites produce *toxins* that account for their ability to damage body tissues. Some organisms tend to localize in certain cells or organs and produce their damage there. Most vital, we must try to understand the natural and acquired factors that can enable a person to not only resist the invasion of organisms, but also reduce our susceptibility to disease. The white blood cells, the antibodies, many enzymes, and environmental factors including nutrition, can affect a person’s recovery from infectious disease.

There are general features that suggest infection. The **abrupt onset** of

any illness, particularly associated with fever and chills, may well indicate an infection. Pain in the muscles, sensitivity to light, sore throat, swelling of the lymph nodes or spleen, and upset in the digestive tract, often constitute hallmarks of infections. Many specific infectious diseases can be recognized by the “story of illness”, or medical history, in association with obvious physical findings. Blood counts, urine testing, x-rays of the chest, and more specific laboratory procedures can be helpful in confirming the diagnosis of more difficult cases.

Many organisms that cause disease can be demonstrated by a microscopic examination of properly stained preparations of sputum, spinal fluid, and other body secretions. The microscope is indeed a most helpful laboratory instrument in the diagnosis of infections. **Cultures** can be obtained from the blood, sputum, urine, and other discharges. Investigation by the microbiologist, who applies appropriate tests to the germs, while growing these cultures in his incubator, will usually yield the specific infectious agent, particularly in bacterial disease. The presence of **antibodies** may indicate the type of infection, and for contagious illnesses, such as tuberculosis, the skin test is very useful. All of these diagnostic procedures help to determine the cause, which then can lead one to specific therapy.

VIRAL ILLNESSES

By far, the majority of mild illnesses affecting people in their homes are caused by viruses. These conditions are usually self—limited, that is, our bodies overcome the infection and get well spontaneously. Recent advances in

the science of microbiology, including the use of the electron microscope, have helped to identify most of these germs. Viruses are nonliving organisms, different from bacteria or protozoa (one-celled animals). The virus particle is a combination of proteins and nucleic acid. They enter the cell of the host, take over its specific enzyme systems, and rapidly multiply to produce disease. Some of the more common viral infections will be discussed below.

The Common Cold

More than one hundred types of viruses are known to cause the common cold. This explains why scientific attempts to produce a vaccine have been so unsatisfactory. Over 40% of respiratory illnesses in children and adults are caused by this family of organisms. Although colds occur throughout the year, there are peaks of incidence in the spring and fall. The disease is more severe in children, especially those under two years of age. Higher fevers, cough, croup, and occasionally pneumonia occur. Family infections are more often initiated by children. They spread like gossip in schools or any setting where close contact is found.

After introducing the respiratory virus into the nose or throat, congestion, symptoms of discharge in the nose, general aching, and mild headache result. There is usually no fever. Nasal secretions increase over the period of a day or two. After a week or more, the individual has completely recovered. A number of factors predispose to the common cold, including unwise ingestion of a large amount of sugar, and exposure to sudden changes in temperature, particularly with chilling. Negative emotions are thought to be related to host susceptibility through a change in the acidity of the nasal mucous membrane. Such reactions as hatred, anger, fear and frustration bring about the temporary deficiency of *lysozyme*, a potent enzyme capable of killing many

germs.
The treatment for a cold should include the general health measures for respiratory hygiene, utilizing copious intake of fluids, especially water, increased rest, steam inhalations, hot packs over the congested areas and the avoidance of close contact with other people who are susceptible to the same disease. Recovery is usually complete. Diet should be light with easily digested foods, especially fruit.

Influenza

A great deal of attention has been directed toward the prevention influenza, (an Italian word referring to the *influence* of heavenly bodies previously thought to cause disease). The disastrous epidemic of 1918 caused an estimated 20 to 40 million deaths from this viral disease. Vaccinations are
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available annually, especially recommended for the elderly and others with a chronic debilitating illness.
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Flu symptoms are of sudden onset, with headache, muscle pains, fever, and prostration. Often a discharge from the nose, sneezing, hoarseness, cough, chest pain, and shortness of breath and or gastric symptoms make the patient feel quite ill. The disease begins within one to three days after exposure. Like other common viral infections, antibiotics are completely ineffective.
Hot baths are very helpful and should always be followed by a cool shower, cold mitten friction (Chapter 17) and a period of bed rest. The avoidance of usual activities and the consumption of a light diet, such as fruit, juices, and increased water intake, will help your body fight these infections. Hot packs to the chest (as described in the chapter on hydrotherapy) and steam inhalations will relieve many of the symptoms of chest pain, and aid the fight for recovery. They help as well to control fever. Return to full activity should be gradual. Usually one infection confers immunity to that particular type of virus.

Polio

Poliomyelitis was a common acute viral infection; it occurs naturally only in human beings. Infection with the polio virus produces a wide variety of clinical manifestations. Its most severe form attacks part of the central nervous system. After an incubation period of 3 to 35 days, the poliovirus infection may assume one of four forms: 1) Inapparent infection. 2) Minor illness, such as a transient respiratory or gastrointestinal disturbance. 3) Nonparalytic Poliomyelitis, which usually produces temporary stiffness of the neck and other symptoms of spinal meningitis. 4) Paralytic poliomyelitis. In the latter, most serious form, the virus attacks specialized cells in the spinal cord and brain stem, producing paralysis in the face or extremities. This varies from mild affliction to respiratory paralysis. Some of the most heroic medical treatments have been developed to save the lives of these respiratory polio cases, often maintaining the patient for years in an “iron lung.” Some of the most dramatic uses of hydrotherapy have also been effective in the treatment of advanced polio cases, especially the Kenny packs, used for severe muscle spasm. Rehabilitation in a specialized setting offers maximal potential for complete recovery. Prevention, however, is the best approach. With several vaccines available for each type of polio, childhood

immunization offers an inexpensive and relatively safe medical practice to avoid this dreaded disease.

Rabies

All mammals are affected by this serious viral disease of *the* central nervous system. Usually, it is transmitted by accidental or traumatic

inoculation with infected saliva. The bite of an animal may transfer this to humans. The **urban** type is propagated chiefly by unimmunized domestic dogs. Sylvatic rabies is propagated in skunks, foxes, raccoons, wolves, and bats. When the live rabies virus is introduced through an animal bite, there will be an early infection in 1-4 days, marked by fever, headache, fatigue, nausea, vomiting, or cough. Later, encephalitis develops with excitation, confusion, hallucination, combativeness, muscle spasm, and seizures. The latter dysfunction of brain stem centers brings the traditional picture of foaming at the mouth, followed by frank paralysis, coma, and death. Unless artificial supportive measures are instituted, the survival is seldom longer than four days!

Approximately 30,000 persons in the United States and 1,000,000 in the world are treated preventively for rabies each year. The local wound should be generously scrubbed with soap, then flushed with water or alcohol. Lacerations should not be sewed shut. Active immunization is then given with either nerve tissue derived vaccine (NTV) or duck embryo derived vaccine (DEV). When the vaccine is given alone, fourteen daily doses are sufficient. When rabies vaccine is given with antirabies antiserum, twenty-one daily injections, followed by boosters, ten and twenty days after the initial series are required. The antirabies antiserum from human origin is best, to avoid serum sickness so common when equine (horse) serums are used. Until recently, rabies in a human being was regarded as 100% fatal. With the advent of specific vaccines, as well as intensive cardiorespiratory assistance, for the first time in history there is hope of survival in this dreaded disease.

Gastrointestinal Viruses

Although tropical diseases and food poisoning may cause sudden vomiting, nausea, and diarrhea, viral infections are very commonly the cause of these symptoms. These are usually transmitted through stool-to-mouth contact. Personal hygiene, particularly hand washing eliminates the infectious cycle. Toddlers often bring intestinal viruses into a household. Insects, including flies and mosquitoes may act as carriers (vectors). Their incubation period lasts *2-5* days. Symptoms may be limited to the throat with soreness or tonsillar enlargement, but skin rash, and serious illness— hepatitis, viral meningitis, or pericarditis (inflammation of the pericardium)— is also seen. *Pleurodynia* (pain in the pleura or coverings of the lungs) also occurs in these viral infections, as well as malaise, sore throat, anorexia, fever and severe muscle and abdominal pain. Cardiac disease brings symptoms of heart murmurs, electrocardiographic changes, and even heart failure.

By far more common, though, is the illness we *termviral gastroenteritis*, also called “winter vomiting” or “intestinal flu”. This disease is highly

contagious; many cases are often seen in one family. Onset usually occurs within 48 hours, and recovery is rapid. Less commonly, mild diarrhea may persist for several weeks. General measures for the treatment of any infection,

including adequate fluid intake, rest, and hydrotherapy (hot packs) to relieve abdominal pain, constitute the general measures most effective in these selflimited conditions.

Hantavirus

Carried by the deer mouse *(Peromyscus maniculatus)* this strain of virus caused in 1993 a serious outbreak of respiratory illness. Fever, muscular aching, and cough--all resembling flu symptoms--are followed by abrupt onset of severe respiratory distress. Patients had seemed otherwise healthy. Many (56%) of the victims died in our initial outbreak, located in the southwestern United States. Treatment was primarily supportive, with stabilization of serious cases in hospital intensive care.

To prevent **Hantavirus** exposure, avoid occupational or leisure activities that bring individuals into contact with infected rodents, their excreta or bites. This requires caution in harvesting field crops, sleeping in vacant cabins, cleaning barns, or living in dwellings with indoor rodent populations. Prevention is the best approach to cure.

CHILDHOOD INFECTIONS

Measles

Measles (*Rubeola*) has increased its epidemic potential with the development of large city schools. Measles occurs naturally only in human beings. Usually after exposure, a child develops his first symptoms in 9-11 days. Malaise, high fever, and irritability are associated with inflammation of the eyes, tearing, a hacking cough, and nasal discharge. One to eight days later a rash develops, with small spots on the mucous membrane of the mouth and a red rash, at times slightly elevated, breaking out over the forehead, spreading downward over the face, neck, and trunk. Each spot (lesion) persists for about three days and disappears in the same order; total duration of the rash is about six days. Rarely complications of fluid retention or pneumonia develop; but most measles cases are self-limited, with a complete recovery conferring lifetime immunity. A vaccine is available to protect very young children, patients with tuberculosis, and others whose immune mechanisms are likely to be impaired.

Rubella *(German measles)* is a much more benign disease, often called the “three days measles”. After 14-21 days from exposure, there will be a mild illness for 1-7 days consisting of malaise, headache, and fever. The nonblistering rash then develops on the forehead and face, spreading downward

to the trunk and extremities. Recovery is usually complete. However, serious complications may be seen when a pregnant mother becomes infected. Within the first three months of pregnancy, the developing child is susceptible to *Congenital rubella.*

Fetal infection at such a vulnerable period may lead to severe handicaps—heart malformation, mental retardation, or deafness. For this reason it is important that the mother should avoid contact with anyone who might have measles during early pregnancy. She should never receive a vaccination if there is a possibility of pregnancy within the following two months.

Smallpox

The pox viruses are a disease producing family, including the severe contagious febrile illness *(variola)* commonly called **smallpox.** The disease involves a rash, characterized by small blisters and pustules, with an

incubation period of about 12 days. There is no specific therapy for smallpox. Primarily one attempts to prevent bacterial infection and maintain a fluid balance. The *vaccinia* (cowpox) virus was purified and developed for inoculation to specifically prevent smallpox. Currently, these vaccinations are no longer used, for no smallpox cases have been found in the world in at least a decade. It is one of the few contagious diseases that science may have eradicated with strictly preventive measures. For this we thank the Lord! Individuals with immune deficiency, leukemia, or with a widespread skin rash, of course, should **never** be given the smallpox vaccination.

Chicken Pox and Shingles

Chicken Pox *(varicella)* is a contagious disease, usually seen in children. It is characterized by fever and a small blistering eruption. The same pox virus also produces *herpes zoster* or "shingles", characterized by a one-sided segmental inflammation of one spinal or cranial nerve. Painful localized blisters erupt on the skin over the distribution of the small nerve. Although chicken pox is more highly contagious, shingles is more distressing. Severe pain often lasts for weeks to months, particularly in older individuals. Acute shingles as well as post-herpetic *neuralgia* may respond to fever therapy, given early in the course of the disease. Given in the form of steam bath or at home in a bathtub, specific fever treatments can thwart the infection early and prevent many complications.

Cold Sores

Herpes simplex virus, a "second cousin" of the shingles virus, is the usual cause of cold sores. These painful lesions often erupt during a fever or other illness. They may also occur during times of stress. Except for drying agents,

such as camphor or the use of topical steroids, no specific treatment is available.

Other viral diseases of the skin include the *foot and mouth disease* of children (Coxsackie virus), *warts, milker's nodule,* contracted from infected cows, and *molluscum contagiosum,* an infectious disease of the skin caused by the largest known viruses.

Cat scratch disease is a viral infection characterized by swelling of the regional lymph nodes, secondary to an animal scratch, usually a cat. The diagnosis is usually made from the history, with confirmation by a skin test or lymph node biopsy. The recovery is usually complete.

Infectious mononucleosis is a viral illness, and usually seen in young adults. A severe sore throat associated with a rash on the palate, enlargement of the lymph nodes and spleen, general weakness, muscle aching, and at times central nervous system symptoms are a result. Confirmatory blood tests (the Mono spot) can pinpoint the disease with accuracy in its early stages. Specific fever therapy associated with rest, a spare diet, and other symptomatic measures can usually provide a rapid recovery.

Chronic fatigue syndrome (CFS) is a more serious and lasting complication of viral illness. Unresolved infections with the Mono virus can sometimes result in a complex syndrome of recurrent sore throat, muscle aching, swollen lymph nodes, joint pain, and profound fatigue. Psychological disturbance results, with memory loss, difficulty concentrating, anxiety and depression. The *Epstein-Barr virus* is one of many organisms that can produce this syndrome. Specific serum antibody tests can evaluate this

possibility. Some patients remain incapacitated for years. Crossover sensitivity to environmental toxins, fumes, industrial chemicals, and inhalant or food allergies are often seen.

At the **Poland Spring Health Institute** I have seen many patients with CFS recover their strength and energies. The combination of a simple, low-fat diet, and gradually increasing exercise helps to boost immune defenses. Chronic viral disease yields to the benefits of fever therapy, given over a two to three week period. Depression lifts, while new energy comes into the nearly disabled invalid. There is hope for most infections, especially the chronic viral ones producing fatigue.

Mumps is an acute communicable disease, characterized by painful enlargement of the salivary glands, and more specifically of the parotid glands, just in front of the ears. Sometimes the infection involves the testicles; rarely it produces meningitis. At times testicular involvement *(orchitis)* will result in lifetime sterility. There is no specific treatment, though swollen painful organs can be relieved with cold compresses while the disease runs its course and is treated at home with general measures.

Many tropical diseases, spread by mosquitoes, can be seen around the world. *Eastern* and *western equine encephalitis, dengue, yellow fever,* and *hemorrhagic fevers* are the more common of these. Treatment is generally symptomatic and supportive.

BACTERIAL INFECTIONS

Bacteria are one-celled living creatures, usually classified with the plant family. There are two general types of bacteria, one being spherical and the other rod shaped. These are called *cocci* and *bacilli,* respectively. We will first consider some specific infectious agents and subsequently general diseases caused by bacteria and their rational treatment.

Staphylococci

Staphylococcal infections commonly produce boils on the skin. They can also cause serious infections in the lungs, long bones, kidneys, and surgical wounds. Many of these are among the diseases of "medical progress,"iatrogenic (doctor caused) disorders seen in hospitals, complicating surgical treatment or the use of drugs. Staphylococcal infections may enter a newborn nursery, for example, and cause serious infection in premature or weakened babies. A number of enzymes are produced by small *"Staph"* germs that enable them the multiply in a walled off cavity, while pus develops as your body' s defense.

The tendency of *Staphylococci* to change their reproductive needs (mutate) has caused them to develop frequent resistance to the older standard antibiotics. Pustules may occur in many locations— hair follicles on the face, under the arm, in the groin, and wherever the skin is broken. More extensive infection may appear among diabetics— carbuncles or deep infection of the bone (osteomyelitis). Any child who develops fever, limb pain, or joint pain should be suspected to have *osteomyelitis.* A physician, in such cases, should be contacted to obtain appropriate blood tests and cultures. Staphylococcal *pneumonia* may develop in children or hospitalized patients. Whenever the germs are present in the skin, they may enter the blood stream causing *bacteremia.*

Another type of infection with the Staphylococcal organism is *food*

poisoning. A toxin is produced in contaminated food, which is frequently of animal origin, such as cream-filled pastries, cottage cheese, milk products, or meat. With improper refrigeration, the toxin is liberated. After about one to six hours, a sufferer will develop nausea, vomiting, cramps, diarrhea, and prostration. Rest and supportive treatment are needed during the acute phase, which is normally followed by a rapid recovery. Vegetarian foods are much less likely to be involved with toxins such as we see in food-borne epidemics.

Streptococcal Infection

These cocci appear under the microscope in the form of chains. Several types can be distinguished by culture. Those considered the most virulent are *called beta-hemolytic Strep.* These germs produce the typical **Strep. throat** and most cases of acute tonsillitis. In some people a rash will follow the acutely sore throat, in which case a diagnosis of *scarlet fever* is made. Most of these Strep. infections need to be eradicated quite promptly to prevent serious potential complications of *rheumatic fever* and *glomerulonephritis.* Both can produce chronic disability and damage vital organs.

In throat infection, fortunately, alternating hot and cold gargles and heating compresses can be applied with considerable effectiveness. Complete avoidance of sugar during the acute illness is important to help white blood cell defenses and ensure rapid recovery. When skin or wound infections with the Streptococcal organism results, hot and cold compresses again will prove very beneficial. The fine red streaks that one sees in an infected finger or toe are caused by *lymphangitis,* usually related to this organism. I have used charcoal poultices with rapid benefit also.

Erysipelas is another Strep. infection of the skin. Aggressive hydrotherapy in the early stage must be used to prevent complications; for occasional deaths have been seen in this infection, particularly in young children.

Bacterial Meningitis

The organism most commonly responsible for meningitis is the *meningococcus* germ, also called *Neisseria meningitis.* This organism is seen in military recruits, and sporadically throughout the general population. The sudden onset of high fever, a hemorrhagic skin rash, low blood pressure, rapid heart rate and respiration, stiffness of the neck, and severe headache, should warn the family of the potential onset of meningitis and alert them to seek a physician immediately! Emergency medical treatment is needed to prevent serious complications—a tragic aftermath of arthritis, adrenal failure, blindness, deafness, seizures, or even death!

Gonococcal Infections

The most common “reportable” communicable disease in the United States today is *gonorrhea.* The genital organs are most commonly involved in this disease, considered sexually transmitted, especially through high-risk encounters with multiple partners. Currently this *venereal disease* (V.D.) is a formidable epidemic.

Usually in the male there is a discharge of pus from the urethra, associated with painful and frequent urination. Without immediate treatment, lymph node enlargement, pain in the scrotal sac *(epididymis),* and urinary outlet obstruction *(urethral stricture)* will result. Female patients frequently develop

an increased vaginal discharge, with severe pain in the deeper pelvic organs. Abscesses may form. Prompt treatment is necessary to prevent the development of stricture in the Fallopian tubes, which could produce sterility. Although in prior decades, fever therapy was used with success in the treatment of gonorrhea, current public health recommendations should be followed to prevent the spread of this disease associated with promiscuity and immoral behavior. Condoms are **not** the whole answer to V.D. We need to lift society to the higher moral standards of God' s Word again.

Intestinal Bacilli

A number of germs are normally found in the intestinal tract. These include *Escherichia coli, Bacteroides,* and many other germs. Some of these are our friends in producing important substances for nutrition, such as **Vitamin K** and inositol. Invading the body outside the intestinal tract, however, *E. coli* (the most common intestinal germ, *Escherichia coli)* is definitely harmful. Infections of the blood stream may occur as a complication of urinary tract infection. These organisms can cause abscesses anywhere in the body tissues.

Children under two years of age sometimes develop an intestinal infection typified by nausea, vomiting, and diarrhea. Many similar outbreaks occurring in nurseries have been associated with a specific strain of *E. coli.* As with other infections, drainage of pus and the removal of foreign bodies are essential. Often the outcome of these infections depends upon the status of the associated disease, rather than the mere eradication of bacteria.

Next to *E.coli,* strains *of Klebsiella* and *Enterobacter* are the species of intestinal organisms most apt to infect man. *Klebsiella* is a well recognized pulmonary invader, causing serious bacterial pneumonia. Often the sputum will contain blood, and cyanosis or shortness of breath may develop rapidly. Chronic infections of the lungs are sometimes seen.

Proteus is another similar organism, which has whip-like projections called flagella to enable it to "swim". These bacteria may infect the urinary tract, also invading eyes, ears, mastoid sinuses, or blood stream.

Salmonella infections are common in the U.S. They occur frequently in travelers to underdeveloped nations. Various types of disease can result; usually they are intestinal in nature and result in diarrhea.

Typhoid fever is a systemic disease caused by *Salmonella typhi.* The disease is unique to man and characterized by malaise, fever, abdominal

discomfort, rash, and enlargement of the spleen. The most prominent complications are intestinal hemorrhage and perforation. In a typical patient not treated with antimicrobials the illness lasts about four weeks. With supportive care, barring complications, the recovery is good, although some "carriers" are known. About 3% of infected patients will continue to excrete organisms in the feces for years. They have been known to infect others where careful screening for food handlers has been lacking.

Other *Salmonella* infections involve gastroenteritis, usually seen in large epidemics among individuals eating contaminated food. After incubating for 8—48 hours the organisms cause a sudden onset of abdominal pain and watery diarrhea, usually with mucus or blood. Low grade fever is common, and symptoms usually subside within *2—5* days. Public health organizations often attempt to isolate the germ carrier, in order to prevent the spread of this

epidemic. The most important preventive, besides food surveillance, is personal hygiene, including hand washing. Minimizing the time that foods are allowed to sit at room temperature reduce the chances of growth of these infectious organisms.

The **rule-of-thumb** to prevent bacterial food poisoning is known as the two-forty-one hundred forty (2—40—140) rule. Simply explained, it means that any susceptible food—meat, milk, mayonnaise, poultry, custard, etc.—must **never** be left longer than two hours at a temperature either above 40 degrees F. or below 140 degrees F. Both refrigerated and hot foods are able to inhibit the multiplication of bacteria, thus avoiding toxin formation that would otherwise cause food borne disease.

Shigellosis is an acute self-limited infection of the intestinal tract, characterized by diarrhea, fever, and abdominal pain. This is frequently called *bacillary dysentery.* Severe dehydration may result in some patients who are not given adequate fluids during the diarrhea stage. As in *Salmonella* infections, the treatment of Shigellosis is primarily supportive, with the correction of salt or fluid abnormalities, followed by an uneventful convalescence. Proper sanitation and adequate sewage disposal will prevent most of these infections.

Hemophilus Infections

These bacteria, called *Hemophilus,* cause a variety of diseases. Pharyngitis (sore throat) is commonly seen in children. At times the throat may become severely inflamed, producing inflammation of the valve behind the tongue, the epiglottis *(epiglotitis).* Shortness of breath, with a reddened, swollen, stiff epiglottis may constitute a medical emergency. *Croup* also develops in children with a raspy cough, and profound fluid accumulation in the larynx and trachea. If not treated promptly with cool mist and supportive measures it

can prove fatal. Pneumonia caused by the *Hemophilus* organism is usually seen in children, as is also **otitis media**, a middle ear infection, and **meningitis**. In these complications prompt bacterial isolation with the appropriate medical treatment will usually prove effective.

Brucellosis

Brucellosis or *undulant fever* is caused by microorganisms transmitted from domestic animals. The acute illness is characterized by fever, while weakness and vague complaints may persist for months to years, when the disease becomes chronic. Three species are found in goats, hogs, and cattle. The infection is usually spread by cow' s milk or skin contact (udder) with the *Brucella* organism. When the disease is suspected, appropriate blood tests are needed to confirm the diagnosis. Then specific medical therapy can be instituted. With the appropriate inspection of animals and the avoidance of contaminated milk and milk products, this occupational disease can be well controlled.

Plague

Various bacteria of the *Pasteurella* family have been associated with epidemics of plague around the world. About 200 species of rodents may harbor this organism. After an incubation period of 1-12 days a patient develops an acute severe illness. The more common **bubonic plague** develops abruptly with chills, headache, vomiting, rapid heart rate, prostration, and delirium. A flea bite at the portal of entry rarely can be seen.

The “bubo” consists of a matted group of lymph glands, which usually develops pus and drains after 1-2 weeks. Plague may also take the form of pneumonia. Infection may localize in other regions of the body.
Although often misdiagnosed, plague should initially be treated with hot, moist applications. Specific therapy should await a bacteriologic diagnosis. A similar type of illness seen in animal bites with local cellulitis should be treated as most bacterial infections are. If plague is suspected, see a doctor immediately; this illness is extremely infectious.

Diphtheria

The *Diphtheria* bacteria that cause this acute infectious disease usually enter through the upper respiratory tract. During the incubation of one to seven days the germs make a toxin that is absorbed and carried through the blood stream to all parts of the body. Then a fever begins, associated with a membrane on the throat, listlessness, pallor, weakness, and finally vascular collapse. Although occasionally restricted to the nose, diphtheria usually involves the throat (the *pharynx* and *larynx),* and in tropical areas it is

responsible for some cases of “jungle sore”. Complications may involve the extension of the membrane, which obstructs the respiratory tract or equally serious a toxic *myocarditis,* a vascular collapse, or neuritis.
Patients with diphtheria should be isolated and kept on strict bed rest. Antitoxins should be obtained and given to the patient, while general supportive measures are carried out. Preventive immunization in infancy should be routine. The standard protocol of three initial **DPT** inoculations *(*or in the case of *Pertussis* sensitivity, a **DT** immunization is available) followed by booster doses at one and six years will usually confer lifelong protection.

Cholera

Cholera is an acute illness of the small intestine. Occurring in epidemic forms, a generally painless diarrhea follows the entrance of the germs by 6 - 48 hours. Several liters of fluid may be lost within hours, leading to profound shock. With prompt fluid and electrolyte replacement, dehydration can be combated, bringing a prompt physiologic recovery. Inadequately treated patients may die from shock, acidosis, or kidney failure *(uremia).* Therefore, prompt and massive fluid replacement is vital.
A satisfactory solution can be prepared by adding five grams of sodium chloride, four grams of sodium bicarbonate, one gram of potassium chloride to one liter of distilled water. Hydration must be maintained until the diarrhea subsides. Cholera prevention, for travelers, is available with a standard vaccination. In countries where cholera is epidemic, a single inoculation prior to departure is recommended.

Tetanus

This acute, often fatal disease is caused by a germ toxin (exotoxin) produced in any closed wound by *the* organism *Clostridium tetani.* Tetanus is characterized by sudden rigidity and convulsive spasms of the skeletal muscles. The tetanus bacillus grows *anaerobically,* that is, in a wound where oxygen is excluded. For this reason puncture wounds are often a source of tetanus infection. Gun shot wounds and animal bites also have been suspect, as well as lacerations that are sutured without adequate cleansing.
Supportive measures, usually in a hospital, are important to effect recovery from tetanus. Hot packs to relax the muscle spasm, adequate care of

wounds and the simple but effective toxoid vaccination can give protection. Vaccinations should be boosted every 10 years. In cases of an acute open wound, which appears contaminated, the human tetanus antitoxin should be given along with a tetanus toxoid vaccination to passively protect the individual from illness during early convalescence.

Botulism

This acute form of poisoning results from the ingestion of a toxin produced by *Clostridium botulinum.* Progressive paralysis descends from the brain stem to the skeletal muscles and is often fatal. This germ grows in improperly sealed non-acid canned foods, such as fish or beans, which have been cooked insufficiently to destroy all germs.

Outbreaks have been seen from commercially processed fish, tuna, peppers, and soups. It is impossible to tell that a food is infected by the taste. However, boiling a home-canned food for ten minutes will destroy the toxin completely. Because of the threat of respiratory failure, a person suspected of having botulism should be hospitalized. Artificial respiratory support may be required for a long time. Because of the current mortality rate of 25%, the primary prevention through proper canning procedures and food preservation is vital.

Gas Gangrene

Gas gangrene is another *clostridial* infection produced by the introduction of anaerobic organisms into a wound. Within a few days, severe pain develops in the injured part. Below this point the tissue becomes cold and swollen and eventually develops into gangrene. The wound drains a watery brown material, which may have a sweet odor.

Immediately opening the wound to permit adequate oxygen entrance is important, associated with hydrogen peroxide irrigation and therapies that draw fluid from the wound. This may include the use of dry sucrose (table sugar or honey), increased oxygen, and rarely in more serious cases amputation to prevent death from this severe complication. The most reliable protection against gas gangrene is **thorough cleansing** of the wound. Avoiding unsterile surgical procedures (septic abortion) prolonged labor, or operative interference with pregnancy can also help prevent these infections.

Tuberculosis

Once a prime cause of death around the world, **tuberculosis** is seen today mainly in underdeveloped societies. Fear of recurrence in the Western world is surfacing, especially in military barracks, prisons, inner city ghettos, and communities of immune suppressed men (AIDS). Pasteurization of milk has reduced greatly the incidence of *bovine* tuberculosis, which a generation ago commonly affected the intestinal tract. The lungs are now most often afflicted with development of characteristic abnormalities detectable by X-ray. Symptoms of tuberculosis include fatigue, night sweats, cough, sputum production, shortness of breath, and rarely the coughing up of blood. During all of these activities droplets are sprayed from the lungs, which may contain

tubercle bacilli. Using a tissue to trap the aerosolized particles, and disposing of it immediately will prevent most of the contagion due to tuberculosis.

In chronic pulmonary tuberculosis, chest x-rays show scars with scattered calcium deposits. These, however, during a time of lowered resistance may

reactivate, producing illness and contagion once again. The **TB skin test,** when positive, indicates a person has previously contacted tuberculosis germs and that his immune system recognizes and sets up a battle against them. **PPD** (purified protein derivative) or **Tine** tests for tuberculosis are helpful screening procedures to detect active infection in the community. Public health laboratories then will perform sputum cultures and other needed follow-up measures in the detection and treatment of this illness.

Avoidance of contact with other people, particularly in the spread of the respiratory form, and hygienic healing measures, especially sunshine, adequate rest and proper diet, may produce a natural cure of most cases.

Extrapulmonary tuberculosis involving bones and kidneys has responded to prolonged exposure to sunlight in some European health centers.

Leprosy

Knowledge of this widespread affliction of mankind has its root in Biblical history. Called "Hansen's disease" today, this organism is closely akin to the tubercle bacillus and belongs to the *Mycobacterium* family. Ten to twenty million persons in the world are affected with leprosy. It is more common in tropical countries; in many third world nations 1-2% or more of the population are affected. Leprosy is frequently a family infection. Several different types of the disease are known.

Early leprosy is usually seen on the skin with pigmented plaques and patches demonstrating anesthesia. The **tuberculoid leprosy** develops later with larger raised lesions having no sensation *(anesthesia)* associated with large painful nerves. These may occur behind the elbow or knee and are associated with anesthesia in the affected limb. Contractures of the hands and foot drop *(paralysis)* are frequent. Trauma, especially from burns and splinters, and excessive pressure lead to the secondary infection, ulcers, and the loss of fingers and toes.

Lepromatous leprosy creates an unusual appearance of the face, often making the hapless victim appear like a lion. The skin is primarily involved and early symptoms are those of nasal stuffiness or nose bleeds. Saddle nose, due to perforation of the septum (the wall between the two nostrils) may occur while lymph nodes may enlarge painlessly.

Although neurological involvement is less common, this type is actually more contagious. Other types of leprosy are seen with variations of the above.

Although a specific drug (Dapsone) is widely used today, in reality there is no

complete cure. It is suspected on the basis of animal studies that some form of fever induction may prove the therapy of the future, with public health control measures and quarantine limiting the spread. For further information you may wish to contact the following: *Leprosy Research Foundation, I1588 Lawton Court, Loma Linda, California 92354.*

Venereal Diseases

Venereal diseases are increasing in frequency today, due to the lack of moral restraint in society. **Gonorrhea** has been discussed above, but several other types are commonly seen. **Syphilis** is a chronic infection of the entire body, caused by *Treponema pallidum* and is usually sexually transmitted. After an incubation period of about three weeks, a primary sore develops with enlargement of the nearby lymph nodes.

Generalized rash on the skin develops in the secondary stage and after a

latent period of many years, the tertiary stage can develop with progressive destructive lesions in the muscle, bone, aorta, or central nervous system. Although primary treatment with fever therapy was formerly effective in cases of syphilis, any current outbreak should be confirmed with appropriate blood *(serologic)* tests, a dark—field microscopic examination, and specific therapy as recommended by public health departments.

Other venereal infections include **chancroid** and **lymphogranuloma venereum.** These less common venereal disorders also must be treated definitively to prevent contagion.

AIDS

The preceding decade brought a new life-threatening disease into the vocabulary of every nation. **AIDS** (the *acquired immune deficiency syndrome)* is primarily transmitted as a venereal disease. First discovered in homosexual males, the syndrome quickly spread, soon encircling the world. Millions of women acquired the infection from their bisexual partners. Growing exponentially around our globe, this disease is caused by a virus called **HIV** *(human immunodeficiency virus).* A similar virus is now found in cows (the *bovine immunodeficiency virus).*

Drug abusing men and women pick up the virus from contaminated needles. Many *hemophiliacs* have acquired the infection from blood product transfusions. Sporadic case reports of hospital workers and physicians have raised the spectrum of risky needle sticks, surgery, and invasive medical procedures. Gloves are mandated for medical contact with all body fluids (called *universal precautions).* Latex is not adequate protection, however. It frequently contains microscopic pores, and the virus can pass through easily.

From their first knowledge of AIDS, physicians in hospitals began to practice isolation precautions. Lobbying tactics from homosexual advocates quickly pushed legislators into enacting laws preserving the confidentiality of AIDS carriers. This has increased the risks to dentists, paramedics, physicians, and all health care providers, who may not even know their patient is carrying a lethal virus. Most hospitals today refuse to isolate HIV carriers, ignoring its contagiousness and the scientific research provided.

There is no known cure for HIV infections. Most of the victims eventually develop full blown AIDS. This may develop in several ways. Sudden infection, with drug-resistant tuberculosis or pneumonia caused by an *opportunistic* germ such as *Pneumocystis carini,* may befall. This directly reveals the devastation of the patient' s immune system. Lymphocyte counts are dangerously low; and the hapless patient must be supported with powerful and expensive drugs, usually for the rest of his life.

Unusual forms of cancer, such as *Kaposi's sarcoma,* may appear. One dentist, carrying several of these lesions in his mouth, continued to treat patients. Several of them eventually developed AIDS and died. This disease, as mentioned above, has run rampant in the militant homosexual population. Could there be any better warning to modern man? The Creator's plan for marriage, one man and one woman, mated and committed for life, is the only safe course for pure sexual harmony as well as disease prevention.

FUNGUS INFECTIONS

Except for the causative agent, infections caused by fungi differ little from bacterial disorders. Botanically, the fungi present peculiarities of life cycle that

challenge the investigator.

Actinomycosis is a noncontagious infection produced by an organism normally resident in the mouth. This fungus also causes the so called “lumpy jaw” of cattle. A painful hard swelling results in humans, and can appear in the lower jaw, resembling the pain of a tooth extraction or fracture. The afflicted patient will then notice fever, cough, and eventually drainage. “Sulfur granules” appear in the pus draining from the lesion; these are especially evident if the pus is diluted with saline solution and filtered through gauze. Surgical drainage is helpful as an adjunct to specific therapy.

Cryptococcosis is a pulmonary infection caused by a yeast organism. It is occurring with increased frequency in patients with leukemia. At times it progresses to meningitis with visual disturbance, severe headache, vomiting, and even convulsions. Scientists are looking for safer treatments in this serious illness, which is fatal in many cases and difficult to diagnose.

Blastomycosis is a fungus infection of the skin and internal organs. It occurs in both North and South America and appears to enter the body via

the lung. Dissemination to skin and bones may occur. The regional lymph glands and spleen are often enlarged. Although at times resembling tuberculosis of the lung, a skin test is available to aid in diagnosis. This condition can be cured if treatment is begun promptly.

Coccidioidomycosis is an infection acquired by the inhalation of a fungus. Most infections occur during the dry seasons, particularly after exposure to dust storms. The semi-arid region of the southwestern United States is a common location for this disease, often termed “desert” or “valley fever.” The most frequent complaint is chest pain aggravated by breathing or coughing. Fluid accumulation in the lungs with x-ray changes is usually seen. A skin test is available for diagnosis, as well as confirmatory blood tests. Relief of stress, with increased rest, and in serious cases, specific antifungal agents may be needed to effect a cure.

Histoplasmosis is the eastern counterpart of “Cocci” found in the Mississippi River valley and the eastern United States. This fungus occurs in soil where bats, birds, and chickens inhabit the area. At times this illness is called “cave fever.” City dwellers are also exposed, where starlings’ or black bird’ s droppings collect. Signs and symptoms range from slight, self-limited infections to fatal disseminated disease. The skin test is very helpful in confirming the diagnosis. Lesions in the lung resemble tuberculosis in most respects. Cough is common. At times ulcers in the mouth, tongue, pharynx, or larynx can be seen. For the more serious cases, specific therapy is important, as the disease can be fatal.

Sporotrichosis, another chronic infection is characterized by the formation of nodules, which drain a material resembling pus. These occur along the lymphatic vessel of the skin and underlying tissues. The first contact usually develops from the prick of a thorn, while the victim is working with plants. Rarely dissemination to the lungs, bones, or joints may be seen. The organism can be cultured. Treatment with potassium iodide drops is usually curative, except in the most disseminated forms.

Moniliasis is a common infection of the mucous membrane and skin, due to *Candida albicans.* At times in debilitated patients the fungus can cause widespread infection in the blood and internal organs. More commonly, it

occurs as a diaper rash in babies, in the mouth as “thrush,” and in diabetics usually in the skin or female organs. Vaginitis is very common, particularly with the increased wearing of nylon undergarments, panty hose, and the more widespread use of oral contraceptives. Oral suspensions or tablets of nystatin can be used in the mouth and antifungal tablets or vinegar douches for vaginal involvement. Control of blood sugar, diet, and adequate availability of fresh air and sunshine helps to increase resistance to this problem.

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The **Lime tick** Borrelia bugdorferi

Skin involvement with fungi and yeast is quite common. Usually these organism cause **ringworm, athlete’s foot, and jock** itch—an itching rash in the groin. Topical treatments, drying agents, and frequent changes of clothes, particularly dry socks on the feet are important to decrease the incidence of this summertime nuisance. Scalp involvement is more difficult to eradicate. Fortunately, the superficial fungi are quite sensitive to sunlight.

RICKETTSIAL DISEASES

A variety of afflictions are caused by this family of microorganisms. Rickettsia are smaller than bacteria. Most of these illnesses are transmitted by ticks, fleas, or lice. Serologic tests aid in the diagnosis.

Rocky Mountain Spotted Fever is an acute febrile illness caused by a *Rickettsial* germ. It is transmitted to humans by ticks. The disease is characterized by sudden onset with headache and chill, with fever that persists for 2 - 3 weeks. A characteristic rash appears on the extremities and migrates to the trunk after about four days of illness. Those who become severely ill develop pain in the bones, delirium, shock, and kidney failure.

Many species of ticks are found infected with this organism. The **wood tick** is the most common vector in the west and the **dog tick** in the east. It is important to avoid crushing the tick when removing it from a person or animal**.** Carefully pull them off or apply heat, as with the head of a match that has just quit burning; or apply kerosene to their body. This will usually allow a tick to release itself and prevent leaving the head in the wound. Anyone suspected of having Rocky Mountain Spotted Fever should seek medical care for appropriate diagnosis and therapy. Prevention is attained primarily by the avoidance of tick infested areas.

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Lyme tick top view

Lyme disease is another tick borne illness, first described in the New York and Connecticut regions. It is carried by a deer tick, though other vectors have now been confirmed. Lyme disease begins with a mild fever, aching muscles and joints, and a “bull’s eye” rash. Red in the center with an outer red ring, this rash begins on the trunk, then spreads and eventually fades. Blood tests are available to confirm the diagnosis. Long term complications with arthritis, chronic fatigue, and vague internal complaints may result when the acute illness was not treated promptly.

I have found fever therapy to be helpful in both acute and chronic cases. The earlier the diagnosis, the better, since response from any therapy is more sure and rapid.

Other illnesses caused by Rickettsial organisms are as follows:

rickettsialpox is a mild, nonfatal, self-limited illness transmitted from mites to humans. It is characterized by a skin lesion at the site of the mite bite, a oneweek

course of high fevers, and a rash resembling chicken pox. Typhus fever or **Murine typhus** is an acute illness with fever transmitted to humans by fleas. A headache and skin rash, together with muscle aching also develops, though serious complications are uncommon. The elimination of rodents and appropriate flea control measures in rat infested areas are the best for prevention of this disease. Epidemic **louse-borne typhus fever** is caused by another Rickettsial organism. Headache, fever, and a skin rash are sometimes complicated by vascular and neurologic disturbances. Specific therapeutic agents are available.

Scrub typhus, Q fever, and **trench fever** are other Rickettsial infections, the latter transmitted by the human body louse. Since these are uncommon, you may refer to a standard textbook of infectious diseases for clinical description and specific treatment.

Life cycle of the Pork Tapeworm. The eggs of this parasite, Taenia solium, are first ingested by the hog. The embryo is then released from the egg. When an individual eats pork (especially undercooked) the egg penetrates his intestinal wall, is carried by vascular channels to all parts of the body, then encysts as a larvae (called bladder worms) and lives in the muscles causing pain or weakness. With brain involvement the patient may even develop seizures, symptoms of meningoencephalitis, and other neurologic disorders. The pig is a scavenger. **Do not eat it!**

PARASITIC INFECTIONS

There are a number of worms that parasitize humans. These can be divided into three major groups: roundworm *(nematodes),* tapeworm *(cestodes),* and flukes *(trematodes).* Only the most common infections that are likely to be seen in North and Central America will be discussed.

Roundworms

Pinworms are intestinal parasites transmitted by the ingestion of the egg form. This roundworm is called *Enterobius vermiculari* and is a small white worm about one-half inch in length. An estimated 200 million people in the world are infested with parasites, 18 million in the United States and Canada. Children are particularly affected. Rectal itching is present, due to the unique nocturnal habits of the female parasite that nightly leave the anus to lay eggs

on the skin surrounding it. Scratching leads to reinfection by ingestion. Usually all members of the family should be treated simultaneously.

The **whipworm** or *Trichuris* infection is more serious with invasion of the colon mucosa by the adult parasite. This is found more commonly in the tropics, especially in children. At times abdominal pain, diarrhea, and dysentery results with a chronic blood loss that may produce significant anemia.

The **roundworm** *or Ascaris lumbricoides* migrates first to the lungs and later lives in the intestinal tract. It is estimated that *25%* of the world's population is infected with this nematode. Ascaris worms are quite large and cylindrical in size. Muscular activity maintains them in within the small intestine. Amazingly, the daily egg output of the female is estimated to be 200,000 per worm! Their larva is liberated into the small intestine, migrate through the wall, and are thus carried by the blood stream to the lungs. Thus, without specific treatment, the condition is quite chronic and debilitating.

Ascaris is primarily a household infection of rural areas. Adequate toilet facilities, hand washing, and strict personal hygiene are good preventives.
Hookworm disease is a symptomatic infection caused by two parasites living in the Americas. Hookworm infestation causes significant suffering; an estimated loss of seven million liters of blood occurs daily in the 700 million people infected throughout the entire world. Abundant rainfall, shade, and welldrained, sandy soil are conditions conducive to the development of the hookworm egg into an infective larval form. Walking barefoot in the area allows the larvae to migrate through the sole of the victim's foot into his blood stream. There it enters the lungs, is coughed up, and later is swallowed, thus reaching the intestines.
The major manifestation of hookworm disease is iron deficiency anemia, due to chronic blood loss. Specific treatment must be followed by adequate iron and protein intake in the diet in order for an individual to completely recover.
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Common eggs of the *roundworm* types as seen under the microscope. Their proper identification aids in treatment, as pictured below.
HUMAN ROUNDWORM EGGS
Infertile egg Fertile eggs
Stages of development of *Necator americanus or Ancylostoma duodenale.*
These are the eggs of the common hookworms that infect humans.
Several intestinal worms, including *Toxicara* (the dog and cat hookworms), produce **visceral larva migrans,** and a disease called creeping **eruption** or **cutaneous larva migrans.** In this situation the parasite migrates in the skin causing intense itching. *Strongyloides stercoralis,* another roundworm, causes a serious intestinal infection. The preventive measures are similar for all of these: wear shoes, wash hands, cook vegetables.
Flatworms
Trichinosis is one of the most common flatworm infections in North America. This intestinal and tissue infection of man is caused by the nematode *Trichinella spiralis.* The disease is characterized by diarrhea during the
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development of the adult worm in the intestine. Later there is a syndrome of muscle pain, fever, prostration, edema of the eyelids, and occasionally by myocarditis or encephalitis during the stage of larval migration in the tissues. Trichinosis in humans is contacted by ingesting meat-containing larvae in its dormant stage called a cyst.
The meat has almost always been pork, but about 10% of cases reported in recent years have been attributed to bear meat. Butcher shops often use the same knife or cutting board for different kinds of meat, so cross contamination may occur. Humans are particularly susceptible to this infection. Cooking the meat thoroughly usually kills the larva and reduces the risk of infection. Specific treatment has not always been available and the prevention of Trichinosis lies mainly in the observance of an ancient Biblical injunction to shun swine's flesh as food.
Schistosomiasis or **Bilharziasis** can be produced by three closely related flatworms of the Schistosoma family. These parasites live in the blood vessels of humans who dwell in tropical countries. The organs most frequently

affected are the colon, urinary bladder, liver, lungs, and central nervous system. The best attack on this disease is preventive. Public health measures, including proper disposal of human excrement, provision of pure water supply, and snail control methods in the epidemic areas can be helpful. The parasite, which is harbored by snails, enters the body through the skin of people wading, planting rice, or working in gardens. Specific treatment is difficult and relapses are frequent.

Tapeworm infections are usually acquired through the mouth. Eating raw or undercooked beef will allow introduction of embryos of the cestode *Taenia saginata.* There is also a **pork** tapeworm, *Taenia solium,* and the dwarf tapeworm *Hymenolepsis nana.* A broad fish tapeworm, *Diphyllobothrium latum,* is also parasitic in humans and can rob the body of Vitamin B_{12}. Anemia and other symptoms of B_{12} deficiency can then result. The most practical control measure of the tapeworm is to avoid disposing of untreated sewage in fresh water lakes. Personal hygiene should be stressed. The contamination of food by rats and mice should be prevented.

PROTOZOAL INFECTIONS

Protozoa are one-cell animals. They infect man usually when introduced by mosquitoes or other insects. These infections remain among the major causes of human sickness and death in the world today. Over 500 million people still live in malaria areas. It is estimated that 100 million of these are infected at any given time. Of those infected one million die of malaria annually.

One of the most lethal of all human diseases, **sleeping sickness**, is carried by the *Tsetse* fly. In South America, another related organism infects several million people leaving many with severe heart and gastrointestinal lesions **(Chagas' disease).** It is carried by the kissing bug, found in many homes of underprivileged people living in South America.

Ten percent of the world' s population, including 2-5% in the United States are infected with the intestinal protozoa *(Entamoeba histolytica).* **Toxoplasmosis, giardiasis,** and **trichomoniasis** are three cosmopolitan protozoan infections well known to American physicians. Some of the most common of these will be discussed briefly.

Entamoeba histolytica
causes **amebic dysentery**

Amebiasis is an infection of the large intestine, produced by *Entamoeba histolytica.* It produces a disease ranging from chronic mild diarrhea to life—threatening dysentery. Liver abscesses may result, at times rupturing into the abdominal or chest cavities. These diseases are diagnosed primarily by an examination of the stool. Careful microscopic investigation can disclose the presence of the cyst or adult form, a *trophozoite.* Treatment should be aimed at relief of symptoms, replacement of fluids, electrolytes, and blood loss, and eradication of the organism. The prevention of amebiasis is even more important. For example, the avoidance of contaminated food and water, scalding of vegetables and the use of iodine release tablets in drinking water are important measures. Improvement in the general sanitation, detection of "cyst passers", and their removal from food-handling duties, are general measures in prevention.

Malaria is a protozoal disease transmitted to humans by the bite of the

Anopheles mosquito. It remains the major infectious disease problem in the world. Malaria is characterized by enlargement of the spleen, fever, anemia, and a chronic relapsing course. Today malaria survives best in areas of South and Central America, Africa, and Asia, where the mosquito and the infected human population co-exist. The incidence of the disease has decreased since *1945,* due to an active international cooperative program aimed at its eradication.

Several types of the organism, *Plasmodium vivax, P. malaria,* and *P. falciparum* exist. The cycles between the muscle aching, headache, and fever vary from 48—72 hour periods. “Cerebral malaria” can lead to paralysis, convulsions, delirium, coma, and rapid death. “Black water fever” is a type of malaria associated with *P. falciparum.* Massive destruction *(hemolysis)* of red blood cells is followed by jaundice, kidney failure, and vascular collapse. The most important diagnostic test in the search for malaria parasites is the examination of a stained blood drop under the microscope.

Final cure of malaria is difficult, but mild cases often respond to the timely use of fever therapy. This is given as a rapid sweating steam or tub bath, bringing the body temperature up just as the chills begin, and before fever crests. The treatment should finish as usual with a *cold mitten friction* or a cool shower (see Chapter 17). Repeat this treatment on successive days if the chills return. Performed faithfully in conjunction with a simple diet, extra rest, and other hygienic measures, control can usually be obtained.

The prevention of malaria involves primarily mosquito control, using netting, repellents, and the draining of swampy areas to reduce their breeding potential. Travelers or missionaries to countries where resistant malaria is endemic may want to take preventive medication for added protection.

Leishmaniasis is seen in various forms in the new and old world.

Trypanosomiasis or “sleeping sickness” is primarily a disease seen in Africa.

Toxoplasmosis is a protozoa infection widely distributed among mammals and birds. In humans it can produce both congenital and acquired brain infections. Specific diagnosis is important before determining the appropriate therapy.

Minor protozoal diseases are a common nuisance, and at times are resistant to therapy. **Trichomoniasis** is a venereal infection caused by the protozoan *Trichomonas vaginalis.* This organism may survive in the bladder and the genital tract. Itching, burning, and a profuse, malodorous creamyyellow discharge may persist for weeks. Usually the symptoms subside after the passage of time. Medicated douches as well as careful hygiene are important in the control.

Giardiasis is an unusual appearing organism. This protozoa infection is a significant cause of “traveler’s diarrhea”. It comes from drinking contaminated lake or river water, often while camping. Although the symptoms may persist for several weeks, most infections are asymptomatic and the symptoms are self-limited.

There are a number of other diseases resembling infectious processes where no organism has been identified. **Sarcoidosis** is one of these, often affecting the lungs and lymph nodes. Diagnosis is obtained by a skin test in association with chest x-ray or biopsies. We have found fever therapy to be

helpful in these cases, like many other infectious diseases of uncertain origin. Many other diseases can mimic the above described processes. With new organisms being discovered each year and new diseases being described, only a cursory review of the latest research is possible in the scope of this book. Some **general principles** can be helpful in the treatment of infections, however. **Fever** is one of the most common symptoms. It is usually thought to be a body defense against infection, since viruses do not multiply well at temperatures over 102 degrees F. Other germs are actually destroyed when the temperature reaches 104-105 degrees. Unless the symptoms caused by the fever are severe, it should not be totally obliterated, but rather modified by such treatments as moist sponges, cool baths, or the wet sheet pack (Chapter 17).

Hydrotherapy is an extremely valuable treatment for infections of the lungs and the gastrointestinal tract. Hot and cold moist towels are used freely on the extremities and with the exception of tuberculosis, the same contrasting temperatures are useful in helping the lungs to increase their resistance and throw off the invaders.

Many other diseases are self—limited if supportive measures, such as adequate fluids, rest, proper nutrition, sunlight, and judicious balance of all hygienic remedies are combined. In spite of the many so-called “miracle drugs,” the increase of infectious diseases of uncertain origin and the emergence of resistant organisms continue to challenge patients, as well as physicians in the pursuit of simple remedies.

I have been increasingly impressed with the potential of simple home remedies. As the future ravages of infectious diseases will be more common, more virulent, and people increasingly susceptible to their invasion, everyone must find better ways to treat illness. Even more vital, perhaps, we must learn how to protect ourselves from the diseases of civilization.

CHAPTER FOUR

DISEASES OF THE HEART AND CIRCULATION

Interest in improving our heart and circulation has never been greater than in our world today**. Coronary heart disease** leads all other causes of death. Circulatory conditions (including stroke) take even more lives, and force millions into premature retirement, disability, or nursing home care. Thus the prevention and treatment of cardiovascular disease deserves our utmost attention. The fact is that about 750,000 die annually in the United States from heart disease and over 260,000 by stroke. These are prime reasons why the United States today is nowhere near the top of the list (actually 19th) for life expectancy in men compared to other world nations. For women we are 10th from the top of lifespan leaders. Heading the list of degenerative diseases, these fearsome afflictions of the circulation clamor for attention.

The human heart is without doubt the world's most amazing pump. About the size of a fist in the average man and weighing less than one pound, it pumps every day the equivalent of 7,000 quarts of blood! This precious fluid, weighing about seven tons, distributes itself through more than 60,000 miles of blood vessels in an average person. During our lifetime, the heart beats two and one half billion times, resting only between beats, and moves some 75,000,000 gallons of blood with all its life-sustaining oxygen and various nutrients!

In actuality, the four chambers of your heart constitute four pumps, with two pairs working in series, From the vascular circulation of your body — head, arms, legs, internal organs —blood is brought to the right *atrium.* Here is located the pacemaker, which begins an electrical impulse every second and

initiates the beat of your entire heart, Blood is then pumped into the right *ventricle* and distributed to both lungs through the pulmonary arteries. Here your blood receives oxygen and gives off carbon dioxide, the two principle gases exchanged in respiration.

The fresh, oxygenated blood then returns to the heart, this time through pulmonary veins to the left atrium. Blood is thoroughly mixed in this chamber, since some of the blood cells received more oxygen than from other parts of the lungs, depending upon the posture and depth of respiration. Blood then passes through the mitral valve, into the left ventricle, the strongest portion of the heart muscle. Your heartbeat then contracts and propels blood through the aortic semi-lunar valve into the aorta, whence it is distributed to the extremities, brain, and all internal organs. Oxygen in the blood is delivered to cells, aiding the body in respiration, while the waste products carried by the same fluids and blood cells return through the veins to complete the cycle.

A number of diseases can occur affecting this marvelously designed circulatory system. The heart can be affected by inherited or congenital disease. The aftermath of infection with Streptococcal organism can produce a condition known as **rheumatic fever** with its feared complication, **carditis**. This may damage heart valves, producing lifelong disability. Infections, as

well as malignancies (cancer), can involve the heart. By far the most common affliction is **arteriosclerosis**, a degenerative disorder affecting the arteries. Since the heart muscle receives blood through its own special system of coronary arteries, it is certainly true for this organ, as for the whole body that "The life of the flesh is in the blood."

HOW TO EVALUATE THE HEART

Many signs can reveal the existence of impaired circulation. The **color** of the body is extremely important. Since skin color is partially due to blood circulating just beneath it, it is important to compare skin hues in areas where your skin is particularly thin. The conjunctiva of the lower eyelid, the lips, the fingernail beds, and the palms are often valuable indicators of the state of your oxygen supply. A dusky color or bluish cast *(cyanosis)* indicates an inadequate supply of oxygen in the blood. Cyanosis may be seen in congenital heart afflictions, as is the case with "blue babies." Sometimes cyanosis develops when the blood is too thick *(hemoconcentration)* and the flow is sluggish.

Frequently in advanced heart failure, cyanosis will be seen. Deep breathing, sitting upright, or administering oxygen may correct this problem.

The **pulse** should be examined; remember my description in Chapter One. It is normally regular and equal from side to side in the respective wrist

arteries. Your **blood pressure** can also indicate the general state of the circulation, as well as the force of contraction in your heart itself. The veins along side your neck also are indicators of cardiac function. Normally little pulse waves are seen, but unusual distention usually means that the right side of the heart is unable to keep up with the demand. Examine the jugular veins particularly when a patient is sitting upright.

Finally, your heart itself is evaluated by first looking at the chest to see if there are unusual pulsations, then feeling with the hand to detect unusual vibrations or heaves, and finally listening with a stethoscope. The presence of turbulence as the blood flows through the valves is reflected in sounds called *murmurs.* These can occur during either phase of the heart cycle. Considerable practice is needed to hear these specific sounds and understand their meaning.

Diagnostic tests are frequently performed to evaluate the efficiency of the heart. A **chest x-ray** can determine enlargement of one or more chambers. The **electrocardiogram** provides an excellent look at your electrical activity during each cardiac contraction. During exercise your heart rate should increase. An evaluation of the pulse and blood pressure during mild exercise on a motorized treadmill or bicycle (called a **stress test**) can be extremely helpful in assessing the dynamic function of this marvelous organ. More specialized tests are done in hospitals today, using x-rays, flow studies involving radioactive isotopes, **Thallium scanning** procedures, and the **coronary angiogram** which x-rays the heart in rapid sequence while a radiopaque dye is simultaneously injected into a coronary artery or blood

vessel. This helps to visualize the heart chambers and vessels, and may indicate the need for surgery.

Arteriosclerosis

Hardening of the arteries, or arteriosclerosis, is the most common cause

of serious heart disease today. This condition primarily affects your coronary arteries and large vessels. It is a disease intimately related to our fast-paced lifestyle, and principally involves the type of food eaten and other unhealthful habits formed. Arteriosclerosis actually begins in early childhood. Thus our preventive efforts must be directed toward infants and children to truly prevent the relentless progression of this degenerative condition.

Arteriosclerosis develops as our dietary fat intake increases. The modern unhealthful, refined diet uses large amounts of grease, oil, sugar, soft drinks, and desserts producing a state in the blood known *as hyperlipidemia.* The sluggish circulation of this excess fat promotes deposits in the walls of the arteries. Normal arteries have three layers, the middle one being muscular and the inner and outer layers being thin, delicate linings. Cholesterol enters the inner cells and deposits throughout the first two layers of the artery. This frequently occurs where there is a division or bend in the vessel.

The habit of smoking is especially harmful, as **carbon monoxide** in mainstream cigarette smoke tends to open these tiny lining *(endothelial)* cells and actually creates openings in the vessel wall, enabling cholesterol to penetrate more easily. As the years go by, this cholesterol plaque builds up, becoming thicker and eventually obstructing the vessel. Roughness in the lining cell creates more turbulence, which adds to the danger of *thrombosis,* or sudden clot formation in the vessel, That is the event which is known as a heart attack, or *myocardial infarction.*

It is not known why some individuals tend to form these deposits in the heart more readily, while others select out the brain, the aorta, or other vascular structures. Nevertheless, arteriosclerosis is affecting nearly every American and was even significant in 70% of the American youth killed in action during the Korean War. For reasons of lifestyle, mostly lower animal fat intake, few Koreans or Japanese get coronary heart disease. The picture changes rapidly, though, when they move to Hawaii or the continental USA.

A number of risk factors are directly associated with the development of arteriosclerosis and the inherent risk of coronary heart disease. **Obesity**, afflicting over one third of all adults, is directly associated with heart risk. Every five pounds of extra body fat requires four extra miles of blood vessels just to keep the cells nourished. Not only consult height and weight charts, but also measure skin folds to evaluate a person's obese potential. If the fold

of pinched abdominal skin is an inch or more thick, men are definitely obese; for women the skin fold measure allowed is 1½ inches.

Insurance statistics show the obese individual to be at high risk, not only for cardiac disease, but also for several types of cancer, diabetes, gallstones, and numerous other health problems. America's overweight now number over 50 million people, still growing both in population and total accumulated pounds. Excess calories in the diet are either burned up or stored, but all calories must be accounted for. Our appetite problem is right in the center of a major preventive health program today,

Smoking directly causes an increased risk for coronary heart disease. **Nicotine**, the addictive alkaloid in tobacco, abnormally speeds the heart rate and raises the blood pressure. Carbon monoxide, as mentioned above, "shoots holes" in the artery walls for cholesterol to enter. An average tobacco smoker, according to the Framingham study has three times the risk for a

heart attack and more than a *75%* increased chance of dying from one! With increasing nonsmoking years, these risks fall gradually to normal for the exsmoker.
Hypertension or high blood pressure is a major risk factor in both heart attacks and strokes. The extra load imposed upon the heart as it pumps against increased resistance is a major factor in congestive heart failure, which may occur either gradually or in association with a sudden heart attack. This problem will be considered below, as it frequently is preventable.
The sedentary habits of Americans have also come under scrutiny. Inactivity is another major risk for the development of heart disease. Exercise is protective in many ways. It not only improves the peripheral circulation elsewhere in the body, but also lowers the resting pulse rate, improves the volume of blood delivered with each heartbeat, and dilates the coronary arteries, both large and small. Many research studies comparing active with sedentary workers have demonstrated numerous protective benefits of moderate exercise in avoiding a fatal heart attack. Walking is especially beneficial. Nearly everyone can do it, too.
Other factors, such as the excessive intake of sugar, a positive family history for heart disease, longstanding presence of diabetes, advanced age, and male gender are related to a higher risk. Some of these can be modified in a healthful way.
Because dietary prevention is so important concerning the risk of coronary heart disease, we wish to spend more time on this vital yet controversial factor. Several simple principles must be understood and applied by anyone desiring to have a healthy heart. First of all, our dietary fat intake must be reduced. The average American takes in daily over 40% of his or her calories as fat. Half this much fat (10 to 20%) would definitely be more

optimal. This would of necessity involve the elimination of many unnecessary fats, such as butter, fried greasy foods, flesh meats, rich pastries, oily salad dressings, and the excessive use of cheese, all having increased in Western dietaries over the past two decades.
An intelligent return to natural foods, such as whole grain cereals, and the increased use of fruits and vegetables, will aid you greatly in reducing fat intake. One fringe benefit of this adjustment will be the increased intake of **fiber**. Bran, found abundantly in whole grains and legumes, is an excellent source of dietary fiber. Increasing your fiber intake has been shown to help with elimination of cholesterol from arteries via your liver and the intestinal tract. Plant *sterols* present in whole grains and some vegetables will inhibit in a competitive fashion the absorption of cholesterol from the intestines. All these changes will make your food more interesting and grant much improved health for heart, brain, and longevity.
Most shoppers are aware that cholesterol is *always* of animal origin. With increased meat being used, the intake of fruits and vegetables as dietary staples have fallen off conspicuously for the average household. The richest source of food cholesterol is the yoke of an egg, over 230 mg. in one of medium size. The butterfat portion of milk and all derived milk products—such as cheese, butter, ice cream and cottage cheese—contain cholesterol. Meats, especially those rich in fat, are exceptionally abundant in cholesterol. Even poultry and fish are not excepted. The more cholesterol you take into your body, the higher the level blood cholesterol is likely to be. This

accelerates the development of arteriosclerosis. I advise that as much as possible all dietary sources of cholesterol be eliminated. Then comes the good news; for most people coronary heart disease can begin to regress.
Actually, contemporary and very encouraging data is available to show that the cholesterol problem is in fact reversible. First you should begin with a change in diet and curtailment in the type of fat eaten. By lowering the total fat intake and eliminating cholesterol, your special protein-fat carriers, called lipoproteins, are mustered to mobilize cholesterol for transportation to the liver and eventual excretion in the bile. Modern measurements of blood **HDL** *(high-density lipoprotein)* cholesterol have enabled even more accurate prediction of the state of this efficient cleansing mechanism.
Second, the avoidance of excess calories and refined sugars also helps combat the problem of fat deposition in the vascular structures. Combining a natural diet with adequate exercise will increase the preventive dividends.
With your general decrease in the use of fat, it is time next to take a look at oil. Biochemists agree that some fat is needed in the diet. For most people this can be obtained entirely from non-animal sources, such as nuts, olives, or avocados. In areas where these are scarce, in colder climates, or for extremely

active occupations where more calories are needed, some vegetable fats could be taken in their refined form. Usually these are combined in the cooking process, as in making bread.
Certain fats, however, are clearly better from the standpoint of cholesterol control. Measuring the ratio of *polyunsaturated* to *saturated* fat **(P: S Ratio)** will help to establish the relative risk or benefits of certain seed oils. Corn, safflower, and soy oils are the best from the standpoint of polyunsaturated fats. The *monounsaturated* fats found in olives and olive oil convey a protective benefit on the heart and arteries. Peanut and cottonseed oil are of lesser value. It is crucial to avoid entirely the consumption of shortening, lard, and butter, for these hardened fats will always tend to increase the cholesterol content of the blood. Recipe books are available, which enable the average cook to lower greatly total fat consumption as well as choose the most healthful sources.
Signs and symptoms of heart disease challenge medical experts as well as laymen to find an accurate diagnosis. Chest pain is usually one of two principal qualities in heart disease. One type, called *angina pectoris,* is a transient pain, usually described as a pressure, aching, or squeezing in the area behind the left breast and associated with exercise. It may come on gradually as in walking up a hill or while mowing the lawn, or the pain may be triggered by stress, as in watching violent sports on television or by getting into an argument. Sometimes angina may arise after a heavy meal, because of the increased workload that digestion imposes on the heart. When exercise is a triggering factor, rest will within minutes relieve the pain. Sometimes an improvement of circulation results in the hands or feet by immersion in warm water to accelerate this relief process. In fact, it is important to keep the extremities warm when exercising on a cold day, to avoid chilling and thus reduce congestion around the heart.
The **heart attack,** or *acute myocardial infarction,* presents suddenly with chest pain of a much different character. Although in the elderly this serious event may occur silently, for most younger individuals a sudden heart attack

produces definite symptoms. Occasionally, however, it may resemble heartburn, a digestive problem, or may be thought to be related to indigestion.
Classically the pain of a heart attack is located beneath the breastbone or left portion of the chest. Patients describe their chest pain as vise-like, squeezing, a tense, aching pain that at times radiates into the left shoulder or arm, or up into the neck or jaw. This pain persists, sometimes for hours, and may be associated with collapse or a catastrophic sudden death. About two out of seven individuals having an acute heart attack will die before reaching the emergency room.

Your physician's advice can be reassuring, and is particularly beneficial in establishing a prompt and accurate diagnosis. Electrocardiograms and blood tests for heart enzymes can aid in establishing the diagnosis. Temporary monitoring of the heart rhythm may be essential to observe for threatening signs of rhythm abnormality *(arrhythmia).*
With our modern technologic emphasis on cardiopulmonary resuscitation and emergency care, many lives have been spared. Nevertheless, it remains questionable whether our state-of-the-art coronary care units considered so essential in the United States do significantly reduce **mortality** from these attacks. In Great Britain, many heart attacks are treated at home, and with careful observation, rest and home nursing care, survival is about the same.
Usually the sufferer of a heart attack is well advised to stay in bed. With frequent movement of arms and legs to prevent blood clots (thrombosis) and deep breathing exercises to keep the lungs ventilated (preventing *atelectasis*—collapsed air sacs in the lungs), bed rest provides the safest treatment for each acute episode. Oxygen is usually administered and vital signs carefully monitored to detect any rhythm disturbances or signs of heart failure. Serve the patient a liquids only diet for a day or two, then a gradual progression to healthful solid foods at regular intervals (5 or 6 hours between each meal).
Recommended exercise consists of steady, progressive activity in the room, then inside the home, and finally carefully supervised cardiac reconditioning through prescribed outdoor exercises such as walking. These methods will enable most of afflicted heart patients to return to their desired level of function, eventually enjoying as good if not better health than before the heart attack. We have seen this happen in reconditioning centers around the country, including at Poland Spring.
Cardiac preventive exercises today are taking many forms. Although some doctors recommend no specific program, most physicians believe in exercise, Many are enthusiastic about fitness, some even joggers. Because of the orthopedic disadvantages, the risks, and the lack of objective data that running really saves lives. I believe that our main emphasis should be on **walking.** After a brief warm-up period, the fitness walker can begin at his most comfortable leisurely pace, then gradually increase the time, distance, and speed of this activity. Dr. Kenneth Cooper' s "Aerobics" program, Dr. Dean Ornish's books, and many other popular books on heart disease prevention contain guidelines for the prudent approach to heart reconditioning.
Years of experience at both the **Wildwood Lifestyle Center & Hospital** and the **Poland Spring Health Institute** have convinced me that walking is your best overall protective exercise for the heart, the nerves, healthy blood

vessels, optimum weight control, and normalizing the blood pressure for
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optimum prevention of arteriosclerosis. Any physical activity must be pursued regularly with enthusiasm and consistency in order to be effective, however. Noncompetitive sports, swimming, bicycle riding, and cross-country skiing, wood chopping, and gardening make excellent seasonal variations to the daily walk.

HIGH BLOOD PRESSURE

Medical authorities estimate that from 15-25% of Americans suffer from high blood pressure or **hypertension**. Our most conservative figure in this country is already over 25 million persons with hypertension. No single cause for this is proven. It appears that there are numerous types of hypertension, some related to chronic diseases and other patients with causes potentially reversible.

Salt ingestion is well known to be a risk factor in causing high blood pressure. More then four thousand years ago a Chinese by the name of Ch'i Po noted the "If too much salt is used in the food, the pulse hardens." The average American consumes from 6-13 grams of salt daily. Some in Western countries and many in the Orient use as much as 18-24 grams of salt a day! The incidence of high blood pressure in a population is increased in proportion to the sodium intake of the diet. The Japanese illustrate this, with increasing strokes as their major cause of death.

Sodium chloride, or table salt, is hidden in many foods—soups, canned vegetables, crackers, dried meats. It consists of about 40% sodium and 60% chloride. A teaspoon of salt contains about 2.3 grams of sodium. Your body needs only 220 milligrams (about a 10th of a teaspoon) of sodium a day. Most experts recommend that you consume no more than a teaspoon of salt a day in your diet.

Too much salt gets sprinkled on our food, often before even tasting it. Another portion appears in particularly salty types of foods, such as potato chips, salted nuts, and other snack foods. Prepared foods usually have their ingredients listed on the label in order of their proportion. Read the labels carefully; they may even have an analysis of sodium content printed with other nutrient values.

Not only is salt a problem, but other substances, such as baking soda, monosodium glutamate, and other sodium containing food additives will supply hidden forms of dietary salt. First, eliminate all added salt at the table—just remove the salt shaker. Next, cut back on excessively salty foods. These can easily bring down your sodium intake to approximately two grams per day. When you do buy processed foods read the labels. Choose those foods that are lower in sodium. Further restrict sodium by avoiding milk and milk products, even salty vegetables, such as celery, beets, and leafy greens.
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If you plan carefully, and use only salt-free breads and cereals, it will be possible to lower the sodium intake to one gram. Periodically, for patients in congestive heart failure, even a stricter regulation of salt intake is necessary to prevent fluid retention and to lower the blood pressure. Fruit and most natural vegetables are very low in sodium. More and more dietetic foods are supplying the needs for convenience in packaging without the danger of hidden sodium content.

Symptoms of hypertension are variable. Most patients with high blood pressure have no symptoms at all. In actuality, well over half of the cases of high blood pressure in the Unites States are presently undetected. Physical symptoms such as headache, nosebleeds, visual disturbance, and signs of heart failure or kidney disease coexist in conjunction with high blood pressure. Home measurement of blood pressure is simple and becoming more convenient. Nearly all pharmacies carry blood pressure cuffs (the *sphygmomanometer)* for home use, together with detailed directions. And coin operated blood pressure machines are available in many shopping centers.

Numerous less common types of hypertension are surgically curable. Tumors of the adrenal gland, such as the adrenaline producing *pheochromocytoma* and cortisone producing *adenomas* can cause hypertension, among other symptoms. A third type of adrenal tumor produces the hormone *aldosterone,* which increases sodium retention, thereby elevating the blood pressure. Chronic diseases of the kidneys, due whether to infection, nephritis, or congenital cysts can cause hypertension. Arteriosclerosis, which narrows the arteries to one or both kidneys, can also trigger a reninangiotensin hormonal cycle that results in high blood pressure. Specialized tests are needed to diagnose these "curable" hypertensive diseases. Nevertheless, all of these together comprise only 5% of the total hypertensive patients.

In addition to a salt restricted diet, the individual with hypertension must learn to control stress. Our emotions are profoundly related to the incidence of hypertension. Furthermore, these tendencies are aggravated by excessive noise, a harried schedule, lack of sleep, and lack of exercise. Most of the time, fortunately, adherence to these simple preventives can help a person regain good control of his blood pressure.

SODIUM **AVERAGES FOR COMMON FOODS**

Food Group	**Household Measure**	**Weight (g.)**	**Sodium (mg.)**
Milk Exchanges	8 oz**.** (1/2 pt.)	240	120
Eggs	one	50	70
Vegetable Exchanges	1/2 cup	100	9
Fruit Exchanges	1 serving	varies	2
Bread Exchanges	I serving	varies	5
Fat Exchanges	1 tsp.	5	0

STROKE

In the United States more than 200,000 people die annually from stroke. Many more are handicapped for life, and spend months to years in nursing homes. Stroke, formerly called *apoplexy,* now goes by the more modern term *cerebrovascular accident.* It is the culmination or combination of several health problems. **Thrombosis**, blood clotting, involving one of the major arteries to the brain, or a smaller artery within the brain can affect neurologic function and produce serious symptoms.

Blood clots may form elsewhere in the body and break off, forming an *embolus.* Going to the brain as a "cerebral embolism" initiates another type of stroke. In younger people a sudden *hemorrhage* in the brain may produce a stroke; it may be associated either with congenital defects in the artery wall

(aneurysm) or some episode of trauma.
The symptoms of a stroke can vary widely. The mildest ones involve temporary slurring of speech, dizziness, and weakness in a hand or arm, numbness. They may occur suddenly, then clearing within minutes to hours. This is called a **transient ischemic attack** (T.I.A.) and indicates the risk of more serious and more permanent damage, as well as the definite presence of arteriosclerosis.
The first major stroke usually occurs in the midportion to one hemisphere of the patient's brain. Usually one side is affected, with paralysis or weakness in an arm or leg. Sometimes both the arm and leg are involved, producing one-sided paralysis called *hemiplegia.* Occasionally some facial muscles will be involved as well. If the brain damage is on the dominant side— usually the left in a right-handed person — the speech will be impaired also.
Recovery from a stroke represents a triumph of determination on the part of the patient, and wisdom and skill by the rehabilitative medical team. Rehabilitation is often a costly and prolonged procedure, with hospitalization in the acute stage and long-term physical therapy for vocational re-education

in most activities, including the use of wheelchairs, walkers, braces, canes, and a gradual return to normal activities. Local heart associations have informative literature concerning the treatment in a home-like setting for a person who has had a stroke. Continued effort for many months is frequently rewarded by the recovery of a loved one to productivity and self respect.
The prevention of stroke primarily falls into the dimensions of diet and other lifestyle changes. Control of stress, adequate daily exercise, and a balance between mental and physical labor are extremely important. Some time each day should be spent outdoors, especially if your work is basically sedentary. The diet should be limited in sodium to a maximum of 2 to 3 grams of salt intake daily. Your low fat vegetarian diet helps maintain the blood cholesterol as low as possible. These measures will prevent a gradual buildup of cholesterol plaques, leading to arteriosclerosis in your brain arteries. Home treatment of stroke is an outstanding ministry for nurses, well worth your thought and study.

ANEMIAS

Because of television advertising of vitamins and the contemporary dependence on supplements, *anemia* has almost become a household word. Lowering of hemoglobin and/or scarcity of red blood cells in the circulation manifests this condition. The delivery of oxygen to the cells is impaired, and predictable symptoms will result. Most causes of anemia are still nutritional. The nutrients necessary for the formation of red blood cells by our bone marrow are usually available in a varied vegetarian diet. Adequate quantities of iron, folic acid, vitamin B_{12}, and protein are especially necessary. Each one of these nutrients can become the limiting factor in blood production and, when deficient for a period of time, can produce anemia.
The symptoms of anemia are frequently profound **fatigue**, **dizziness**, particularly on arising suddenly, limited exercise tolerance, and **pallor** or paleness to the skin. Many physicians can estimate the degree of anemia by looking within the individual' s lower eyelid (*conjunctiva*). Hemoglobin determination
involves the laboratory; measuring the red blood cell count and

hematocrit (the percent ratio of blood cells to whole blood) are useful to evaluate the extent of anemia. Microscopic view of the red blood cells may give some hint concerning the cause. The iron level in your blood, serum vitamin B_{12}, and other similar factors can be measured in most laboratories.

Iron deficiency is the most common cause of anemia. This is seen most commonly in lower socioeconomic classes of society. A diet that is low in greens and whole grain cereals will be more likely to lack iron and produce anemia. Babies are normally born with high hemoglobin, but receive some iron from their mother' s milk. Those on cow' s milk without supplemental

iron will develop progressive anemia. Some of this may be "physiologic", but most of it can be prevented with appropriate baby formula. Iron-rich foods include dark green vegetables such as spinach, kale, broccoli, and chard. Whole wheat and other unrefined grains contain iron, and in "enriched" flour most of the lost iron is replaced. Certain fruits, such as grapes, raisins, strawberries, and blackberries contain liberal amounts of iron. These are the best food sources and can adequately nourish a growing child, adult, or even mothers during pregnancy. The use of iron kettles in cooking will also add iron, particularly when boiling acid fruits or sauces. Some iron may be available in community water supplies.

The adequate intake of Vitamin B_{12} has stirred many controversies among vegetarians. It is well established that some vegetables fresh from the ground many contain trace amounts of vitamin B_{12} or *cobalamin*. However, the B_{12} availability is no where near adequate for normal nutrition. Some B_{12} is made by bacteria in the colon, but it is not known that this will be adequately absorbed. Most dietary Vitamin B_{12} is obtained from foods of animal origin, particularly milk and eggs. This is made available to our bodies for absorption by *intrinsic factor,* supplied in the stomach.

The vitamin B_{12} is then absorbed in the small intestine and stored for long periods in the liver. In actuality, most individuals can thrive without B_{12} for many years before developing symptoms of the deficiency. Unfortunately for the few, neurologic problems can develop with tingling, numbness, weakness in the extremities, due to degenerative breakdown in the posterior portion of the spinal cord. Some functional deficit may remain permanently, even though the anemia is reversed.

Folic acid deficiency can produce a similar anemia, but without the neurologic problems. This B vitamin is seldom deficient, though, except in certain disease states involving malabsorption. The individual who is eating a total vegetarian diet, without milk, eggs, or other animal foods would do well to obtain some source of vitamin B_{12} as a tablet, an injection, or in various fortified foods at least every month. Thorough chewing of any B_{12} vitamin supplements assists absorption. There appears to be a second hormone in the saliva to assist this process.

Other causes of anemia include *chronic blood loss* from heavy menstruation or hidden *(occult)* bleeding in the intestinal tract. Older individuals should definitely have a complete examination if anemia is discovered, to exclude the possibility of undetected cancer. During the menstrual years, a woman may lose excessive blood in the monthly period and, not obtaining adequate replacement, could develop anemia. Iron is occasionally needed in supplemental form during pregnancy to correct a developing anemia that

results in dizzy spells or weakness.
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Any persistent anemia not related to blood loss or nutritional deficiency, and refractive to simple therapy, should be investigated by a physician. Chronic disease of the kidneys, acute or chronic leukemia, or abnormal destruction of the blood cells *(hemolysis)* may require examination of the bone marrow and a careful medical investigation to discover and remove their causes. Most anemias can be treated and cured, the detective work involved providing a challenge to every medical diagnostician.

VARICOSE VEINS

Abnormal dilation of leg veins may occur from many causes. Varicose veins usually appear on the surface of the skin. Most common in the legs, they may also occur in the entire lower extremity, the perineum, the pelvis, or the abdomen. Dilation of rectal veins are usually called *hemorrhoids,* while in the scrotum, they are termed a *varicocele.*

The late Dr. Dennis Burkett of England taught for decades that varicose veins result from a deficient intake of fiber in the diet. This creates, he said, the necessity for increased straining, thus elevating the abdominal pressure, and stretching the veins. While this may constitute one cause, I believe that there are many causes of varicose veins. Some of these follow episodes of *hrombophlebitis,* an inflamed blood clot in the same involved veins. Unwisely wearing tight constricting garments around the upper thigh or waist, as well as prolonged sitting or standing, can promote the development of unwelcome varicosities. They are usually aggravated by pregnancy or any other condition that raises the pressure within the abdomen.

Although some writers think that vitamin E is curative, scientific evidence is presently inconclusive. We know that exercise and the use of whirlpool baths are beneficial in chronic disease involving the veins. An increase of fiber in the diet will provide better elimination, decreasing the need for straining with unnatural elevation of the abdominal pressure.

Symptoms of aching in the legs or unsightly deformities of the skin can be treated with the wearing of elastic support hose. These should be of a surgical quality and appropriately fitted to the patient' s size. **Jobst** company will custom design your hose after careful measurement, if you want the best, most expensive product. Many people with varicose veins below the knee should wear support stockings up to the knee, while others require a fulllength hose to appropriately compress the veins and prevent them from dilating further. Occasionally, surgery is indicated, called a vein *stripping and ligation,* to remove the offenders. Most varicose veins, nonetheless, can be treated at home.

One dreadful complication that patients fear is the varicose ulcer, usually developing on the inner side of the ankle, below a varicose vein. This needs
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urgent treatment to reduce the hazard of infection and promote rapid healing. Bed rest is combined with elevation of the affected limb, together with hot and cold soaks, and careful antiseptic cleansing of the ulcer. This method, even at home, will usually promote rapid healing. Swelling in the ankles needs to be reduced by the combined influence of gravity (elevate the legs) and salt restriction. At times a topical application of vitamin E, aloe vera, or the healing effect of oxygen administered with a plastic bag around the foot can

help to promote more rapid healing.

THROMBOPHLEBITIS

Clots may form at any time in stagnant or injured veins. The smallest veins on the skin surface become red and tender. Inflammation of the veins, with clotted blood inside obstructing flow, is called *thrombophlebitis.* This condition does not constitute a great threat to health, however, and responds to a few days of bed rest with elevation of the extremity and frequent application of moist, hot compresses. *Deep vein thrombosis* is more serious. As the clot extends into a deeper vein, it may break off or fragment, migrating through the larger veins to the lungs. A sudden clot in the lungs, *pulmonary embolism,* may tragically be fatal. Usually an embolism produces chest pain, cough, and some transient shortness of breath.

Hot packs and bed rest are helpful in the management of this type of acute thrombosis. The diet must be very low in fat, particularly eliminating any meat or swine's flesh, since the chemicals derived from these toxic foods tend to promote clot formation. Platelets in the blood, which normally being protective and serve to prevent bleeding, will become sticky and adhere to one another, increasing the tendency for thrombosis to occur. The use of estrogen supplements and oral contraceptives significantly increases the risk of thrombosis. Tobacco also produces spasm of the vessels, compromising the circulation, and may trigger development of an abnormal clot within a blood vessel.

CONGESTIVE HEART FAILURE

When one side of the heart pumps less than the other side, congestion results. Usually the left portion of the heart first becomes weak, forcing the blood to back up into the lungs, with resulting congestion. Shortness of breath associated with cough, the coughing of blood *(hemoptysis),* or inability to lie flat in bed will result from this type of *passive congestion.*

When the right heart chambers are unable to keep up with the pumping load, congestion develops in the general circulation. Distention of the neck veins ensues, with swelling of the liver and retention of fluid in the abdomen

(ascites), the legs, and the ankles. Sometimes an unusually ruddy complexion will result, with *cyanosis* in more serious cases.

Symptoms of shortness of breath on exertion will be followed by nocturnal episodes of air hunger. The patient may be unable to sleep lying down, and require a recliner lounge chair, or he may sleep in bed propped on several pillows. His weight increases rapidly, due to fluid retention. If treatment is not received promptly, *acute pulmonary edema* may develop, requiring emergency hospitalization.

Common causes of congestive heart failure include hypertension, with its frequent problem of excessive salt intake, and arteriosclerosis. Less common causes are thiamine (B_1) deficiency, hyperthyroid conditions, heart muscle inflammation *(myocarditis,* usually viral), or tumors involving the heart.

Bed rest in the acute stage requires a limitation of exercise, associated with strict control of dietary salt intake and, for serious complications, even fluid restriction. These remedies will bring relief for most cases of heart failure. A careful investigation into the causes will generally provide a basis for more specific therapy. Warmth to the extremities, a calm peaceful mind, and the avoidance of drugs that adversely affect the cardiac rhythm will

likewise prove beneficial.
Kidney function can be enhanced with hot packs across the low back. Ice packs over the heart can slow its rate in most cases, except the rhythm disorder called atrial fibrillation. Unusual irregular pulses and very rapid heart rates should be evaluated by a physician.
Of great importance in congestive heart failure, as in treatment of hypertension, is a strict limitation of sodium intake. I have seen in my institution many heart patients recover from congestive failure on a salt restricted diet. Sometimes they improve only to indulge in salt again through ignorance or habit when returning home. Then, promptly, their fluid retention and heart failure return. Appetite control, knowledge of nutrition, and carefulness in exercise are fundamental to properly maintain a healthful circulation.

THE FOLLOWING PAGES WILL HELP YOU PREPARE A DIET LOW IN SODIUM, SATURATED FATTY ACID, AND CHOLESTEROL. THERAPEUTIC USE OF THESE GUIDE LINES WILL REDUCE YOUR RISK OF HEART ATTACKS AND IMPROVE RESISTANCE TO ARTERIOSCLEROSIS.

LOW SODIUM DIET

500-Milligram Sodium Diet (with adaption for 250 and 1000 mg.)

INCLUDE IN EACH DAY'S DIET

Milk, skim or soy 2 cups
Milk, low-sodium 1 cup
Soups, unsalted 1 serving
Bread, unsalted 3 slices
Cereal, unsalted 1 serving

Fruit and Juices

Citrus 1 serving
Other fruits 3 servings

Vegetables and Entrees

Potato or substitute 1 serving
Other (one should be
green, leafy, or yellow) 2 servings
Legumes - beans, peas 1 serving
Meat Alternates (see List) 2 servings

Miscellaneous

Desserts (see List) 1 serving
Sweets (jelly, honey) as desired
Margarine, unsalted 4-5 servings

HELPFUL SUGGESTIONS:

1. Do not use salt, baking powder, baking soda, MSG *(monosodium glutamate)* or anything with added sodium in cooking or seasoning food.
2. Use distilled water for drinking and cooking.
3. Read all labels and avoid foods that contain salt or sodium *(Na)* preservatives.
4. Do not use foods that have been cured, smoked, pickled, corned, or processed in any way with salt or sodium.
5. Since salt is restricted, it is important to plan flavor combinations from

the seasonings suggested to enhance the flavor of foods used. See Lemon, Butter, Sweet-Sour Sauce, Unsalted Mayonnaise, and Hot Low-Sodium Salad Dressing.

MENU PATTERN

Here are some simple meals for a starter.

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BREAKFAST

Fresh fruit or juice or both
Unsalted whole-grain cereal with milk
Peanut butter or nuts
Unsalted toast with unsalted margarine
Low-sodium milk
Honey or jelly

BREAKFAST

Orange Juice
Unsalted oatmeal with milk
Scrambled tofu
Unsalted toast with unsalted margarine
Fresh fruit or applesauce
Jelly, jam, or honey

LUNCHEON OR SUPPER

Unsalted tomato soup, if desired
Unsalted meat alternate (see list)
Unsalted vegetable
Fruit as salad or dessert
Unsalted bread
Unsalted margarine

LUNCHEON OR SUPPER

Unsalted vegetable soup
Unsalted cottage cheese
Unsalted broccoli with soy cheese
Tossed fresh salad
Unsalted bread
Unsalted margarine
Skim milk

DINNER

Unsalted meat alternate (see list)
Unsalted potato or substitute
Unsalted vegetable
Vegetable salad (unsalted)
Fruit or allowed dessert
Unsalted bread
Unsalted margarine

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Skim or soy milk

DINNER

Unsalted soy beans
Baked potato with unsalted margarine
Sliced tomatoes with unsalted soy mayonnaise
Banana orange fruit cup

Unsalted cookies
Unsalted bread
Unsalted margarine
Skim or soy milk
For a 250-mg. sodium diet, you may substitute dialyzed or low-sodium milk for skim milk at dinner and supper.
For a 1000-mg. sodium diet, try to substitute skim or soymilk for lowsodium milk at breakfast, tap water for distilled water. Use beets, celery, chard, and other "greens" as desired.
Try this tasty **LOW-SODIUM SALAD DRESSING**
Canned tomato, tomato juice, or puree (no sodium added) flavored with lemon, sugar, onion, garlic, and herbs as desired.
YOU MAY USE THE FOLLOWING SEASONINGS:
Almond extract
Anise seed
Bakon yeast
Basil, sweet
Bay leaf
Caraway seed
Cassia
Chives
Cumin seed
Dill
Fennel seed
Garlic
Lemon juice
Lemon extract
Maple extract
Marjoram
Mint
Onion
Oregano

Paprika
Parsley, fresh only
Peppermint extract
Rosemary
Sage
Sesame seed
Vanilla
HERB BUTTER FOR VEGETABLES, etc.
Basic Mix for **Lemon Butter:**
Water, boiling 1 1/2 teaspoons
Margarine, unsalted 2 tablespoons
Lemon juice 1 tablespoon
To the Basic Mix add
1 teaspoon to 1-tablespoon herbs, such as minced parsley, scraped onion, minced garlic, paprika.
SWEET-SOUR SAUCE FOR VEGETABLES
Lemonjuice and sugar seasoned with grated onion, and herbs as desired.

You May Also Use:

Beverages and Soups

Cereal beverages (Pero, Postum, Roma, etc.) with distilled water. Hot carob beverage made with skim or soymilk allowed. Unsalted broth or soup made from low-sodium milk and allowed vegetable.

Breads and Cereals

Breads made WITHOUT salt, baking powder, baking soda, eggs, or preservatives containing sodium.

Unsalted bread, unsalted Pita bread.

Fruits and Juices

Use any fresh, canned, or frozen fruit or juices except limited amounts of raisins and dried figs. Include one citrus fruit or other food high in vitamin C daily.

Vegetables

White or sweet potato, macaroni, noodles, rice, spaghetti, all prepared without salt.

Fresh, canned, or frozen WITHOUT SALT asparagus, eggplant, string beans, peas, pumpkin, squash, lettuce, tomatoes, kale, mustard greens.

The strong-flavored vegetables - broccoli, Brussels sprouts, cabbage,

cauliflower, cucumber, onions, radishes, turnips - should be limited if they cause distention.

Use ONLY ONCE A WEEK: beets, beet greens, celery, Swiss chard, spinach, carrots.

Use one green or yellow vegetable daily.

Meat Alternates

Unsalted cottage cheese, soybeans, tofu (soy cheese), dried legumes (beans, garbanzos and lentils); unsalted nut butters; unsalted prepared meat alternates (vegetable protein products).

Desserts

Vegetable gelatin desserts made with canned or frozen fruits allowed; ice dream (homemade), using fruit whiz.

Fats

Unsalted salad dressing without eggs; vegetable oils, soy cream.

Miscellaneous

Seasonings (except those listed under *You may not use),* unsalted nuts, unsalted popcorn.

YOU SHOULD NOT USE the following:

Beverages and Soups

Buttermilk, regular milk in excess of 2 cups

Instant cocoa mixes, “Dutch process” cocoa.

Salted tomato juice, coffee, tea.

Water which has been run through water softening equipment.

Breads and Cereals

Commercial bread, biscuits, pancake or waffle mixes. Salted bread, selfrising flours; pretzels; white and graham crackers. Quick-cooking cereals containing salt. Roman meal, oven cooked wheat, dry prepared cereals except allowed unsalted ones.

Fruits

Those containing sodium benzoate as a preservative as *Maraschino*

cherries. Raw apples and melons should be avoided only if they cause discomfort.

Vegetables

Vegetables prepared with salt.

Frozen corn, frozen lima beans, frozen peas and mixtures of these vegetables. Sauerkraut, white turnips.

Limit these to ONCE A WEEK since they are higher in natural sodium: beets, beet greens, carrots, celery, spinach, Swiss chard.

Desserts

Any prepared with salt, baking powder, baking soda, eggs, regular milk; commercial gelatin dessert; commercial ice cream; rennet desserts.

Fats

Salted butter, salted margarine, salad dressings made with salt and egg white.

Miscellaneous

Catsup, chili sauce, salted gravy, salted nuts, salted popcorn, salt, seasonings such as celery salt and celery seeds, garlic salts, onion salt, monosodium glutamate *(Accent),* Bakon yeast, meat tenderizers, chemically softened water.

STRICT DIET for LOWERING CHOLESTEROL and BLOOD FATS

This diet is formulated to be cholesterol free, very low in fat, and high in complex carbohydrates, with no refined sugar. Foods should be chosen from unrefined sources, eating the food in as natural a state as practical. Animal products are omitted, except for a limited use of skim milk and egg whites. This diet meets the daily requirements for vitamins, minerals, protein, and fat. **Calories** are restricted to aid in weight reduction (special 1200, 1500, and 1800 calorie plans are included).

If sodium restriction is also desired, this diet will meet your requirement by simply following the procedure of not adding any salt, and not buying foods with salt added in processing (be sure to read labels).

This diet provides the following approximate composition:

Fat - 10-12% of the calories, all from vegetable fat sources.

Protein - 15-18% of calories (55 to 68 gins. of protein).

Carbohydrate - 73% of calories, composed primarily of complex carbohydrates in as unrefined a state as practical.

INSTRUCTIONS

Foods are listed under two main categories: Foods Permitted, and Foods Omitted. The various types of foods are then broken down into six basic food groups, vegetables, fruits, grains, milk, fats, and protein rich foods. Specific foods are listed with serving sizes. Follow the recommended number of servings per food group as specified for the 1200, 1500, or 1800 calorie diet listed below. Suggested daily menus and some recipes are provided in the following pages to assist you in meal planning.

FOODS PERMITTED

VEGETABLE GROUP

One serving provides approximately 2 gms. of protein, 8 gms. of complex carbohydrates, a trace of polyunsaturated fats, and 40 calories.

Asparagus, 7-8 spears
Beans, Green snap, 1 cup
Bean Sprouts, 1 1/2 cups
Beets, 2 beets, 2” dia.
Broccoli, 1 1/2 stalks, or 1 cup
Brussels sprouts, 7-8 medium
Cabbage 1 1/2 cups raw shredded, 1 cup cooked
Carrots, 1 large, 2 small raw, 3/4 cup cooked
Cauliflower, 1 cup, raw or cooked
Celery, no restriction
Chard, 1 cup, cooked
Collards, 1/2 cooked
Cucumbers, no restriction
Egg plant, 3 slices
Kale, 3/4 cup cooked
Lettuce and other salad greens, no restriction
Mushrooms, 12-14 small, 6 large
Mustard green, 3/4 cup cooked
Onions, 1 small
Onions, green, 4 small, including tops
Parsnips, 1/2 of a small parsnip, 1/3-cup cooked
Peas, 1/2 cup
Peppers, green, no restriction
Potatoes, 1/2 of a small potato, *2/5* cooked
Pumpkin, 1/2 cup cooked
Radishes, no restriction
Rutabagas, 3 oz. raw, 1/2 cup cooked
Spinach, 1 cup cooked
Squash, summer 1 cup cooked
Squash, winter 2/5 cup cooked
Sweet potatoes 1/3 small
Tomatoes, 1 medium
Tomato juice, 1 cup
Turnip greens, 1 cup cooked
Vegetable juice cocktail, 1 cup
Yams, 1/4 cup cooked

FRUIT GROUP

One serving of fruit provides approximately 20 grams of carbohydrates, a trace of protein and fats, and 80 calories. Fruit should be fresh or preserved without added sugar.

Apple, 1 medium
Apricots, 4-5 medium
Banana, 1 small
Blackberries, 1 cup raw
Blueberries, 1 cup raw
Boysenberries, 1 cup raw
Cantaloupe, 1/2 medium melon
Cherries, sweet - raw, 18 large
Dates, 3 medium

Figs, fresh, 2 large
Grapefruit, one medium
Grapes, fresh, 3/4 cup
Guavas, 1 medium
Lemons, 2 medium
Mangoes, 1/2 medium
Nectarines, 2 medium
Orange, 1 medium
Papaya, 2/3 medium
Peaches, 2 medium, 1 cup sliced raw
Pear, 1 small
Persimmon, 1 medium
Pineapple, raw, 1 cup
Plums, 2 medium
Prunes, 3 medium
Pomegranate, 1 large
Raisin, 2 1/2 t.
Raspberries, fresh, 1 cup
Strawberries, fresh, 1 1/3 cups
Tangerine, 2 large
Watermelon, 1 slice, 6 inch diameter, 3/4" thick

CEREAL-GRAIN GROUP

One serving of cereal-grains provides approximately 3 grams of protein, 18 grams of complex carbohydrates, and 100 calories.

Bread, whole grain, 1 1/2 slices
Roll, 1 average
Tortilla, corn, 1 1/1 6" diameter

Pancake (made with egg white and whole grains), 1
Rice, brown, 3/4 cup cooked
Sweet corn, 1 medium ear
Corn, canned, 3/4 cup
Cornmeal, whole grain, 1/4 cup
Oatmeal, dry, 1/4 cup
Oatmeal, cooked, 2/3 cup
Wheat, cracked, 2/3 cup cooked
Wheat flour, whole grain, 1/4 cup
Rye flour, 1/3 cup
Breakfast cereals, prepared
All Bran, 1/2 cup
Bran Flakes, 40% 3/4 cup
Grape nuts, 1/4 cup
Shredded wheat, 1 1/4 biscuits
Wheat chex, 1/2 cup
Rye crisp *4-5* small wafers.

MILK GROUP

One serving of milk provides 9 grams of protein, 12 grams of carbohydrate, and 90 calories.

Skim (non-fat) milk, 1 cup
Butter milk, 1 cup

Soy milk, 2/3 cup

FAT GROUP

One serving of at provides 5 gms. of fat and 45 calories.

Vegetable oil, 1 teaspoon

Margarine, soft tub, 1 1/2 teaspoons

Peanut butter, 1 1/2 teaspoons

PROTEIN GROUP

One serving of protein rich foods provides approximately 15 gins. of protein, 40 grams of complex carbohydrates, 2.5 gms. of fats (polyunsaturated), and 240 calories.

Legumes:

Brown beans, 1 cup

Chickpeas (garbanzos), 1 cup

Cuban black beans, 1 cup

Kidney beans, 1 cup

Lentils, 1 cup

Lima beans, 1 cup

Pinto beans, 1 cup

Soy beans, 4/5 cup (higher fat content, 9 gins.)

Split peas, soup (made with skim milk), 1 1/2 cups

White navy beans, 1 cup

Entrees (Legume, Grain, Vegetable combinations)

Bean-oat patties, 2 patties

Bulgur Chick patties, 2 patties

Chili beans, (made with TVP), 1 cup

Garbanzo roast, 4/5 cup

Garbanzo-rice patties, 2 patties

Lentil roast, 4/5 cup

Lentil-millet roast, 4/5 cup

Savory patties, 2 patties

Soy-oat patties, 2 patties

Soybean casserole, 4/5 cup

Vegeburgers, (made with TVP and/or egg whites), 2

Meat Alternates

Cottage cheese, 1/2 cup Egg white, one *(5.5-gm.* protein, but only 16 cal.)

Use egg whites in food preparation, count as part of the entree instead of separately.

TVP (textured vegetable protein), dry, 2 oz.

Tofu

FOODS OMITTED

If on a sodium restriction, **omit** pickles, sauerkraut, and processed foods with salt added.

Canned and frozen fruits that have added sugar:

Refined cereal products, such as: White flour, white bread, noodles, macaroni, white rice, pastry, cookies, cake, crackers.

Omit whole milk, ice cream, and non-dairy creamer substitutes.

All solid fats, and animal fats, especially lard.

Meat, fish, poultry, cheese, shellfish, and foods containing

these animal products.
Read the labels carefully!
85
MEAL PLAN
FOR 1200 CALORIES, 1500 CALORIES, AND 1800 CALORIES
FOOD GROUPS NUMBER OF SERVINGS FOR:
1200 calories 1500 calories 1800 calories
Vegetables 3 4 6
Fruits 2 3 3
Cereals—Grains 3 4 6
Milk-skim & soy 1 1 1
Fats 1 2 3
Protein rich foods 2 2 2
Sample Meal Plan for One Day
(1200 calorie plan)
Breakfast Lunch Supper
Fruits — 2 serv. Vegetables — 1 or 2 Vegetables 1 or 2
Cereal-Grains — 1 Cereal-Grains — 1 *(Depending on lunch)*
Milk group — 1 Protein food — 1 Cereal-Grains — 1
Protein food — 1
Fat serving may be used in preparing entree or wherever desired.
TYPES OF FATTY ACIDS IN COMMON FOOD OILS
Monoun- Polyun-
Saturated saturated
saturated
Fatty Fatty Fatty
Vegetable Oil Acids * Acids * Acids *
Coconut 86 7 . .
Cocoa butter *56* 37 2
Olive 11 76 7
Peanut 22 43 29
Cottonseed 25 21 50
Soy 15 20 59
Corn 10 28 54
Safflower 8 15 72
**Grams per 100 g. of ether extracted or crude fat.*
86
From **USDA Home Economics Report** No. 7, and Brown, H.B., and Farrand, M.G.: *Journal of the American Dietetic Association*, 49:303, 1966

CARDIAC PROBLEMS

INTRODUCTION—Heart disease is the number one killer in civilized nations.

There are so many aspects to this, that it seems well to combine them all in one article rather than divide them into several.

Part of the confusion is that everything is so interrelated: diet, high blood pressure, arteriosclerosis, atherosclerosis, angina, and other degenerative heart changes.

In order to fully utilize the data in this article, you should also carefully read the companion articles. Some are listed at the end of this one.

SYMPTOMS OF HEART ATTACK—*Signs of a soon-coming heart attack* may include nausea, sweating, shortness of breath, dizziness, fainting, feelings of anxiety, difficulty in swallowing, vomiting, sudden ringing in the ears, and loss of speech.

The heart attack (angina) itself may feel as a band of intense pressure to the heart. A powerful pain is produced, which may last for several minutes, often extending to the shoulder, arm, neck, or jaw.

But it may be a small attack, producing relatively little discomfort. Sometimes it is mistaken as indigestion. Sometimes there are no symptoms at all. This is termed a "silent heart attack."

An *angina* shows itself as recurrent pain beneath the sternum, and lasts 30-60 seconds.

SYMPTOMS OF HEART FAILURE—Shortness of breath, poor color, fatigue, accumulation of fluids, especially around the ankles (edema).

HEART ATTACK—What is a heart attack? What leads up to it? This article will provide you with an overview of the problem, along with several specific suggestions.

The *cardiovascular system* is the *heart*, a blood pump. The blood is sent through *arteries* and *veins*, throughout the body.

Cardiovascular disease is the name given to several problems which can stop the heart and cause death.

1 - A *coronary* is one type of cardiovascular disease. The arteries which nourish the heart muscle itself are the coronary arteries. But if these arteries become narrowed, not enough oxygen and nutrients are supplied to the heart, and not enough carbon dioxide and waste products are carried off. This oxygen deprivation causes a tight, heavy chest pain, usually following some exertion or after a meal. There is a sharp, debilitating pain in the center of the chest. It is called *angina pectoris* (or simply *angina*). The pain generally recedes when the person rests. But it is a forewarning of events to come.

An angina may be precipitated by stress, exertion, a large meal, extreme cold, emotion, or other factors. Average life expectancy after the first onset of angina is 5-7 years.

2 - If that blood flow through the coronaries becomes entirely blocked or limited enough, so that it does not reach part of the heart, then a *heart attack* or *myocardial infarction* occurs. This refers to the formation of *infarcts* (areas of local tissue decay or death) in the *myocardium* (heart muscle). A heart attack does not always kill. But, whether it is mild or severe, a heart attack always produces some irreparable damage to the heart.

3 - The problem may not be in the heart, but in the arteries which nourish it. The arteries have hardened (called *arteriosclerosis*), and when cholesterol and other materials flows through them, a clot (also called a *thrombus*) occurs. The hardened walls do not flex to let the blob pass on through. Arteriosclerosis is responsible for most of the deaths due to heart attack.

4 - Lack of oxygen and nutrients can also cause *spasm of the coronary arteries*, resulting in a heart attack.

5 - Then there is *high blood pressure* (called *hypertension*). This is another form of cardiovascular disease, which also prepares the way for a heart attack. When the heart pumps blood, the blood shoots through the body at a fairly rapid speed. The muscular contractions of the heart produce a certain amount of pressure which produces this pumping action throughout the body. But sometimes the pressure builds up too high. This also is not the fault of the heart.

Here are some of the things which produce high blood pressure:

• Hardening of the arteries (arteriosclerosis) is a primary cause. Earlier, the flexing of the walls kept the pressure lower.

• A second major cause of hypertension is a reduction in the size (interior dimension) of the arteries. They come to look like old water pipes, with congealed stuff sticking to the walls. For years, certain things had been eaten which caused this problem (meat fat, grease, saturated fats, hydrogenated vegetables oils, margarine, butter, corn chips, etc.).

• Too much sodium in the diet, for too long a time, is another cause of hypertension. The solution should have been to cut out the sodium (salty) foods.

• Other causes include stress, enzyme imbalances, certain drugs (including oral contraceptives), and nutritional deficiencies.

• There are still more factors which could be involved: hyperthyroidism, kidney disease, adrenal or pituitary disorders, and heredity.

Unfortunately, there is no pain as the hardening and clogging of arteries (which produce hypertension) progresses. So people keep living and eating the way they should not until one day the crisis comes.

HEART FAILURE—So far, we have only discussed heart attack, which is an interruption in blood flow to the heart. But there is also *heart failure*, which is inadequate blood flow from the heart. It is not providing enough blood to supply the needs of the body. Heart failure can be either acute (short-term) or chronic.

Here are some of the problems which, over a period of time, can occur in the heart:

1 - *Arrhythmia*. The heart does not beat right. The natural rhythms are more irregular. This is caused by problems in the cells in the heart which send out electrical signals to do the pumping sequences.

2 - *Palpitations* occur when the heart seems to pound, whether regular or irregular.

3 - *Tachycardia* is when the heart beats too fast when it is resting.

4 - *Bradycardia* is when the heart beats too slowly.

5 - *Ectopic beats* (also called skipped beats) are beats which are premature, producing longer rests between some beats than between others.

6 - *Fibrillation* and *flutter* are a little different. An electrical error occurs, which sends some beat signals to the heart muscle (causing it to twitch) instead of carrying out its normal blood pumping action.

7 - *Valvular disease* is the name for problems in the heart valves, so they do not open and/or shut properly. Sometimes this is congenital; other times it is caused by rheumatic fever or endocarditis (infection of the heart muscle).

OTHER HEART PROBLEMS—There are a variety of problems which trace their cause to coronary problems, artery problems, or heart muscle problems. Here are some of them:

1 - *Cardiomegaly (cardiac hypertrophy)* occurs when the heart can no longer function normally; it works so hard that it enlarges. But this only weakens it. Causes include too much resistance from blood flow through the arteries.

2 - *Congestive heart failure* is a chronic condition that results in fluids accumulating in the heart and edema in the feet and ankles. There is labored breathing after mild exertion.

3 - *Cardiac arrest* happens when the heart just stops beating. Because fresh blood is no longer reaching the brain, the person falls unconscious. Coronary artery problems are often the cause.

There are other problems which can occur in the heart, which can also weaken it. But these do not trace their causes to coronary or artery problems.

1 - *Carditis* is an infection in the heart muscle, sometimes caused by rheumatic fever. It can lead to permanent heart damage.

2 - *Endocarditis* is an infection of the endocardium. This is the sac-like membrane which surrounds the heart. People with damaged immune systems (from HIV, etc.) can acquire it. It can also be caused by surgery to replace defective heart valves. Permanent heart damage occurs.

3 - *Cardiomyopathy* summarizes several heart problems, including enlargement of one or more heart chambers, heart muscle rigidity, etc. Causes include inherited defects and certain diseases.

TREATMENT—

Here is a brief overview of some of the problems which require changes, if you would avoid a later build-up of conditions leading to a heart attack:

• Too many saturated fats in the diet (animal fats or hydrogenated vegetable oils). Excessive use of overheated or oxidized vegetable oils.

• Lack of natural fat emulsifiers (lecithin) in the diet.

• An excess of salt and other sodium products. Drinking chemically softened water. Water softeners have sodium in them.

• Elevated cholesterol, triglyceride, and uric acid levels.

• A low HDL-to-cholesterol ratio.

• An excess of carbohydrates (especially refined ones) and sugar. Sugar increases triglyceride levels, platelet adhesiveness, uric acid levels, and blood pressure.

• An excess of vitamin D intake (from meat, milk, eggs, or sunlight). Over 3000 units a day add to the plaque development and hardening of atherosclerosis. Carotene (pro-vitamin A) in the diet, from orange and yellow vegetables and fruits, will not cause this problem.

• A deficiency of vitamins and minerals.

• The use of coffee, alcohol, and tobacco.

• Lack of exercise.

• Overweight.

• High blood pressure.

• Diabetes or gout.

• Taking birth control pills.

• Heavy metal poisoning.

• A family history of heart trouble.

Change everything in the above list that you can, and you will live a lot longer.

Here is still more information:

To properly understand the information given in this article, be sure to read the other articles in this section, especially those listed at the end of this one, and in the next (dealing with circulatory problems).

• Check your heart beat every so often. The best way to begin the day is to check your pulse when you wake up in the morning. If it is under 60 beats per minute, you are doing all right. But if your resting heart rate is above 80, that is not so good, and indicates that hypertension may be in progress of occurring. An estimated 25% of those who have heart attacks experienced no previous symptoms. So, right now, start eating right and living right.

• High blood pressure, using tobacco, high cholesterol levels, stress, obesity, sedentary living, diabetes, and type-A personality are causes of heart trouble. These are things you can change.

Here are a variety of factors which you should consider:

• Do not use MSG (monosodium glutamate). Locate your food allergies and eliminate them Do not use caffeine, tobacco, alcohol, drugs, sugar, and processed foods.

• Caffeine blocks the breakdown of adrenaline, resulting in the same response as heavy stress. Heavy caffeine consumption doubles the risk of coronary heart disease.

• The dangers of tobacco in producing heart attacks and other heart problems are well-documented.

• Do not eat any types of grease or oil (fatty foods, meat, margarine, butter, peanut butter, hydrogenated oil), except a small amount of cold-pressed vegetable oil.

• Fat is in all meat. Do not eat meat and you will have a longer life. It is well-known that vegetarians live longer than others. They have less coronary disease, less heart attacks, and less heart failure.

• If you are an adult, avoid vitamin D. More than 400 IU per day result in calcification of the coronary arteries.

• Research studies by the Chinese reveal that constipation is a significant factor in many heart attacks.

• Eat smaller meals.

• Be sure and drink enough water every day, and frequently throughout the day! *This cannot be stressed enough.* Sludged blood is a very real cause of heart and vessel problems.

• Eat a high fiber diet, using whole grains, brown rice, beans, and fresh fruit and vegetables. Through nourishing food and supplements, obtain all the vitamins and minerals. Calcium, magnesium, and potassium are important; so are the vitamins (A, B complex, C, and E). Eat Nova Scotia dulse or Norwegian kelp for trace minerals. Flaxseed oil contains Omega-3 fatty acids, which reduce risk of coronary heart and cardiovascular disease. L-carnitine helps dissolve fat deposits around the heart. CoQ10 and germanium strengthen veins and provide oxygen to the blood and cells.

• If you tend to experience angina attacks at night, place 3-4-inch blocks under the head of your bed. This will reduce the attacks. More blood pools in the legs, and not so much tries to crowd in through the narrowed arteries into the heart.

Sodium is a problem which must be dealt with, since it can increase the likelihood of heart disease. Here are items to omit from the diet:

• Table salt. Use a small amount of Nova Scotia dulse or Norwegian kelp instead. That will supply some salt, plus many vital trace minerals.

• MSG (monosodium glutamate), which is an accent flavor enhancer.

• Diet soft drinks.

• Canned vegetables.

• Commercially prepared food.

• Baking soda.

• Foods with preservatives.

• Meat tenderizers.

• Softened water.

• Saccharin products.

• Foods with mold inhibitors.

• Foods with preservatives.

• If you have any kind of heart problem, see your physician. Prevention—living right and eating right ahead of time—is the best key to success.

Here are additional things to think about:

• *Heart disease:* Eat no fried foods. Avoid vitamin D. Obtain essential fatty acids; the best is cold-pressed flaxseed oil or wheat germ oil; also take selenium, vitamin E, 5-10 alfalfa tablets daily. And, if needed, obtain HCl. Take a 30-minute walk outside every day. Keep a 30-minute oxygen tank in your house, ready to use when you need it.

• *Palpitations:* Do not eat MSG, caffeine, sugar, or processed foods. Avoid food allergens. Obtain vitamins B1, B3, C, selenium, and potassium.

• *Cardiac arrhythmia:* Avoid food allergens and MSG. Add selenium, chromium, magnesium, potassium, and CoQ10 to your diet. Hypoglycemia can be a cause.

• *Nervous heart:* Causes can include anemia and low stomach acid. Obtain B1 and iron.

• *Angina:* If you survive, take calcium, magnesium, essential fatty acids, and extra vitamins and minerals. Reduce vitamin D intake from all sources (meat, fish, dairy products, and the sun). Avoid caffeine, sugar, and cigarette smoke. Exercise for 30 minutes every day.

• *Congestive heart failure:* Causes can include lung disease and high blood pressure. Obtain vitamin B1 and selenium.

• *Myocardial infarction:* Rebuilding afterward (if you are still alive) should include vitamin C to bowel tolerance, vitamin E, selenium, vitamin A in the form of beta carotene. Obtain HCl and pancreatic enzymes.

Here is information about fats and oils:

Animal flesh contains fat. Do not eat animals. It increases blood cholesterol. But some vegetable oils are a problem also. These are refined, heat-treated, and partly (or wholly) hydrogenated oils.

Heating the oil changes it from the *cis* form to the *trans* form (also called a trans-fat), which is abnormal and can cause heart diseases, just as animal fats do. Only use cold-pressed vegetable oils, and not too much of that.

Then there is the LDL and HDL story.

All kinds of fats (both the grease and oil form) are carried in the blood in a protein-fat molecule, called a lipoprotein. There are two primary kinds: the low-density lipoproteins (LDLs), which are large cholesterol-laden molecules and the high-density lipoproteins (HDLs), which are smaller molecules with more protein and less cholesterol and triglycerides.

When found at high levels in the blood, the LDLs increase the risk of coronary heart disease. But high levels of HDLs actually reduce the risk of heart disease. For this reason, the cholesterol-to-HDL ratio is very important. Physicians even use it to estimate how likely it is that you will have a heart attack. The HDLs get rid of excess cholesterol in your bloodstream! They carry cholesterol from the blood to the liver so it can be converted into bile and eliminated from the body. Here are nutritional facts which have been found since the importance of HDLs was discovered:

• Bran fiber reduces blood cholesterol and triglycerides, increases HDL, and lowers LDL. Very important, it also helps prevent recycling of bile from the bowel back to the liver.

• Vitamin C helps increase HDL levels and lowers LDL levels. It also activates conversion of cholesterol into bile salts. Taking 1-2 grams a day can produce a 30% reduction in cholesterol levels which are 400 or above. Vitamin C also lowers triglyceride levels.

• Vitamin E helps dissolve blood clots, dilates blood vessels, and conserves oxygen so the heart does not have to work as hard. Because of its antioxidant function, it also prevents fatty acids from becoming toxic.

• Vitamin B complex helps keep cholesterol from collecting plaque.

• Flaxseed oil (and to a lesser extent, wheat germ oil) is rich in Omega 3EFA, and decreases platelet adhesion, reduces blood cholesterol, and increases HDLs.

• Lecithin is essential for utilizing fat and cholesterol in the body, and significantly lowers blood cholesterol levels.

• Brewer's yeast and chromium 15 lower HDL levels, and cause atherosclerotic plaques to recede.

• Garlic lowers blood cholesterol and reduces platelet adhesiveness, as well as lowering triglycerides and increasing HDLs. (It also helps normalize blood pressure.)

• Alfalfa meal (from ground seeds) contains saponins which prevent bile-like substances from recirculating to the liver.

• Soy protein lowers blood cholesterol.

• It should be noted that *coronary bypass surgery* has failed to prevent second heart attacks or extend life. It is not the "cure" for coronary atherosclerosis and severe angina, as suggested. The disease is systemic, and heavily influenced by nutritional, and other, factors. Bypass operations are not the solution. They are only emergency repair jobs which do not remove the cause—which, unless properly corrected, will only return.

• Fortunately, even the most advanced cases of heart disease can be helped by the discoveries provided by nutritional research.

PERICARDITIS, ENDOCARDITIS—2 (J.H. Kellogg, M.D., Formulas)

TO COMBAT INFLAMMATION—Continuous Ice Bag over heart or Cold Compress over heart area at 60^0 F., changed every 15 minutes. Rub chest with dry flannel until skin is red.

TO ENERGIZE HEART AND MAINTAIN VITAL RESISTANCE—Cold Mitten Friction; Cold Towel Rub twice a day.

FEVER—Prolonged Neutral Bath; Neutral Wet Sheet Pack.

PAIN—Fomentation for 1-3 minutes every half hour; Cold Compress changed every 15 minutes during the interval between.

MYOCARDITIS—Employ all the means recommended above, except avoid Ice Bag over the heart.

CARDIOMYOPATHY (Keshan Disease, Muscular Dystrophy of the Heart)

CAUSES AND TREATMENT—The word means "heart muscle disease." This is a disease of the myocardium, which is the heart muscle itself.

The World Health Organization recognizes that cardiomyopathy is a selenium deficiency disease.

J.D. Wallach, in his book, *Let's Play Doctor,* makes this statement:

"This is the type of heart disease that makes individuals a candidate for heart transplant . . It is typical that $1 per month in selenium supplement would prevent this disease and the need for a $250,000 procedure that carries a 20% mortality rate. This disease is also found in cystic fibrosis patients . . Veterinarians have eliminated this disease [cardiomyopathy] in animals with selenium injections and oral supplementation of diets."

ARTERIOSCLEROSIS (Hardening of the Arteries)

and

ATHEROSCLEROSIS (Plaque Development and Hardening)

SYMPTOMS—Early warning symptoms are intermittent claudication.These are pains in the legs and possibly feet, which leave upon resting. High blood pressure .The later result is angina (chest pains) and heart attack.

CAUSES—These are two separate, major diseases, yet we list them together because the problems, effects, and solutions are so similar.

Arteriosclerosis is hardening of the walls of the arteries; atherosclerosis is the hardening of plaque on the walls, which causes the walls to harden. (The full explanation is somewhat more complicated.)

Hardened walls produce higher blood pressure, but plaque-hardened and narrow vessels does it also.

The end result of both is a heart attack.

The main difference between the two is that arteriosclerosis is primarily the hardened walls themselves (which the plaque especially produced). Whereas atherosclerosis is the thickening of that plaque in the arteries, so that the space for the blood to flow through keeps narrowing. In arteriosclerosis, these deposits are primarily composed of calcium; in atherosclerosis, the deposits consist of fatty substances, primarily cholesterol (a blood protein). But, much of the time, an odd assortment of both, along with lipoproteins, fatty acids, fibrous scar tissue, and blood clump together.

Both conditions have essentially the same effect on circulation, both cause hardening of the artery walls, both cause high blood pressure, and both eventually lead to one or more of the same things: angina (which is chest pain following exertion), heart attack (the heart muscle can no longer bear the lack of blood supply to it), and stroke (when the blood supply to part of the brain is cut off). Death may or may not follow. The problem is that a clot of this plaque breaks loose, flows through the arteries, and gets stuck in a narrower artery. If this occurs in the heart muscle, angina and a heart attack may result; if in the brain, a stroke occurs.

To complicate the matter further, not only can arteriosclerosis and atherosclerosis cause high blood pressure, but high blood pressure intensifies them both.

Causes include elevated cholesterol or triglyceride levels, eating high cholesterol foods (such as meat, eggs, whole milk, or milk products).

Other causes include smoking, hypertension (high blood pressure), obesity, diabetes, emotional stress, lack of exercise, or a family history of the disease. Advancing age increases the risk factor.

Pain in the legs (usually in the calf, but sometimes in the feet or elsewhere in the legs), which increase when walking but stops as soon as one rests.There may also be weakness, numbness, and a heavy feeling in the legs. This is a symptom of atherosclerosis in the limbs (peripheral atherosclerosis). There can also, but less often, be pain in the arms.

There is a home test you can do to help determine if this is beginning to occur: Test the pulse in your legs and foot. There are three places where this can be done: Apply light pressure on the top of the foot, the inner hollow of the ankle, and in the hollow behind the knee. If you feel no pulse, then the artery may be narrowing.

Atherosclerosis is the most common form of arterial disease in the U.S. and most frequently occurs in the lower limbs. It is the primary cause of death over the age of 65. Over 50% of the people between 65 and 70 will die of some form of this.

TREATMENT—

• Eat high fiber foods that are low in fat and cholesterol. Primarily eat fruits, vegetables, and grains. Dark green leafy vegetables are important. Wheat bran, and other particulate, fibers are not as effective as those in fruits, vegetables, and legumes.

• Eat foods rich in vitamin E. This includes nuts, seeds, and whole grains.

• Only use cold-pressed vegetable oils (soy, corn, wheat germ, flaxseed). Never heat these oils; place them on your food at the table.

• Avoid refined sugar. It has been shown to increase serum cholesterol levels, leading to atherosclerosis.

• Do not eat animal protein; there is a definite connection between eating it and cardiovascular disease.

• Do not eat processed, junk, dairy, white flour, spiced, or fried foods. Avoid pies, ice cream, salt, egg yolks, sugar, coffee, colas, nicotine, and alcohol.

• Garlic eaten with cholesterol foods tends to reduce the likelihood that cholesterol will clog the arteries.

• If you know you are moving toward artery problems, eat no free oils.

• Eggplant tends to lower cholesterol levels.

• Both peanut oil and coconut oil increase atherosclerosis.

• Drink only distilled water.

• Reduce stress and avoid situations causing it.

• Get regular moderate exercise. Walking every day is the best. Build up slowly, but keep at it.

• A strict vegetarian diet (without milk and eggs) is a good way to avoid artery problems.

• Research at the University of Wisconsin disclosed that skim milk did not lower blood cholesterol.

• Overweight people should reduce. Even 20% or more above ideal weight carries a significantly increased risk of atherosclerosis. What is your ideal weight? Assume 100 pounds for the first five feet; add to this five pounds for each inch over that, for women; add seven pounds per inch over that, for men.

• Do not smoke or use nicotine in any other form. Avoid second-hand smoke.

• Do not take shark cartilage. It may inhibit production of new blood vessels needed to increase blood circulation.

• Eliminate all environmental sources of metal poisoning, such as aluminum or copper cooking utensils, copper or lead plumbing, lead-glazed ceramics, contaminated water, etc. Toxic metals are known to be deposited, among other places, on artery walls.

• X-rays make premature arteriosclerosis more likely.

• Do not eat big evening meals. Best: Only eat plain fruit and plain bread for supper, and do this several hours before bedtime.

• Chromium (found in brewer's yeast, whole grains, and supplements) added to the diet lowers cholesterol.

• Keep the extremities warm, to maintain good circulation in them.

• Do not wear constrictive clothing (belts, garters, girdles, tight hosiery, etc.)

• Glucose intolerance can produce a 100% increased risk of atherosclerosis. Keep your blood sugar levels normal. Do not binge on sweets, etc.

• Avoid constipation, which weakens the liver and kidneys, which in turn sludges the blood. The Chinese treat stroke by treating constipation.

• Drink enough water!

• Periodically check your blood pressure.

• Too much vitamin D can elevate blood cholesterol. .

HYPOTENSION (Low Blood Pressure)

SYMPTOMS—There are generally few symptoms which will tend to alert you to the problem. There may be headache, shortness of breath, dizziness, inability to concentrate, or digestive disturbances. There can be low energy and dizzy feelings when you stand up fast from a lying down or sitting position, fainting, blurred vision, palpitations, inability to solve simple problems, and slurring of speech.

CAUSES—The pressure at which the blood travels through the arteries is lower than normal, which means the blood is not circulating through the body quite as efficiently.

This is the "disease" which many people are thankful to have. High blood pressure can be a killer; low blood pressure is generally just something to live with.

A researcher who investigated the strange death of Pope John Paul I (who had low blood pressure and few other physical problems) asked 30 physicians and specialists whether low blood pressure would shorten life. Each one said it would tend to lengthen, rather than shorten, life expectancy.

For this reason, you will find that medical guides say relatively little about hypotension.

In some instances, low blood pressure is due to an impoverished diet, the existence of some chronic wasting disease, or some other condition that needs treatment on its own account. So it can be a symptom of some other problem.

Hypotension can be caused by prescribed drugs, kidney disease, low blood sugar, food allergies, dehydration, adrenal exhaustion, or hypothyroidism.

TREATMENT—

• Treatment, if needed, should be aimed at locating and eliminating the problem that hypotension is a symptom of.

• Take vitamin C, to bowel tolerance, and eight glasses of water each day. Obtain adequate rest at night.

• Eat garlic; it tends to normalize blood pressure to the level it should properly be.

• You may want to do the morning temperature test to determine whether you are hypothyroid

• Helpful herbs include ginseng, spring adonis, and rosemary.

ENCOURAGEMENT—Those who are filled with the love of Christ will not seek to hide their connection with Him. They will openly rejoice in all He has done and tell others how He can answer their needs also.

HYPERTENSION (High Blood Pressure)

SYMPTOMS—There may be no symptoms; but, if they occur, they may include headache, difficulty in breathing, blurred vision, rapid pulse, or a feeling of dizziness.

Overweight, a ruddy complexion, and apparently robust health may be the only outward manifestations in a man 50 or 60, who may have systolic pressure as high as 200 or more.

Hypertension is called the "silent killer" because it so often reveals few symptoms.

CAUSES—High blood pressure is just that: The pressure of blood flow through the arteries is higher than it should be, and that pressure consistently remains higher.

A blood pressure gauge (sphygmomanometer) registers two readings: The first and higher one is the systolic; the second and lower one is the diastolic. The diastolic pressure occurs just before the heart beats, and is less important for determining blood pressure. But the systolic pressure reveals the pressure built up as the heart pumps blood out of the heart into the aorta (and thence through the arteries). High systolic pressure indicates that the cell walls are hardened and/or plaques are forming in the arteries, which are narrowing the passageways.

Average normal systolic blood pressure in an adult varies between 120 and 150 millimeters of mercury, and tends to increase with age. The arteries of older people tend to harden and thicken with age, and this produces the higher readings in later life.

The age, in relation to the figures, tells a lot: Systolic readings of 140-150 at 55 to 70 years of age need not be considered high; but, occurring in a man of 30, it points to a definite problem which needs attention.

Normal blood pressure readings for adults vary from 110/70 to 140/90 while readings of 140/90 to 160/90 or 160/95 indicate borderline hypertension. Any reading over 180/115 is far too elevated.

The hardening and clogging produces changes in the arteries, which produce hypertension, and are caused by aging, emotional stress, food, overeating, and heredity. Tobacco is another cause of hypertension, as is the taking of oral contraceptives. Drinking coffee or tea, drug abuse, and high sodium intake are other causes.

Hypertension can result in coronary artery disease, enlargement of the heart, or strokes. The acute infections (such as tonsillitis, scarlet fever, and typhoid fever), or focal infections from tonsils or teeth, sometimes lead to Bright’s disease (a kidney disease), which is accompanied by high blood pressure. Sudden attacks of

convulsions in pregnant women (eclampsia), and other kidney diseases of pregnancy, usually cause high blood pressure.

Primary hypertension (about 90% of the cases) do not have a direct cause. The rest (secondary hypertension) occurs as a result of other diseases. At any one time, about 10% of the people in America have primary hypertension. It affects over half of all people in the U.S. over 65. African-Americans have it more than a third more often than whites. Those who are 18-44 have it 18 times more often than whites. Women have hypertension less often than men until menopause is over; then, soon after, they have it as often.

Heavy snorers are more likely to have high blood pressure than silent sleepers.

TREATMENT—

• Habitual overeating, even of good food, will lead to hypertension. A person does not tend to overeat on healthfully prepared natural foods.

• Excessive protein food, sweats, rich pastry, and desserts must be omitted; but the reduction of all foods is especially important.

• Do not use salt; this is essential for lowering blood pressure. Read the labels: Many foods contain sodium. Look for "salt," "sodium," "soda," or "Na" on the label. Also avoid MSG (monosodium glutamate), baking soda, saccharin, soy sauce, diet soft drinks, preservatives, meat tenderizers, and softened water.

• Only drink distilled water.

• Eliminate all dairy products, for they are high in sodium.

• Do not use processed meats or canned vegetables.

• Stress, fear, anger, and pain increases blood pressure. Adequate daily outdoor exercise helps reduce the effects of stress.

• Eat a high-fiber diet. Include oat bran; it appears to be the very best type for the purposes you have in mind.

• For oil, take 2 tbsp. flaxseed oil daily.

• Use no animal fat of any kind; it is best to avoid meat, since there is so much of it in meat.

• Do not eat chocolate, alcohol, avocados, aged cheeses, and yogurt.

• Include supplemental calcium in your diet.

• Avoid more than 400 units of vitamin D daily.

• Drink fresh vegetable juices.

• Garlic definitely lowers blood pressure. Actually, it tends to normalize it. In those with low blood pressure, it raises it. Fresh, raw garlic is the best.

• Obtain sufficient rest at night; do not eat later than several hours before bedtime.

• Do a pulse test in order to ascertain offending foods you are allergic to .

• If you are pregnant, check your blood pressure regularly.

• Do not take antihistamines.

• Do not take supplements containing the amino acids tyrosine or phenylalanine.

• Keep your weight down! Loss of weight lowers blood pressure. If you are overweight and have high blood pressure, you would do well fasting one or two days a week.

• When the situation is critical, special care must be given to produce successful recovery:

• Adequate rest, both physical and mental, is needed, though mild exercise is beneficial to those with moderate hypertension. Even the visits of friends and relatives may have to be restricted or prohibited for a time.

• Gradually start mild exercise. Walk out-of-doors and gradually (slowly!) build up the amount of time spent in outdoor walking.

• All blood pressure medications tend to have negative effects. Moderate exercise, rest, sleep, and proper diet will provide better help.

• No vigorous or tonic hydrotherapy, or even massage, should be used. The neutral bath and complete bed rest is needed.

• One recommended program is fruit and rice, alone, for 1-2 weeks.

ENCOURAGEMENT—God can help you overcome the sins which so easily beset you. He can give you enabling grace to obey the Ten Commandments and remain true to Him, in spite of the compromise and wickedness in our world.

STROKE—1 (Apoplexy)

SYMPTOMS—Light headedness, fainting, stumbling, blurring of vision, loss of speech or memory, numbness or paralysis of a finger, coma for short or long periods.

CAUSES—There are four possible patterns which can result in a stroke:

An *embolism* is a clot that breaks loose and travels on up toward the brain, where the clot gets stuck in a smaller artery leading to the brain. This briefly cuts off blood flow to a portion of the brain.

A *thrombus* is a clot inside the brain which blocks the flow of blood to the brain.

An *aneurysm* is a portion of an artery that balloons outward. Filled with blood, this weak spot bursts.

A *hemorrhage* is a damaged artery within the brain which bursts.

Sometimes a tumor, not a clot, is blocking an artery supplying the brain.

Whatever the cause, the result is local brain tissue death from lack of oxygen and food.

If the damaged area is small enough, the brain will reroute the affected brain functions to other areas of the brain, as a period of relearning and compensation occurs.

TREATMENT—

• So many toxins flow into the blood stream, when the bowel is constipated, that Chinese medical practitioners prevent strokes and also treat them by eliminating constipation.

• Aneurysms are often caused by copper deficiency which results in weakened elastic fibers. Once the damage occurs, supplementation with copper cannot repair it, but the copper can help prevent aneurysms from occurring (2-4 mg/day).

• Surgery will be required for existing aneurysms.

STROKE—2 (J.H. Kellogg, M.D., Formulas)

DURING ATTACK—Rest, head and shoulders raised; Cold Compress to head; Tepid Enema; warm extremities by Hot Water Bottles or Hot Pack. Ice Collar.

AFTER ATTACK—Cold Mitten Friction twice daily; well- protected Hot Abdominal Pack night and day; carefully graduated Cold Baths; prolonged Neutral Bath; Wet Sheet Pack. Later, carefully begin graduated exercises; massage; Cold or Alternate Douche to affected muscles.

 # TRIGLYCERIDES, LOWERING

PROBLEMS—The two major sources of fat in your bloodstream are cholesterol and triglycerides. Both are necessary. Cholesterol helps build strong cells, and triglycerides provide energy.

But if either is too high, problems develop.

High cholesterol levels clog arteries. High triglycerides cause vascular disease also, if they are associated with low levels of HDL cholesterol (the good cholesterol). You then have fat particles in your blood which can ultimately be bad for your heart.

You can control your triglyceride level, and you want to keep it below 150.

SOLUTIONS—Here are several ways to do it:

Cut down on the amount of fat in your diet. Reduce total fat intake to less than 30% of daily calories; but, even better, reduce it to 20%. Reduce saturated fats to 10%.

Eat a lot of complex carbohydrates. Races doing this do not have a triglyceride problem. Cook rice, beans, and other grains without including fat in the cooking or the serving.

Do not eat candy, sweets, and sugar. Eating such simple carbohydrates in the diet are a significant factor in causing people to have high triglyceride levels.

Put more fiber in the diet. A low fiber, high sweet, diet is even worse than high sweets alone.

Lose weight. Even losing 10 pounds can reduce triglycerides in those who are 20-30% overweight. Ultimately, try to maintain a weight that is not over 5-10% above what is normal for your age-weight range.

Do not drink alcohol; it decidedly increases triglycerides.

Exercise is very helpful in lowering triglyceride levels. Studies reveal that it does this—even when weight is not lowered in the process.

Go on a rice diet for a couple days. In 1944, Dr. Walter Kempner discovered that a rice diet would dramatically lower triglycerides.

This is a diet of rice and fruit alone, and no other food, for 2-3 days or as long as you can stand to remain on it. The diet is not appetizing, but it really works. One patient went down from 1,000 mg/dl to 117 mg/dl in a couple months. In just 2-3 days, triglycerides will go down a fair amount. Then, later, you can do it again for another couple days.

By the way, when you do this, you will lose a some weight also. The rice/fruit diet is practically fat-free.

But do not remain on a rice diet! It does not provide adequate nutriments.

ENCOURAGEMENT—Do not dwell on your difficulties, so they get bigger and bigger. Instead, think on the love of Christ and plead with Him for the help you need. Be trustful and obedient, and He will give you the best answers.

 # CHOLESTEROL, REDUCING

PROBLEMS—Here are some facts about cholesterol, to help you understand the situation:

Dietary cholesterol is in the food you eat. Most of it is found in eggs and meat. One egg has 275 mg, and an apple has none.

Serum cholesterol is in your bloodstream. This is what your physician measures. Ideally, it should be under 200. There are two types of serum cholesterol:

HDL (high-density lipoprotein) cholesterol cleans the arteries and is good for you. The higher it is, the better.

LDL (low-density lipoprotein) cholesterol clogs the arteries and is bad for you. The lower it is, the better.

SOLUTIONS—Here are several ways to lower the amount of LDL cholesterol in your blood:

Do not eat saturated fat. This is the kind in meat, butter, cheese, and hydrogenated oil—which is the worst kind of oil or fat, since it raises blood cholesterol the most.

Only include polyunsaturated fat in your meals. It lowers blood cholesterol. This kind is only found in certain vegetable oils, such as corn oil, soy oil, wheat germ oil, and flaxseed oil. Only buy cold-pressed oil—never, never hydrogenated oil (even partially hydrogenated oil). Never put cottonseed oil into your body.

The very best oils for your health are wheat germ oil and flaxseed oil. Prepare your meals without oil, fat, or grease. Then add a spoonful or two of wheat germ oil or flaxseed oil to the food after it has been dished onto your plate. In this way, you can carefully measure how much you get, and you ensure that the oil was not cooked.

It is safe to use monounsaturated oils. These include olive oil and certain other foods, such as nuts, avocados, canola oil, and peanut oil. It now known that this also lowers blood cholesterol. Monounsaturated oils lower cholesterol faster than low-fat diets do, and the type they selectively lower is the bad LDL.

Do not eat fried food, fatty food, meat, or vegetable loafs, etc. Do not eat processed or junk food. Do not eat regular peanut butter. The peanut oil has been taken out, and cheap, hydrogenated oils (sometimes lard) is put in its place. Only buy peanut butter

from a health food store. You can open the lid and smell the difference. Learn how to smell good food. Do not eat corn chips, crackers, and other snack foods.

Eggs contain a lot of cholesterol (275 mg per egg), yet studies reveal that, in most people, they do not appreciably raise cholesterol levels.

Eat more fruit and beans. Both have pectin, which surrounds cholesterol and takes it out of the body. Pectin is in all kinds of beans and fruit. Carrots also help lower cholesterol, because of their pectin content. Cabbage, broccoli, and onions also have calcium pectate.

Oat bran lowers cholesterol in the same way that pectin does it. Make oat bran muffins, and eat one or two every day. Oatmeal is also effective.

You need 6 grams of soluble fiber every day. Corn and wheat bran are also useful.

Fresh garlic lowers cholesterol, but not cooked or deodorized garlic. It is said that Kyolic may also lower cholesterol.

Psyllium seed also lowers cholesterol.

Exercise does it too. Vigorous exercise raise HDL and lowers LDL levels.

Do not drink coffee, use tobacco, or drink. Avoid drugs of all kinds.

Here are other things found to lower cholesterol: barley, spirulina, lemongrass oil, and activated charcoal.

Vitamins C, E, and niacin also lower cholesterol, along with calcium.

ENCOURAGEMENT—We are to love God not only with mind and heart, but with the strength also. We are to treat our bodies carefully, for we belong to God.

PHLEBITIS AND THROMBOPHLEBITIS (Milk Leg)

SYMPTOMS—*Phlebitis:* Reddening and cord-like swelling of the vein, increased pulse rate, slight fever, and pain accompanying movement of the afflicted area.

Superficial thrombophlebitis: The affected vein can be felt and feels harder than normal veins. It may appear as a reddish line under the skin, possibly accompanied by pain, localized swelling, and tender to the touch.

Deep thrombophlebitis: Pain, warmth, and swelling, with possible bluish discoloration of the skin of the limb it is in. Sometimes there is fever and chills. The

pain frequently feels like a deep soreness that intensifies when standing or walking, and lessens when sitting or, especially, when the legs are elevated. Very often the deep vein in the thigh is involved.

CAUSES—*Phlebitis* is the inflammation of a vein wall, usually occurs in the legs, and occurs more often in women than men. It can be a complication of varicose veins. It can be caused by childbirth, infections resulting from injuries to the veins, and operations. Infections in the legs, feet, and toes must be given immediate attention (especially if a fungal origin is involved).

There are two types of *thrombophlebitis*. The first is *superficial thrombophlebitis,* which affects a subcutaneous vein near the surface of the skin. This is generally not serious and many experience it. But if there is widespread vein involvement, the lymphatic vessels may also become inflamed, and fluids may collect.

The superficial type can result from infection, lack of exercise, standing for long periods, infection, and intravenous drug use.

Obesity, varicose veins, pregnancy, allergies, environmental chemicals, injury, and smoking can increase the risk.

Deep thrombophlebitis, also known as deep venous thrombosis (DVT), is more serious. It affects muscular veins far below the surface, which are much larger, and can often come after confinement. The reduced blood flow can produce chronic venous insufficiency, evinced by pigmentation, skin rash, or ulceration. But sometimes there are no symptoms. The risk of DVT rapidly increases after the age of 40, and triples with the passing of each decade after it.

Even though the person remains in bed until the swelling subsides, it will return slightly when he gets out of bed. Very little standing or exercise should be permitted while any swelling persists.

If the opening in the vein, in the thigh, is narrowed too much by the phlebitis (and nearly always if it is entirely clogged), varicose veins will appear lower down on the leg.

Blood Clots: Blood clots can be very dangerous. The origin of a clot is generally unknown. But it can form, following an injury to the inside lining of a blood vessel. This initiates clotting, which is part of the repair process. Blood platelets clump together to protect the injured area. Fibrogen arrives and entraps blood cells, plasma, and more platelets, which make a blood clot to protect the weakened wall.

If a clot forms, it can break off and travel to a vital organ. Massage or rubbing may cause part of the clot to be dislodged and pass to other parts of the body, especially the lungs, causing serious damage or death. If there is any possibility that the person might have blood clots, he should not receive massage.

TREATMENT—

• If a swollen, painful vein does not disappear within 2 weeks, consult a physician.

• Include niacin in the diet. This B vitamin helps prevent clotting. Vitamin C helps strengthen the walls of veins and arteries. Vitamin E dilates blood vessels, reducing the formation of varicose veins and phlebitis.

• Eat a good nourishing diet of fruits, vegetables, raw nuts, seeds, legumes, and whole grains.

• Do not eat fried, salty, processed foods; dairy products; or hydrogenated vegetable oils. Do not eat meat.

• A high-protein diet increases blood-clotting factors.

• Use enough fiber in the diet, so you do not have to strain at the stool. Straining increases venous pressure on the legs.

• Maintain a low-fat diet and drink enough water.

• It is now known that food allergies can be involved. Search them out and eliminate them.

• Get regular moderate exercise. This is important. Walking is the best. Regular exercise increases the body's ability to dissolve clots.

• Avoid dangling the feet. Pressure against the popliteal vessels may cause obstruction of blood flow. Do not cross your legs.

• Deep breathing or singing helps empty out the large veins, thus increasing venous circulation.

• Quit tobacco. If you smoke, and seem to keep having recurring phlebitis. Its symptoms are severe pain and blood clots, usually in the legs. Smoking constricts the blood vessels.

• Superficial phlebitis inflammation generally is reduced within 7-10 days, but it may be 3-6 weeks for the problem to be entirely gone. It can be treated by elevating the leg and applying warm, moist heat to the area. It is not necessary to rest in bed; but, every so often, rest with the leg 6-10 inches above the heart. This speeds the healing process.

• Take alternating hot and cold sitz baths or apply alternating hot and cold compresses.

• Lie on a slant board with your feet higher than your head for 15 minutes a day, especially if you stand on your feet a lot.

• Do not wear anything tight about the waist, or bands on the legs.

• If you have to travel a distance by car, stop and walk around every so often. Do not let the circulation become sluggish. When it enters a low-flow state, that can lead to a clot.

• Beware of "economy class syndrome." A remarkable number of people who fly in the cramped economy class seats of jets develop thromboplebitis. You are confined to your seat more on planes than in cars or boats. So request an aisle seat and get up every 30 minutes and walk up and down the aisles.

• Wherever you may be, do not sit more than an hour at a time, without getting up and walking around.

• Better yet, every hour exercise the legs for 2 minutes, as if you are riding a bike (lifting the legs), and breathe deep, in and out, 15 times.

• Walking barefoot improves venous blood flow.

• If they help you feel better, use elastic stockings (antiembolism stockings).

• Do not squat (sit back on your heels), except momentarily.

• If you have a history of phlebitis or blood clots, do not take the birth control pill. It will increase the likelihood of deep vein thrombophlebitis by 3-4 times.

• Once you have had phlebitis, or clots of any type, you can have it again. Surgery or prolonged bed rests increase the likelihood that you will have another attack. Keep that in mind when you consider elective surgery.

• Fasting decreases blood coagulation, and can be beneficial when needed.

• If you have to lie in bed for a time, move your legs every so often, to increase circulation. Elevate the foot of your bed several inches, to reduce venous pressure in your legs. This also reduces edema and pain. Do not use pillows under the legs, for doing so elevates the knee above the digestive organs and reduces circulation.

VARICOSE VEINS

SYMPTOMS—Visibly distended veins. There may be aching or tiredness, a feeling of fullness in the limbs. The skin may have a tense or burning sensation. Muscle cramps may occur, especially at night. Hemorrhage under the skin may cause the skin to discolor (light brown to bluish). Veins may be abnormally large, bulging, and lumpy looking.

CAUSES—The valves of the veins no longer function properly. They become stretched from excess pressure. The deep veins are surrounded by muscles which keep them in shape. But those close to the surface (saphenous veins) are ones which develop these problems.

Contraceptive medications can induce varicose veins, as well as hormonal vasodilation just prior to menstruation. They can occur during pregnancy (especially during the first 3 months).

Straining at the stool, because of the lack of dietary fiber, causes constipation and can result in varicose veins, diverticulosis, hemorrhoids, phlebitis, and hiatus hernia.

POOR CIRCULATION AND CHILLS

SYMPTOMS—Cold hands and feet, and numb tingling fingers and toes. A general sense of chilliness when others are warm.

CAUSES—Poor circulation can be caused by cardiovascular disease, low thyroid, and vitamin E deficiency.

TREATMENT—

• Improvement of a hypothyroidism condition

• Take 800-1,200 IU of vitamin E daily. Take vitamin C to bowel tolerance. Also needed: niacin, RNA, and folic acid.

• Purifying the blood stream will help in restoring proper circulation. This would include enemas or colonics, juice fasting for a day or two, followed by a nourishing diet.

• Do not eat meat; fatty, processed, or junk foods. Do not eat cheese.

• Take cool morning showers or alternating hot and cold showers for 5 minutes morning and evening. Exercise afterward and make sure you are warm. If you are not warm afterward, you did not gain.

• Exercise outdoors and practice deep breathing.

• Drink red clover, sassafras, and burdock teas in order to clean the blood.

• Other helpful herbs include ginkgo, hawthorn, lily-of-the-valley, lavender, rosemary, scotch pine, and cayenne.

ANEMIA—1 (Simple Anemia, Iron Anemia)

SYMPTOMS—Easy tiring, dizziness, headache, rapid heart rate, shortness of breath or exertion, and pale skin, nails, and lips. There is a sensitivity to cold, poor appetite, and cravings for clay, ice, or starch.

CAUSES—There are several types of anemia (simple, pernicious, sickle cell, folic acid, copper, etc.) This article will deal only with simple anemia.

Millions of people are anemic. The cause is usually a reduction in the number of red blood cells, or the amount of hemoglobin, in the blood. In either case, not enough oxygen is carried throughout the body.

Iron deficiency anemia is the most common type of anemia, and occurs when there is not enough iron in the body.

This can occur when the body is not absorbing enough iron from the food, during chronic blood loss, pregnancy, menstruation, hemorrhoids or ulcers, diverticular disease, liver damage, surgery, repeated pregnancies, periods of rapid growth, and aging.

Infections, hemorrhage, and nutritional deficiencies can also cause it.

Infants and young children on a milk diet, without minerals and essential fatty acids, are prone to anemia.

Red blood cells are called erythrocytes, and are tiny discs which are concave on both sides. These cells contain hemoglobin, which is bright red because of the iron in it. About 60-70% of the iron in your body is in the hemoglobin in your blood. (About 30-35% of the iron is stored in the liver.) There are more red blood cells (RBCs) in the blood than elsewhere. The percentage of RBCs in the blood is called the hematocrit. The primary function of the RBCs is to carry oxygen to the cells.

Following birth, the bone marrow of the infant, child, and adult makes the red blood cells. Aging causes RBC formation to lessen. An average RBC wears out in 120 days or less, so your body must keep making more.

TREATMENT—

• Eat at least 1 tbsp. of blackstrap molasses each day (1 tsp. for a child). This is the richest source of food iron.

• Avoid milk and other dairy products, since these decrease iron absorption from other foods.

• Avoid these oxalic acid foods which include spinach, sorrel, Swiss chard, chocolate, cocoa, and soda. Almonds, cashews, and most nuts and beans also have some. Broccoli, lettuce, and tomatoes help iron regeneration.

• Never eat rhubarb; it is extremely high in oxalic acid.

• Avoid spicy foods, tea, or coffee. They decrease absorption. Do not smoke, and avoid second-hand smoke.

• Bran tends to link with iron and carry it out in the stool. (However, you may need bran to prevent other physical problems far worse than a mild case of simple anemia.) Whole wheat flour and oatmeal are effective in increasing hemoglobin regeneration.

• Orange juice increases iron absorption.

• There should be sufficient stomach acid to absorb the minerals. If there is not, take some lemon juice.

• Yeast and wheat germ are high in iron. Similar foods include beets, beet greens, cabbage, whole grains, celery, parsley, cherries, dates, figs, and pears.

• Do not take calcium, vitamin E, or zinc at the same time as iron supplements. They interfere with each other's absorption.

• Use a diet high in fresh, raw fruits and vegetables, which are high in vitamin C (which is necessary for iron absorption).

• Omitting sugar increases iron absorption.

• Bananas are moderately helpful in increasing iron absorption.

• Many medicinal drugs destroy vitamin E and cause anemia. Some insecticides destroy bone marrow, so new blood cells cannot be made.

• Do not use food additives or artificial sweeteners.

• It is said that cooking food in iron pots increases the iron content of the food.

• Water from deep wells has more iron than city water.

• Exercise stimulates the production of blood.

• Short, cold baths increase blood production and circulation.

• A cold mitten friction is a useful way to increase metabolism and blood production.

• Have a complete blood test taken, so you will be certain whether or not you have iron anemia. Too much iron can damage the heart, liver, pancreas, and immune cells' activity. It has also been linked to cancer. If you do not need them, avoid iron supplements.

• Ferrous sulfate and other iron compounds are often given to reduce anemia, but they definitely have toxic effects which you should be aware of:

They destroy carotene and vitamins A, C, and E. They increase the need of the body for oxygen and damage unsaturated fatty acids. They also damage the liver, especially when the person has a poor appetite and is not eating very much.

• Iron salts taken during pregnancy are especially dangerous! They can increase the fetus' need for oxygen, induce miscarriage or premature and postmature births. Some infants have malformations or mental deficiencies because their mothers took iron supplements before birth.

• Normal people do not need iron supplementation, for there is lots of iron in most real (real) food. The iron in unrefined food is never toxic. All iron supplements cause stomach or intestinal irritation.

• Those who are anemic tend to have sore mouths or tongues, generally have poor blood circulation, and are cold. They need special care in regard to these matters.

ANEMIA—2 (J.H. Kellogg, M.D., Formulas)

INCREASE BLOOD-MAKING PROCESS—Graduated cold applications. The Radiant Heat Bath is especially valuable as a means of heating before giving the general cold applications; aseptic dietary, a nourishing diet; rest in bed, if he is emaciated; out-of-door life; cold-air baths; sunbaths; sea bathing; massage; oxygen inhalation.

GENERAL METHOD—Cold water is the most valuable of all measures in treating anemia. Apply twice daily, graduating carefully. Autointoxication, arising from dilation or prolapse of the stomach or chronic constipation, is often an important factor.

CHLOROSIS (Green Sickness, type of anemia) (J.H. Kellogg, M.D., Formulas)

Chlorosis is a form of anemia in adolescent girls, generally due to faulty diet during puberty. It is also called "green sickness."

CORRECT ENTEROPTOSIS—Abdominal supporter; abdominal massage; corrective exercises; Cold Douche to abdomen.

INCREASE VITAL RESISTANCE—General graduated cold procedures (Tonic Frictions) twice daily.

COMBAT AUTOINTOXICATION—Aseptic diet; sweating bath (Hot Full Bath) to begin perspiration, Radiant Heat Bath or sunbath, followed by short cold application.

VASOMOTOR SPASM—General Revulsive Douche; Alternate Full Bath at 105^0-110^0F., 30 seconds, and then into one at 80^0-90^0 F., for 15 seconds; simultaneous Revulsive Douche.

VISCERAL ANEMIAS—Douches to visceral (trunk) areas; Alternate Douche or Revulsive Douche, with short percussion for either; Alternate Compress over the afflicted part, followed by a well-protected Heating Compress; protected (plastic covered) Hot Abdominal Pack at night; Cool Enema at 75^0-68^0 F., 1-3 pints, daily.

PERNICIOUS ANEMIA

SYMPTOMS—Weakness, slight yellowing of the skin, tingling of the extremities, and gastrointestinal disturbances causing a sore tongue. There can be partial loss of coordination of the fingers, feet, and legs. Some nerve deterioration may occur. Diarrhea and loss of appetite may also be present.

CAUSES—Pernicious anemia is caused by a deficiency of vitamin B_{12}. This is a severe form of anemia in which the bone marrow fails to produce mature red blood cells.

The stomach has to be able to produce what is known as "intrinsic factor," in order for vitamin B_{12} to be absorbed by the intestines.

Pernicious anemia rarely occurs under the age of 30, but it becomes more common with age.

Without treatment, pernicious anemia may be fatal.

TREATMENT—

• Take 50-100 mcg injections of vitamin B_{12}.

• Eat a highly nutritious diet, rich in protein, calcium, vitamins C, E, and iron.

• Take supplements of the entire B complex, to aid in B_{12} absorption.

• (Important exception: Folic acid should not be taken in amounts greater than 0.1 mg daily.) Folic acid has the effect of concealing the symptoms of pernicious anemia,

permitting the unseen destruction of the nervous system to continue until irreparable damage has occurred.

• There should be sufficient stomach acid to absorb the minerals. If there is not, take some lemon juice.

BLEEDING, EXTERNAL

SYMPTOMS—Bleeding from a surface wound.

CAUSES—When a blood vessel is cut, bleeding (external bleeding) or hemorrhage (bleeding from internally) begins. If an artery is cut, the blood spurts and flows fast, and is usually bright red. If a vein is cut, the blood is darker and flows more constantly and slowly.

TREATMENT—

• When external cuts are bleeding, cover the cut with powdered cayenne, and it will stop the bleeding immediately. When an artery or vein is severed, apply powdered cayenne immediately. Then apply direct pressure, seek a physician, or go to a hospital.

HEMORRHAGE

SYMPTOMS AND CAUSES—Bleeding in the stool, which indicates stomach ulcers (black blood stool), ulcerative colitis (bloody mucus in stool), colon cancer (bloody mucus in the stool), and hemorrhoids (bright red blood).

Coughing blood indicates lung cancer and tuberculosis.

HEMOPHILIA

SYMPTOMS—When a wound occurs, blood does not clot normally.

Early warning signs of internal bleeding include a bubbling or tingling sensation or a feeling of warmth, tightness, or stiffness in the hemorrhaging area.

Headache, confusion, drowsiness, or a blow to the head may indicate bleeding in the head.

If your hemophiliac child cries for no apparent reason, refuses to walk, use his arm or leg, or seems to have a swelling or unusual bruising, go to an emergency room.

CAUSES—Hemophilia is hereditary. It primarily affects males and is passed down through females (who are carriers). Children of carriers have a 50% chance of inheriting the defective gene. If they inherit it, the boys will be hemophiliacs, and the girls will be carriers. The sons of hemophiliacs will not give the problem to their sons, but the daughters will always be carriers.

As many as two-thirds of all hemophiliacs, in America, have HIV. They contracted it from contaminated blood transfusion sources. About 450 babies are born with hemophilia each year.

The blood of hemophiliacs does not clot properly, but minor bleeding is not serious. It is internal bleeding that can be fatal, if not treated.

Bleeding frequently occurs in the knees, which causes painful swelling. Repeated swelling destroys the knee cartilage and results in a permanently stiff knee (called hemophiliac arthritis). Other joints can also be affected. Other body parts, including the brain, can also be affected by internal bleeding.

TREATMENT—

• Eat a diet high in vitamin K. Foods rich in K and other essential clotting factors include alfalfa, broccoli, egg yolks, kale, and all green leafy vegetables. Green drinks are also good for K and other essential clotting.

• The hemophiliac is given blood transfusions periodically to provide the missing blood factors.

BLOOD POISONING (Septicemia)

SYMPTOMS—Swelling, severe localized pain, discoloration, red streaks from the wound up the veins toward the heart, and sores that do not heal.

CAUSES—Whenever a sore, cut, or abrasion becomes red and infected, it could produce blood poisoning.

TREATMENT—

• Apply two hot fomentations and then one cold towel over the affected area. Continue this alternate application until the red lines disappear.

• Apply a poultice of lemons or charcoal. Or crush one or more of the herbs listed later in this article.

• Take a high enema.

• Drink as many cups of echinacea tea a day as possible.

• Keep the temperature evenly warm, have enough air, and give a little cayenne in water when he feels chilly.

• Drink charcoal water.

• Wash wound thoroughly with boric solution. If discharge from the wound is thin, apply powdered 50-50 myrrh and goldenseal directly to the wound.

• Go on a cleansing program of juice fasting for a time, followed by rebuilding on a good, nourishing diet.

• Drink tea of chickweed, plantain, goldenseal, and myrrh.

CHAPTER FIVE

ARTHRITIS

There are many degenerative diseases that involve our joints and their connective tissues. The causes of these afflictions are varied and include accidents, injuries, infections, hormone disorders, cancer, and aberrations of the immune system. Most of these conditions involving the joints can generate pain, stiffness, swelling, redness, increased warmth, or progressive limitation of motion. The involvement of a single joint or of several joints may actually be a manifestation of systemic illness or caused by a disorder confined to the particular joint. It is crucial to consider **all** of the above possibilities in ascertaining the precise cause. Some disorders are self-limited and leave no residual handicap, whereas other illnesses become chronic and may lead to progressive joint destruction.

An initial step in evaluating painful diseases of our joints is to confirm whether the symptoms involve the joint itself or the structures around the joint. **Bursitis, tendonitis,** and **cellulitis** can usually be distinguished from actual joint disease, through the withdrawal of joint fluid with a sterile needle and syringe, and its examination under the microscope. Accurately taken xrays are necessary to provide the most accurate diagnosis.

Depression or anxiety often exists in conjunction with joint symptoms. Most of the time *"psychogenic rheumatism"* coexists without obvious signs of abnormalities in the muscles or bones. Articular (joint) involvement manifests itself, however, by joint tenderness, increased warmth, redness, the collection of fluid in the joint, and restriction of motion. Sometimes in the knees, one feels a click or grating sensation with rapid movement. Be sure to look the body over in its entirety for other signs of disease. The eyes, the skin, any presence of fever, the blood pressure are all valuable indexes to a general state of health.

RHEUMATOID ARTHRITIS

Of all forms of joint inflammation, rheumatoid arthritis is the most disastrous, destructive, and disabling. It may strike suddenly, then progress rapidly to an acute and seriously damaging stage. Although seven out of ten cases of rheumatoid arthritis occur between the age of 20 and 60, its onset could come at any time during life. Frequently, it advances subtly and deceptively. The initial symptoms appear for a few days and go away, then come back later slightly worse. There may be weeks or months between goings and comings. Gradually the disease reappears at shorter intervals, until it is a daily problem, which cannot be ignored. No two patients are quite the same. No one can say how any given instance is going to heal, except there will for certain be ups and downs.

Physicians use the term *remission* to describe times when a disease seems to go away by itself. The pain, stiffness, and swelling of rheumatoid arthritis even in severe cases may suddenly subside and disappear for months or even years. For about 25% of these fortunate individuals, it never comes back. Damage already done, though, does not miraculously disappear, even if the

victim cannot tell by pain or other symptoms that the disease is still there. Moreover, his or her arthritis is likely to flare up again in the same insidious way that it first appeared.

People with rheumatoid arthritis can feel sick all over. The main targets of rheumatic disease are the joints of both hands, the arms, the hips, the knees, and the feet. People may be affected generally with fever, fatigue, and poor appetite. They may lose weight and develop anemia. Occasionally the lymph glands or spleen may become enlarged. It is quite common for the arthritis patient to be troubled by coldness, trembling of the hands and feet, or excessive sweating.

Rheumatoid arthritis usually affects more than one joint. The joint first stiffens, then swells and becomes tender, eventually making its entire motion difficult and painful. These symptoms are typically at their worst when the patient first arises in the morning. Pain and stiffness tend to get better after he or she has been up and moving for a while. Some patients develop small lumps under the skin, called *rheumatoid nodules.* These are usually at the elbows, knees, or ankles, and may be quite tender.

Progressive damage may occur inside the joint. Here is what happens. The area where two bones meet is enclosed, usually in a capsule that contains fluid. This joint capsule has an inner lining called the *synovial membrane.* The inflammation of rheumatoid arthritis starts here, swelling this membrane and spreading to other parts of the joint. An outgrowth of inflamed tissue invades the cartilage surrounding the bone ends, eventually eating it away. Finally scar

tissue forms between the bones. Sometimes a scar transforms itself into actual bone, permanently fusing and rendering it immovable.

While a joint is undergoing this destruction, muscle contraction can cause contracture and severe deformity. This is most apparent when the disease attacks the hands; the fingers can become so distorted that they are virtually useless.

Even though the *cause* of rheumatoid arthritis is not completely known, scientists believe it is due to some type of a germ, possibly a bacterium or virus. The immune system is involved also, and harmful antibodies frequently form, attacking our own body tissues, in this case the joints. The key to success in combating the long-term complications of rheumatoid arthritis is a treatment program begun **early** and carried out **faithfully** for a lifetime.

The diet of the patient with rheumatoid arthritis is exceptionally important. Refined sugars, all sweets and excessive fats in the diet should studiously be avoided. Meat intake should be curtailed and ultimately eliminated, as well as spices, condiments, and unnecessary food additives. It is worth trying to eliminate nightshade plants from the menu. These include tomatoes, potatoes, eggplant, and peppers. At least 20% of our patients have benefited from this restriction, especially with relief of joint pain. The diet should be simple, of good quality, with a variety of natural foods, eaten at regular intervals. Adequate water intake is important to insure good hydration of joint tissues, as well as maintaining a vigorous circulation.

As part of the treatment program, one should also find the ideal personal balance between **rest** and **exercise**. This may vary from person to person depending upon how severely the disease process is raging. The acute stages of arthritis require more rest, while with improvement, exercise is most

essential. Inflammation usually subsides with bed rest, but prolonged immobility can rapidly lead to stiffening and contracture of diseased joints. Incorrect **posture** in standing, walking, sitting, or lying down puts unnecessary strain on inflamed joints. This is why guidelines for correct posture are part of the treatment. Rarely, an inflamed joint might be splinted to protect it from the abnormal pull of muscle spasm, yielding contractures

that cause painful deformities. Particularly is this important in the hands and fingers, to keep them functioning smoothly.

Much of the crippling of rheumatoid arthritis develops because the painful joints are kept for long periods in what feels like a comfortable position. They then become frozen or stiffened, while muscles around the joint are weak from inactivity. The way to keep your joints mobile is to move them. In rheumatoid arthritis an exercise prescription does not mean athletics, lifting heavy things, jogging, or any strenuous activity. Quiet exercises tailor-made for the problem must be performed every day, putting the joints through their full range of motion.

The muscles must be kept strong, so that the **joints** can function as they are meant to. The key word is **balance.** Too much rest can result in stiff joints and muscles. Too much exercise may damage joints. Physical therapists, as well as physicians may be helpful in outlining a program for rehabilitation.

Moist heat is relaxing and soothing to the inflamed joints. Various types and forms of heat are used to treat rheumatoid arthritis. They all help joints to move better with less pain. Hot baths are useful for the larger joints, such as the hips, knees, or elbows. They may be given in the bathtub or kitchen sink, and usually will last 15-30 minutes at a time. **Hydrotherapy** is the science of treating disease with water. Many clinics and hospitals have departments devoted to this medical specialty. Some physicians specialize in it. (See chapter 17.) Hot packs, fomentations, heat lamps, and paraffin wax applications can all be used with success to treat specific joints for the relief of pain, spasm, and inflammation.

Healthful method of lifting. Bend the knees and get close to the object. Grasp it firmly and hold it close to you. Rise from the squatting position, using the leg muscles and keeping the back erect. When

carrying large parcels, always look where you are going; maintain an erect posture at all times.

Also important is our **disposition** in preventing flare-ups of rheumatoid arthritis. Emotional upsets, tension states, depression, and sudden traumatic shock frequently aggravate the symptoms. Patients who already have this disease may actually get worse during periods of upset, then better when such stresses are relieved.

This is not to say that these psychological factors cause rheumatoid arthritis, but only that they may *contribute* to the problem in some way. Achieving peace of mind through trust in our all wise Creator, helps remove all causes for bitterness and grief. Cultivating a life of prayer and Bible study will greatly help the arthritis sufferer to regain health right at home.

DEGENERATIVE JOINT DISEASE

Of the 17 million arthritis sufferers in the United States, over 10 million have degenerative types of arthritis. Sometimes called **osteoarthritis**, the degenerative joint disease occurs twice as often as rheumatoid arthritis and

usually begins later in life. In fact, almost everyone will get “a touch of rheumatism” sooner or later, if he lives long enough.
Usually osteoarthritis is mild. It seldom cripples, but often produces pain. Weather changes, storms, and cold may aggravate the symptoms, making the sufferer somewhat of a weather prophet. This type of arthritis confines its attack locally to individual joints and rarely spreads to distant joints or affects the whole body. Primarily osteoarthritis is a matter of “wear and tear” of the mechanical parts of the joint, the cartilage cushions wearing out as the patient becomes older. Most often affected are weight bearing joints, such as the knees, hips, or spine. One variety of this disease, which does not seem to have anything to do with strain on the joints, affects younger women. The joints of the fingers are the chief points of attack, often showing bony enlargement on the hands, called *Heberden‘s nodes.* These can be quite painful.
In the normal joint where two bones meet, their ends are covered with layers of smooth elastic material called cartilage. These surfaces are designed to slide smoothly across each other, lubricated by the joint fluid. In osteoarthritis the bone ends become thicker, then bony spurs develop. The surrounding ligaments and membranes may also become thickened, changing the whole shape of the joint.
Muscles in the region of the arthritic joint tend to become tense and contract unnaturally as a reflex reaction to pain. They may likewise become weak. Obviously when the mechanical system breaks down in this way, the joint is not going to work properly.

A number of **causes** can progress into osteoarthritis. Joints that take unusual punishment or abuse, such as the hips and knees of obese or overweight patients are likely to develop these changes. Joints injured in an accident or an athletic injury may also deteriorate early. Sometimes a hip defect is present at birth. Inherited tendencies can predispose people to osteoarthritis. Fundamentally for most of us, this degeneration of tissue in the body is a normal process of aging. There is much we can do to protect these important structures and continue living free from pain.
Although many people have x-ray changes characteristic of osteoarthritis without symptoms, most patients develop pain in or around the joint. This may be mild aching and soreness, or a nagging constant pain. The pain of joint disease is caused by pressure on nerve endings, and by tense muscles and their rapid fatigue. Sometimes pain is felt at a distance from the joint where the trouble is. Second, one experiences the loss of ability to move his or her joints easily and comfortably. Usually part of the problem is an advancing muscular weakness. Obvious distortion of the joints will develop later. X-rays often aid doctors to make a correct diagnosis.
Early treatment is helpful to limit the troublesome symptoms. I place great importance on healthful mental influences. Recommended nutritional measures with a natural vegetarian diet are nearly identical to principles mentioned above for rheumatoid patients. Chili-containing creams such as *Zostrix* are valued to quell the ache of chronic joint pain. Containing the ingredient, **capsaicin**, the cream appears to affect a chemical “pain messenger,” substance P, responsible for transmitting pain signals along nerve pathways to the brain. The capsaicin cream, which burns slightly on the skin, triggers the release of substance P from the nerves in the area where it’s

applied.
Hot packs, special baths and other forms of external heat, combined with rest, and exercises to protect the joints from stress and strain, may all be helpful. Most important for any overweight or obese patient, though, is a **weight reduction** program. Remember that osteoarthritis is a chronic disease and may last for life. This makes obvious the conclusion, for treatment must continue for a long time. Disability can nearly be prevented by early attention to the above simple measures.

GOUT

Gout is an acutely painful form of arthritis, attacking at least one million victims in the United States. This disease usually results from an inherited defect in body chemistry. **Uric acid,** a normal body substance is either overproduced or delivered faster than the kidneys can get rid of it. Great

excesses of uric acid form needle-like crystals in joints, leading to severe inflammation. The affected joints become hot, swollen, and exquisitely tender. Although gouty arthritis can settle in almost any part of the body, the large joint of the big toe is attacked most commonly. Your diet must be regulated to lower the *uric acid* intake. This can be done most naturally by eliminating meat and cola beverages, then substituting unrefined whole grain cereal foods, fruits and vegetables. The use of hot packs, or in the case of extremely acute inflammation ice packs, may reduce the inflammation and bring rapid resolution.

Also dangerous for patients with gout is the crystallization of uric acid in the kidneys. Actual stone formation can occur with the typical symptoms of colic in the ureter. Occasional deposits of uric acid, called *tophi,* can occur in the skin around the ears, the hands, and the elbows. Strict control of dietary uric acid, elimination of alcohol and caffeine, and adequate fluid intake are good preventive measures. A physician should be consulted when difficulty arises.

Other types of joint pains may be related to **bursitis**, **tendonitis**, and the other painful afflictions of musculoskeletal tissues discussed in chapter two.

Finally, it is important to emphasize a few major misconceptions about arthritis. First of all, arthritis can be a serious disease. It is very important to make an accurate diagnosis, particularly of the rheumatoid type. Many people are under the impression that nothing much can be done for arthritis. This is definitely untrue. With early, proper, and continued treatment, a great deal can be done.

A short stay in a lifestyle or wellness center for nutritional education, hydrotherapy, and diagnostic evaluation is well worth the time and money. Sometimes all progressive crippling can be prevented. Distortion of the joints, which has already occurred, may be greatly reduced if not corrected. It is likewise not true that arthritis affects only old people. Some of the elderly were struck with arthritis when they were relatively young. Juvenile forms of rheumatoid arthritis are also known and rarely may be seen from infancy. Find out what kind of arthritis it is, then go to work in removing the cause, aiding nature in her valiant effort to combat this problem.

CHAPTER SIX

CANCER

The magnitude of the cancer problem may be appreciated by these few statistics. One in four Americans will develop cancer during his or her lifetime. More than 400,000 Americans died of cancer in 1990. Not only is cancer a momentous health problem, but the management and care of these patients is frequently quite complex and heartrending.

The much-feared word, **cancer**, is a term used to characterize an aberrant growth of cells, which ultimately results either in the invasion of normal tissues, or the spread to other organs, called **metastasis**. The degree of threat or malignancy (from the Latin roots *malignus,* and *genus,* meaning, "engendering harm") of a particular cancer is based upon the propensity of its abnormal cells to invade surrounding tissues or spread to other organs.

Cancer is not one disease. There are more than one hundred distinct forms of cancer with differing biological behavior and clinical manifestations. The natural course of some kinds progresses rapidly, and takes the life of the victim within weeks to months. Others are very slow growing and may metastasize to distant areas, spread rapidly, or extend the tumor locally and invade the surrounding tissues.

Some types of cancer are quite predictable in their behavior, while others are just the opposite. The factors that allow aberrant cancer cells to invade tissues are not well understood. Some individuals appear to be resistant to the invasion of cancer. Not only do they resist the disease, but also if they have a malignant growth they may undergo spontaneous remission leading to a complete cure.

Some of the basic types of cancer have general features that characterize their behavior. Carcinomas are cancers involving glandular or covering tissues, such as the intestinal tract, lungs, or skin. These are more apt to spread by invasion of the lymph vessels, initially involving the nearest lymph

node. This is why the lymph nodes are carefully examined in the diagnosis and treatment of breast cancer, for example. **Sarcomas**, on the other hand, are cancers of connective tissue, such as muscle, cartilage, or bone. These characteristically spread via the blood stream, and distant metastases to the lungs or brain are common.

Two properties of tumor cells probably contribute to their spread to distant sites. One is decreased "adhesiveness" of tumor cells to each other with the resulting ability of these clumps of cells to break off and enter the lymphatics of blood stream and to lodge in other tissues. The second is the elaboration of a *"tissue angiogenesis factor,"* which results in rapid development of local blood vessels, thereby feeding the growing tumor cell mass and hastening its development.

Common symptoms that are seen with most malignancies are those of weight loss, loss of appetite, and unexplained bleeding. The *American Cancer Society* has popularized the seven danger signals, which although helpful in early detection, at times show up too late for an actual cure by surgical removal. The change in a wart or mole, unexplained bleeding, difficulty

swallowing, loss of appetite, a persistent cough, particularly with the production of blood, a lump developing in some part of the body, and a change in bowel habits these are the signs that should alert one to seek comprehensive investigation for the possibility of cancer.

Many *causes* of cancer have been suggested. A great deal of evidence has accumulated in recent years. For a long time, it was known that certain hereditary disorders might increase the risk of cancer. For example, if a relative of a patient has breast cancer, the risk increases 3-5 times in females. Individuals with multiple polyps in the colon, or other hereditary disorders, such as Down's syndrome, have increased risk of developing certain cancers.

Viruses can cause development of cancer in almost every mammal, as well as fish, frogs, and other species. Some may be transmitted to humans through meat eating, milk, or eggs. These tumor viruses transform cells, but occasionally may lie dormant for many years without producing disease. It is felt today that many cases of breast cancer, leukemia, and other cancers of the lymph organs *(lymphomas)* are caused by viruses. One of these is the *Epstein-Barr virus* known to cause **infectious mononucleosis**.

Carcinogens are chemicals that can produce cancer. Most of these are present in the environment. They were first demonstrated by Dr. Potts in England, who linked the increased incidence of scrotal cancer in chimney sweeps with exposure to soot. We now know that it was creosote and tars, which adhered to the skin, that eventually caused skin cancer.

Lung cancer is much more common today, caused by one or more of the dozens of cancer-producing chemicals present in mainstream tobacco smoke.

People working in occupations where dusts are inhaled, as asbestos workers and coal miners, and some who in painting the luminous dials of watches exposed themselves to radium, —all can develop cancer from these environmental agents.

In fact, **radiation** in any form, as well as numerous **drugs** have been unequivocally shown to be associated with the induction of cancer. The survivors of the atomic bombing of Hiroshima and Nagasaki showed an increased incidence of acute and chronic leukemia that reached a peak approximately seven years after their exposure to radiation. As this research points up, it is right to minimize ones exposure to radiation and x-rays.

Drugs are also capable of interacting with cells to form various types of cancer. Radioactive isotopes and immune suppressive agents, as well as some hormones have been known to cause cancer. Exposure to **estrogens** has increased the incidence of cancer of the womb. **Arsenic** exposure has been associated with skin cancer. Many other common drugs, such as **coal tar** ointments are being related to skin cancer. Amphetamines, male hormones, and in fact, practically all of the anticancer chemotherapy drugs can in susceptible individuals produce malignancy.

More recent research has focused on the role of diet in possibly causing (called the *etiology)* certain cancers. We know, for example, that in undeveloped nations where the fiber intake is high the incidence of cancer of the colon is exceptionally low. Cancer of the stomach, as well as the colon has been related to certain Oriental food patterns. **Meat** intake is being implicated more and more as a possible cause of cancer. Evidence supporting this assertion indicates a higher rate of cancer in the northern United States

and New Zealand where beef consumption is high. In fact, colon cancer risk seems directly proportional to the amount of meat taken by a given population.

Nursing a baby appears to protect a mother against developing breast cancer later in life. Some additives in foods, such as the artificial sweeteners, *saccharine* and *cyclamate,* have been related to cancer of the bladder in experimental animals. So you can see that our environment may contain many agents with malignant potential. This makes it mandatory to guard your personal health and fortify your body' s resistance to disease with the purest air and water, and the most natural sources of food that you can find.

Certain **examinations** should always be carried out in high-risk patients for early detection of possible cancer. Probably the most valuable screening test is the chest x-ray, a must in smokers. Preferably, in tobacco users a chest x-ray should be taken every three to six months. For the general population, an annual chest x-ray can determine the earliest presence of most lung cancers, as well as tuberculosis and several other pulmonary diseases.

Routine annual x-rays of the breasts (called a **mammogram)** should be performed especially in ladies with unusually large breasts, fibrocystic disease, or with a strong family history of breast disorders or cancer. The cumulative radiation exposure makes mammography's routine use unadvisable for women without any risk factors or symptoms.

The complete blood count is the best screening procedure for leukemia and many other diseases involving the blood. Urine tests can be done to evaluate the kidneys, bladder, and urinary tract for bleeding or other suspicious abnormalities. Many other blood tests and x-ray procedures, as well as the actual obtaining of tissues through a biopsy can diagnose with certainty most specific types of cancer. Brief clinical descriptions and some principles of tumor management will be discussed below.

BENIGN TUMORS

Benign tumor growths, although not true cancers, share some of their same characteristics, such as viral causation, transformation of cells, and autonomous growth. A number of specific viruses are known to cause benign tumors. They are by far the most common of any new growths a person might have.

Warts are benign tumors that occur in almost any location. They are very common on the hands. However, in spite of folklore rumors, they are not caused by handling frogs! A wart virus penetrates the skin and transforms dermal cells causing this unusual growth. When it occurs on the sole of the foot, around the nail beds, or in the genital organs, it may be difficult to eradicate, even quite painful.

Warts can usually be frozen with liquid nitrogen, or may be removed chemically, such as with strong acids. Many physicians prefer to destroy the wart with an electric current *(cautery)* after appropriately anesthetizing the skin. Many of these can be successfully frozen or removed at home, if appropriate antiseptic precautions are observed.

Skin tags and **papillomas** are growths that protrude from the skin or mucous membrane. Some of these can be tied off with a strong silk string, while others with a larger base require local excision, freezing technique, or chemical cautery. Soft lumps of varying sizes under the skin are often

lipomas, fatty tumors that usually develop autonomously in the fatty tissue beneath the skin. Sometimes for cosmetic reasons these are removed by a simple surgical procedure done under local anesthesia. Fibrous tumors (fibromas) and various types of moles also can be removed to prevent cosmetic blemish, irritation, or the avoidance of further growth.

LUNG CANCER

Cancer of the lung is the most common cancer in men and increasing rapidly among women in the United States. There are a number of types of lung cancer, but the most common is called *bronchogenic,* since it originates in the bronchial tubes. By far, the most common cause of lung cancer is tobacco smoking with the risk directly proportionate to the number of cigarettes smoked and the amount of inhaling. It appears that in the tobacco tar, we find not only *benz-0-pyrene,* but also dozens of other cancerproducing chemicals, as well as other substances that sensitize the tissues to the destructive action of these agents. Over a period of years the hapless smoker accumulates an increasing amount of tar, until some of the lining cells, which at first increase in number as a protective measure, finally become transformed into malignant cells, which invade local tissues and eventually metastasize.

Extensive research on tobacco was sponsored by **The American Cancer Society**. Also, momentous publications by the recent **Surgeon General** of the United States, especially his dynamic governmental *Report on Smoking and Health,* underscore clearly the detrimental effects of tobacco use and its potential for producing malignancy in vital organs. In spite of many medical and surgical advances in the treatment of advanced cancer, lung cancer still takes the lives of about 95% of its victims. Tragically, most cases are discovered too late for any hope of cure, although this disease is almost entirely preventable.

An individual developing cancer of the lung may have no symptoms at all until the cancer is far advanced. Others develop a cough that may be confused with the smoker's cough of chronic bronchitis. At times the expectorated mucous may contain blood, a rather late sign in the development of this cancer. Some unfortunate cases have spread to involve vital blood vessels, the brain, or bones before adequate diagnosis has been made. Occasionally, the removal of the lung or part of a lobe may eradicate the tumor early enough to effect a cure.

BREAST CANCER

Cancer of the breast is the leading cancer among women in Western countries. It appears that this cancer is caused by one of several viruses and is increased in certain population groups. As mentioned before women who breast-feed their babies seem to be protected. Those with fibrocystic disease, a condition where the mammary glands enlarge and become engorged with sacs of fluid have an increased risk of breast malignancy.

Recent evidence points to the intake of caffeinated beverages, such as coffee, tea, and colas as factors in the production of this fibrocystic change. Beverage alcohol is believed to be one major risk factor in breast cancer. Men may also have breast cancer, but it is about 1/125th as common. Periodic selfexamination

is an excellent aid to early detection of breast cancer, especially if it remains the same throughout the menstrual cycle.

A great deal of controversy is raging in the medical world concerning the best treatment for breast cancer. Some types seem to be adequately treated by locally excising the tumor. The removal of a portion of the breast obviously preserves normal anatomy and is far less mutilating than the more traditional radical mastectomy.

Many types of breast cancer are quite adequately treated and often cured by a modified approach removing the breast only, while preserving the muscles in the chest and dissecting the lymph glands in the arm pit only when the risk of metastasis is high. This to me seems like a much more "middle-ofthe-road" approach, avoiding the extensive mutilation and more serious complications of the radical surgery commonly performed.

CANCER of the GASTROINTESTINAL TRACT

For the last three decades, cancer of the **stomach** has been decreasing in frequency in the United States. It remains high in Japan and certain other Oriental nations, and is probably related to the intake of certain foods, some highly seasoned, and others extremely hot. The second most common type of cancer in our country is cancer of the **colon** and **rectum.** This often produces a change in bowel habits, the stools becoming more constipated or of small caliber. Bleeding from the rectum is occasionally seen. This is usually red when the tumor growth is low in the colon and darker, brown to black (called *melena)* when the lesion is high in the colon or coming from the small intestine or stomach. This color change is due to the partial digestion of blood products by bacteria and enzymes in the bowel.

The rectal examination is helpful in detection of many cancers in their early stages. A ten-inch tube with attached light, called a *sigmoidoscope* can be used to look into the lower bowel, where nearly three-fourths of the cancers are seen. This should be done in conjunction with a complete annual exam for individuals over the age of 40. A new technology in fiber optic viewing, called *endoscopy,* has developed instruments that can examine the stomach and duodenum *(gastroscopy),* and the entire colon *(colonoscopy).* These procedures are often done on an outpatient basis, and provide even more adequate confirmation than the traditional barium x-rays.

The **cause** of these colon cancers is still somewhat uncertain. It is felt that a high fiber diet, which increases the rapidity of transit through the bowel, will

decrease the incidence of cancer. This is probably because the waste products contain many toxins. In contact with the mucous lining of the bowel these can cause irritation and eventual malignant change in the cells. A number of foods, most notably meat, contains toxins *(carcinogens)* that can be directly associated with cancer. The *benz-0-pyrene* in a charcoal-broiled steak may be equivalent to that found in about 600 cigarettes. *Methylcholanthrene* is also a dangerous substance found in many types of meat. Recently discovered is the chemical *malonaldehyde,* which seems to be increased when the meat is cooked!

Certain vegetables are not exempt from association with cancer. **Moldy** corn, peanuts, soybeans, and other seeds contain a factor called *aflatoxin,* which has been associated with liver cancer in several countries. It is interesting to note that the incidence of cancer is increasing in many fish that

inhabit polluted streams and rivers. Problems with meat inspection also contribute to risk of cancer, in that certain portions of an animal carcass may be preserved for food, while another part of the animal may have actual malignancy.

All of these danger signals are turning more food buyers to a vegetarian diet. In fact the numbers are growing rapidly in the United Kingdom, where a disease called *bovine spongiform encephalopathy* was discovered in 1985. It will undoubtedly spread to other nations. Often called the **"mad cow disease,"** this condition results from using animal products such as a bone meal in cattle feed. The cows after a few years go crazy, and become violent. A virus-like particle called a *PRION* is found in the animal's brain. Currently it is resistant to most germ killing procedures, including boiling, radiation, and disinfectants. Modern cancer virus research points out the "ounce of prevention" at your supermarket being worth much more than "pounds of cure" in the hospital.

Another bit of good news in the treatment of cancer of the colon is that some types can be removed without radical resection of the organ. Many snares, cauteries, and forceps have been devised to remove these cancers from the rectum through the sigmoidoscope. Sometimes when the malignancy is present only as a growth on a stalk, the area involved can be followed with periodic examinations. Other times the removal of a portion of the colon is necessary to effect the cure. The possibility of metastasis to the lymph nodes or liver makes it important to achieve early diagnosis and therapy, if life is to be maximally prolonged.

CANCER of the UTERUS and CERVIX

Routine screening has decreases the incidence of cervical cancer in recent years. Called the **"Pap smear",** this screening tool developed by Dr.

Papanicoleau has allowed for the early detection of change in the cells of the cervix. Being less common in nuns, in Jewish women, and in those with less sexual activity, this type of cancer merits great interest from a preventive standpoint. A virus similar to the *Herpes virus* that causes cold sores has been implicated in the development of some of these cancers.

More and more nurses, as well as many midwives are learning how to take these smears, thus increasing the acceptance of the pap smear to many women as well as making the procedure more available. It certainly should be part of an annual examination from the time of marriage on through life. Early diagnosis with surgical removal of the uterus and cervix can well be curative.

Cancer of the lining of the womb *(endometrium)* is less common, but is still taking many lives. This has definitely been related to the use of estrogens, the female hormone used traditionally to lighten symptoms of the menopause. Avoidance of these hormone preparations, as well as prompt medical treatment in the event of unusual menstrual flow can provide the early diagnosis needed.

An outpatient procedure, using techniques similar to the pap smear (e.g. *Vabra aspiration*, or the *Pipelle)* can with less expense and discomfort provide the reassurance needed to evaluate this bleeding.

LEUKEMIA

Cancer involving the blood and bone marrow is most often seen in children. Several types of leukemia are described, based upon the type of

blood cells involved and their appearance under the microscope. Samples from the blood and bone marrow are usually compared.

Ionizing radiation, whether from nuclear sources or x-ray therapy, is clearly associated with an increased incidence of these leukemias. Chemical agents, such as the anticancer drugs and occupational exposure to *benzal* have been associated with increased leukemia. Some hereditary factors have also been linked with this disease.

Most interesting is the firmly established viral theory in relation to acute leukemia. In rodents, fowls, cats, and monkeys certain viruses are known to cause leukemia when experimentally inoculated. These animals can pass viruses to their offspring through the ovum or shed it in their milk or other secretions, thereby transmitting it to unaffected animals. Again it makes one wonder how much leukemia may actually be transmitted to human beings through the use of animal foods, such as meat, eggs or milk. Milk is increasingly suspect for cancer viruses, especially the *bovine leukemia virus* (BLV) and the *bovine immunodeficiency virus* (BIV, a relative of HIV).

A disease in chickens *(fowl leukosis)* is estimated to affect up to 15% of the birds used for food, and many cases escape the casual inspection at the

mass production slaughterhouse. The virus definitely passes into the egg, and can infect a baby chick even before hatching. It would take very high or prolonged cooking temperatures to be sure the virus was inactivated in eggs used for food.

In spite of the fact that the common treatment of leukemia today is with cellular poisons *(cytotoxic* drugs), it is my hope that a much more physiologic treatment will soon become available, and, in the right setting be demonstrated as superior. Combining a proper diet with the judicious use of fever therapy should induce the appropriate antibodies to aid in virus destruction and the maintenance of health, as well as a decrease in complications. This type of therapy has been used with increasing success in the treatment of related tumors, such as Hodgkin's disease, chronic lymphocytic leukemia, and some other lymphomas. These closely related malignancies all seem to have a common viral origin. Thus, they should respond to the intermittent induction of high fever, However, it must be given in a controlled setting for safety.

SKIN CANCER

Although more skin cancers are seen than malignancies involving any other organ, this is least commonly a cause of cancer death. Inasmuch as the lesion can be seen with the naked eye in an early stage, the potential for cure is well over 90%. It is thought that the single most important factor in the cause of skin cancer is chronic exposure to ultraviolet light of the sunburn wavelength **(UV-B).** Individuals who are intensely pigmented are quite well protected from these rays. Fair-complexioned individuals and albinos should especially use sunscreen preparations. All should avoid unnecessary exposure to x-rays, coal tar products, and arsenic preparations known to be carcinogens.

Seventy-five percent of all skin cancers are of the *basal cell carcinoma* type. These rarely metastasize, but are locally invasive. The cancer typically begins as a noninflamed, smooth, waxy nodule. Usually a number of small blood vessels are visible near the surface. These nodules often ulcerate and

form a crust. Biopsy and excision will confirm the diagnosis; as well as treat the lesion. Simple excision gives the best cosmetic results. Liquid nitrogen may be used for local freezing, called **cryosurgery**. In combination with curettage or **electrocautery**, a cure rate of more than 95% may be expected.
Squamous cell carcinoma is the second most common type, developing also from the surface layer of the skin, but having more propensity to metastasize. Most of these lesions are painless. They show up with firm, red plaques, displaying visible scales on the surface. They may arise from preexisting solar *keratoses*, premalignant lesions developing from repeated

sunburn. Treatment is similar to that of basal cell lesions described above, namely removal.
Malignant melanoma is the most deadly type of skin cancer. They also are related to excessive sunburn and exposure. Pigmented moles are among the most common growths on the skin of humans. Some of these ultimately may change in their color, size, or hair pattern, which is often an early sign of their malignancy. Irregularities in surface pattern and varying colors are characteristic of the melanoma. Shades of red, white, or blue (no patriotism here) and other mixtures of brown and black, may indicate the development of this cancer.
Melanomas should always be removed with wide excision, since their propensity to spread to other organs, such as the liver, eye, and other areas of the skin is great. Therapy utilizing the immune mechanism (immunotherapy) has been used widely in the treatment of metastatic melanoma. Although still experimental these approaches offer an exciting alternative with less cost in toxicity to the individual. BCG vaccine, used for years to prevent tuberculosis, has found its place in the treatment of these melanomas with encouraging results in many cases.

The PREVENTION of MALIGNANCY

Based upon the evidence currently available, it is my conviction that a rational plan can be designed to prevent most types of cancer. Summed up in one word, **moderation,** the preventive approach involves several factors:
Your **diet** should be simple, utilizing natural foods as much as possible. Adequate amounts of fruit, fresh vegetables, and whole grain cereals should be included together with some nuts and natural sources of dietary fats, such as olives, avocados, and a most sparing use of vegetable oil. Any excess of oil, sugar, salt, or any single food, especially refined ones, in the diet should be shunned.
The low-fat **vegetarian** diet has been associated clearly with an increased resistance to many types of cancer. When individuals abstain from milk and eggs, as well as meat, the cancer risk becomes even lower. Naturally these total vegetarians must have a considerable knowledge of nutrition in order to maintain balanced nutrition, and provide optimum vitamin and mineral intake to maintain excellent health. Thousands of discriminating consumers, however, are rapidly adopting a vegetarian lifestyle as fast as they are able to learn how to select and prepare the foods. In this change is found the key to preventing not only many cancers, but also atherosclerosis and numerous other diseases.
Reasonable amounts of **exercise** should be obtained daily for a lifestyle that is low in occupational stress, while satisfying and productive. A moderate

exposure to **sunlight** prevents detrimental premalignant skin changes that many acquire as their skin ages. The use of a broad-brimmed hat, sunscreen lotions, and avoidance of excessive sun bathing can bring about vibrant health, without wearing out or prematurely aging the dwelling of skin we live in.

Temperance advocates for many years have proclaimed the key to prevent one most common cancer. Those who abstain completely from tobacco smoke, and even avoid settings where the involuntary inhalation of stale secondhand smoke is required, will reduce their risk of lung cancer dramatically. Even ex-smokers who quit before a cancer develops, have a much lower rate than the devotee who continues to use cigarettes. Although pipes and cigars may produce less lung cancer, they're stronger forms of tobacco still show malignant potential in cancer of the lip, tongue, throat, and larynx far too often.

Chronic use of **alcohol** increases the risk of cancer in the breast and liver, as well as seriously irritating the stomach and several other organs. Exposure to **drugs** of all kinds, including sex hormones, antibiotics, anticancer agents, and coal tar preparations can increase the incidence of malignancies in many organs. True temperance requires us to dispense entirely with all things hurtful, and use in moderation those things healthful. This principle of moderation can help to prevent many cancers.

Routine physical examinations and **periodic self-examination** of the breasts and skin, with careful observation for the symptoms of cancer described above can detect abnormal lesions in the earliest possible stage, when surgical removal is a possibility. A regular annual physical should usually include the annual **Pap smear,** a biennial sigmoidoscopic examination, together with the appropriate laboratory testing for additional aid in early diagnosis. On the other hand, it may just give satisfying reassurance concerning one's state of health.

Early detection of breast cancer is best accomplished with a screening mammogram combined with periodic examinations.

Rational **treatment of cancer** falls into several areas. Whenever possible the malignancy should be removed. Some natural "healers" have spread the erroneous message that surgery spreads cancer. This is only true if the disease is widespread and unresectable with any treatment. Early surgery in breast cancer can be curative in about three-fourths of patients. The treatment of colon cancer by surgery is well accepted to be not only curative in many, but also helpful in avoiding obstruction of the bowel or profound chronic loss of blood that can complicate these cases.

The **diet** for any cancer victim should be such that will maintain health and function of all body organs, particularly those systems of elimination. Eating a high fiber, low fat diet as described above is extremely helpful. But extremes should be avoided, such as prolonged fasts, the use of a single fruit juice, or a total reliance on certain vitamin preparations thought to be curative.

Certain types of **hydrotherapy** include the judicious use of cleansing enemas, fever therapy, or local heating of the tumor may prove therapeutic, particularly in those tumors of viral origin. Cytotoxic drugs should be

avoided. Their complications and numerous high-risk symptoms, usually make the side-effects worse than the “cure.” Radiation therapy, in general, should be reserved only for those cases where metastasis has produced intractable pain, or a “pathologic” fracture is imminent from bone destruction.
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Although this conservative approach to cancer treatment could well be challenged, it is my conviction that clinical trials of natural therapies will produce resulting longevity and survival statistics equaling the best experimental programs, and with great savings in patient cost and safety. Our principal fear in such a natural therapeutic approach to cancer is founded upon the failure to follow the simple preventive approaches or seek adequate care early if such disease strikes. Widespread promotion and the practice of these “simple remedies” could in time bring populations, as well as individuals, into a state of health promised by the One who offered *“none of these diseases”* (see *Exodus 15:26)* only on condition of obedience

CYSTS AND POLYPS

SYMPTOMS—*In the nose:* chronic difficulty in breathing through the nose.

In the colon: Bleeding or a mucous drainage from the rectum are common symptoms.

In the bladder: Blood in the urine.

In the cervix: A heavy watery, bloody, discharge from the vagina. Bleeding may occur after intercourse, between periods, and after menopause.

CAUSES—Polyps (polyposis) are growths of various sizes, and are especially found in certain portions of the mucous membranes: the nose, large intestine (colon), bladder, and cervix. They are especially common in the rectum and the portion of the colon just above that (the sigmoid).

These growths are benign (that is, not cancerous) and, growing on stalk-like structures, look something like narrow mushrooms. They tend to be hereditary.

Nasal polyps: Generally when the nose is clogged, the cause is a heavy cold or possibly chronic catarrh. But it can be nasal polyps. These are a special kind of tumor, which usually form as a result of a chronic infection in a sinus or in persons having allergies. Surgical removal is done to remove them.

Colon and rectal polyps: These growths in the outlet end of the colon can become cancerous. A colectomy is the surgical removal of these polyps, but is generally done, not by cutting out the polyps, but by removing part of the colon! Sometimes the rectum is left in place and the small intestine is connected to it. But, whether this

drastic operation is performed or not, the polyps generally return. Bleeding from the colon can be a sign of polyps or of cancer.

Bladder polyps: The medical route is removal of the bladder. Unless they are removed, by natural methods or unnatural, bladder cancer may result.

Cervical polyps: These polyps line the inside of the cervix of the uterus and are more common in women who have not had children. They rarely return after being removed.

TREATMENT—

• A Wisconsin research team discovered that the polyps in most of their patients either lessened or disappeared entirely, when they were placed on a high vitamin C diet. The body is attempting to get rid of various waste products; it needs help doing the job. Vitamin C; more water drinking; nutritious food; a high-fiber diet; and the elimination of processed, fried, and junk foods greatly helps. Take some type of supplemental fiber daily. Be sure to increase your water intake at the same time you increase your fiber intake.

• Stop eating meat products. They load the body with impurities which must be eliminated. Only eat wholesome food. Stop using caffeine, tobacco, and alcohol.

• Those who eat the most saturated fat are twice as likely to develop polyps.

• Use those natural substances which tends to cleanse the body of toxins: garlic, burdock, goldenseal, red clover, etc.

• Surgical removal of the polyp is often relatively safe, a minor procedure, and done on an outpatient basis.

TUMORS (including Fibroids)

SYMPTOMS—Tumors, swellings, or growths on the body. They seem to contain solid or semifluid material and be abnormal in their growth.

CAUSES—When something has no apparent reason to be growing, it is growing abnormally. These structures are called tumors. They can be either benign or malignant (cancerous). Malignant tumors spread to other parts of the body; whereas benign ones generally do not spread.

Fibroids are tumors which most often occur in the uterus. Hysterectomies are done to remove them. But the effect of a hysterectomy on a woman's hormonal system can be devastating. Avoid them, if at all possible.

Diet and environment are special causes of tumors. Changing both can reverse the process, and even eliminate these strange growths.

It is best to eliminate them, whenever possible. Even the benign ones, although small, may later become cancerous.

TREATMENT—

• The body uses tumors as containers to store toxic waste collected throughout the body, when the system's natural ways of elimination are overloaded: the lungs, bowels, kidneys, liver, and skin. But when these channels of elimination become clogged or inadequate to care for the excess refuse, then the body starts manufacturing garbage cans (tumor cases) and placing the waste products in them.

• A physician can cut, burn, chemical, or radiate away the garbage can and its contents; but soon the body will manufacture more of them!

• The solution is to change your way of life. A complete change of diet is needed, along with improved ways of eliminating waste from the body.

SKIN CANCER (Melanoma)

SYMPTOMS—Identification is especially important in dealing with skin cancer. Here are official warning signs of skin cancer:

1. An open sore that bleeds, crusts over, and will not heal properly.

2. A reddish, irritated, spot that is usually on the chest, shoulder, arm, or leg. It may itch, hurt, or cause no discomfort at all.

3. A smooth growth with an elevated border and a center indentation. As it becomes bigger, tiny blood vessels develop on the surface.

4. A shiny scar-like area that may be white, yellow, or waxy with a shiny, taut, appearance.

5. An enlarging, irregular, "angry" appearing lesion on the face, lips, or ears.

Here is a description of one of the more common types of skin cancer: large flat, tan, or brown spots, with darker black or brown areas dotted on its surface. The edges may, or may not, be clearly defined. The spot may appear mottled.

Moles should also be watched—especially those that change in size or color, are irregularly shaped, have ridges around the edges, widen, bleed, itch, or seem to be continually irritated by clothing.

Here are still more identifiers of skin cancer—the so-called "A-B-C-D checklist":

Asymmetry: Both sides of the mole should be shaped similarly. If the overall shape is irregular, then it might be skin cancer.

Border: The edges of moles should be smooth, not blurred or ragged.

Color: It should be tan, brown, and dark brown if it is normal. If it is red, white, blue, or black, it is not.

Diameter: Any mole that is larger than ¼ inch in diameter, or whose diameter seems to be increasing, should be treated with suspicion.

Spots which are dry, red, and scaly (most frequently found on the face, neck, or backs of hands) may be actinic (solar) keratoses. These are lesions which result from years of overexposure to the sun. They can be precancerous. Later they may become hard to the touch and grayish or brown in color.

CAUSES—Skin cancer is also called melanoma, or lentigo-maligna melanoma, and appears on body surfaces which are most frequently exposed to the sunlight: the face, neck, arms, and trunk. It can also occur on the lips and even eyelids.

The best thing about skin cancer is that it is often slow in spreading and invading the deeper layers of the skin. As long as the cancer is only on the surface, it can easily be removed.

There are three types of skin cancer; the first two are the most common, and the third is the most dangerous. Yet all three types can be eliminated if treated early. The medical route or natural methods can be used to eliminate each of these. But, either way, be sure it is gone. As long as it is treated early, you can easily see if it is gone.

Basal cell carcinoma: This is the most common type, and the slowest growing. It does not spread until it has been present for a number of years. It is an ulcer-like growth which spreads very slowly. The first sign is a large pearly lump, generally on the face, nose, or area around the eyes. About six weeks later it becomes an ulcer with a moist center and a hard border which may bleed. Scabs continually form, then drop off, but with no healing of the ulcer. Another form is flat sores which slowly widen. Treatment is the same as for squamous cell cancer.

Squamous cell carcinoma: Due to damage to lower-skin surface, a lump forms on the skin. Looking like a wart or a nonhealing ulcer, physicians cut it off, freeze it off, chemical it off, or irradiate it off. A skin graft may be applied afterward.

Melanoma: This is the most dangerous of the three, and can run in families. It often begins as what appears to be a mole. Most people have moles, but be especially beware of those which appear after the age of 40. Any mole that is unusual or that changes in size or color should be eliminated. If in doubt, see a physician!

A melanoma mole arises out of the deeper pigment layer of the skin. For this reason, it spreads more quickly. Melanomas most frequently occur on the upper back and legs. But they may also occur on mucous membranes or under the nails.

A fourth type of skin cancer might be noted here. It is the rare *mycosis fungoides.* For years there will be itching skin lesions. Eventually they become firm and begin ulcerating. Later they involve the lymph nodes and produce cancer of the lymph (lymphoma).

Over 600,000 Americans develop skin cancer each year, and 10,000 die of it. More than 90% of skin cancers can easily be eliminated, if done so early.

TREATMENT—

• Exposure to the sun is vital to good health. Unfortunately, the ultraviolet rays also cause wrinkles and 90% of all types of skin cancer. (It can cause cataracts too.) Yes, continue to get out in the sunlight, but try not to overdo it. Keep in mind that, in the early stages, it is not difficult to remove skin cancers; but you have to have a certain amount of sunlight for general physical health. Be especially careful between 10 a.m. and 2 p.m., when sunlight is strongest.

• Those with a family history of skin cancer should obtain their sunlight more sparingly.

• In the summer, wear light-colored clothing which has a tight weave. Consider using a sunscreen of at least 15.

• Tanning salons are more dangerous than sunlight, because people tend to overdo them.

• As the ozone layer is gradually destroyed over the north and south poles, those living in the temperate zones throughout the world become more susceptible to skin cancer—without even being in the sun.

• Every month or so check over your body carefully and look for signs of skin cancer. Then do something about it.

Suggestions for eliminating the skin cancer:

• You can go to your physician, and he will excise it with a knife or an ointment which will burn it off. If you delay, surgery will cut more deeply and, as with all cancer surgery, there is the very real danger that not all the cancer will be removed.

• Or you can use natural remedies. Fortunately, with skin cancer, as long as it is treated in the early stages, you can tell if it is gone!

• Garlic is a faithful standby. Cut a thin slice of garlic and carefully tape it over, what you consider might be, a skin cancer. Try to avoid contact of the garlic on good skin. (If you can't avoid it, the skin will redden and burn somewhat.) Russian research,

from back in the 1950s, revealed that garlic is more powerful than antibiotics in destroying bacteria. It also causes moles and skin cancers to fall off.

• Put the garlic on in the morning; take it off and carefully wash the area in the evening before bedtime. Put on a new application. Remove it in the morning, and repeat the process. Do this for about 3 days. The mole or ulcer will dissolve and slough off. Let the area heal. If part of it remains, repeat the process at a later time.

• If you keep applying the garlic for more than 4 days, it will begin burning deeper into the skin (you will know, because the area will become very painful.) Such deep burning is not necessary to slough off the cancer, and could be harmful.

• The herb, chaparral, works well for skin cancer. Take it as a tea or in tablet form.

• According to a 1988 medical article *(British Journal of Surgery)*, eating an adequate amount of essential fatty acids helps protect the body against skin cancers. It even helps eliminate them, once they form.

• Eat a nourishing diet; go off meat and processed, fried, and junk food. Get enough rest. Right living helps your body resist and throw off cancerous lesions.

• Take vitamin C to bowel tolerance; also take vitamin A and selenium.

• Carcelim is a cream which you can purchase, which requires 30 days to remove the melanoma.

BREAST CANCER

SYMPTOMS—*In the most common types:* Lumps are firm, do not go away, and are generally pain free. Lumps which do not move around may be malignant or may not be.

In another type: There is itching, redness, and soreness of the nipple.

In yet a third type: The breast becomes extremely tender and appears infected with something.

These three are explained in more detail below.

CAUSES—Breast cancer is a leading cause of malignant death among women in the United States. Women over forty are more likely to develop breast cancer than younger women. Lung cancer kills about 56,000 women in America each year, and breast cancer is responsible for the death of about 46,000.

It is vital that early detection be made. Discussions of how to carry out breast self-examination are readily available elsewhere and need not be repeated here. As you conduct it, watch for subtle changes in the breast. You are looking for special types of lumps in the breast. These lumps are firm, do not go away, and are generally pain free. Lumps which do not move around may be malignant or may be caused by normal fibrocystic changes during the menstrual cycle. The experts say a biopsy will detect what kind of lump it is.

But you should know that biopsies can be dangerous. A biopsy is a slice of the tissue which is then sent to a lab for microscopic examination. The problem is that slicing any suspected tissue—immediately releases its cancer (if any is present) into the body, where it can more rapidly spread. You may or may not choose to have biopsies made, but you should be aware of this fact.

You will often hear it said that "1 in 9" women will contract breast cancer—but that is sometime within a lifetime. The average 30-year-old white woman has a 1 in 5,900 chance of getting it; at 50 years, it is 1 in 430.

There are several different types of breast cancer. Most of them are similar, producing lumps described above. But a few are different:

Paget's disease of the nipple affects the nipple, and cannot be detected by a self-examination. Cancer cells have migrated to the nipple. The symptoms are itching, redness, and soreness of the nipple. This form of cancer only occurs when a different form of cancer is present elsewhere in breast tissue.

Inflammatory carcinoma is a different type. The skin thickens and turns red. The breast becomes extremely tender and appears infected with something. The lymphatic system and blood vessels have become clogged because of a tumor. This type of cancer spreads very rapidly. Professionals recommend a biopsy; but, if you choose not to do so, you must be planning to go on an intense natural remedies cleansing, to eliminate the problem. Whatever you do, you had better set to work and do it.

TREATMENT—

• It is well to keep in mind that people have undergone the orthodox cancer routine of surgery, chemotherapy, or radiation and have survived while others have died. There are those who have taken the natural remedies route, with the same end results. No one can, or ought to, decide for you; the decision is yours.

• In the late 1980s, researchers discovered that women develop breast cancer far more frequently in certain localities than in others. Analyzing those locations, it was discovered that they are those areas where there tends to be less sunlight throughout the year. For example, northwestern California, the western slopes of Oregon and Washington, and the Northeast had a far greater number of breast cancer cases than did Florida, Texas, Arizona, and southern California. The solution: Take sunbaths whenever you can, throughout the year; sunlight is important for maintaining good health, purifying the body, and resisting infection.

• Breast cancer more often occurs in women who started menstruation early in their youth, had a late menopause, gave birth later in life, had a family history of breast cancer, developed obesity after menopause, and had a history of alcoholism and eating a high-fat diet.

• Research indicates that those who take oral contraceptives are 3 times more likely to develop breast cancer. Silicone (used in breast implants) causes cancer in test animals. Those who develop breast, and other, cancers have less vitamin A in their bodies.

• Eat a nutritious diet centered around fresh fruits and vegetables, whole grains, and nuts. Eat garlic and onions. Drink distilled water and fresh fruit and vegetable juices. Get extra fiber.

• Do not eat too much soy or peanut products.

• Avoid meat; dairy products; alcohol; caffeine; nicotine; and processed, fried, white-flour, and junk foods. Do not take supplements containing iron.

• You should examine your breasts regularly. Procedures for doing this, and what to watch for, are discussed in many other books. You will be able to detect initial changes better than anyone else. If you experience itching, redness, and soreness of the nipples—especially if you are not currently breast-feeding a baby—check with a physician. You might have Paget's disease of the nipple, a form of cancer.

PROSTATE CANCER

SYMPTOMS—Possible pain or burning sensation during urination, frequent urination, a decrease in the size and force of urine flow, an inability to urinate, blood in the urine, and continuing lower-back or pelvic discomfort just above the pubic area. But there may be no symptoms until an advanced stage or until the cancer spreads out beyond the prostate.

Many, many, times the above symptoms point to a benign enlargement of the prostate and is not cancer in that organ.

CAUSES—The prostate is a walnut-sized gland at the base of the bladder and encircles the urethra, the tube through which the bladder voids urine. The prostate makes prostatic fluid which nourishes the sperm.

Prostate cancer is the second leading cause of cancer deaths in Americans. Poor diet, exposure to environmental toxins and cancer-causing chemicals, and overactivity of the sexual organs are possible causes. There is a link between a high-fat diet and prostate cancer. It is believed, by some, that a vasectomy may increase the likelihood that this problem will later develop.

Men over 65 have 80% of the cases of prostate cancer, and 80% of 80-year-old men have it.

The younger a man is, when he is diagnosed with prostrate cancer, the worse the outlook. Those with recurring prostate infections are at greater risk. Men whose ancestors had prostate cancer are more likely to develop it. African American men have the highest rate, and Asiatic American men have the lowest.

A careful, but relatively simple, rectal examination can reveal if cancer is developing in this organ. There are also other screening methods, and PSA (prostate-specific antigen) appears to be the best. The PSA test should be taken twice if there is an indication of cancer.

TREATMENT—

• Contact your physician.

• Go on a program with a nourishing diet, vitamin and mineral supplementation, and out-of-door exercise.

• Do not eat meat. There is a definite correlation between red meat consumption and prostate cancer.

• Drink fresh fruit and vegetable juices daily.

• Avoid processed and junk foods.

CANCER

SYMPTOMS—*The most common symptoms of cancer:* any sore that does not heal on the skin, mouth, tongue, or lips. Any irregular or unusual bleeding or discharge from any body opening. A persistent change from normal in the action of the bowels or bladder. Any persistent lump or thickening in breast or anywhere on the body. Hoarseness or nagging cough. Difficulty in swallowing. Persistent indigestion or loss of appetite, especially if accompanied by loss of weight. Sudden or rapid changes in the form, appearance, or rate of growth of a mole or wart or if it bleeds. Fatigue.

To the basic eight cancer signs, listed above, we are adding three others which are important: any condition which does not respond to treatment, inflammation from blood clotting (thrombophlebitis), and putrid intestinal gas.

Skin cancer: A lump under the skin, moles which change color or size and have raised edges, an ulcer which does not heal, flat sores, lesions which look like moles.

Mouth or throat: Chronic ulcer of the mouth, tongue, or throat which does not heal.

Larynx: Persistent cough and hoarse throat.

Lung: Persistent cough, bloody sputum, and chest pain.

Breast: Lump which is hard, does not go away, and does not move; inflammation or thickening of the skin.

Leukemia: Whiteness of skin, weight loss, fatigue, repeated infections, easy bruising, nosebleeds.

Stomach: Indigestion and pain after eating.

Bladder and Kidney: Blood in urine and increased urination frequency. Bloody urine is generally not a cancer symptom, but it can be.

Ovaries: Usually there are no obvious symptoms until later stages.

Endometrium: Bleeding between menstrual periods, unusual discharge, painful periods, heavy periods.

Cervical and Uterine: Bleeding between periods, unusual discharge, painful periods, heavy periods.

Prostate: Weak or interrupted urine flow; continuous pain in lower back, pelvis, and/or upper thighs.

Testicles: Enlargement of a testicle, lumps, thickening of scrotum, sudden excess of fluid in scrotum, mild ache in lower abdomen or groin.

Colon: Blood in stools, rectal bleeding, changes in bowel habits (diarrhea and/or constipation).

Lymphoid Tissue: Enlarged, rubbery, lymph nodes; itching; night sweats; unexplained fever and/or weight loss.

CAUSES—

Cancer is now the second most common killer in the United States and is increasing. One in every three people will die from some form of it. Over 1,400 Americans die each day with it.

Cancer cells are wild, irregular, and different from other body cells. They grow rapidly and gradually invade and fill surrounding areas. They rob neighboring cells of nutrition, resulting in a gradual wasting away of the patient. They can migrate to new locations and multiply. Wherever they go, there are abnormal growths and tumors.

Cancer cells are classified by the organs they initially invade (liver, breast, colon, lung, lip, etc.). There are more than 100 different varieties of cancer. Each varies in its symptoms and how fast it spreads.

There are four main types of cancer: *Carcinomas* affect the skin, mucous membranes, glands, and other organs. *Leukemias* are blood cancers. *Sarcomas* affect muscles, connective tissue, and bones. *Lymphomas* affect the lymphatic system.

Early detection and treatment is vital. One person dies every 3 minutes from cancer.

Dr. Otto Warburg, Nobel Prize winner, stated: "More is known about the cause and prevention of cancer than most any other disease."

Dr. Ronald Raven, Chairman of the Royal College of Surgeons in London, said: "Seventy-five percent of all cancer can be prevented if we utilize the facts we now possess."

At the Eighth International Cancer Congress, Dr. Kavetsky said: "It is essential in the treatment of tumorous disease, not only to act on the tumor, but to endeavor to strengthen the compensatory and defensive reaction . . of the entire system."

When a cancer becomes noticed, it is already far advanced. At this stage, it is important that the one with it place himself under the care of a competent physician who understands and uses nutritional therapy. However, the patient needs to understand, for himself, what is required and what he must do. There are situations in which a cancer victim has no one to help him, and he must carry out such a program entirely on His own.

But, whether helped by others or going it alone, unless the individual fully cooperates with right principles, he cannot be successfully helped. He must cease his violations of the natural laws, given by God to mankind, and live fully in accordance with them.

The type of food we eat, the way we live, and environmental factors gradually build up or weaken the body. If the organs of elimination cannot keep up with the amount of toxic waste we are producing, in desperation the body eventually turns to the formation of tumors and cancers. Soft cancers are cells gone wild because of the excess waste in the system. Hard tumors are garbage cans prepared to hold the toxic waste.

Cancer generally has a lengthy incubation period of years. Nourishing the body, building up the immune system, and avoiding excess and debilitating substances enables the body to resist cancer.

Because of intemperate living, eating, sleeping, combined with stress, the body is weakened over the years. This produces a chronic autointoxication—poisons have accumulated in the body. Vital organs, whose job it is to purify and eliminate wastes (such as the skin, lungs, liver, kidneys, and bowels), become less active and efficient. The system becomes poisoned. These poisons accumulate around the weakest organs or where the body has been injured by a bruise, fall, or blow. The accumulated poisons from years of tea, coffee, tobacco, cola, meat, liquor, fried food, etc., especially accumulate in such an area. Then the body either tries to build garbage cans (tumors), to hold the waste products or the cells in that area go wild from the irritation; so cancer cells form and spread. It is well-known that irritation, such as always picking at a certain spot, can cause cancer.

Unfortunately, there are also toxic substances in the air, water, and soil. This makes it the more crucial that we live as carefully as we can.

Prevention of cancer requires effort; yet many people give more attention to caring for their prize dogs or their new cars. The human body requires careful attention also.

Drs. Hans Nieper and Dean Burk stated that, by the time the tumor is present, a patient's malignancy is already far advanced. As noted earlier, a tumor is something of a strange parasite, which has as little as 2% of normal blood circulation. Its cells are living on sugar fermentation instead of oxygen as normal cells do. It is more like a plant or fungus.

Here are two interesting facts: (1) The U.S. Government declares that the five-year survival rate from taking the officially authorized cancer remedies (chemotherapy, surgery, or radiation) has not changed over the past 20 years. (2) Statistics reveal that patients who do not take officially authorized therapy will, as a group, survive longer than those who do.

A problem with the cut, burn, and poison routes is their deadly nature. Chemotherapy, for example, produces hair loss, extreme nausea, vomiting, fatigue, weakness, sterility, and damage to the liver, kidneys, and heart. What should you do? That is your decision. On one hand, you can take the officially recommended remedies at your local hospital. Or you can try natural remedies. Your choice.

Some of the natural folk remedies are listed here. There are many others.

However, you should know that the government and the medical association advises that you should never treat yourself for cancer. Their counsel is that you consult a medical doctor (M.D.), and follow his advice explicitly. Not to do so, they say, could result in your death.

TREATMENT—

• Cancer is a systemic disease, affecting the entire body and caused by conditions in the entire person. So it cannot be treated by specifics. An entire change in one's way of life is required.

LEUKEMIA

SYMPTOMS—Weakness, easy fatigue, a remarkable whiteness of the skin, difficulty in breathing, spells of fever, sweats, palpitation, rapid heart, loss of weight, soreness or ulceration of the throat and gums, and a tendency to hemorrhage.

In one type, the spleen is enlarged; in another, the lymph glands are also enlarged.

CAUSES—This is called cancer of the blood, but it is actually cancer of the bone marrow, where the blood is made.

Leukemia (which means "white blood") produces a defect in the production of white blood cells, resulting in large numbers of immature WBCs in the blood stream. WBCs are vital to physical health; and, without them, the body deteriorates. The bone marrow continues to produce an excess of them; yet many of those produced and dumped into the blood stream are essentially useless.

A blood test reveals anemia (not enough red blood cells), low platelet count, increased lymphoblasts (an excess of immature WBCs), and an elevated total WBC count.

Chronic cases run an up and down course for several years. Acute cases generally end fatally in a few weeks.

As a rule, leukemia ends in death. A person can choose to go the medical route or try natural remedies. There will, of course, be a risk and the very real possibility of death, whatever his decision may be.

TREATMENT—

• Treatment may include DMSO IV (which matures the immature cells in circulation), laetrile, germanium, selenium, vitamin A, and vitamin C to bowel tolerance.

CANCER PREVENTION

SPECIAL RISK FACTORS

Here are the special risk factors for each of the fifteen main types of cancer:

Skin—Exposure to the sun, especially for those who have fair skin; history of moles (malignant or otherwise); moles on the feet or in areas irritated by clothing; scars from severe burns and scars or sores that won't heal; family history of skin cancer.

Lung—Smoking; exposure to asbestos, chromates, nickel, or radioactive materials; history of tuberculosis, chronic bronchitis; exposure to certain chemicals, such as pesticides and herbicides.

Breast—First childbirth after age 35; having no children; family history of cancer; high alcohol and/or caffeine intake; high-fat diet; diabetes. Estrogens and oral contraceptives have been linked to breast and uterine cancer. There appears to be a link between sugar intake in older women and breast cancer.

Stomach—Pernicious anemia; lack of hydrochloric acid and dietary fiber; high-fat diet; chronic gastritis; stomach polyps.

Colon—Lack of dietary fiber and calcium; polyps; family history of colon cancer; continued constipation and/or diarrhea; a buildup of toxins in the colon; a high-fat diet.

Leukemia—Hereditary factors; radiation exposure; chronic viral infections.

Cervical and uterine—More than 5 complete pregnancies; first intercourse before age 18; a history of gonorrhea or genital warts; multiple sex partners; infertility.

Ovarian—Not having had children; high-fat diet.

Laryngeal—Heavy smoking; alcohol consumption.

Lymphoma—Hereditary factors; immune system dysfunction. Some cases are linked to a viral cause.

Mouth and throat—Use of chewing tobacco; smoking; irritants inside the mouth, such as a broken or sharp tooth, or ill-fitting or broken dentures; excessive alcohol intake.

Endometrial—Never having been pregnant; being past menopause; family history of cancer; diabetes; obesity; hypertension.

Bladder and kidney—Exposure to certain chemicals, such as benzidines, aniline dyes, napthalenes; smoking; excessive consumption of caffeine and/or artificial

sweeteners; history of schistosomiasis (a tropical disease); frequent urinary tract infections.

Testicular—Undescended testicle.

Prostate—Recurring prostate infection; history of venereal disease; diet high in animal fat; high intake of milk, meat, and/or coffee; use of male hormone (testosterone) in treatment of impotence; vasectomy; being over age 50.

MISCELLANEOUS PREVENTATIVE FACTORS

• **Venereal disease** can lead to breast, cervical, uterine, and prostate cancer.

• The following can also lead to cancer: **too much sunlight** (skin cancer); **mechanical, physical, or chemical irritation**; prolonged **irritation of warts, pimples, or sores** (skin cancer); and **radiation** (leukemia).

• The clothes should have **no constricting bands** and should **keep the neck, head, arms, legs, and feet warm**. As many layers of clothing should be worn on the extremities as are worn on the trunk. This is especially important in cancer of the breast or skin.

• A **biopsy** is a thin slice of tissue, taken to examine it for possible carcinoma (cancer). But, when the slice is made, the cancer (if any) stored in that area, can immediately begin spreading throughout the body.

• **X-ray**, **radium**, and other forms of **radiation therapy**, along with **chemotherapy**, weaken the body and intensifies the toxicity and weakened conditions initially producing the cancer. The cancer generally returns with 6 to 12 months in greatly strengthened form.

• Here is a brief list of some of the significant factors leading to cancer: **Chemical additives in food, refined and fragmented food, use of nicotine and/or alcohol, a heavy protein diet, excessive use of dairy products, commercial oils and fats (especially when heated and reheated), all grease, hydrogenated oil (added to many foods), diethylstilbestrol, hormones, contraceptives, nitrates (often added to food), medicinal drugs, hard drugs, monosodium glutamate (in food and tobacco), refined sugars, saccharin and other artificial sweeteners, biopsies and other forms of surgery, pollutants (occupational and environmental), X-rays and radium exposure, cosmetics, detergents and soaps, water (chlorinated, fluoridated, or contaminated), and aluminum.**

GENERAL PREVENTATIVE FACTORS

• Jethro Kloss said that his cancer cure was **correct food, herbs, water, fresh air, massage, sunshine, exercise, and rest.** Yet some famous medical dictionaries say nothing about diet in cancer treatment, except to keep the diet under 2,000 calories. The truth is there is a close relationship between the food we eat and what happens in our bodies.

• Meals, bedtime, periods of study, etc. should be according to a **regular schedule**. **Avoid noise, smog, television, worry, stress, and confusion. Do some reading every day. Reading in God's Word, accompanied by simple trustful prayer** brings healing to heart, soul, and body.

• Dr. Josef Issels' cancer clinic, in Germany, is an example of a well-rounded program. In addition to other things mentioned in this book, he prescribes **plenty of rest, complete freedom from worries and mental stress, and plenty of fresh, pure air day and night**. To the degree the patient is strong enough for it, and as he improves, there is **lots of exercise and walking**.

• Some, in a position to do so, may wish to move to a **warm, unpolluted climate** (any left?) where fresh air and sunshine is continually available. Build up the system with **good food, exercise, and rest**.

• **Continual overwork** and **exhaustion** can lay the groundwork for the development of cancer.

• **City living, with its hurry, noise, confusion, and air and water pollution**, can also provide the inferior living conditions which lead to malignant conditions.

WORRY, DEPRESSION, AND STRESS

• **Stress** is also considered a significant factor. More and more research indicates that, as Dr. H.F. Dunbar says, "only certain types of people succumb to cancer."

• Two Soviet researchers (Serov and Troskin) demonstrated that **negative emotions** reduce the white blood count in an alarming manner, hindering a major body defense against disease.

• Researchers at the Rochester Medical Center in New York have found that people are more likely to contract cancer if, more than others, they have a harder time dealing with **severe emotional conflicts and stresses**, have **uncontrolled anxieties and worries**, experience **traumatic emotional experiences or losses**, have **strong feelings of loneliness, inadequacy, hopelessness, and desperation**. It may not be that such **negative attitudes** cause the cancer, but they keep the person from resisting and conquering it.

• Maintain a **strong sense of purpose**. **Find something to do** with yourself. In one church which the author once pastored, a woman bedridden for years before her death would phone people at random and encourage and pray with them. Between calls, she would pray for them. She was a radiant sunbeam.

• A **strong trust in God and peace in Him** is the solution. Man innately knows that he cannot solve his own problems; he needs God! Only in Him can we find the strength and courage to press forward. Only then can we be genuinely happy amid life's problems.

• **Read God's Inspired Word—the Bible**—every day, and **be happy, contented, thankful, and helpful to others**. This is a powerful inducer to healthful conditions in the body.

SORROW OF THE HEART

• As far back as the second century A.D., the Greek physician Galen noted that melancholic women were more likely than others to develop cancer.

• Today, the effect of emotions and stress (or rather the attitude toward stress) is recognized even more. Over the past 75 years a number of studies have linked stress to susceptibility to cancer *(R. Ader, Psychoneuroimmunology, 1981).* Strong stress in a child can also lead to it *(B.L. Bloom, et. al., Psychological Bulletin 85 no. 4, 1978).* Adults who who had recently lost a loved one, or were widowed, divorced, or separated, have the highest cancer rates *(B.L. Ernster, Journal of the National Cancer Institute, 63, no. 3, 1979).*

• Ronald Grossarth-Maticek, M.D., a European researcher, spent 20 years working along a line of study which has been rejected by orthodox medicine. His concept is called Creative Novation Behavior Therapy, and it concerns people with certain personalities; that is, having certain mental-emotional attitudes, are the most likely to contract cancer.

• Grossarth-Maticek is a Yugoslavian oncologist (cancer specialist) who used mortality data in Heidelberg, Germany.

• People who view life in a certain way are more prone to develop cancer.

• **Type C** persons are unable to solve problems in relationships with other persons, situations, and goals. When relationships are crushed, circumstances go back, or goals become unachievable, these people react by sinking into a depression, characterized as feelings of helplessness and hopelessness. Type C people are highly prone to cancer.

• **Type H** persons also have the same difficulties named above, but they react quite different to such problems. Instead of feeling hopeless and helpless, they become angry and frustrated. Type H people tend to develop heart disease.

• **Type F** persons learn how to roll with the punches. They are free of fears and worries, for they give them into God's hands to care for. Although they encounter problems as others do, they trust in God, recognize their own limitations, and, when difficulties arise, keep moving forward cheerfully. This type tends to die of other causes, such as accidents. They tend not to die of cancer or heart or circulatory problems.

• These people are not living under stress, with aroused hormonal flow, such as type 1 and 2 personalities have. They are at peace with life. They accept what has to be, change whatever they can change, and, with God's help, keep cheerfully on their way, helping others as they go.

• Still other researchers have found other aspects of this Type C (cancer-prone) personality.

The main aspect they have noted is loss, either loss of a loved one, or loss of hope. Many cancer patients feel a profound sense of helplessness and despair, particularly about the meaning of their existence. Frequently, they need peace with God.

• A second characteristic is the suppression or repression, of emotions.

• The third factor is loneliness. Such people tend not to have close friends. *(H. Dreher, Your Defense Against Cancer, 1988, 246-247.)*

• All three factors could be nicely resolved if such individuals would come to God and find in Him the encouragement, the forgiveness, and strength they need to meet life's difficulties.

DEEP BREATHING AND EXERCISE

• Cancer is less prevalent in physically active people, so **exercise** is important.

• Obtain plenty of **exercise**. **Fresh air** has remarkable healing, strengthening properties. God gave it to us for a purpose. Let it cleanse the lungs, purify your blood, and tone up your organs.

• Do **deep breathing exercises**. Take 20 deep breaths, hold each one for several seconds, and then slowly exhale. Exhale to full compression, and then inhale again. Do this several times a day—always outdoors. This, along with **outdoor walking**, will help clean the lungs.

• Soviet scientists demonstrated that a complex link exists between cancer and not breathing deeply enough or breathing stale air too much. One researcher in the Western world said that forced deep breathing, out of doors, at least 3 times a day to the point of dizziness, will help furnish an ample supply of oxygen.

• It is well-known that cancer cannot live in an oxygen-rich environment.

• (Many researchers seem not to be aware of the negative ion factor. Breathing deeply out of doors supplies both oxygen and **negative ions** to the body. Negative ions provide a much-needed electric charge needed by the nerves.)

• If at all possible, **sleep in a room that receives sunlight during the day**. It has been scientifically proven that patients' rooms on the north side of a building have more disease germs on the floor and furnishings.

• The bedroom should be **properly ventilated** at all times.

ORGANS OF ELIMINATION

• **Keep the eliminative organs active**. The five primary ones are the **lungs, the skin, the liver, the kidneys, and the bowels**. Add to this a sixth: the **lymphatic system**. Add to that a seventh: the **immune system**, working together with the white blood cells, the T-cells, and vitamin C. (Vitamin E also purifies and detoxifies, but it carries on this function in the liver.)

• The first step is to cleanse the blood by relieving **constipation**, making all the organs of elimination active, and keeping them active. Take **herbal laxatives or enemas**.

• A **daily bowel movement** is essential, even if an enema or colonic is required. All foods which ferment in the bowel should be avoided. Absolutely **no meat or fish**!

• Bowel movements need to be **complete evacuations**, even if enemas are necessary. The cleansing program is releasing so many toxins, it is important that they be flushed out. Enough **water must be drunk** every day.

• If necessary, keep the bowels clean with **herbal laxatives or enemas**. When the body is toxic, the bowels become sluggish; waste matter is reabsorbed by the blood and lymphatic system, which is circulated throughout the body and stored in tumors or other trash sites. It is best that you not use these over a long period of time.

• Many aspects of cancer therapy, including chemo and radiation therapy, pain killers and sedatives, reduce muscular contractions in the intestines, resulting in constipation. Sometimes physical assistance is needed. Using the flat side of your fist, gently

massage with rocking motions, pushing about 1-2 inches. Be gentle and slow! This not only helps reduce constipation, but increases muscle tone.

CHEMICAL FOOD ADDITIVES

• **Coal tar dyes** are highly carcinogenic. **All artificial colors, flavors, and odors** are made from coal tar. You will find them in all **soft drinks, cosmetics, and many medicines**. **Foods which have bright colors, strong flavors, or odors** often have coal tar in them. (The FDA lists thousands of approved food additives. The more natural and unprocessed the food is, the less likely it is to have additives. Junk foods are the worst.)

• Research has shown that **cyclamates**, an artificial sweetener, will in later years cause cancer of the stomach and other digestive organs. Ditto for saccharin.

• **Food additives like MSG, BHT, BHA, DES**, and others are poisons. Read the labels carefully. Keep in mind that many harmful food additives are not listed on the labels because the FDA considers them to be "Generally Regarded as Safe" Those chemicals you will find in the FDA GRAS List. But that does not mean they *are* safe!

• **Diethylstilbestrol** (Des) has been shown by the FDA to cause cancer of the uterus, breast and other reproductive organs. This is an artificial sex hormone widely used in food production. Dangerous residues of stilbestrol are in 85% of all the meat sold in the United States. This is the main reason why 15 countries around the world now refuse to import American meat; 21 nations have a total ban on the use of stilbestrol in food production or processing.

• **Nitrosamines** cause cancer of the liver, stomach, brain, bladder, kidneys and several other organs. Dr. William Lijinski, of the University of Nebraska, says they are "perfect carcinogens." When chemical preservatives and color enhancers are ingested, they cause the body to produce nitrosamines. Another source is nitrates and nitrites, which are heavily added to meat during processing. Runoff of nitrates and nitrites from fields sprayed with chemical fertilizers get into aquifers and wells and, when the water is drunk, can lead to cancer.

• Yes, **aluminum cookware** is a type of "food additive!" Throw it all away. It is poisonous to your body. It is outlawed in Sweden; outlaw it in your kitchen. Aluminum is a poison, and also a relatively soft metal. Particles of it gradually melt into the food you are cooking. That is why it remains so shiny inside!

• Use only **stainless steel or glassware** for cooking.

• Be very careful that you rinse all the **soap** off your dishes and pots, or you will have added an additional chemical "food additive" to your next meal.

OTHER CHEMICALS

• Avoid chemicals such as **hair sprays**, all other **aerosol products**, **fresh paints, garden pesticides, cleaning compounds and waxes, insecticide strips, mothballs and crystals**, etc. Anything unnatural.

• Dr. Max Gerson would not allow his cancer patients to **dye their hair** while recovering from cancer.

• Old-fashioned soap is all you need to disinfect, but when **hexachlorophene** is added to that soap, the soap becomes more deadly. Widely used in maternity and other hospital wards, as well as in cosmetics and deodorants, "hex" is a powerful cancer producer.

• **Chemicals** encourage the formation of free radicals in the body, which may lead to cancer. Do not be around or use chemicals. The body has to work to throw off the chemicals, when it should be attacking the cancer cells.

• Exposure to certain chemicals, such as **benzidines, aniline dyes, and napthalenes**, tends to promote development of bladder and kidney cancer.

• Exposure to **asbestos, nickel, chromates, pesticides, herbicides, and radioactive materials** induces lung cancer.

• **Aflatoxins** (found especially in **peanuts and soy sauce**) must be avoided.

• Avoid **amines** (which are in **cheese, meat, and unrefrigerated foods**).

• **Antibiotics** predispose to cancer. This would include tetracycline, penicillin, aspirin, diuretics, immunosuppressants, Azolid, Butazolidin, Presamine, Tofranil, Sk-Promine, Tapazole, Methotrexate, antihistamines, amphetamines, Atromids, etc.

• **Aspirin** inhibits lymphocytes (white blood cells) which are crucially needed in immunological defenses.

• No **medicinal drugs** ever healed anything; it is nature which heals. Drugs are given to shock the body into healing itself. A poison is introduced, and this rouses the body to a supreme effort to throw off the poison. The result is generally a weakening of body organs, a transfer of the site of disease to a different location, and sometimes a smothering of symptoms—till a later, more deadly, form emerges.

• The taking of **birth control pills, estrogen, and other female hormones** is damaging to the body. A later result can be cancer. One anticancer physician (Gerson) found that the only cancer patients he could not recover were those who were taking hormones or who had damaged livers.

• The Cleveland *Plain Dealer* reported (May 1972) that pregnant women who take **hormones** can result in cancer in their daughters when they enter their teens. The rate of leukemia rate is highest in affluent areas, where medical help can be afforded and lowest among poorer people.

• **City living** is depressing. It is also unhealthful. The **carbon monoxide, nitrogen dioxide, ozone, and other photochemical pollutants** in city smog definitely cause cancer of the lungs. Smog is somewhat present in rural areas, but the thickest in the cities where it is especially produced.

• **Automobile exhausts** and **phosphate fertilizers** produce **cadmium**. This trace mineral is very toxic in larger amounts and produces various diseases, including cancer. Cadmium is concentrated in animal livers and shellfish. Avoid both of them.

RADIATION

• **Radiation** is a cause of leukemia.

• You may be thin and need an **electric blanket**. But avoid them if you can. There is the possibility that they might impose an electrical current on the body. That can happen the easiest if your skin is sweaty and directly next to the blanket. Research also indicates that it is changes in currents from blankets which may be the most deleterious.

• **X-rays**, even diagnostic ones (the types used by dentists and physicians) can lead to later leukemia or other cancers.

• **Strontium 90 and Iodine 131** are radioactive element fallouts from distant nuclear bomb tests. Both are especially found in milk products. The first causes bone cancer and leukemia; the second causes thyroid cancer.

• Stay eight or more feet from **television sets**. Because of possible leakage, do not use **microwave ovens**.

WHAT ABOUT SUNLIGHT?

• Nearly all physicians and nutritionists agree today that sunlight is harmful, even dangerous. But is this really true?

• It is not easy to arrive at clear-cut answers in this debate, but certain facts should be mentioned:

• First, some sunlight on your skin is extremely important as a purifying agent. An entire book has been written about the physical benefits of obtaining some sunlight on your body.

• Second, you need some sunlight in order to obtain enough vitamin D for your bones. The oils just below the surface layers of skin are irradiated by sunlight and vitamin D is produced.

• Third, the author of that special book, *Sunlight*, by Zane Kime, M.D., is the recognized world authority on the subject—and in a special section on cancer, he provides 25 pages of detailed information about suntans in relation to skin cancer.

• Kime declares that sunlight *does not* cause skin cancer, if the diet is correct! Here, briefly, are several of his points:

• Sunlight can change cholesterol near the skin surface into free radicals, which can cause cancer. But a good diet will eliminate the free radicals.

• A high-fat diet increases the likelihood of skin cancer. This includes too much oil of any kind in the diet—grease, hydrogenated oil, trans-fat, and vegetable oil.

• Trans-fat (fat which is not polyunsaturated) stops oxygen utilization by the cell, and leads to cancer. Liquid vegetable oil can be up to 6% trans-fat, margarines up to 54%, and solid shortening up to 58%.

• If you are on a low-fat diet, sunlight hitting your skin actually inhibits cancer.

PROTEIN

• Our actual daily **protein** requirement is 20-30 grams a day, but many eat over 100 a day. **Almonds**, well-chewed, are a good protein source for those recovering from cancer. **Brewer's yeast** is also.

• Proteins should be in the form of **seeds and nuts**. Almonds are excellent, so are **sesame** and **sunflower seeds**. Chew them well. Eat 10 raw almonds daily. They are high in laetrile, an anticancer agent (although not as high as **apricot seeds**).

• Do not eat **peanuts**. Limit, but do not eliminate **soybean products**. Soybeans contain enzyme inhibitors, so are not the best until you are well.

• Eat all **concentrated protein** at only two meals (breakfast and lunch or lunch and dinner). Do not eat them at the third meal. In this way there are no proteins being digested for a 15-hour period, and the pancreatic enzymes are able to focus their attention on digesting cancer cells present in everyone.

• **Overeating on protein** leaves no extra pancreatic enzymes to digest cancer cells throughout the body.

• Make sure you have enough **hydrochloric acid**, so the protein you do eat is being properly absorbed.

MEAT

• Avoid **meat in all forms**. It is dead matter, low in minerals, and produces uric acid in excess which is a waste product. The incidence of cancer is in direct proportion to the amount of animal proteins, particularly meat, in the diet.

• However it is true that **devitalized, processed, and sugared food** can also cause cancer—even in vegetarians. But far more often, when cancer strikes, those eating the junk foods are also eating meat.

• Nations and groups which consume less meat have less cancer. Hospital records show that Seventh-day Adventists, who eat little or no meat, suffer far less from cancer than the average meat-eating American. Dr. Willard J. Visek, research scientist at Cornell University, stated that the high protein diet of Americans is linked to the high incidence of cancer in the U.S.

• Another cancer physician, who also worked with hundreds of cancer patients, said that anyone who does not eat **meat**, eats only good food, and does all he can to protect his **liver**, may never get cancer.

• Cancer is less a disease than a condition existing in the whole body. Cancer would be almost unheard of if no devitalized food or meats were eaten. Cancer cannot exist where there is a pure bloodstream.

DAIRY PRODUCTS

• Do not eat animal protein. Never eat luncheon meat, hot dogs, or smoked or cured meats. Restrict consumption of **dairy products**.

• **Milk and milk products** are harmful, so they should be avoided. Milk contains a growth hormone for growing calves large in a few weeks and months. It will stimulate tumor growth. The pasteurization of milk destroys the phosphatase enzyme needed for assimilation, and many allergies and digestive problems result. Calves fed on pasteurized milk die of heart attacks in 8 months, yet we still give it to our children.

• The **synthetic vitamin D** added to milk is one of the most toxic food additives known. Some of it unites with undigested calcium, forming calcified deposits which can be focal points for developing tumors.

• Those with cancer should not use milk, with the possible exception of two tablespoons of yogurt daily.

• Eggs can cause cancer. Many chickens die of carcinoma (cancer). It is known that the cancer germ can pass from the chicken into the egg.

FATS AND RANCID OIL

• Keep the **weight** down. Obesity is another factor linked to cancer, especially in women. Overweight women more frequently have cancer of the uterus, and do not recover as easily from breast cancer.

• **Accumulated fatty tissue** in the body affects female hormones. The more that is present, the more estrogen is produced and converted into a special type of endocrine substance which stimulates cells to divide in the breast and reproductive system. Overweight men and women are more likely to develop cancer.

• A **high-fat diet** dramatically increases the occurrence of colon, breast, endometrium, and ovarian cancer, as compared with a low-fat diet. Eating a lot of fat encourages the development of cancer in both men and women. Colon cancer is more likely to occur in men.

• Those who eat the most saturated fat are twice as likely to develop polyps.

• Dr. Ott Warburg, made that discovery in the 1920s. He demonstrated that the metabolism of cancerous tissue differs radically from that of normal tissue. A regular cell is nourished by oxygen which it uses to break down nutriments; without oxygen it dies. But a cancer cell lives by using chemicals to break down nutriments—not oxygen—and needs little or no oxygen to exist. The tumor, being a parasite, has a restricted circulation of blood, sometimes as low as 2% of normal, hence it lives on fermentation of sugar, like a plant or fungus, instead of oxygen. Later experiments by Warburg revealed that normal living tissue will become cancerous, **if deprived of oxygen**. It was this research which brought Warburg the Nobel Prize.

• Since the blood provides the cells with oxygen, Warburg concluded that the **condition of the bloodstream** played an important part in the development of cancer. This is substantiated by the fact that malignant tumors are frequently found near scars, at the sides of ulcers, in atrophied organs, or wherever the blood supply is poor.

• **Rancid oils** and **heavy protein diets** thicken the blood, and weaken its ability to transport food and oxygen to the cells.

• Unlike other cells, cancer cells do not need oxygen. **Rancid oils and fats** are dangerous, for they decrease oxygenation and weaken normal cells while strengthening cancerous ones.

• **Rancid food and oils** are unsafe and can produce cancer. Even health foods which have been on the shelf (not refrigerated) for too long can be rancid. Try to make sure that the **wheat germ, wheat germ oil, sunflower seeds, sesame seeds, flaxseed oil, and whole wheat flour** are fresh. Natural, unprocessed foods are extremely perishable. Refrigerate as soon as possible after purchasing them. **Wheat germ** is a special problem; it turns rancid a week after it is made. Vitamins E, A, and F are totally destroyed in rancid foods. During the process of turning rancid, very harmful chemicals, such as peroxides, are produced. Because they are strong chemical irritants, after being ingested they can cause cancer. Research on this was done in Germany by Dr. H. Anemueller, and, in the University of Pennsylvania, by Drs. Rownee and Barrett.

• **Heated fats (animal or vegetable)**, when heated to a high temperature, become carcinogenic. Never fry food, never eat **fried food**. Instead **add no oil to your cooking**, but place measured amounts on your food after it is served at the table. In this way, you will be better able to control your oil intake.

• Oil in the **coffee** bean turns rancid when heated; do not drink coffee because of that and several other reasons. Coffee has been shown to produce cancer of the bladder.

DIET AND NUTRITION

• Researchers in Sweden estimate that 40% of cancer in males and 60% in females is caused by **dietary deficiencies** and **wrong eating**.

• **Chew your food** four times as long, thus making it four times as digestible. Cancer is often caused by mineral deficiencies. How can you get enough, if you are not chewing your food properly? When you chew your food well, you do not need to eat as much to satisfy both hunger and body needs.

• As noted elsewhere, **do not use dairy products, fried foods, heavy starches, or high protein foods. Keep the diet simple and use cleansing foods**.

* Rats fed simple, natural food were far less likely to develop cancer than rats fed "purified" foods (i..e, processed foods).

• Do not eat **tainted or partly-spoiled food**: fruits, vegetables, grains, etc. Definitely do not eat spoiled protein foods (such as nuts)!

COOKING

• **Modern food processing, canning, and cooking** destroys enzymes vital to digestion and body needs. When food is heated to 106^{o} F., some of these enzymes are damaged; many are destroyed when 120^{o} F. is reached. Try to keep foods, which have been subjected to heat, to below 25% of the diet. Too much **cooked foods** throw an extra burden on the pancreas. It must try to produce additional enzymes to detoxify that cooked food, which tries to produce a normal output of the same enzymes used throughout the body to destroy cancer cells.

• When you do cook, **measure the water and keep track of the time** needed to cook the food—so that you will know exactly when to turn off the fire, and there is only a very small amount of **water** remaining in the pot. Then be sure and drink that water.

• It has been reported that cancer which has been controlled, starts returning **if over 25% of the food is cooked and processed**. This is probably due to the extra demand on the pancreas to replace enzymes destroyed by heat. This paragraph is worth remembering later on.

• Cook all **sprouts** slightly to eliminate a certain enzyme. But do not heat **alfalfa sprouts**; eat them raw.

PROBLEM FOODS

• Eliminate **fats, salted foods, fried foods, smoked foods, pickles, soft drinks, caffeine, alcohol, chocolate, and all processed, fried, and junk foods** from the diet.

• A high **alcohol** and/or **caffeine** intake is cause of breast cancer. The use of alcohol or **tobacco** leads to cancer of the larynx. **Smokeless tobacco** produces cancer of the lip, mouth, tongue, and throat. Smoking **cigarettes** or **cigars** produces lung cancer and is a factor in bladder and kidney cancer.

• Do not eat too much **salt**. Research in Japan disclosed that the frequency of stomach cancer is definitely related to the quantity of salt eaten.

• **Caffeine** also interferes with production of those enzymes.

• Cancerous **tumors require sugar** in order to grow. Older women who use generous amounts of sugar are much more likely to contract breast cancer. Do not use any **cane sugar products, such as cake, pie, jelly, ice cream, candy**, etc.

• In animal studies, progressive increase in **sucrose** in the diet leads to a dose-dependent decline in antibody production.

• An epidemiological study of 21 countries revealed that **high sugar intake** is a major risk factor toward breast cancer.

• **Artificial sweeteners** are cancer-causing drugs.

• Do not use **China tea** (the regular tea you buy in the grocery store); it contains tannic acid. Only use herbal teas.

• Some natural-remedy cancer therapists say never use **tomatoes** at all, if you have cancer. There is something about tomatoes that tend to aggravate the situation for those with active cancer.

• Others say that those with cancer can eat **tomatoes** by themselves, not with other foods. Some say it is all right to make a meal of them if you wish—eaten alone. Some say they can be eaten with fresh-baked zwieback (bread which has then been toasted in the oven until it is hard and chewy). Probably the best decision is avoid tomatoes entirely if you have a malignancy.

• Do not take supplemental **iron tablets**. The body tries to withhold iron from cancer cells, because the inorganic iron helps the cancer grow. People with excess iron levels in the blood tend to have an increased risk of developing cancer, according to the *New England Journal of Medicine.* Excess iron suppresses the cancer-killing function of the macrophages and interfere with T- and B-cell activity. The richest source of good iron is blackstrap molasses.

• Cancer thrives on **glucose**. They produce a 3- to 5-fold increase in glucose uptake compared to healthy cells. Studies of cancer patients revealed that they tended to eat more **sugar** than healthy people. It was also found that high sugar intake increases the likelihood breast cancer.

• **Simple sugars** (glucose, fructose, sucrose [white sugar]) honey, and orange juice significantly impaired the capacity of *neutrophils* to engulf bacteria, but starch ingestion did not have this effect. However, you still need simple sugars, so eat them in moderation.

GOOD FOODS

• The average Westerner eats 1,500 pounds of food per year. The food we eat is an important factor in health or degeneration. **Only nutritious foods should be eaten, and in moderation**.

• **Overeating** is associated in 35% of all cancers.

• One group of mice were allowed to eat as much as they wanted (about 3 g per day); the other was restricted to 2 g. Over half the mice on the unrestricted diet developed

cancer after 90 weeks. Later experiments repeated this result, producing all types of tumors (lung, liver, skin, etc.). In every experiment, the more the diet is restricted in calories, the less incidence of cancerous growths.

• **Carotenoids** and **bioflavonoids** are both free radical protectors. Both stimulate the immune system, while there is evidence that carotenoids may be directly toxic to tumor cells. Carotenoids are the yellow coloring matter in green and yellow vegetables. Deep green leafy vegetables and fresh carrot juice are the best sources. Bioflavonoids are found in citrus, whole grains, honey, and other plant foods.

• Animals fed **cruciferous vegetables** had markedly lower cancer rates matched controls. This family of vegetables includes **broccoli, brussel sprouts, cabbage, and cauliflower**. Of them, **broccoli** has been found to be the best. Since that 1970 discovery the University of Minnesota, the active ingredient, called *indoles*, have been isolated from the vegetables is provides unusual protection against cancer. Scientists at Johns Hopkins found that lab animals fed cruciferous vegetables, and then exposed to the deadly carcinogen aflatoxin, had a 90 percent reduction in cancer rates.

• **Greens and the green foods** have every known vitamin, except Vitamin D and, possibly, B12. In addition, they have high levels of beta-carotene, potassium, glutathione (an amino acid) and other crucial nutrients which reduce tumor growth.

• A diet high in beta-carotene, especially beta-carotene, has been found to protect against cancer *(International Journal of Cancer, September 1984).*

• **Green powders**, such as Greenlife, Barley Green, etc., are invaluable. Eat a spoonful with your food or in juice.

• Emphasize **raw food** to the degree you are able to do so. It is best that most of the food be raw, especially **fruits and green leafy vegetables**.

• **Phytosterols** are natural chemicals in plants which reduce the risk of colon cancer.

• **Abscisic acid** is a plant dormancy hormone and vitamin A analog found in plants; it has profound anti-cancer activity. Abscisic acid is a carotenoid factor and is especially found in green leafy vegetables.

• While cleaning the body (such as during a fast), breakfast can consist of fresh fruit and fruit juices. **Use lemon, orange, grape, carrot, beet, and apple juice daily**. All juices should be fresh, with no sugar added.

• But in other foods, a small amount of **blackstrap molasses, pure maple syrup, or honey** can act as a natural sweetener in place of sugar.

• Use **whole wheat or rye** in place of **white flour**. ***Whole grain products, well-baked***, are good. Do not use **sourdough bread, sugared bread, or fruit breads**. They are too indigestible.

• **Raw fruit and vegetables** are best; **lightly cooked** or **steamed** are second best. **Salt-free frozen** are next. Then comes salt-free canned; but such food should only be used if the first three choices are not available.

• **Raw fruit and vegetable juices** are needed to clean the system and help rebuild it. Use **red beet juice (from roots and very little if any from tops) and juice from carrots, celery, grapes, and other darker vegetables and fruits, such as black cherries, black currants**, etc.

• Fruit juices are best taken in the morning and vegetable juices in the afternoon and evening.

• Drink **spring or steam-distilled water** only!

• Dr. Hans Nieper, a cancer researcher, uses **fresh raw cabbage and carrot juice** with excellent results.

• Some recommend four 8-ounce glasses of freshly squeezed juice daily. Max Gerson, M.D., prescribed 13 glassfuls a day. Along with a scientific program of other remedies, that juice pattern is still followed today at the Gerson Institute in northern Mexico.

• **Never mix fruit and vegetable juices** in the same meal. It is all right to mix vegetables juices together, but **do not mix fruit juices** (orange, grapefruit, pineapple, lemon, or grape). Some (including the Gerson Institute) recommend a combination of **carrot and apple juice**.

• Fresh **lemon juice** should be squeezed on all greens, salads, or lettuce that are eaten. This enables the calcium and minerals to be better absorbed by the system. **Dark green vegetables** are better than light-colored lettuce.

• **Lecithin** should be included in the diet to keep cholesterol in the blood stream emulsified (so it does not harden on the walls). This will improve blood circulation to the site of the tumor. Lecithin helps regulate metabolism, break down fat and cholesterol, and prevent malignancies.

• **Wheat germ oil** is an extremely rich source of vitamin E, and should be taken daily. Only use cold-pressed (Viobin), and keep it refrigerated until you are ready to use it during the meal.

• **Omega-3 fatty acids** may inhibit cancers, especially breast cancer *(Cancer, October 1986).* **Flaxseed oil** is, by far, the best source!

• According to a 1988 medical article *(British Journal of Surgery),* eating an adequate amount of **essential fatty acids** helps protect the body against skin cancer. It even helps eliminate them, once they form.

• Take a teaspoon of **blackstrap molasses** at the end of the vegetable meal. This will provide additional amounts of iron, calcium, and important B vitamins.

• Never eat fruit and vegetables at the same meals. Exception: **lemon juice can be squeezed over greens** to help you better absorb and calcium and minerals in those greens.

• Use plenty of **soaked figs, prunes and raisins**.

• Eat **garlic** daily. Studies done in Japan suggest that taking garlic supplements may help reduce the size of tumors. It has been used for medicinal purposes for 4,000 years.

• **Garlic** is a faithful standby, and protects against cancer in general *(Acta Unio. Intern. Contra Cancrum, 20 no. 3, 1964)*. Cut a thin slice of garlic and carefully tape it over, what you consider might be, a skin cancer. Try to avoid contact of the garlic on good skin. (If it does, the skin will redden and burn somewhat.) Russian research from back in the 1950s revealed that garlic is more powerful than antibiotics in destroying bacteria. It also causes moles and skin cancers to fall off.

Put the garlic on in the morning, take it off and carefully wash the area in the evening before bedtime. Put on a new application. Remove it in the morning, and repeat the process. Do this for about 3 days. The mole or ulcer will dissolve and slough off. Let the area heal. If part of it remains, repeat the process at a later time.

If you keep applying the garlic for more than 4 days, it will begin burning deeper into the skin (you will know, because the area will become very painful.) Such deep burning is not necessary to slough off the cancer, and could be harmful.

• Be sure to incorporate **dietary fiber** in each regular meal.

• **Fiber** in the diet helps maintain regularity and avoid colon cancer. But it also helps the colon absorb toxins and carry it out of the body. This is important. Be sure to eat at least 3 tablespoons of bran at each regular (non-juice only) meal.

• Try to have a **vegetable, fruit, and berry garden** of your own, using natural fertilizers, seaweed, etc. You are what you eat. Purchase food where organically-grown food is sold.

• We do not generally think of mushrooms as the best food, for they are in the fungus family. But it has been found that three types (**Reishi, Shiitake, and Maitake mushroom**s) have decided anti-cancer factors. Oral extract of Maitake provided complete elimination of tumors in 40% of test animals, while the remaining 60% had a 90% of their cancers eliminated. Maitake contains a polysaccharide, called *beta-glucan*, which stimulates the immune system and even lowers blood pressure.

• **Legumes and seed foods** (such as soybeans) have **protease inhibitors** (PI). These tend to protect the seeds from being digested. As such, they were thought to be a problem. But recently it has been discovered that they tend to reduce tumor growth. The National Cancer Institute that some of these substances (*isoflavones* and *phytoestrogens*) have potent anti-cancer properties. However, eating a lot of beans is not something you will want to do at home! Too much protein helps feed the cancer cells.

• Certain other foods show an ability to slow tumor growth in some way. This includes **apples, apricots, barley, citrus fruit, cranberries, fiber, figs, ginger, spinach, and seaweed**.

• There are a variety of **digestive enzymes**. Take them with a meal to improve digestion, or on an empty stomach if the need is to help fight cancer (first thing in the morning, an hour before breakfast; or the last thing at night, at least two hours after supper.)

• **Rice bran**, pressure cooked, is rich in tocotrienols. (2-3 tablespoons a day).

• **Aloe vera** extract (or, better, fresh aloe vera leaves) contains the active immune stimulant *ace mannan*.

• Scientists have found that the active culture of **bacteria in yogurt (lactobacillus)** can fortify the immune system. In both humans and animals, yogurt in the diet tripled the internal production of interferon, a powerful chemical compound used by the immune system against cancer cells. It also slows the level of natural killer cells. Yogurt slows the growth of tumor cells in the gastro-intestinal tract, while improving the ability of the immune system to destroy active tumor cells. It also helps block the production of carcinogenic agents in the colon. Women eating yogurt were found to have less breast cancer. It is well-known that milk is one of the worst allergenic foods, and can carry disease germs from the cows. So you would do well to obtain lactobacillus cultures from health food stores, rather than eating yogurt.

• Other **intestinal microflora products** can be used, instead of yogurt (which can be allergenic and contain cow diseases). Some broad spectrum products contain *lactobacillus, bifidus, streptococcus faecium*. Others contain only *lactobacillus*, which is milk- and yogurt-free.

FASTING

You should be aware of the fact that, by the time symptoms of pain accompany cancer, it is in the advanced stages. At that point, the body urgently needs good nourishment, as well as cleansing; it should not be given fasts. For further information on this, see the Gerson Therapy, later in this book.

But, as a cancer preventative, occasional fasting is helpful. Cancer prevention is theme of this entire Part One section of this book.

• **Fasts on fruit and vegetable juices** of 1 to 3 days can be taken. If under the care of someone who knows what to do, and you are not thin, a longer fast may be undertaken.

• Go on a **fresh fruit diet** for several days. If the patient is thin, after a few days of fruit diet, give him an alkaline nourishing diet. This would consist of **vegetable broth** (simmer thick potato peelings, carrots, and beets; strain; drink the water on top), **mashed half-inch thick potato peelings, brown rice, carrots, greens of all kinds, red cabbage, parsley, and other vegetables**.

• Eating **good food** treats malnutrition, and many people develop cancer because of a lack of the protective, nourishing food needed to resist it.

• There is a theory that you can starve cancer to death. This has been proven untrue. Cancer does better in a malnourished body. One study revealed that pure malnutrition (cachexia) is responsible for at least 22% and up to 75% of all cancer deaths.

VITAMINS

IMPORTANT: Throughout this study, when dosage amounts used in research are given, the amounts are always for "per day" (mg per day, etc.) G means grams, not grains.

IMPORTANT: According to the literature surveyed, when overdosage was possible, this was indicated. (See vitamins A, B6, niacin, selenium, cysteine, arginine.) Of course, vitamin D overdose can also be toxic, but it is not listed here as an anti-cancer factor. For a variety of reasons, beware of taking much, if any, iron supplements.

IMPORTANT: Fish oils have also been recommended in the literature as possible anti-cancer agents. But we do not list them here for three reasons: Large amounts must be consumed to be beneficial. Fish oil has a known history of damaging the muscle of the heart. Some forms inhibit blood clotting

Take the supplements, which seem distasteful and hard to swallow, and put them in a fruit or other drink and swallow them all together. If necessary, briefly whiz the mixture in a blender.

When possible, chew the tablets. Break open the capsules and pour the powder onto your food or into a spoon. Crack liquid capsules in your mouth, and spit out the capsule. Do not crack vitamin C in your mouth—the acidity can hurt your teeth. Just swallow it whole.

• It is well-known, by biochemists, that most cancer victims have a **deficiency of not only all vitamins, but also hydrochloric acid, potassium, magnesium, iodine, and many trace elements**.

• **Vitamins** are very important. Do not trust yourself to the official standardized amounts of needed vitamins and minerals. The actual nutritional requirements are

much higher. In addition, living in our chemicalized, polluted age destroys a number of vitamins and minerals.

• For example, **vitamin C** is destroyed in its effort to combat auto exhaust fumes and mercury in the food. **Vitamin E** destroys itself in the process of detoxifying cadmium (which nonsmokers breath in when they are in the same room as smokers). The list goes on and on. The world is not as safe now as it used to be. We can be thankful that we are aware of vitamins and minerals and how to obtain them in sufficient quantities.

[Special note: The following data on vitamin A was compiled from information gleaned from sources which had not yet discovered that **beta-carotene** (**pro-vitamin A**) was the more active agency in cancer prevention, and far more powerful than vitamin A.]

• Vitamin A is crucial in cancer therapy, but can you get too much of this oil-soluble vitamin? High doses of **vitamin A** (500,000 IU) can have acute reversible effects. Toxicity may start as low as 25,000 IU in those with impaired liver function (caused by drugs, hepatitis, or protein malnutrition) Otherwise, it begins at several hundred thousand IU.

• Toxicity of **vitamin A** can be reduced by taking vitamin E at the same time. This mitigates lipid peroxide effects.

• Toxicity of beta-carotene **(pre-vitamin A**, as found in greens and carrot juice) has never been found. One 15-year study involved immense beta-carotene intake.

• Experiment after experiment has revealed that when **vitamin A** is missing, cancer can be started in animals; but, when it is present in abundance, not even fast growing implanted cancers will not survive in test animals. Vitamin A inhibits the induction and retards the growth of both malignant and non-malignant tumors. Taken over a short period, vitamin A can greatly aid in recovery of cancer. Take large doses (up to 150,000 units per day or you may wish to remain with smaller doses: 50,000 units, twice a day). Later you can reduce this to a smaller amount.

• Take **vitamin A** in emulsified form to minimize liver involvement. Alternate, taking it 2 weeks on and 1 weeks off. Blurred vision and a soapy feeling in the mouth are signs that the body has too much A. (Vitamin A and D, which are oil soluble, can be taken in excessive amounts, so one must always be careful. Never take large amounts of either for too long a time.)

• In some instances, a person needs to take as much as 300,000 IU of vitamin A. When this must be done, taking 3200 IU of vitamin E will help reduce the risk of vitamin A toxicity.

• **Vitamin A derivatives (retinoids**) reverse bronchial metaplasia.

• **Vitamins A, C, E and beta-carotene** reduce the risk of cancer by radiation and chemical carcinogen exposure. **Vitamins A,D. and E** inhibit oncogenes activity.

• Varying amounts of **Vitamin A** were given to different patients with bladder cancer. Those receiving the smallest dosages were the most likely to have recurring cancer (i.e., the cancer return later).

• The **B-complex vitamins** help prevent cirrhosis of the liver. This is important because a damaged liver has a 60% greater chance of becoming malignant. Dr. Max Gerson found that to be consistently true. Take a B-complex supplement. Also take **3-4 tablespoons of brewer's yeast** each day. Do not eat baker's yeast; it contains live yeast and is not good for you.

• Dr. Otto Warburg, Nobel Prize winner and director of the Max Plank Institute in Berlin, declared that there is a lack of one or more of three B vitamins (**riboflavin, niacin, and pantothenic acid**) in tissue which becomes cancerous.

• In various countries, nearly 200 scientists have reported on the importance of **niacin (vitamin B3)** in preventing and treating cancer.

• 2 grams of **Niacin** (B3) daily is recommended as an anti-cancer factor.

• **Niacin** has been recommended by the NIH in amounts up to 3000-6000 mg, for lowering cholesterol. But time release niacin is more suspect of causing liver damage; amounts which might do this were not given.

• **Vitamin B6** (pyridoxine; pyridoxal with pyridoxal-5-pyrophosphate (P5P) is helpful in reducing damage from radiation therapy and slowing cancer growth from polyamine synthesis of the tumor. Especially good when a B6 ointment is applied to surface melanoma tumors. It helps prevent respiratory and cervical cancer *(Nutrition and Cancer, June 1984).*

• **B6**-deficient mice exhibited enhanced tumor susceptibility and increased tumor size. In another experiment, animals fortified with B6 and then injected with melanoma (skin) cancer cells, showed a greater resistance to this deadly form of cancer. Studies on humans revealed similar results.

• Less than 500 mg of **vitamin B-6** in humans appears to be safe.

• **Vitamin B12** dramatically augments the tumor kill of vitamin C.

• A combination of **folate** (folic acid, a B vitamin) and **B12** has been found to reverse bronchial metaplasia (pre-malignant lesions). Folic acid protects against cervical cancer *(American Journal of Clinical Nutrition, January 1982).*

• **Pangamic acid is vitamin B15**. Many scientists *(Warburg, Goldblatt, etc.)* believe that chronic oxygen deficiency in cells leads to cancer cell formation. Pangamic acid increases the body's resistance to oxygen deficiency. Remember that cancer cells do not use oxygen and that poorly oxygenated cells are the most likely to become malignant.

• **Laetrile (also called amygdalin, nitrilosides, or vitamin B17)** is another substance used to eliminate cancer. It is derived from apricot pits (seeds). Take two 500 mg

tablets of laetrile 3 times a day. It is also found in all fruit kernels, except those of citrus. Other food sources, which contain lesser amounts, include lima beans, lentils, mung beans, crab apples, peaches, plums, apricots, cherries, cranberries, sprouted seeds, and apples (chew up the seeds as well as the apple).

• Several **apricot kernels** (i.e., apricots seeds or pits) should be eaten at each protein meal. Six per day may be sufficient. They should be eaten with food or, better yet, with fresh, frozen, or dried apricots. The slightly bitter ones contain more **laetrile (also called nitriloside or amygdalin)**, and are better for you than are the sweet ones. Do not mix the sweet and bitter varieties; there may be an interaction. If available, **100 mg of oral Amygdalin** may be substituted.

• If people regularly ate the seeds when they eat apples, peaches, apricots, they would get enough **laetrile**. Starting to do this earlier, will help prevent cancer from forming later on.

• But when cancer is already developing, **500-590 mg of Amygdalin**, in solid tablet form, should be swallowed at the two larger meals. They should not be taken on an empty stomach.

• **Vitamin C** is a powerful aid in resisting cancer and other diseases. Swedish studies, at Karolinska and Umea Hospitals, revealed that vitamin C in large doses can be an effective agent in fighting cancer.

• **Vitamin C** blocks the carcinogenic effects of most poisons, including nitrates. Vitamin C can be taken to bowel tolerance. This means you can take as much as you can, until you begin to have diarrhea. When the body tissues reach saturation on C, the remainder of this water-soluble vitamin is sent into the bowel, which reacts to the acidity by somewhat runny bowels till the C is gone. Take large doses of 5,000 mg or more a day. It is the most powerful antitoxin known, and can neutralize or minimize the damaging effect of most chemical carcinogens entering your body from the air, water, or food.

• Cancer of the bladder can occur when the amino acid tryptophan is not properly metabolized, resulting in oxidation of its metabolites. **Vitamin C** prevents that oxidation process, and thus blocks cancer development. It is a preventative agent against a variety of cancers *(Journal of the National Cancer Institute, 73, 1984)*.

• **Vitamin C** is such a potent cancer fighter, that it is well to here provide additional information: Deficiency symptoms include slow wound healing, pain in joints, immune suppression, bleeding gums, irritability, and increased risk of cancer. If you take too much at a time, it will cause mild diarrhea within 30 minutes. Intake: RDA: 60 mg. Usual U.S.: 114 mg. Prophylactic: 500-2000 mg. Therapeutic: 500-100,000 mg.

• Taken in larger doses, **Vitamins A and C** inhibit *hyaluronidase*, an enzyme found in cancerous tissues.

• **Vitamins A, C, and E** are antioxidants. When accompanied by the minerals, selenium and zinc, they help protect against malignancies.

• Low serum levels of **vitamin A and E** were common in patients receiving, and responding poorly to, chemotherapy. The great danger in using chemotherapy and radiation is the damage, introduction of a poisonous conditions, and destruction of anti-cancer vitamins.

• **Vitamin C and beta-carotene** (pre-vitamin A) have been found to be effective in reversing cervical dysplasia and oral leukoplakia in humans.

• **Vitamins C and K** separately showed anti-tumor activity against human cancer cells in vitro, but became synergistically effective at 2% the regular dosage when used together.

• A substance in **vitamin D**, known as *1,25 dihydroxycholecalciferol* has been discovered to be an anti-cancer factor. But, due to toxicity of vitamin D overdose, must be used only under the care of a professional. For most of us, it is best to avoid using too much vitamin D, although some is needed. Sunshine is the best source. (Fish oils can cause heart trouble.)

• **Vitamin E, working with C**, inhibits the activity of a growth substance (catalyst) found in cancerous tissue. Take up to 1,000 units a day. Vitamins C and E help the body inhibit the activity of the enzyme hyaluronidase, found in cancerous tissue.

• A lack of **beta-carotene (pro-vitamin A), vitamin E, and B complex** in lung tissue may be related to lung cancer.

• Injections of **vitamin E, beta-carotene, canthaxanthin (a carotenoid) and algae extract** dramatically bolstered levels of tumor necrosis factor alpha, and reversed hamster buccal pouch tumors.

• Human prostatic cancer cells in vitro were markedly reduced when **vitamin E** was added. It helps protect against bowel cancer *(Journal of the National Cancer Institute, 73, 1984)*.

• **Vitamin F is the essential fatty acids**. Add 1 tablespoon of cold-pressed vegetable oil to each food meal (not juice-only meals). Wheat germ oil and flaxseed oil are the best. Corn oil and soy oil are second best. Safflower oil is not so good. Make sure the oil is fresh and kept refrigerated when not in use. Never use cottonseed oil (it can cause blindness), hydrogenated oils, lard, greases, or animal products. The oil in the nuts is good, if the nuts are fresh.

• **Vitamin K** helps protect the body against certain cancer-causing substances. Take it with vitamin C to increase its cancer-reducing strength.

• **Quercetin** (one of the bioflavonoids which, together, are called **vitamin P**) increased the cell kill rate in cancer cells, which were exposed to hyperthermia (heat therapy) with no negative effect on normal healthy cells.

• **Quercetin** reduced cancers in animals exposed to two carcinogens.

MINERALS

• A Cancer Control Convention, meeting in Japan, reported that the trace mineral, **germanium**, in the diet is a significant factor in preventing and eliminating cancer.

• One cancer researcher, who studied in-depth into cancer remedies over the past 150 years, declared that every effective anticancer formula (Glyoxylide, which is the Koch treatment; the Hoxsey herbs; Hypotonic therapy; laetrile; the Gerson method; Krebiozen; and Carcalon) involves extra amounts of **potassium**. This is very important.

• Be sure to include a significantly higher intake of **potassium**. Potassium deficiency is considered by Gerson, Scott, and others as a primary contributing cause of cancer.

• **Potassium foods** include almonds, apples, dried apricots, bananas, beans, beets, broccoli, carrots, dulse, grapes, kale, olives, pecans, rice bran, sunflower seeds, wheat bran, and germ. These foods help the body resist and overcome tumors, cysts, and malignancies.

• Center your diet around potassium foods. Here are more of them:

• Dried apricots, asparagus, pearled barley, dried navy beans, fresh lima beans, raw beets, sprouted bread with no salt, Brussels sprouts, cabbage, cantaloupe, caraway seed, cauliflower, celery seed, small leaves of chard, dark raw cherries, dandelion greens, dill seed, endive, unsulphured figs (dried or raw), garlic, concord or emperor grapes, grapefruit, fresh horseradish, fresh lemons, lentils, fresh limes, nectarines, okra, onions, oranges, fresh parsley, dried or raw peaches, Bartlett pears, dry or fresh peas, persimmons, raw pineapple (never canned), raw plums, dried or raw prunes, raw quinces, raisins, wild or brown rice, sage, rolled oats, spinach, squash (acorn, Hubbard, yellow summer), tangerines, raw tapioca, raw turnip leaves, and watermelon.

• Drink **potassium broths** daily. Prepare them from half-inch thick potato peelings, which are then cooked. Draw off the water and drink it.

• You want foods which are **high in iodine and potassium, low in sodium, protein, and fat**.

• **Potassium ascorbate** (12-20 g) can be taken as a partial potassium supplement. This product includes vitamin C.

• **Potassium and magnesium** are among the more crucial minerals for cancer recovery. Magnesium helps to stabilize cell membranes and elevate immune activity while potassium plays a critical role in membrane permeability. (Magnesium, 400-800 mg daily from aspartate, citrate, or orotate.)

• **Magnesium** protects against cancer in general *(Medical Hypotheses, August 1980).*

• **Calcium and magnesium** have a beneficial effect in helping the body resist colon cancer. **Natural iron** supplements help prevent thyroid cancer. (But many iron supplements are dangerous! Take blackstrap molasses instead of iron pills.)

• The *New England Journal of Medicine* reported that **calcium** may prevent precancerous cells from becoming cancerous. Calcium protects against colon cancer *(American Journal of Epidemiology, September 1988).*

• **Calcium** supplements (2000 mg) provide a marked suppression of rectal cancer proliferation. It inhibits early stages of colon cancer in genetically vulnerable individuals.

• **Iodine and trace minerals** are crucial. You can obtain them by each day eating some Nova Scotia dulse or Norwegian kelp. Both are special seaweeds which have a wide spectrum of trace minerals. Food grown on the continents does not have all those trace minerals; rainwater has gradually depleted the soils.

• **Iodine** protects against breast cancer *(Lancet, April 1976).*

• It is very important to keep the **iodine** level of the blood normal, so both the thyroid and body tissues will have proper cell oxidation. Eat a sufficient amount of dulse, or kelp, each day. (Do not use California kelp.)

• People with **myxedema**, or **underactive thyroids**, are more prone to developing cancer. So keep your thyroid in good condition with seaweed.

• Japan and Iceland both have low goiter and breast cancer rates. This may be because their diets are rich in **iodine and selenium**. Breast cancer has been linked to an iodine deficiency. Japanese women have almost no breast cancer. Colon cancer rates in Japan are also low.

• Studies at the University of Zurich and in London Polytechnic revealed that **brewer's or food yeast** gives improved resistance against cancer development. Brewer's yeast is one of the best sources of **selenium**, an important anticancer mineral.

• **Selenium** made the headlines, at the end of 1996, as a special trace mineral which could dramatically reduce cancer in the human body. It completely inhibited tumor growth in mice inoculated with tumor cells.

• **Selenium** helps eliminate cancer in five ways: It improves detoxification, bolsters immune function, directly toxic to tumor cells, and may is a valuable anti-proliferative factor *(Lancet, July 1983)*. Selenium intake should not exceed 2500 mcg (2.5 mg) per day.

• Using **selenium** as a sole therapy, there was a 38.8% favorable response rate in patients with oral cancer.

• High doses of **selenium** (equivalent to 54 mg in humans) resulted in 83-90% reduction in rate of tumor growth in mice.

• Long-term usage of 5000 mcg of **selenium** may result in fingernail changes and hair loss. Selenite is more toxic than selenium bound to amino acids (i.e., selenomethionine). Ingestion of 1-5 mg/kg body weight of selenite will produce toxic side effects. This is equivalent to 65,000 mcg in a 65 kg adult.

• **Chromium** as picolinate is very helpful in working with carcinoma. (400-800 mcg.)

• **Zinc** as zinc picolinate (30-100 mg) is also a significant help. It protects against prostrate cancer *(British Journal of Urology, October 1983).*

• **Cesium** is neither essential nor toxic in cancer reduction. But it slightly alters the pH of cancer cells, rendering them more vulnerable to immune attack.

OTHER NUTRIENTS

• **Chlorophyll** is an anticancer agent which slows the growth of cancerous tumors. It creates an environment unfavorable to bacterial growth.

• A diet rich in chlorophyll is therapeutically effective for both external and internal infections, including malignancies.

• **Blue-green algae and chlorophyll** clean and protect the blood

• **CoQ10 (co-enzyme Q10) and germanium** provide oxygen to the cells. So does **vitamin E**, working in the liver. (Cancer does not use oxygen in the cells.)

• **CoQ10** increases aerobic (oxygen) metabolism and immune function. Cancer cells thrive where there is a lack of oxygen.

• **CoQ10** sometimes reduces hair loss in those who choose to take chemotherapy.

• Scientists, at UCLA, have found that **sodium linoleate, which contains linoleic acid (an essential fatty acid)** has the ability to fight cancer cells. **Lecithin** is a good source.

• **Gamma linolenic acid (GLA)** can be taken as oil of borage, evening primrose, or black current seed. In purified form, up to 1.5 grams per day can be taken.

• **Alpha linolenic acid (ALA)** from flaxseed oil (1-2 tsp. daily). Make sure that it was stored in the refrigerator at the health food store you purchase it from. Flaxseed oil becomes rancid very quickly, so purchase small bottles.

AMINO ACIDS

• **Glutathione** (200 grams), functions in the body as an antioxidant and helps destroy free radicals and the toxicity remaining if you already have received radiation treatments and chemotherapy. **Cruciferous vegetables** (**broccoli**, especially) increases the body's own production of glutathione peroxidase (GSH).

• **Cysteine (N-acetylcysteine)** (1-2 grams) is an amino acid which enters into various detoxification systems in the body, helps bolster glutathione peroxidase activity, and can be converted in the body to glutathione, which may become GSH, a potent broad spectrum anti-oxidant enzyme system. Cysteine supplementation promote glutathione synthesis.

• Although safe up to 10 g, the nauseating taste and smell of **cysteine** can cause vomiting.

• Several studies confirm that **arginine** reduces tumors and tumor formation. It increases T-cell function, stimulates the thymus and thyroid, and enhances activity of killer cells, as well as interleukin-2 receptors and general immune improvements.

• At therapeutic levels (above 5 g) of **arginine**, growth of certain viruses may be activated.

• **Methionine** reduces the uptake of mercury, which is a cancer-causing agent.

• Malnourished cancer patients improve when **branched chain amino acids (leucine, isoleucine, and valine)** are given. Protein and albumin synthesis are heightened.

PREVENTING CANCER

The information in this section is primarily for medical researchers, but it is also invaluable for those who want to prevent cancer from gaining a foothold in their bodies.

Because of modern nutritional, environmental, and living conditions, cancer rates are rapidly increasing. In this chapter, the thoughtful reader will have learned a number of things which can help prevent the occurrence of cancer.

• You have been a toxic waste site! And now, before the cancer has a chance to start, you are beginning waste disposal operations. With prayer, diligent work, and the blessing of God, you can have success.

• While some are concerned with treating symptoms, you must be concerned with getting at the causes of cancer and eliminating them. Only then can the problem be permanently solved.

The Gerson Therapy seems to do the best job of eliminating the toxins. You will find it discussed later in this book.

• Well, there you have a number of possible suggestions. What you have just read may seem like a lot of work. *But, since cancer will generally mean the end of you, are you sure you do not want to work?*

• It is extremely important that you care for and rebuild the liver, kidneys, lungs, skin, bowels, and other organs. Dr. Max Gerson maintained that he could eliminate cancer in anyone if the liver was in good condition. Take care of your liver.

• *If you have cancer,* we recommend that you locate a physician and place yourself under his care. A careful, systematic regime of healthful recovery is needed, and you may not know what to do. Regardless of which doctor you go to, while waiting for appointments get started doing the right things! Doctors may be busy, but your life depends on changes which need to start right now. Essentially everything, listed here in Part One of this book, you can do at home to improve health and help prevent malignancies.

• Do not fear. Trust your life to God; obey the Ten Commandments by faith in Christ; and step forward, living your best and doing your best. Entrust the outcome to God.

• America alone spends $800 billion yearly on physicians and hospitals; yet it is 23rd in the world in level of health, vitality, and longevity. Surely, it is time that we start thinking for ourselves.

CHAPTER SEVEN

DISEASES OF THE KIDNEY AND URINARY TRACT

The production, transport, storage, and discharge of most liquid wastes by the human body are accomplished by the marvelously engineered, highly complex and integrated urinary system that includes several vital organs. The kidneys and ureters operate together, with delicately controlled cellular mechanisms in each kidney, giving finesse to the passage of urine through a muscular contraction called *peristalsis,* ending finally with the act of urination. Each kidney weighs less than a pound, yet contains over two million microscopic filtration units. These *nephrons,* if stretched out end-toend, would be fifty miles long!

Every day our kidney tubules perform the amazing feat of removing about 300 pints of water from the blood, All but around three to six pints of this filtered water is returned (98-99%), purified of waste and mineral-balanced to perfect accuracy. Proper treatment of urinary problems requires an understanding of the physiology of this process, making possible most methodical analysis, then guiding medical practitioners to an accurate diagnosis. This in actuality, is usually derived from the history of the illness, together with certain physical findings; and most simply the examination of the urine.

A patient may develop a life-threatening disease in the genitourinary tract with few, if any symptoms. However, the following symptoms at least suggest urinary tract disease. *Nocturia* is the awakening at night to void, usually unnecessary for the ordinary person. Nighttime urination may be caused by bladder dysfunction, infection, or the presence of stones. Metabolic disorders,

such as diabetes, congestive heart failure, or the intake of some drug can also produce these symptoms. Usually, though, it results from excessive water intake, drinking particularly late in the day.

Frequency: The normal person voids three to four times a day. Increased urinary frequency may be due to several causes. *Polyuria* means larger than normal total urine volume. This is characteristic of metabolic disorders such as diabetes, as well as inordinate fluid intake. Diminished urine volume is called *oliguria.* At times complete suppression of urine formation occurs. This is termed *anuria.*

The sudden desire to void, called *urgency* makes control difficult, even impossible at times. Occasionally this is associated with pain or discomfort on urination, called *dysuria.* When it is severe, bladder spasm may follow voiding, and usually indicates the presence of an irritated or infected bladder. *Hesitancy* denotes undue delay and difficulty in initiating the voiding process. With infection blood may be present in the urine *(hematuria),* or pus may appear *(pyuria).* A kidney or bladder stone may be passed occasionally. *Incontinence* is another distressing symptom, where involuntary loss of urine occurs. The stress of coughing or straining may cause this, or it may occur in association with urgency.

Pain from a kidney disorder may vary from dull aching discomfort in the flank to very sharp flank pain radiating into the lower abdomen or buttocks.

Renal pain may be episodic or persistent. Often it is associated with loss of appetite, nausea, or vomiting. When a stone is passing through the ureter, pain is quite excruciating, causing the patient to move about restlessly, holding the area of discomfort, often by grasping the flank between his thumb and forefingers. Kidney pain tends to radiate into the lower abdomen and genitalia. A stone lodging in the junction between the ureter and bladder may also cause frequency, urgency, and pain on urination.

Individual cases may present with severe or mild symptoms, and the diagnosis may be immediately apparent or thoroughly obscure. A careful examination of the affected area and scrutiny of the urine, both with light illumination and, when possible the microscope, is of considerable help in establishing numerous causes.

URINARY STONES

Stones in the kidney or ureters may occur at any age, but are more common in the third and fourth decades. These *calculi* may be single or multiple, firmly lodged or free. Kidney stones often cause pain, produce blood in the urine, and symptoms of vague abdominal distress. Occasionally, even when large, stones may occur without symptoms, while causing serious and insidious kidney damage.

Characteristically, as mentioned above, renal calculi cause severe, sharp flank pain, which is often acute in onset and present intermittently. A small stone being passed in the ureter creates painful colic and the patient usually moves about restlessly, vainly seeking relief. Blood is frequently present in the urine, but at times requires the microscope for its detection. Physical findings may be entirely normal, although tenderness, muscle spasm, or even a lump may be felt in the location.

It is important to search for the original cause of the stone, then attempt to correct it. Most stones after bladder passage can be analyzed to determine their composition. Some are composed of calcium salts; others of oxalate crystals, and less commonly uric acid or cystine may precipitate to form stones. Each of these causes needs to be ascertained in order to correct the diet, avoiding future recurrence.

One of the commonest situations that sets the environment for an attack of colic is inadequate fluid intake. Normally our kidneys require at least one and a half to two quarts of fluid a day! That will maintain urine volume at diluted concentrations, to avoid the precipitation of these salts. A high consumption of milk may result in calcium precipitation and the formation of a stone. Ice cream, cheese, and soft drinks such as cola beverages, and foods high in oxalic acid may provide the situation where stones begin to crystallize.

Uric acid stones usually result from a high intake of purines, found in meats, particularly sweetbreads, and other flesh foods obtained from animal organs. Uric acid calculi are usually seen in combination with other symptoms of **gout**, a metabolic disease traditionally associated with indulgence in rich

foods and alcohol. A discriminating, well-balanced diet associated with adequate fluid will usually bring relief to patients who form uric acid stones frequently.

The treatment of colic in the urinary tract usually begins at home. Drink a high intake of water, at least one glass of liquid hourly, and begin

immediately. Urinary acidifying agents are helpful to deter stones of calcium or oxalate composition, while for uric acid stones the urine should be alkalinized. Vitamin C and cranberry juice are both good acidifying agents for the urine, and are also helpful in treating urinary infections. Diuretic herbs, such as Buchu tea may also be helpful, when combined with a high volume of fluids.

Relief of acute urinary pain can be obtained in a hot tub bath, or with intensely hot fomentations applied to the flank and hip region. At times when flank pain is severe, the treatments will not only modify the pain, but through reflex pathways may help to relax the ureter and alleviate the spasm. Most often the smaller stones *(calculi)* will pass down into the bladder, where they are then excreted. Since obstruction in the urinary tract can progressively damage the kidney, as well as be painfully disabling, any urinary stones that do not resolve promptly should be evaluated be a competent physician. Newer diagnostic techniques using x-ray contrast, and *cystoscopic* basket stone retrieval, water immersion shock (sound) wave *lithotripsy,* and other types of surgery may be necessary to save the kidneys from permanent harm.

URINARY INFECTION

Bacterial infections of the urinary tract are extremely common. Some are also notoriously resistant to treatment and thus likely to reoccur. Yet the majority of persons with urinary tract infections are unaware of it. On other occasions, infections take the form of an acute disease usually with characteristic symptoms. The commonest symptoms are pain on urination, urinary frequency, and a strong urge to void. More serious infections may produce fever, pain in the bladder region, or over the kidneys.

Many different causes can produce infection. The commonest of these come from the group of gram negative bacteria (such as *E. coli)* inhabiting the digestive tract. Cultures of the urine can usually pinpoint the exact offender. Most of the time these *coliform bacteria* gain access to the bladder through the urethra. Under normal circumstances the urine in the bladder is sterile and large numbers of bacteria can be cleared rapidly in both humans and animals. Slight physiologic alterations, however, may permit survival of as few as ten microorganisms, which multiply rapidly, then persist for prolonged periods.

Some associated conditions that may contribute to the formation of urinary infections are as follows: One to four percent of females from childhood to the childbearing age may harbor bacteria in the bladder or urethra, sometimes without the presence of symptoms. In men urinary infections are quite rare below the age 50. Four to eight percent of pregnant women may have infections, some of them without symptoms. Diabetes is another contributing factor, particularly when sugar is present in the urine. Any impediment to the free flow of urine—tumor, stricture, or stones—results in distention of the kidney and greatly increased frequency of urinary infection.

In fact, the reflux of urine in the bladder cavity up to the ureter occurring during voiding will contribute to more infections, particularly children. Infection of the lower urinary passages is sometimes initiated by bacteria carried on catheters or other instruments passed into the urethra and bladder. Sterile technique in catheter insertion can help to reduce this risk. Kidney diseases

with resulting high blood pressure may also contribute at times to the lowered defense against infection.

Once the diagnosis has been established, treatment can be begun at home. The fluid intake should be increased, usually with water as well as **Vitamin C** or **cranberry juice** to render the urine more acid. A special protein found in cranberries and blueberries can combat most urinary tract infection by causing the causative germs to lose their grip on the bladder wall. Thus, the infective organisms become more amenable to bladder rinse-out with normal urination. One glass of liquid per hour up to 12-16 cups per day is recommended. In at least half such cases, the urinary infection will clear itself, with symptoms subsiding over 24-48 hours.

Hot and cold **sitz baths** (see Chapter 17) are helpful, as is the **half bath** in a hot tub of water followed by a cold spray. Increasing blood flow to the urinary organs, these hydrotherapy treatments aid the body in natural resistance to infection and the clearing of disease. Persistence of symptoms or the underlying presence of diabetes, high blood pressure, or chronic kidney disease should be evaluated with appropriate urine tests, cultures, and medical counsel.

INCONTINENCE

Involuntary loss of urine is a very troublesome symptom. This may occur in children and when associated with bed-wetting is usually termed *enuresis.* Up to *4-5* years of age this may be quite common, and when persistent usually indicates some psychological distress. Congenital defects in the formation of the urinary organs may contribute to this disorder, and they can be evaluated with a specific x-ray study, the *intravenous pyelogram.*

Most cases of childhood incontinence subside with the passage of years. Women of childbearing age may have incontinence after the delivery of a large baby. Or with successive pregnancies, the support of the bladder and urethra may be weakened, producing a hernia or prolapse called a *cystocele.* Often this is associated with stress incontinence on sneezing, coughing, or straining. The **Kegel exercises** described in the chapter on gynecology are often helpful in alleviating these symptoms. If persistent anatomic defect is demonstrated, surgical repair may be indicated to restore continence and alleviate the anxiety that inhibits social interaction.

Men seldom have incontinence until advanced age. This may occur at times after operations such as a *prostatectomy.* If the incontinence does not improve during convalescence it should be evaluated by a urologist since research centers have developed a number of surgical approaches to this troublesome problem. Mechanical devices to preserve social acceptance and self-confidence are also available.

KIDNEY FAILURE

Failure of the kidneys to form urine properly can be either of an acute or chronic nature. The acute types are called *nephritis,* referring to the inflammation of the functional kidney complex. This may occur in conjunction with a Strep. throat or other bacterial infection. At times it develops suddenly, associated with protein loss, edema, and high blood pressure. These cases need to be evaluated with laboratory tests and medical expertise. But several simple approaches are helpful.

First of all it is important to recognize the influence of diet on kidney

function. Many years ago it was discovered that a high protein diet predisposes to kidney complications. For this reason it is wise to avoid an excess of animal products, particularly flesh foods. Adequate fluid intake is also important. In treating these symptoms hot packs as well as hydration will be beneficial.

Chronic failure of the kidneys frequently produces metabolic disturbances in water, sodium, potassium, calcium, and acid-base balance. The onset of renal failure is usually insidious. Excessive formation of urine and passage of urine at night may be only signs at first. Later a patient complains of feeling weak, fatiguing easily, sleeping poorly, and becoming slightly breathless. The appetite is lost and there is a bad taste in the mouth. Nausea, especially in the morning or anemia may be present. With increasing kidney failure, a person becomes lethargic, may develop twitching of the limbs, hemorrhages, and eventually develops a breath with an odor of urine, dry skin, and if not treated may progress into a coma and die.

Therapy of kidney failure demands an early determination of the cause. The role of dietary protein is very important. To reduce the blood urea accumulation a good quality protein is used with restriction in quantity to around 20 gm. daily. Sweating treatments may help eliminate toxins through the pores. The most efficacious are usually the hot blanket pack or steam bath. However, the latter is not advised *(contraindicated)* in severe hypertension.

Scientific research has offered a number of artificial approaches to kidney disease, such as dialysis of the blood *(hemodialysis)* or abdominal *(peritoneal)* fluid, and even transplants from a healthy donor. All of these have hazards, however, and if approached early and controlled, many cases of chronic kidney failure can be arrested.

TRAUMA TO THE KIDNEY

Injury to the urinary tract may at times produce blood in the urine. This is particularly a problem in contact sports, since the kidneys are easily traumatized. Long distance runners also frequently show signs of kidney damage with elevated enzymes and blood in the urine. This may be related not only to the metabolic breakdown of muscle during severe exercise, but also to the dehydration that results from profound sweating. In most cases of urinary trauma where the urethra, bladder, or ureters have not been ruptured bed rest combined with hot packs and adequate fluid intake will produce a rapid cure.

URINARY RETENTION

Inability to void may develop abruptly, but is usually preceded by a history of diminished size and force of the urinary system, hesitancy, nocturnal urination, and dribbling. Many of these individuals are older men, having developed gradual prostate enlargement, but scarring and stricture from infection in the urinary tract can also produce these symptoms.

One of the most important ways of relieving these conditions, short of actual surgical cure, is the use of the urinary catheter. Unless the obstruction is severe this soft, flexible tube with a rounded end can be passed successfully into the bladder in most people. The catheter should be sterilized, the opening of the urethra (meatus) cleansed carefully with antiseptic solution, and with appropriate lubrication the catheter passed gently into the bladder. Usually relief is obtained and this technique is easily learned at home thus allowing

either for the necessary time to seek medical care or a chronic relief in older patients deemed unsuitable for surgery.
The *Foley catheter,* which contains an inflatable balloon, can be used for indwelling drainage of the bladder. This, connected to a closed, sterile system of collection can provide comfort for a longer time. However, infection may

result from the presence of this foreign substance after only two to three days. In association with gentle catheter placement techniques, bladder irrigation may be learned.
Different patients require varying intervals between catheter change and this can often be prolonged by the use of irrigating solutions. Some of these inhibit bacterial formation and others improve patency of the catheter by reducing bladder sludge. All instrumentation of the bladder may produce *hematuria* or the presence of blood. Persistence of this and other urinary symptoms should cause a patient to seek counsel from a competent physician. Although the urinary tract is complex and mysterious it is usually amenable to simple home remedies. The early use of these preventive measures can frequently restore health before chronic illness or disability becomes a problem.

Exchange system for calculating Protein, Sodium, and Potassium restricted Diets.

Household Protein Sodium Potassium
Food Exchange measure Grams (g) (mg) (mg)*
Milk ½ cup 120 4 60 170
Egg 1 50 7 70 100
Vegetables
Group A ½ cup 100 1 9 150
Group B ½ cup 100 2 9 240
Fruits
Group A varies varies 1 2 100
Group B varies varies 1 2 145
Breads, unsalted
Group A varies varies 2 5 25
Group B varies varies 3 5 50
Fat, salted 1 tsp. 5 0 50 0
** Handbook no. 8 1963*

Protein, Sodium, Potassium Exchange Lists.

Milk Exchange Vegetable Exchanges: Group B
One serving contains 4g. of Protein 60 One serving contains 2 g. of Progein, 9 mg. of Sodium and 170 mg. Potassium. mg sodium and 240 mg of Potassium.
Milk, Whole ½ cup Asparagus ½ cup
Milk, skim ½ cup Broccoli ½ cup
Egg Exchange Brussel sprouts ½ cup
One egg contains 7 g of protein 70 mg. Carrots *1 ½ cup
of sodium and 120 mg of Potassium Potatoes *2 ½ cup
Vegetable Exchanges Group A pumpkin ½ cup

One serving contains 1g. of Protein 9 Winter squash ½ cup
mg. of Sodium and 150 mg. Potassium. Tomatoes ½ cup
Green beans or wax ½ cup Tomato Juice
Beets*1 ½ cup Low sodium dietetic ½ cup
Cabbage ½ cup Turnips 1/3 cup

Corn, whole kernel ½ cup *All vegetables cooked or canned*
Egg plant ½ cup *without salt and well drained.*
Summer Squash ½ cup **1 Reduce to 1/3 cup is sodium*
Zucchini ½ cup *restricted to less than 500 mg.*
*All vegetables cooked or canned *2 pare soak in water for ½ hour*
without salt and well drained. Discard water cook in fresh water.
**1 Reduce to 1/3 cup is sodium*
restricted to less than 500 mg.
Fruit Exchanges: Group A Bread Exchanges: Group B
One serving contains 1g. of protein, 2 One serving contains 3 g. of protein,
sodium, 100 mg. of potassium. 5 mg. of sodium, 50 mg. of
potassium.
Apple, raw 1 small Dry cereal
Apple juice ½ cup Puffed wheat ½ **cup**
Apple sauce ½ cup Unsalted, cooked
Blueberries *5/8* cup Macaroni ½ cup
Peach nectar ½ cup Noodles ½ cup
Pears, canned 1/3 cup Spaghetti ½ cup
Pear nectar ½ cup
Pineapple, canned 1 slice Fat **Exchanges**
One serving contains no protein, 50
mg. of sodium, no potassium.
Fruit Exchanges: Group B
One serving contains 1 g. of protein, Butter, salted 1 tsp.
2 mg of sodium, 145 mg. of potassium. Margarine, salted 1 tsp.
Blackberries, fresh ½ cup Mayonnaise, salted 1 tsp.
Fruit cocktail 1/3 cup *Unsalted butter and margarine and*
Grape juice, canned ½ cup *vegetable oil may be used as desired.*
Grapefruit, raw ½ medium
Grapefruit, juice 1/3 cup **Beverages**
Grapefruit sections ½ cup *Juices and milk are counted as part*
Pear, raw ½ medium *of total fluid allowance.*
Pineapple juice 1/3 cup
Plums, purple, canned 3 medium **Miscellaneous**
Raspberries, fresh ½ cup *These items may be used as desired.*
Strawberries, fresh ½ cup *Flavorings*
Tangerine 1 medium Caraway Sage
Watermelon, cubed ¾ cup Thyme Garlic
Turmeric Garlic powder

Bread Exchanges: Group A Vanilla extract (not salt)
One serving contains 2 g. of protein, Peppermint extract
5 mg. of sodium, and 25 mg. of. Small amounts of the following may
potassium be used in food preparation:
Low-sodium bread 1 slice
Unsalted cooked cereal Celery Mushrooms
Rice ½ cup Onions Green pepper
Farina ¾ cup Mint leaves
Corn grits ¾ cup
Use regular only. Do not use instant or
quick cooking varieties.
Dry cereal
Puffed rice 1 cup Unsalted Corn Flakes 1 cup

URINE PROBLEMS

***HYDRO*—**Here are hydrotherapy treatments for several different urine difficulties.

Albumin in urine (Albuminuria): Hot Blanket Pack and other sweating measures to maintain cutaneous activity, repeated every 2-4 hours

Incontinence: Percussion Douche to spine, Neutral Sitz Bath, 15-30 minutes

Urine too acid: Free use of fruit and water drinking in the forenoon.

Urinary suppression: Hot Blanket Pack, followed by Dry Sweating Pack.

Nocturia: Revulsive Sitz Bath. Begin at 100^{o} and increase rapidly to 106^{o}-115^{o} F. (with a footbath at 110^{o}-112^{o} F.) for 3-8 minutes. Keep the head cool with cold cloths over forehead or around back of neck. Finish with a cold (55^{o}-65^{o} F.) pail pour to hips

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URINE RETENTION

SYMPTOMS—Flow of urine is lessening. Great pain is felt in the bladder, and the odor of urine is on the body. Almost total suppression can produce extreme pain in the back and bladder, and even convulsions. There is always a great desire to urinate.

CAUSES—There can be a blockage of some type..

Urine retention is generally caused by inflammation and swelling in the bladder and its outlet. Excess urine in it causes the bladder to enlarge, and can cause great pain.

TREATMENT—

• *Poor urine flow:* Take a cold sitz bath (cold partial bath, as you sit in the bathtub). Stop using salt. Drink 2 quarts a day of 50-50 orange juice and water.

• Alternate method: Take a hot sitz bath repeatedly, followed by a short cold bath. If bedridden, apply hot, followed by short cold, over bladder, genital area, and entire length of spine.

• Give a high enema of catnip tea. This is important in helping the urine to again begin flowing.

• Drink more water and take herbs which increase urine flow. Corn-silk tea is the best; others include juniper berries, carrot tops, comfrey, plantain, cleavers, chickweed.

• Insert a soft catheter and draw out the urine. Steep the following in a quart of boiling water: 1 tsp. goldenseal and a half tsp. each of boric acid and myrrh. Strain through a fine cloth, and inject through a fountain syringe. Retain as long as possible. You can moisten the tip with slippery elm tea. Slipper elm is slippery!

• A cold shower often helps.

• *Stopped urine flow:* Almost total urine suppression generally points to the kidneys as the problem.

• Put the person to bed; give him a very warm high enema of catnip tea. This will bring great relief. Also apply hot fomentations, wrung out of smartweed tea, to the bladder and lumbar region (small of back). Give 2-3 hot sitz baths in a bathtub, each day.

• An especially helpful remedy is a strong, hot as can be taken, tea of catnip, given as an enema. Drink it freely.

INCONTINENCE—1 (Urinary Stress Incontinence)

SYMPTOMS—Occasional dribbling. An involuntary loss of urine, in very small amounts, accompanies coughing, sneezing, laughing, walking, running, lifting, or any sudden shock or strain.

CAUSES—Incontinence tends to occur in women more than men, although older men may also have it.

A wide variety of causes can be involved—including food allergies, hypoglycemia, multiple dystrophy, multiple sclerosis, cancer, stroke, injuries, and surgical damage.

Other causes include repeated births, poor pelvic floor tone, damage to pelvic floor by the physician at time of delivery, failure to do prenatal and postnatal exercises, visceroptosis, overweight, and poor abdominal tone.

It may follow a prolonged labor during childbirth, resulting from the stretching of the pelvic floor. If postpartum exercises are not done, this problem, which may disappear for years, may later return.

Incontinence is far less likely in the nullipara (women who have never delivered a child).

TREATMENT—

• The best pelvic floor exercises are variations of the Kegel exercise, and should begin early in pregnancy or before, and continue on to at least 3 months after childbirth. These exercises strengthen certain muscles.

• Slow urine flow and eventually stop it. Doing this helps you recognize the muscles involved. Later, practice stopping urine flow, hold for 1-2 seconds, and repeat 6-8 times as you urinate. You should eventually be able to stop urine flow completely with no leakage. Learn to slowly relax pelvic floor muscles in stages from full contraction to full relaxation.

• Practice tightening these muscles at various other times during the day. Repeat 6-8 times each session and 50-100 times a day. Hold each contraction for 2-5 seconds, then relax.

• When doing these exercises, do not hold your breath. Bear down; that is, push down on the pelvic floor or contract the buttocks, inner thighs, or abdominal muscles. When beginning, do not exhaust the pelvic muscles. Whenever contractions weaken, discontinue at that time. Build muscle strength slowly; there is no rush.

• Avoid alcohol, caffeine, tobacco, and grapefruit juice.

• Use cranberry juice instead.

• Reduce general fluid intake, but not too much.

• Avoid constipation.

• Lose weight.

• Go when you have to; do not wait, or you weaken bladder control.

• Double voiding is helpful: After voiding, stand up and sit down again. Lean forward slightly at the knees and try again.

INCONTINENCE—2 (J.H. Kellogg, M.D., Formulas)

TO INCREASE ENERGY OF BLADDER—Cold Plantar Douche for 1-2 minutes; Cold FootBath, using running water over the feet; Cold percussion Douche to hips and legs at 60^0-65^o F.; Cold Douche to lower back; Cold Fan Douche, at 65^0 F., over bladder. Cold rubbing Sitz Bath. Colonic, begin at 100^0 and lower 1^0 daily to 80^0 F.

RELIEVE VESICAL IRRITATION—Revulsive Sitz Bath; Hot Pack to pelvis; prolonged Neutral Sitz Bath, following Revulsive Sitz Bath. Neutral Douche to lower spine; Revulsive Douche to feet and legs.

IMPROVE GENERAL NERVE TONE—Cold Mitten Friction or Cold Towel Rub, Cold Pack to pelvis, general Cold Douche, Shallow Bath, Wet Sheet Rub.

HEMATURIA (Blood in Urine)

SYMPTOMS—Blood appears in the urine. Blood in the urine shows a smoky sediment, and is reddish brown. Urine may be slightly smoky, reddish, or very red.

CAUSES—Red, or reddish, urine may be due to blood in the urine, known as hematuria, and to senna or rhubarb, which may color the urine either brown or orange.

If the blood is well-mixed with the urine, it is probably from the kidneys. If it is clotted in tubular casts of ureters, it is from kidneys or ureters. If its is passed at the beginning of urination, it is from the urethra; if at the end, it is from the bladder.

Bleeding from the kidneys produces smoky urine, which may be bright red. Bleeding from the urethra is always bright red, and precedes urination. Bleeding from the urine vesicle produces bright red urine, which is not uniform.

Other causes of blood in urine can be a lesion of the urinary tract, contamination during menstruation, prostatic disease, tumors, poisoning (especially carbolic acid and cantharides), malaria, toxemias, and calculus (kidney stones).

TREATMENT—

• Apply a very cold water spray to the perineum.

• Read the other sections, below, in this urinary section, on urine, kidneys, and bladder.

KIDNEY PROBLEMS

PROBLEMS AND CAUSES—In addition to other conditions mentioned in this section on the kidneys, there are less known diseases which can be just as serious. These include:

Renal tubular acidosis: The kidneys fail to reabsorb bicarbonate properly, resulting in inadequate ammonia production and acid excretion. This leads to a severe lack of fluid and potassium in the body, and an excess of acidity. The bones can become deranged.

Hydronephrosis: The kidneys and bladder become filled with urine, due to obstruction of the flow.

Glomerulonephritis: This is an inflammation of the tiny kidney filtering units, sometimes resulting from a bacterial infection in the body.

Uremia: A toxic waste buildup in the blood, due to kidney malfunction.

In all of these conditions, a basic need is to cleanse the kidneys, increase urine flow, and restore proper function.

TREATMENT—

• Eat 75% raw foods, including garlic, parsley, potatoes, celery, cucumbers, and bananas. Green vegetables are especially important.

• Stop eating meat. An excess of protein is part of your problem; and meat also has a variety of waste products, plus bacteria, purines, and uric acid.

• Avoid dairy products, except yogurt. Do not eat chocolate or cocoa.

• Drink 6-8 ounces of distilled water every hour.

• Watermelon and pumpkin seeds seem to help the kidneys, although the reason is not known.

• Corn-silk tea is the best single herb for increasing urine flow and restoring the kidneys. Watermelon-seed tea and celery and parsley seeds are also diuretic in function.

• Cranberries help acidify the urine, destroy bacteria, and restore the bladder.

• Do not eat much potassium or phosphorous. For this reason, avoid beet greens, spinach, rhubarb, and Swiss chard.

• Lead, other metals, the pain relieving drugs (Advil, Nuprin, etc.), and infectious diseases (scarlet fever, measles, etc.) can damage the kidneys. Spirulina is known to reduce kidney poisoning that is caused by mercury and drugs.

KIDNEY STONES—1 (Nephrocalcinosis)

SYMPTOMS—Intermittent, dull, dragging pain radiating from the upper back to the lower abdomen, usually increased by motion.

There is bleeding and renal colic (strong kidney pain) when the stone enters the ureters. These sharp pains may last hours or days. There is increased urination with pus and blood, pallor, nausea, and vomiting. Sometimes there are fever and chills.

When you have bloody urine and sharp pain in the bladder or kidneys, it is very likely kidney stones.

CAUSES—Kidney stones (also called bladder stones or cystic calculi) are an abnormal accumulations of mineral salts. They form in the kidneys and, during passage down the ureters, may lodge in them or in the bladder. The stones are primarily composed of calcium oxalate; but urates, phosphates, and cystine may also be present.

Oddly enough, a key factor in the production of kidney stones is a calcium and/or magnesium deficiency. The minerals in the stones come from your own bones!

Refined carbohydrates, especially sugar, prompts kidney stone formation. The sugar increases in the pancreas and excretes additional insulin, which in turn causes the kidneys to discharge more calcium in the urine.

Calcium is needed by the body. If not enough calcium is in the diet, the parathyroids will signal the body to extract calcium from the bones in order to keep the blood calcium level at normal levels.

A vitamin B_6 and magnesium deficiency may also cause stone formation. A Swedish research group found that taking both daily stopped stone formation in 90% of their patients. Magnesium, like calcium, can bond with the oxalate. B_6 (10 mg a day) lowers the amount of oxalate in the urine.

In response to lowered blood calcium levels, the parathyroids trigger the body to draw it out of the bones.

It is vital that you obtain a balanced diet of vitamins and minerals every day.

Partial causes of kidney stone formation can include dehydration (not drinking enough water), infections, prolonged periods of rest in bed, and only rarely taking vitamin D and calcium.

Too much food, including acid-forming foods—especially meat, along with white-flour products, sugar foods, tea, coffee, spices, and vinegar—all help produce an excess of waste in the kidneys. Eventually it accumulates into gravel and stones.

TREATMENT—

• It is vital that you increase the amount of water you drink! Kidney health is keyed to an adequate fluid level in the blood. Only use distilled water.

• Used in conjunction with more fluid intake, corn-silk tea increases urine output, a very necessary factor in purifying and detoxifying the kidneys.

• Watermelon provides additional water. Eat it alone and often, but do not eat it with other foods during meals.

• A lack of vitamin A can lead to stone formation. It helps protect the lining of the urinary tract.

• A more acid urine prevents and dissolves kidney stones. Drink cranberry juice frequently. (One writer says that Ocean Spray brand is only 30% cranberry juice, plus sugar, etc.) All other fruit juices become alkaline in the system. Do not put vinegar into the body.

• Eat potassium broth. This is made from thick potato peelings. Cook it with carrots, garlic, and celery. Simmer for 30-40 minutes, then strain and drink the liquid. Excess can be stored in the refrigerator for no more than 2 days.

• Oxalate, a key chemical in kidney stone formation, occurs naturally in various green vegetables; some more than others. Rhubarb has the highest oxalic acid content of anything eaten by man. Also do not eat spinach, chard, or beet tops. About 60% of all stones are calcium oxalate in nature.

• Drink watermelon-seed tea; steep in hot water for 15 minutes, strain, add a little honey and drink.

• There may be an excess of purines. Stop eating meat. Meat-based proteins are a causal factor in producing kidney stones. Do not overeat on other proteins.

• Do not use soft drinks, caffeine, chocolate, cocoa, pepper, nuts, poppy seeds, or black tea.

• Reduce salt intake.

• A strict macrobiotic diet (lots of grains and little fruits and vegetables) tends to concentrate the urine and may cause stones. But this is not a primary cause of them.

• Take licorice, to reduce swelling of the ureters, so the stone can pass. Calcium and magnesium are crucial to stop the calcium loss from the bones. Eat less meat to get your calcium/phosphorous ratio in order (meat is full of phosphorous).

• The following herbs are helpful: dandelion, rupturewort, and madder.

• To dissolve kidney stones, drink hot water and lemon juice. Follow with olive oil.

KIDNEY STONES—2 (Lithemia; Uric-Acid Diathesis) (J.H. Kellogg, M.D., Formulas)

GENERAL DIET AND LIVING—A spare aseptic diet, especially avoiding beef tea, animal broths, meat, and also tea, coffee, and cocoa. Use fruits freely. In extreme cases, eat fruit diet for a few days. Out-of-door life; abundant exercise; dry, cool climate; daily cold bathing.

INCREASE OXIDATION OF PROTEIN WASTES—Hot Full Bath, prolonged sufficiently to elevate body temperature 2^0-4^0F.; Sweating Wet Sheet Pack; Dry Pack; Steam Bath. Radiant Heat Bath or Hot Full Bath, followed by Dry Pack. Follow all hot baths by a short, cold application adapted to his condition: Cold Mitten Friction, Cold Towel Rub, Wet Sheet Rub, Dripping Sheet, Shallow Bath. Follow bath by prolonged moderate exercise, massage, and Inhalation of oxygen.

ENCOURAGE ELIMINATION OF TISSUE WASTES—In addition to the above, water drinking; free use of fruit juices and distilled water; Hot Abdominal Pack day and night; cool Colonic daily, if bowels are sluggish.

INCREASE ALKALINITY OF BLOOD—Exercise, cold baths, cold air bath, sweating baths, and fruit diet.

SWOLLEN AND PAINFUL JOINTS—Fomentation 2-4 times daily, Heating Compress during intervals between, well-protected with plastic covering and cotton (or flannel) covering.

PAINFUL JOINTS, NOT SWOLLEN—Revulsive Compress 3 times a day, followed by deep massage of limb above the joint and light circular friction of the joint; during intervals between, Dry Pack or cotton poultice to the joint.

STIFF AND ENLARGED JOINTS—Alternate Douche (jet or spray) or the Alternate Compress, followed by thorough massage of the joint with passive joint movements, applied twice daily and protected with Heating Compress during intervals between.

GENERAL METHOD—Diminish the production of uric acid by regulation of diet and elimination of meat products; increase the destruction of uric acid by exercise,

Prolonged Hot Full Baths, followed by short cold applications; increase elimination of uric acid by copious water drinking.

- If any of the following related problems exist, check on them under their respective headings: Headache and Migraine, Neurasthenia, Neuralgia, Insomnia, Muscular pains, Gallstones, Renal colic, Irritable prostate, Arteriosclerosis, Bright's Disease.

RENAL COLIC (Kidney Pain Attack) (J.H. Kellogg, M.D., Formulas)

DURING ATTACK—Rest in bed; diet of fruit; buttermilk; hot water drinking; Hot Enema, repeat every 2 hours; Hot Full Bath with cold to head and over heart, if bath is greatly prolonged; Hot Trunk Pack renewed hourly; Revulsive Sitz Bath; Cold Compress over heart, if it is weak or much excited.

TO PREVENT ATTACKS—Combat lithemia.

VOMITING—Ice pills, ice to throat.

URINARY SUPPRESSION—Hot Blanket Pack followed by Dry sweating Pack.

NEPHRITIS—1 (Kidney Infection)

SYMPTOMS—There may be no symptoms or they may include blood and/or albumin in the urine and lower back, abdominal pain, even chills, fatigue, edema, nausea and vomiting, frequent urge to urinate, and loss of appetite. Severe cases may include anemia and high blood pressure.

CAUSES—This is inflammation of one or both kidneys. Thousands of tiny cells in the kidneys filter fluids out of the blood in order to purify it. But the filter can become plugged with toxins and mucous. When these tiny cells become swollen and inflamed, infection soon follows.

This infection can be acute or chronic, and may require hospitalization.

Constipation causes a toxic matter to be reabsorbed by the blood. This clogs the kidneys.

Overuse of aspirin and other pain killers weaken the kidneys; beer can cause their failure. Environmental toxins, such as heavy metals, add to the damage. Anti-

hypertensive drugs are used to reduce blood circulation, and therefore injure the kidneys.

Kidney infection can also be caused by bacterial infection in the bladder which has traveled up the ureters to the kidneys.

TREATMENT—

• Drink plenty of pure water. Avoid coffee, alcohol, and artificial drinks.

• Drinking unsweetened cranberry juice and apple juice helps reduce bacterial growth in the kidneys.

• Carrot, celery, and parsley juice is also helpful.

• Eat nourishing food, and avoid processed and junk food.

• Include enough vitamins C, A, and B complex in the diet. Potassium deficiencies can encourage kidney problems.

• Go on a 3-day cleansing water-and-juice fast. Take enemas and rest. Keep the fluid level high.

• Helpful herbs include garlic, echinacea, burdock, red clover, and goldenseal. Also of value: juniper berries, parsley, and watermelon-seed tea. Buchu tea and marshmallow tea are most helpful.

• Used in conjunction with more fluid intake, corn-silk tea has been used for hundreds of years to increase urine output, a very necessary factor in purifying and detoxifying the kidneys.

NEPHRITIS—2 (Kidney Infection) (J.H. Kellogg, M.D., Formulas)

KIDNEY INFECTION (ACUTE) —

RELIEVE CONGESTION OF KIDNEYS—Congest the skin by means of the Hot Trunk Pack, Hot Blanket Pack, or Hot Full Bath continued to perspiration, followed by Friction, avoiding deep massage procedures. Rubbing until vigorous perspiration is induced. Maintain active cutaneous circulation; Fomentation to loins for 30 minutes every 3-4 hours; Heating Compress over lower back during the interval between.

ENCOURAGE KIDNEY ACTIVITY—Ice Bag over lower third of sternum, Hot Enema, hot water drinking, Prolonged Neutral Bath.

ENCOURAGE ELIMINATION OF TOXINS—Hot or Cold Enema twice daily, Prolonged Hot Blanket Pack, Sweating Wet Sheet Pack, Radiant Heat Bath, Steam Bath, copious water drinking.

NAUSEA—Hot and Cold Compress over stomach, Ice Bag over stomach, and sipping very hot water.

DIET—Fruit juice, fruit purees, and buttermilk.

CARDIAC WEAKNESS—Ice Bag over heart for 15 minutes, every 2 hours; Cold Mitten Friction; cold Towel Rub, 2-3 times daily.

CONTRAINDICATIONS—Avoid prolonged general cold applications, Cold Douche, and Cold Pail Pour.

GENERAL METHOD—Absolute rest in bed; maintaining a warm and active skin, even to the extent of perspiration; an aseptic, liquid dietary, to encourage free diuresis; copious water drinking.

KIDNEY INFECTION (CHRONIC) —

GENERAL—Aseptic dietary, especially avoiding meats and condiments, and buttermilk diet or exclusive fruit diet during acute attack. Strictly avoid tea, coffee, tobacco, and alcoholic liquors.

MAINTAIN ACTIVITY OF THE SKIN—by warm woolen clothing, Friction given dry and applied daily; Cold Mitten Friction, followed by dry friction; oil rubbing; carefully graduated cold applications (Tonic Frictions); Radiant Heat Bath, followed by cold Towel Rub; A sweating bath twice a week at bedtime, followed by Cold Mitten Friction.

ACUTE EXACERBATION—Apply treatment recommended for Bright's Disease, Acute.

DROPSY—Short Radiant Heat Bath, followed by Cold Mitten Friction or Cold Towel Rub and water drinking, 1-2 pints twice daily.

CONTRAINDICATIONS—Avoid Cold Full Baths; prolonged Cold Douche, frequently repeated, or prolonged Hot Baths.

GENERAL METHOD—The essential features are a carefully regulated regimen adapted to his condition. This would include warm clothing; avoidance of chill; frequent Neutral Baths; very gentle tonic measures; copious water drinking; perfect digestion and bowel action; an aseptic dietary; out-of-door life; avoidance of exposure to cold and excesses of every description, especially sexual and dietetic excesses.

BRIGHT'S DISEASE

SYMPTOMS—Fever, chills, urgency and frequency of urination, loss of appetite, nausea, and vomiting. The urine is cloudy from pus, and often bloody. Pain may be intense and sudden in the lower back, just above the waist, and running down the groin. An excessive amount of blood protein in the urine is a marked symptom of Bright's disease. It is usually accompanied by hypertension and edema, which is retention of water in the tissues.

CAUSES—Bright's disease involves a chronic inflammation of the kidneys but it is unique in the following respect: The kidneys cannot properly excrete salt and other wastes. The result is that salt and various wastes are stored by the blood in tissues throughout the body. This produces tissue swellings, edema, and high blood pressure. Blood and protein are also in the urine in excessive amounts.

Gradually the blood itself becomes contaminated with these waste produces, and uremia (uremic poisoning) is the result.

Consuming alcohol, tea, coffee, and spices are excellent ways to ruin your kidneys. Do not use aluminum cooking ware.

TREATMENT—

• See your physician.

• Take a high enema and a daily hot half-hour tub bath. Give 2-3 cups of pleurisy tea or sage tea while in the tub. Finish with a short cold shower or cold towel rub. Do not let him chill. Wrap him up well, put him in bed, and give him more pleurisy tea or sage tea to encourage perspiration. Fomentations over the lower back and the entire length of the spine will help alleviate pain. Do this also over the stomach, liver, and spleen.

BLADDER PROBLEMS

HYDRO—

Bladder atony: Ascending Douche. This is a jet or spray directed upward, in this case, against the perineum *(p. 159).* Abdominal Douche (a spray to the front of the abdomen only *(p. 165*).

Bladder inflammation: Copious water drinking. Revulsive Sitz Bath, twice a day; Hot Leg Packs, followed by dry heat (Radiant Heat Bath) to legs; Neutral Bath 20-40 minutes, 2-3 times a week; Prolonged Neutral Sitz Bath; Cold Mitten Friction; Cold Towel Rub; Fomentation over bladder, Hot Enema; Hot Pelvic Pack; Aseptic Dietary *(p. 180).*

Irritable bladder: When inflammation is not present, give a Very Hot Sitz Bath for 5 minutes, followed by Neutral Sitz Bath for 10-20 minutes. Hot pack to pelvis, Heating Compress over perineum and genitals, Revulsive Sitz, and Hot Colonic *(p. 180).*

Bladder insufficiency: Spinal (Dorsal) Douche. This is a hand-held hosing of water to the dorsal (upper and central) part of the spine. The stream should be allowed to play rapidly up and down, extending 3-4 inches on either side of the spine. Give tepid water for irritability of the bladder (when of spinal origin). Give a Cold Spinal Douche for motor insufficiency of the bladder, resulting in urinary incontinence or retention *(p. 160).*

Bladder paresis (paralysis): Daily colonic. Cold Plantar Douche, that is, to bottom of feet *(p. 219*).

Bladder retention: Lumbar Revulsive Douche. This spray should be hot, and then very brief cold, and will help alleviate urinary retention, due to spasm in the neck of the bladder *(p. 161).*

CYSTITIS—1 (Bladder and Urinary Tract Infection)

SYMPTOMS—Pain in the lower abdomen and back; frequent, urgent, and painful urination. Urine often has a strong, unpleasant odor and may appear cloudy (from pus). A desire to urinate even after the bladder has been emptied.

Children with this condition may experience a painful burning sensation when urinating.

CAUSES—Cystitis is an infection of the urinary bladder. It is the most frequent bacterial infection in women. About 10-15% of them have recurrent bladder infections.

The cause is generally bacteria which have ascended up from the urinary opening, but, less frequently, from infected urine sent down from the kidneys.

The usual cause is ascended bacteria, and cystitis most often occurs in females. The urinary outlet of the urethra is close to the vagina. Ways to avoid cross infection between the two are given in the concluding paragraph of this article.

Frequency, urgency, and burning urine are obvious symptoms of cystitis, but a home test can be also be done: Purchase "Dipstick" at a pharmacy and follow directions. A positive nitrate test will reveal the presence of a large quantity of white blood cells, indicating infection in the urinary tract.

Women who frequently have bladder infections often have enlarged bladders from having tried to retain their urine. In order to maintain good urinary tract health, it is important to drink water and urinate frequently.

Blood in the urine could indicate a more serious problem. Consult a physician.

Bladder infection in men may signal prostate trouble.

Cyclamate (an artificial sweetener found in synthetic sugar) causes bladder tumors.

TREATMENT—

• Increase the fluid intake—lots of water, especially distilled, is best. Drink a half pint every 20 minutes for 3 hours, then one cup every hour. This is important.

• Also drink cranberry juice. When you have this problem, citrus juice is not as good, since it tends to make the urine more alkaline, encouraging bacterial growth.

• Eat a nourishing diet; avoid the wrong foods. The bladder and kidneys are closely associated; whatever helps one helps the other.

• Acidify the urine by drinking 1-2 quarts of cranberry juice per day, for the first day, and 1 quart a day thereafter while the crisis continues.

• Helpful herbs include juniper, lovage, parsley, uva ursi, rupturewort, bearberry, birch, and prickly restharrow. Of course, do not add sweetener or milk to the tea.

• Drink tea made from 2-3 crushed or blended garlic bulbs several times a day.

• The use of aluminum cookware is another cause of cystic symptoms. Avoid zinc and iron supplements until this problem is healed.

• Potassium deficiencies can lead to renal (kidney) disorders.

• To relieve the pain and encourage healing, take hot sitz (sitting) baths twice a day, for 20 minutes. To one of those daily sitz baths, add 1 cup of vinegar. The next day, add 2 cloves crushed garlic or garlic juice to the water of one of the two baths.

• A hot water bottle placed in direct contact to the urethral and vaginal openings may be extremely helpful in reducing pain. A heat lamp can also be used.

• Women should especially avoid bacterial infection ascending into the bladder: The urinary outlet of the urethra is close to the vagina. When sexual intercourse is not done with clean hands or too frequently, germs are more likely to enter the urethra. Wipe from front to back following bowel movements, urinate before and after intercourse, and wear cotton underclothing (it lets air through and absorbs moisture better). Avoid douches, hygiene sprays, bubble baths, soap in the bath water, and nylon clothing. Wash carefully during the monthly, to avoid bacteria from going up the urethra. Do not use tampons if there are frequent urinary tract infections. Rinse underwear well, to get all the soap out. Boil panties in plain water. Shower after bathing in a swimming pool. Dress to keep the extremities warm; cold extremities weaken the trunk organs, including the urinary tract. Birth control pills and spermaticides may cause cystitis.

CYSTITIS—2; and Irritable Bladder (J.H. Kellogg, M.D., Formulas)

INFLAMMATION—Copious water drinking; Revulsive Sitz Bath, twice a day; Hot Leg Packs followed by dry heat (Radiant Heat bath) to legs; Neutral Bath for 20-40 minutes, 2-3 times a week; prolonged Neutral Sitz Bath; Cold Mitten Friction; Cold Towel Rub; Fomentation over bladder; Hot Enema; Hot Pelvic Pack; Aseptic Dietary.

IRRITABLE BLADDER—With inflammation not present: Very Hot Sitz Bath for 5 minutes, followed by Neutral Sitz Bath for 10-20 minutes. Hot Pack to pelvis, Heating Compress over perineum and genitals, Revulsive Sitz, Hot Colonic.

CONTRAINDICATIONS—Do not apply Cold Sitz Bath, Cold Full Bath, Cold Douche, or Cold FootBath.

EDEMA (Dropsy)

SYMPTOMS—Swelling of the hands, ankles, feet, face, abdomen, or other areas of the body. Swelling is most often seen in the hands, in the feet, or around the eyes. The bloating or swelling causes muscle aches and pains.

CAUSES—Edema is a fluid accumulation in the body. It can be caused by poor kidney function, chronic kidney disease, congestive heart disease, varicose veins, phlebitis, protein or thiamine deficiency, sodium retention, or cancer.

Other causal factors include pregnancy, standing for long periods of time; premenstrual tension; the use of oral contraceptives; a confining injury, such as a sprain, allergic reactions, or a bee sting.

When the skin indents, forming little pits, when the skin of the feet or ankles is pressed by a finger, the situation is worsening. Contact a physician.

Fluid retention is sometimes caused by a food allergy. Hypothyroidism, anemia, adrenal malfunction, constipation, and lack of exercise can be causal factors, along with deficiencies of potassium, vitamin B complex, or vitamins B_1, B_3, or B_6.

As soon as edema is found to exist, it is well to obtain a clear diagnosis. Once congestive heart disease, kidney disease, or liver disease are ruled out, more subtle causes can be dealt with more easily.

TREATMENT—

• If edema is caused by heart disease, then turn to that section. If it is caused by kidney failure or other causes, then read the following.

• If it is the result of protein or thiamine deficiency, the intake of either or both should be increased. Fluid can be retained in the belly cavity because the protein content of the blood is so low that fluid cannot be kept in the blood vessels.

• If excess salt in the diet is the problem, then a very restricted salt diet should be adhered to. (Too much salt retained by the body requires additional water to keep the salt diluted, so it will not damage living tissue.)

• Carry out a regular daily exercise program, out-of-doors. Poor circulation because of liver or heart disease is a common cause of edema. When at rest, elevate the legs. Avoid tight clothing, and do not cross the legs. Take hot baths twice a week. Avoid stress. Stop eating meat. Eat more fruits and vegetables, emphasizing the raw foods.

• Avoid processed and junk foods.

• Increasing the vitamin B_6 intake will reduce the amount of fluid retention.

• Take the pulse test, to determine certain foods which do not agree with you. Then avoid those foods.

• A 1-3 day juice fast will be helpful. But if a protein deficiency is the problem, then nutrition is needed, not cleansing.

• Helpful herbs include corn silk, dandelion, Scotch broom, alfalfa, Canadian fleabane, garlic, English hawthorn, juniper berries, lily of the valley, parsley, nettle, marshmallow, pau d'arco, and prickly restharrow.

CHAPTER EIGHT

HORMONE RELATED DISEASES

One of the rapidly growing areas of scientific research involving body processes is the specialty of **endocrinology**. This science deals with hormones and the related glands producing them. Interacting closely with all hormone mechanisms is the field of nutrition. Dealing primarily with the science of body chemicals, nutrition relates to foods and diseases produced by overabundance or lack of these specific nutrients. It is now generally agreed that hormones do not *initiate* new events in the complicated chemistry of metabolic processes, but rather produce their effect by regulating enzyme systems of the body. From this one may conclude that a true understanding of any disease and the factors regulating their production. Characteristically, abnormalities in the hormone or endocrine system arise from either an increased or decreased hormone secretion. This deviation from "normal" produces the characteristic syndromes of endocrine disease.

The suspicion that a hormone problem may play a role in the patient' s illness often comes initially from the physical appearance of a patient. **Hypothyroidism** or *myxedema* often produces puffiness of the face and appearance of mental dullness, with drying of the skin, hair loss, and tendency to fluid retention. Overactivity of the thyroid gland, on the other hand produces just the opposite **hyperthyroid** state, with nervousness, tremor, weight loss, prominence of the eyes, and a continuous perspiration.

Dwarfs and giants are commonly produced from variation in pituitary glands secretions, particularly growth hormone. The adult form of **giantism** is called *acromegaly* and occurs after the normal body height has been reached.

This hormone excess often enlarges the hands and feet. Overactivity of the cortex of the adrenal gland, called **Cushing's syndrome** produces a characteristic obesity with thin arms and legs, increased tendency to bruising, a hump on the back of the shoulders, and roundness of the face like a full moon. Reduced function of the adrenal cortex is called **Addison's disease**. It is characterized by increase pigmentation of the skin, weakness, salt craving, weight loss, and low blood pressure.

A rapid step towards the accurate diagnosis of these hormone problems has come with new laboratory tests, such as the radioimmunoassay. Most of the body's endocrine hormones can be analyzed now. Although the tests are expensive they are available in most large cities. One single determination of the hormone level does not necessarily establish or exclude an endocrine abnormality. Wide fluctuations in hormone secretions are seen during a twenty-four hour period, Some disorders of the adrenal glands, particularly, may result from a loss of the normal cyclic 24-hour pattern. This is particularly seen in conjunction with disturbed sleep pattern, work schedules, and other tendencies toward irregularity.

SYMPTOMS RELATED TO THE ENDOCRINE SYSTEM

We now present a few common symptoms and the possible relationships to specific endocrine diseases. Clinical experience is certainly important in interpreting these relationships. Nevertheless, the suspicion that there is

something wrong is often the first step toward an accurate diagnosis. Weakness and increased fatigability are without doubt the most frequent symptom of adults seeking medical diagnosis. In the majority, these complaints derive primarily from emotional or psychological disturbances. When hormone abnormalities are suspected, one should inquire first whether the symptoms have been accompanied by weight loss. If so, insufficiency of the adrenal gland, overactivity of the thyroid, and diabetes mellitus should be considered.

Adrenal insufficiency is usually accompanied by increased pigmentation, low blood pressure, and perhaps salt craving. **Hyperthyroidism** is suggested by *goiter* (enlargement of the thyroid gland), bulging eye changes, tremor, and heat intolerance. **Sugar diabetes** is usually accompanied by excessive urination and increased thirst. Without weight loss, but with symptoms of weakness and fatigability one could consider underactive thyroid, underactive pituitary gland, overactive parathyroid gland with high calcium levels, and hypersecretions of aldosterone, another hormone from the adrenal gland regulating the salt balance. The first of these are associated with hypoactive reflexes, intolerance to cold, dry skin. **Hypopituitarism** is suggested by delayed or absent menstrual cycle, impotence, decreased tolerance to cold,

hypoglycemia, and low blood pressure. **Hyperparathyroidism** is usually associated with bone pain, kidney stones, and increased urination. Elevated aldosterone levels are accompanied by high blood pressure, muscle weakness, and signs of potassium depletion.

Menstrual irregularities are associated with four major hormone disturbances. Primary failure of the ovaries prior to a natural menopause is characterized by hot flushes, weight gain, emotional instability. Secondary ovarian failure, associated with reduced stimulating hormones from the pituitary gland is often related to diseases in the thyroid or adrenal. Underactive thyroid gland is often associated with excessive menstruation, as well as decreased flow. The final, but much more rare syndrome is seen in conjunction with adrenal gland dysfunction. The menstrual irregularities in this case are usually associated with increased muscle development, increased body hair (**hirsutism**) and other signs of masculinization. The use of birth control pills should always be investigated as a cause of menstrual irregularity.

Breast changes are also commonly associated with hormone disorders. Enlargement of the breast in males (**gynecomastia**) occurs normally at puberty and may persist through adolescence. Rarely, hormone-secreting tumors of the adrenal gland or testes may also produce these problems. Several varieties of drugs may cause breast changes as well. Abnormal lactation (**galactorrhea**) is sometimes observed in-patients with tumors of the pituitary gland. A number of drugs, including some antihypertensive and tranquilizing preparations may also produce this problem.

Hypertension may also be associated with hormone disorders, although it is more commonly related to stress, salt intake, and obesity. Cushing's syndrome or adrenal gland excess can definitely cause high blood pressure and should be considered if unusual obesity, associated with a tendency to bruising, is present. An episodic hypertension is caused by secretion from the adrenal medullary tumor called *pheochromocytoma.* The picture of rapid

heart rate, nervousness, sweating, although classic, is infrequent. Increased secretion of the parathyroid hormone or the adrenal hormone *aldosterone* can also cause hypertension, and should be excluded in complete diagnosis of the problem.

Obesity suggests the possibility of a hormone disturbance, but it is usually caused by habitually increased food intake or deep-seated emotional problems. Diabetes should definitely be investigated and excluded in the presence of obesity, particularly in adults. Thyroid disorders are commonly related and can be evaluated with simple blood measurements. One must also consider the possibility of problems induced by hormone administration, as we see the frequent prescribing of cortisone preparations, thyroid or sex

hormone in nonspecific therapies for varying symptoms. These so-called *iatrogenic* (physician caused) problems can often be improved by the discontinuance of the offending drug.

DIABETES MELLITUS

We now turn to the common problems of metabolism that can often be treated, controlled, or prevented in a home setting. Knowledge of sugar diabetes is important, because of its high prevalence. This disease has been recognized from antiquity. Both Greek and Chinese writings have mentioned it; and in the sixteenth century Paracelsus initiated the study of the chemistry of diabetic urine. The word **mellitus**, introduced by Thomas Willis one hundred years later, describes the sweetness of the diabetic urine, “as if imbued with honey.” This rapidly led to a dietary approach to this disease, until finally Langerhans, a medical student, in 1869 described the islets in the pancreas where the basic production of insulin occurs. Two Canadians, Banting and Best, finally prepared the extract from dog pancreas that was capable of reducing the elevated blood glucose level. A fascinating long history of discoveries marks the approaches to understanding and treating this common disorder.

It is estimated that there are about 200 million diabetics in the world and approximately 4.2 million in the United States. This disease is more frequent in older people. Hence, as the population grows and becomes older, diabetes will continue to increase. With treatment, the life expectancy of the diabetic is increasing, and since inheritance is an important factor, the more diabetics that have children, the greater will be the prevalence of this disease, Obesity is also on the rise and appears to precipitate diabetes among those predisposed to it.

Next to obesity and thyroid disorders, diabetes is the third most common problem in metabolism. Interrelated are the metabolic or hormone, and vascular or long-termed components of this disease. The latter consist of an accelerated arteriosclerosis that leads to premature aging and particularly affects the eyes and the kidneys. Gangrene of the foot, arteriosclerotic heart disease, blindness, and kidney failure *(uremia)* are the most frequent manifestations of the vascular syndrome. Statistically, the diabetic is faced, not only with a decreased life expectancy, but also with the eventual possibility of disabling complications.

The early detection of diabetes first involves a high index of suspicion. This disease is two and half times more frequent in relatives of known diabetics. Furthermore, *85%* of diabetic patients were or are overweight. Four

out of five diabetics are over 45 years of age. Mothers who deliver large babies have a high potential for the development of diabetes.
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The simplest screening test for this disorder is a urinalysis for sugar. Measurement of the blood sugar (glucose) level in the fasting patient should also be encouraged as a screening tool. The five-hour Glucose **Tolerance Test** is less commonly performed for diabetes, but is usually used to diagnose and evaluate hypoglycemia. Pathologic changes occur with the passage of time in diabetes, and seem accelerated by failure to control this disease. The *islets of Langerhans* in the pancreas typically deteriorate, resulting in the lack of insulin production.
Atherosclerosis occurs earlier in a diabetic patient, often leading to coronary artery disease and stroke as the most frequent cause of death. These also occur from the lack of insulin production. The eyes show changes after 10 to 1 *5* years of diabetes. Small retinal hemorrhages, dilated sacs in the weakened blood vessel *(aneurysms),* and waxy patches *(exudates)* develop. Later a dangerous type of new blood vessel forms, then further hemorrhages and gradual or sudden loss of vision. Although marvelous advances in the diagnosis and treatment of these visual complications have been made, diabetic eye disease remains the second most frequent cause of blindness in the United States. Increased tendencies toward cataract formation also occur.
In the kidney, characteristic damage to the filtering unit *(glomerulus)* progresses to destroy renal function. Infections of the kidney and urinary tract are common, and many patients go on to develop high blood pressure, serious loss of protein, and later kidney failure.
The symptoms of diabetes, as mentioned above, are multiple. Increased fatigability and weakness is common. The diagnosis is frequently suggested by history of increased thirst *(polydipsia),* increased urination *(polyuria),* and excessive hunger *(polyphagia)* in association with weight loss. Long standing disease is reflected in the pathologic changes mentioned above.
Two typical types of diabetes mellitus are seen. The **juvenile onset** type is characterized by a rapid onset, with instable diabetes, associated with loss of weight and strength, irritability, and the three “polys” mentioned above. Insulin therapy is mandatory in this type of patient and long-term medical counseling is needed. The second type of diabetes is termed **maturity onset**. Frequently symptoms are minimal or absent at first. Weight loss or weight gain may be present. These may be increased tendency to urinary infections or Vaginitis. Blurred or decreased vision, anemia, loss of sensation, or other neurologic problems may send the patient to the physician. Since many patients are obese, the reduction of weight associated with a careful diet can bring a return of health to most people who will cooperate with simple health principles.
The **treatment** of diabetes involves several basic principles. Doctors aim to correct the underlying metabolic abnormalities and thereby reduce diabetic
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symptoms. This is associated first of all by the achieving and maintaining of an ideal body weight. Our third goal is the prevention or delay of the specific complications associated with diseases of the eye, kidney, and nerves. Finally, we try to stem the accelerating atherosclerosis to which the diabetic is particularly liable. Success in these therapies depends on how well the patient

has been instructed and his conscientiousness in following directions. The avoidance of cigarette smoking, with regular daily exercise, the monitoring of the urine and blood sugar, cholesterol and triglycerides, blood pressure and body weight are all imperative. Basically, however, the treatment of diabetes revolves around an appropriate diet.

The **dietary** treatment must meet the basic nutritional requirements. These are usually the same as those of a nondiabetic patient and, of course, to be acceptable, taste, variety, economy, and other nutritional factors should be considered. The prevention of high blood sugar occurring after a meal is important to avoid aggravating the symptoms. On the other hand, if a person is taking insulin it is important to provide enough calories of the right type to prevent hypoglycemic reactions. Ideal body weight should be achieved as soon as possible. In order to delay the atherosclerotic complications, the diet should be low enough in fat and animal products to normalize the serum cholesterol and triglyceride levels.

The basic caloric requirement is dictated by age, ideal weight, physical activity, climate, and the patient' s occupation. An approximate calculation can be obtained by multiplying the ideal weight in pounds by ten. Individuals who are less active or past middle age should reduce their calories somewhat. Meals should be regular, usually spaced *5-6* hours apart. They are ideally limited to two or three meals a day, the latter especially for those taking insulin. I recommend taking the greater number of calories at breakfast, in order to provide energy during the active part of the day. Suppers should be light, eaten several hours before going to bed.

Careful regulation of the insulin level can usually avoid the necessity of a bedtime snack. The fat content of the diet should definitely be reduced from the 40% eaten by the average American. Protein should also be reduced slightly. The remaining calories should be obtained from complex carbohydrates. This can lower the insulin requirement dramatically, and in many maturity onset diabetics, make a need for the needle entirely unnecessary. Some dietary suggestions for diabetics, as used in my institution, are presented in the accompanying tables.

Insulin therapy is usually necessary for diabetes of juvenile onset. Several types are available, having fast, intermediate, and long duration of action. Most of the insulin used in the United States today contains 100 units per milliliter. This has helped considerably to standardize the syringes and simplify

the self-administration of this hormone. Regular or crystalline insulin is the shortest acting and is usually used for emergencies. Its duration of action is 6 to 8 hours. Intermediate acting insulins, such as NPH or Lente have a peak effect in 8-12 hours and usually last for 24. The longer-acting insulins are seldom used. At times, a second small dose of intermediate insulin before bedtime is preferable to increasing the daily dose.

It is preferable to have a small amount of sugar spill in the urine during the day than achieve such rigid glucose control as to render the patient hungry all the time or prone to *hypoglycemic reactions.* Be sure to rotate the sites of injections and use sterile techniques in the administration of all insulin hormones. Although many diabetic patients develop antibodies to the insulin used, only a few, about 0.1% will develop insulin resistance. A regular exercise program helps, in combination with the low fat diet, to lower daily

insulin requirement. Using the more convenient but less physiologic oral diabetic pills should be discouraged, because of numerous side effects, particularly an increased acceleration of vascular complications. Hope is definitely on the way for patients with diabetes, who will eat properly, exercise regularly, and keep their weight under control.

HYPOGLYCEMIA

Low blood sugar, usually called *hypoglycemia*, has many causes. The most common one relates to our fast-paced lifestyle. Excessive sugar intake, frequent snacking, and caffeine or cola beverages contribute to this frequent malady. When the blood glucose level falls rapidly, emergency "fight-orflight" stress responses take over. The individual feels weak, very hungry, and frequently becomes irrational. Emotional reactions to hypoglycemic episodes vary from agitated to angry, depressed to suicidal. Personalities change rapidly, but return to normal function with some form of food.

Rather than frequent feedings such as the "six meal a day" diet, I recommend the following regimen: First, begin the day with a wholesome, hearty breakfast. Some whole grain cereal, bread, nut butter, or fruit makes a great way to start the day. Avoid coffee and frequent snacks. They both aggravate any tendency to low blood sugar. Mealtimes should be at regular intervals, usually five or six hours apart. Stress factors can affect hypoglycemia. Exercise is a great way to reduce or relieve stress. Try for an hour or two of extra sleep at night. Or find a weekend for a refreshing minivacation.

Careful testing of your blood, including the five-hour Glucose Tolerance Test (GTT), may help your medical advisor to "fine-tune" your dietary and lifestyle regimen. Most individuals can overcome this metabolic imbalance, particularly the so-called *reactive hypoglycemia.* This type comes several

hours after a meal or sugar-rich snack. It responds very well to the remedies mentioned above. Rarely, tumors of the pancreas may produce abnormal secretions of *insulin.* In such case the symptoms of hypoglycemia occur during a fast, often early in the morning. Removal of the tumor is necessary to cure this uncommon condition.

Finally, diabetes mellitus may be associated with hypoglycemia. It occurs in the context of early diabetes, erroneously termed *borderline.* Overdoses of insulin will produce hypoglycemia. They occur during vigorous exercise or at night. Adjusting the insulin dosage along with dietary modification will level the blood glucose fluctuations in all but the most "brittle" diabetics.

WATER RETENTION

Adults who suddenly increase their body weight may have an increase in fatty *(adipose)* tissue, accumulation of fluid *(edema)* or both disorders. Weight gain in excess of two pounds per day usually implies excess fluid retention. It is easy to confirm this by comparing the body weight in the morning and then again in the evening. Weight gains of less than two pounds during one day usually will subside by the following morning. Fluid retention may disclose increased salt and water intake or decreased sodium and water secretion.

Checking weight changes from morning to evening often provides early evidence of disease. Dietary indiscretion, the use of diuretics, excessive intake of licorice root, or a cortisol-type drug preparation may also be responsible.

A special type of fluid retention called **cyclic edema** occurs predominantly

in women. This is characterized by periodic episodes of fluid retention, frequently accompanied by distention of the abdomen, Patients may weigh several pounds more in the evening than in the morning. Although there is some relation to the menstrual cycle, evidence suggests also that psychological and hormonal factors may be related. The treatment of cyclic edema includes restriction in salt intake, rest in the feet elevated *(supine)* position for several hours during the day, and the use of elastic stockings. Careful medical work-up is sometimes indicated to evaluate underlying causes.

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OBESITY

The single most prevalent metabolic disorder in countries where food supplies are abundant is obesity. A person is considered *over weight* if his weight exceeds the upper range of ideal weight for his body frame. He is considered obese if his weight exceeds by 15-20% his ideal weight. Obesity occurs when the caloric intake exceeds the energy requirement of the body for physical activity and growth, with resultant accumulation of fat. This excessive *adipose tissue* may be distributed generally over the body or may be localized. Hormones from the pituitary, thyroid, adrenal, and sex glands all play important roles in fat distribution.

For the most part, obesity is preventable. Unfortunately, however, the follow-through of treatment for prolonged periods is usually difficult. Relapse becomes extremely common.

The amount of body fat can be estimated from the measurement of skin fold thickness with calipers. Most commonly employed, however, are bathroom scales, and the commonly available tables for estimation of desirable weight with relative guidelines for determining obesity. Some physiologists claim that certain persons are more efficient than others in their ability to digest, absorb, and utilize food. Although this theory is not completely substantiated it has been observed many times that some obese patients lose weight much easier than others, on a given caloric intake.

Direct study of fat cell **size** by biopsy and the subsequent measurement of the isolated calls permits calculation of the total number of fat cells in the body. The average non-obese adult has approximately 40 trillion fat cells. Individuals who develop obesity in the middle years of life develop larger fat cells. Those who develop obesity during their growing years increase fat cell **numbers**, as well as size. This potential of forming new fat cells, with excessive food intake during growth, enhances our emphasis on prevention in

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childhood. Most studies demonstrate weight loss in both types of obesity to be associated with reduction in cell size, but seldom are there actual loss of fat cells.

Psychological and cultural factors influence our tendency toward obesity. Certain persons may have abnormal appetites, using food as a substitute for satisfaction that ordinarily would be supplied in other ways. In this respect, these persons resemble somewhat the alcoholic, hence are often termed *'foodaholics."*

Increased food intake may also result from depression or anxiety. The resulting obesity may increase a persons tendency toward isolation. Merely reducing food intake without understanding the underlying emotional

problems is usually unsuccessful. Some cultural groups place great emphasis on food, developing habits of overeating at an early age. In fact, in some societies obesity is associated with success and even health. Education of individuals, families, and all ethnic groups in society is important to achieve proper understanding of fantastic health benefits obtained in weight reduction, also enabling the provision of emotional support during the transition.

The dietary treatment of obesity constitutes our mainstay for successful therapy. It is crucial to maintain good nutritional balance with any diet chosen, especially limiting the calories sufficiently to lose weight. **Crash diets** should be discouraged, as a weight loss of 2-3 pounds weekly is quite sufficient for most obese patients to regain their healthful profile without looking like a "dried prune." I always emphasize the use of *natural* foods, such as fresh fruits, whole grain cereals, and vegetables. Modest limitations of salt intake helps prevent fluid retention. Avoid as much as possible all rich foods, such as gravies, sauces, salad dressings, and desserts containing much sugar. Be sure to reduce fried foods, as fat contains 9 calories per gram compared with 4cal./gm, for most carbohydrates and proteins.

For individuals finding it difficult to maintain a low calorie diet continuously, a **fast** one day a week using limited amounts of clear liquids is encouraging. Some find it more satisfactory to restrict their food intake to **two meals a day**, usually with a hearty breakfast and lunch and little or no supper. I teach my patients that being hungry one-third of the time is better than being hungry all of the time. Thus, these people can accept a two-meala-day plan and profit thereby. It is not necessary, however, in most sensible reducing diets to be hungry in a physiologic sense at all. The use of natural foods in abundance will satisfy the appetite, particularly if a few olives or nuts are included for "**satiety value**." Snacking should be eliminated. Some commonly used snacks may require a great amount of exercise to burn up the calories taken in this way.

Exercise has also been endorsed as a method to increase caloric loss. Although the stimulus to the circulation, as well as the balancing effect on the emotions are profound, a very minimal caloric effect is obtained with exercise, compared to the reduction in food intake. The *metabolic rate*, however, increases with exercise, sometimes lasting for hours. Obese subjects are prone to more sedentary patterns of behavior and often walk and work more slowly than their leaner counterparts. Motivational factors, goals, and an overall emphasis on physical fitness is important to achieve the very real benefits that exercise can make toward a weight reduction regimen.

The use of appetite suppressants, amphetamines, hormones from the thyroid gland and diuretics, are mentioned only to discourage their use. Their indulgence always upsets the balance of body chemistry and places a false emphasis upon "miracle drugs" rather than **diet** in treating the obese. More radical surgical procedures include the **jejuno-ileal bypass** (creating an unnatural shunt between two parts of the small intestines) and **gastric stapling** (where the stomach size is drastically reduced with a row of staples). Such measures should not even be considered unless a grave medical emergency exists. In such cases there are usually safer approaches, such as fasting or dental wiring. All of these do not reach the underlying cause, namely dietary reeducation, emotional stabilization, and the promotion of

overall physical fitness that are so essential to long-term success in weight control.

This more rational handling of obesity can be a challenging and rewarding discipline to both patients and health counselors. A person's victory over appetite often proves the key to unlock many dimensions of fulfillment in emotional, as well as spiritual lines.

MALNUTRITION

Although over-nutrition so characteristic of obesity could be considered a type of **malnutrition,** such diagnosis is usually reserved for the deficiency syndromes. In all parts of the world various deficiencies of vitamins, minerals, protein, or calories can be seen. Deficiencies are naturally more prevalent in countries where food supply is limited and poverty abounds. Careful analysis of food intake and any form of intemperance—such as manifested in alcohol consumption, bizarre food practices, food faddism, or the abuse of drugs—are productive to evaluate these conditions. Repeated closely spaced pregnancies and psychological disturbances manifested by a change in food intake should be assessed. Chronic infection, anorexia, or diarrhea likewise may profoundly affect the nutrient balance.

Measurement of **height** and **weight** should never be omitted. These are the most commonly used measurements of growth in children and

adolescents. Other body measurements include **skin fold thickness,** head circumference, and biochemical tests measuring blood levels of various nutrients, such as proteins, vitamins and minerals. At times, therapeutic trials of replacement nutrients play a role in the diagnosis of deficiencies. In general, however, nutrient stores must be depleted *before* low blood levels of any nutrients are found. Changes in the body chemistry and functional neurologic defects occur late in the course of a deficiency. Take a careful history for invaluable help in the initial phase of treatment. Then combine this with a high index of suspicion for various nutrient-related disorders.

In spite of modern technology and transportation, there are still large areas in our world where **famine** is epidemic. In fact, the risk of mass starvation in many countries is all too real, and often associated with other diseases. Body changes during the starvation reflect physiologic attempts to adapt to undernutrition. Fat stores are utilized first in order to spare structural protein. Thus, body fat diminishes more rapidly than does muscle. Extensive losses occur later in other organs, especially the liver and intestines. Fortunately, the central nervous system and circulation maintain themselves, whatever the cost to less essential parts of the organism.

The person during **starvation** also conserves calories by reducing his output of energy. Voluntary physical activity decreases, as does the metabolic rate. A semi-starved patient complains of feeling tired, irritable, and depressed. He may also show lack of ambition, and narrowing of interests, then develops muscle soreness and cramps. The hair begins to fall out, and cuts and wounds heal slowly. Cold temperatures are poorly tolerated. Ultimately, the individual looks haggard, pale, and emaciated. At times swelling *(edema),* particularly of the eyelids and cheeks appear, masking the degree of weight loss. The pulse weakens and the eyes become dull, looking like unglazed porcelain. Without relief and too often alone, the hapless victim of starvation then dies on the street of some large city.

The **rehabilitation diet** for patients recovering from starvation must begin with *small* quantities of the simplest food, taken at frequent intervals. A natural diet is preferable to the use of "predigested" end products. Vitamin and protein supplementation are ordinarily unnecessary. General dietary allowances should be approximately 100% of those recommended on the basis of the patient's "desirable" weight. Recovery from starvation, however, advances at a very slow pace. Weakness, fatigability and muscle aches, as well as depression, may persist for weeks to months. Recovery of strength and working capacity is slow. Eventually, recovery is sure, and a life has been saved.

Protein Calorie Malnutrition is another type of disorder seen in early childhood. One such syndrome, called *kwashiorkor,* appears most commonly

between the ages of one and three years. This tragic disorder occurs frequently in Africa in children displaced from their mother's breast by subsequent pregnancies. Conditioning factors, such as diarrhea, parasites, and skin rash may be seen. Edema is the principal sign. It is associated with low serum proteins. The child's face may appear round and moon-like. The hair changes with lightening of color, straightening of curly hair, and stripes of lightened color that attest to oscillating levels of good and poor nutrition in the past.

The other major type of malnutrition is called *nutritional marasmus.* This compares with severe semi-starvation in adults. It most commonly affects infants during the first year of life. The most conspicuous features in marasmus are wasting of muscle and fat, with growth retardation. Affected infants appear prematurely old, and often suffer from vitamin deficiency. Both types of malnutrition respond to a careful feeding regimen of simple foods, given first at frequent intervals, containing both adequate protein and calories.

VITAMIN DEFICIENCIES

Although definite diseases can be associated with the excess intake of certain vitamins, these are seldom seen on a large scale. Much more common are the deficiencies described below.

Pellagra is a disease caused by the deficiency of *niacin,* one of the B vitamins. The name is derived from the rough skin characteristically seen crusting around the hands and neck. Painful burning of the mouth, shaking of the body, and less commonly, mental disturbances can result. Pellagra was common in the United States in the early 1900's. A healthful diet was discovered to be curative. One of the essential amino acids, *tryptophan,* is converted into *nicotinic acid,* a counterpart of niacin. Deficiency of other nutrients sometimes complicates the disease. Individuals subsisting on a diet primarily of corn are predisposed to pellagra, since corn protein is low in tryptophan and most of the milling removes the vitamin.

Classically pellagra is characterized by the "three D's" — *diarrhea, dermatitis,* and *dementia.* Certain earlier symptoms may develop, however, including loss of appetite, indigestion, weakness, burning in the mouth, and insomnia. Pellagra most commonly appears in the spring or early summer, when the dietary deficiencies of winter combines with renewed exposure to the sun seems to precipitate the outbreak. The skin problems begin to look much like a sunburn. Burning may be intense. Sun-exposed areas, such as the neck, arms, and hands are affected most commonly. Later the skin becomes

brownish in color, then rough and scaly. Soreness of the mouth is typical, with inflammation of the tongue. Diarrhea may or may not be present. Mental

disturbances usually begin with episodes of nervousness and tremor. Later there occurs confusion, depression, or even delirium.

Early replacement of the B-complex vitamin with high doses of niacinamide is recommended. This related substance does not cause unpleasant vascular flushing like nicotinic acid does. Most people can take them orally. As symptoms subside, all vitamins should all be obtained from a wellbalanced, varied diet of natural foods.

Thiamine Deficiency, called *Beriberi,* has been known to western medical science since the seventeenth century. Recognized first in the Orient, beriberi has been associated with a deficiency of *thiamine.* It commonly appears when the diet exclusively consists of polished rice. Cases are occasionally encountered in the United States, particularly in infants and in alcoholics.

Three main types of this disease are identified. A chronic form called **"dry beriberi"** causes tenderness in the calf muscles and weakness in the legs. The acute form, **"wet beriberi**", is characterized by cardiovascular changes, with edema, congestion of the lungs, and heart failure. In alcoholics, the brain damage may be irreversible. Beriberi in infants continues to be a health problem in the Far East, where a child may lose his voice, develop heart failure, or gastrointestinal changes with vomiting and constipation. Adequate nutrition for the breast-feeding mother is particularly important for its prevention.

The therapeutic response to Thiamine in infants and adults with beriberi involving the heart is dramatic. A rapid transition, however, should be made from vitamin supplementation to a diet containing adequate wheat germ, rice polishings, or whole grain cereals. This disease is entirely preventable, and reflects one of many conditions following the wake of the industrial revolution.

Riboflavin deficiency is still common in many developing countries. In the Unites States there appears to be a correlation between low income and riboflavin intake. Milk and certain vegetables are good sources of riboflavin. However, when the milk is exposed to direct sunlight a considerable amount of this vitamin is destroyed. Riboflavin is reduced when the food is treated with alkali, such as we find in certain preservatives and the use of soda. Lack of riboflavin usually results in sores, developing at the corners of the mouth, inflammation of the tongue, and sore throat. Late findings affect the nerves, as well as the blood, with the development of anemia. Replacement of the vitamin rapidly reduces these changes.

Vitamin B_6 deficiency is seen occasionally in individuals who eat very few plant foods. Seizures occur in babies fed formulas deficient in B_6. This has especially been a problem when a relatively high kidney excretion

develops during pregnancy, while a mother was given high dose supplements. A number of drugs interfere with vitamin B_6 utilization, such as isoniazid, used in the treatment of tuberculosis. Eating a natural varied diet, it is not difficult to get plenty of *pyridoxine*. It is the vegetable source of vitamin B_6.

Scurvy is another vitamin deficiency with worldwide prevalence as well

as a colorful history. This condition is caused by a deficiency of *ascorbic acid,* also called *vitamin C.* It was a common cause of mortality in sailors during the fifteenth and sixteenth centuries. James Lind, a British naval surgeon, developed a simple cure in 1747 by giving the sailors two oranges and one lemon every day. Their swollen gums, weakness, and bleeding tendencies responded dramatically, giving rise to the nickname, “Limeys.” In more recent times scurvy appears more commonly in alcoholics, food faddists, and the impoverished elderly living on a grossly unbalanced diet.
The principal manifestations of scurvy are hemorrhages in the skin, swollen and bleeding gums, aching muscles, fatigue, and emotional changes. These symptoms appear after two months of depletion. Appearing occasionally in children, scurvy produces tenderness and swelling in the legs. Extreme pain may be present. Finally, after the teeth erupt, swollen gums and bleeding develops. Skeletal changes show signs of growth retardation. In some cases of a vitamin-D deficiency syndrome, rickets, may co-exist.
A carefully taken feeding history is helpful for the diagnosis of *infantile scurvy.* After 46 months of age any infant fed solely with the bottle, using only boiled cow’s milk or a milk substitute, may develop this disease. Fresh orange juice or another dietary source of vitamin C is rapidly curative. Extremely high supplements of ascorbic acid are seldom necessary. They may produce an abnormal dependency, based on the development of increased excretion originating in the kidneys to compensate for this superabundance. Large doses of vitamin C can also inactivate vitamin B_{12}. That, at times, unfavorably affects reproduction.
Vitamin A is primarily manufactured by the conversion of dietary *betacarotene* into the active form, *retinol.* One of the first symptoms of vitamin A deficiency is inability to see in reduced light (night blindness). A later change in the eye is the presence of dryness, *xerophthalmia.* The conjunctiva becomes opaque, the secretion of tears decreases, then a sticky secretion appears over the cornea, called the *Bitot spot.* This mark has the appearance of a flake of meringue. Further destruction of the cornea may occur, leading eventually to blindness.
In treating the acute disease, a supplement of vitamin A is recommended. The prevention of deficiency using a balanced diet containing green and yellow vegetables, fresh fruit, and vitamin-supplemented milk is entirely

adequate. Green and yellow foods such as carrots, cantaloupe, squash, and dark green leafy vegetables are considered excellent sources for this vitamin. A high intake of carotene appears in adults using carrot juice or a similar food concentrate excessively. **Carotenemia** may color the skin, but should not be confused with jaundice. It is considered harmless and will subside when the carotene intake is reduced. **Hypervitaminosis A**, on the other hand, can produce an acute toxicity. In infants, it presents as drowsiness, vomiting, and other signs of increased intracranial pressure. Adults commonly develop a headache within hours after any injection of a toxic dose. Blurred vision, nausea, vomiting, or drowsiness may also develop. The skin peels and hair loss occurs. With chronic ingestion of high doses, liver changes resembling cirrhosis are seen. Psychiatric side effects manifest themselves, but prognosis is good when vitamin A ingestion ceases.
Vitamin E is the common name of a group of related fat-soluble vitamin,

called *tocopherols.* They vary in their potency, with the alpha form being thought most active. A number of animals develop a Vitamin E deficiency syndrome, with deterioration in the muscle fibers, impaired reproduction, or anemia. Clinically, these insufficiencies are rare in adults. When the diet contains enough polyunsaturated fatty acids, plenty of dietary vitamin B is usually available. Unfortunately, optimistic expectations of many researchers have been disappointed in spite of the literature proclaiming the miracleworking powers of this vitamin. We do not know for certain whether vitamin B supplementation can favorably affect physical endurance, cardiac status, sexual potency, or longevity in individuals with normal blood levels of Vitamin B *(tocopherols).*

A number of vitamins affect the production of blood or its proper coagulation. **Vitamin K** is present in most edible vegetables, particularly the green leafy ones. A similar vitamin is also produced by intestinal bacteria. The gradual accumulation of vitamin K levels in a newborn baby explains easily why ancient recommendation for an *eight-day* circumcision was made to the Jews. Hemorrhagic disease of the newborn as well as in adults is prevented by proper blood levels of this vitamin.

Vitamin B_{12}, folic acid, and iron are also closely related to blood production and have been discussed in Chapter 4, dealing with the circulatory system.

TRACE MINERALS

Many **trace minerals** are known to be essential to physiologic processes. It is not known in all cases that supplementation of these can cure specific diseases, but a few of the common sources are listed below. **Zinc** is widely distributed in foods, particularly breads, cereals, lentils, beans, and rice. This

nutrient is essential to growth, as well as in repair and healing processes.

Copper is abundant in raisins, whole grain cereals, dried legumes, and nuts. It also plays a role in blood production, tissue metabolism, bone development, and nerve function.

Cobalt is a component of vitamin B_{12} and comes from a variety of sources. Called *hydroxycobalamin,* vitamin B_{12} is a vital ingredient in blood cell formation as well as healthy nerve function. Deficiency of B_{12} produces the disorder **pernicious anemia**. Vitamin B_{12} is found in many animal products, such as milk, eggs, and cheese. It is absorbed in the small intestine *(ileum),* and requires a protein *intrinsic factor* for complete absorption. Intrinsic factor is found in the stomach. It is often deficient in people who have chronic gastritis or those who have had the major part of the stomach removed by surgery. Total vegetarians should be sure that their diet includes some vitamin B 12. Many breakfast cereals, soy milks, and meat substitutes are fortified with 12. It is available in tablet form. One microgram is sufficient for daily protection.

On the other hand, many vegans have gone for years without evidence of vitamin B_{12} deficiency. There is a urine test that can determine any presence of B_{12} deficiency. It is called *urinary homocysteine* and *methylmalonic acid.* Both of these substances are metabolites of vitamin B_{12}. Together with serum B_{12} measurements, these analyses are effective in screening vegetarians for any trace of B_{12} deficiency before problems appear.

The anemia of vitamin B_{12} deficiency is *macrocytic,* meaning that the red

blood cells are unusually large. More serious are the nerve and spinal cord disorders that develop. Neurologic signs include loss of position and vibration sensation, combined with sensations of numbness and tingling. Later, serious impairment of gait and bladder *(sphincter)* control are seen. Some of these symptoms may persist long after vitamin 12 is again replenished. Moreover, this neurologic damage may occur before any evidence of anemia, making diagnosis very difficult in early stages. Prevention is the watchword for vitamin B_{12} disorders.

Selenium, like vitamin E, protects against cellular damage and lowers the risk of cancer. Cereal grains are good sources of this mineral also.

Manganese and **magnesium** affect a host of enzyme systems. They likewise come from whole grain cereals, as well as many vegetables. **Nickel, silicon**, **fluorine,** and many other minerals are also important to the body. Whole grain cereals are a major source of **Chromium**. It is also found in Brewer's yeast. This mineral helps to improve glucose tolerance and is an important preventive against the development of diabetes.

OTHER HORMONAL DISORDERS

Finally, we turn to the common endocrine glands that occasionally produce a disease. Many people are concerned about the function of the thyroid gland. This endocrine organ, located at the base of the neck just below the "Adam's apple" *(larynx)* is an important regulator of the metabolism of the body. Its overactivity results in characteristic symptoms, such as a rapid pulse, bulging of the eyes, nervousness, tremor, and diarrhea. Tumors of the thyroid gland, as well as the overproduction of the brain hormone stimulating the gland to produce excessive amounts of thyroid hormone may cause these problems. Blood tests are available to determine the level of *thyroxine,* the major hormone, as well as others circulating in the system.

Although stress may be a precipitating factor in the development of **hyperthyroidism**, a failure to respond to the recommended change in lifestyle with increased rest and physical exercise, should lead a person to seek medical counsel, as surgery is occasionally indicated.

Many more people are concerned about *underactivity* of the thyroid gland. This is often blamed for obesity but in reality is seldom the cause. A tendency to fluid retention, sluggishness, drying of the skin, constipation, and fluid retention should lead one to seek the appropriate blood tests and accurate diagnosis. The typical patient with advanced **hypothyroidism**, called *myxedema*, becomes very complacent, with subdued emotional responses and dull mental processes. This so-called "bovine placidity" is much less distressing to its possessor than to the patient's associates.

Neurologic syndromes are occasionally mimicked by hypothyroidism. They normally clear rapidly with replacement therapy. Many different forms of thyroid medications are available, but should not be used unless a definite deficiency is diagnosed. In such case full hormone replacement becomes necessary, usually for life.

Data Used to calculate the Composition of Vegetables

Carbohydrate Content (Starch and Sugar)	**Weightings** (Based on usual

Food gm. /100 gm. Rate of consumption
Beets 8.0 3
Carrots 7.5 4
Onions 7.2 1
Peas, green 9.0 4
Pumpkin 5.1 –
Rutabaga 6.7 ½
137
Squash, winter 4.9 2
Turnip 4.6 1
Weighted agerage 7.0

The **adrenal** glands are organs of great benefit, often blamed for minor symptoms. It is my belief that although the adrenal glands may play a role in **hypoglycemia**, this syndrome should not be confused with adrenal exhaustion. **Addison's disease** is the medical term for lack of the production of *cortisol* and other steroid hormones. In this case, weight loss, weakness, low blood pressure, and a disturbance in salt balance occurs. Replacement therapy is necessary to avoid life-threatening complications, and with the appropriate hormone, metabolic balance may be achieved and normal life expectancy realized.

Symptoms of excessive cortisol, called **Cushing's Syndrome**, are sometimes seen either from excessive intake of a related drug or from tumor overproduction of the body's own hormone by an adrenal cortical tumor. In this case, the face becomes moon shaped and a "buffalo hump" appears over the shoulders. Blood pressure may be elevated and a diabetic glucose tolerance appear. Eventually the bones become demineralized and may develop spontaneous fractures. Hypertension usually appears, as well as an increased tendency to ulcer formation. For these reasons, the disease should be recognized as early as possible and confirmed with appropriate blood tests. Treatment should be directed toward the cause.

It is well accepted that prolonged stress can cause gradual weakening in these endocrine organs. Exposure to prolonged noise, lack of sleep, excessive worry, dietary indiscretion as well as many emotional factors may precipitate either depletion or excessive production of many endocrine hormones. Numerous cardiac symptoms, menstrual disorders, blood pressure changes, as well as general symptoms of exhaustion, fatigue, and depression stem from hormonal interaction combined with the body's response to prolonged stress. Simple lifestyle measures may be curative, but therapy must be prolonged. Often changes in the entire lifestyle are required in order to effect a cure. Nevertheless, I believe that the hormonal-biochemical interaction related to nutrition and the endocrine system constitutes one of the most challenging frontiers for investigation. Understanding it may impart to sufferers a long and useful life with ultimately the reestablishment of perfect health.
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DIABETIC DIET EXCHANGE LISTS

FOODS THAT NEED
NOT BE MEASURED LIST 2. VEGETABLE
(Insignificant carbohydrate or calories) **EXCHANGES: GROUP A**
Cranberries (unsweetened) Group A contains little protein,
Clear broth carbohydrate, or calories. *One cup*

at
Lemon *a time may be used without*
counting
Gelatin (unsweetened) *it.*
Pickle, dill Asparagus
Seasonings: *Broccoli
Chopped parsley, mint, garlic, onion, Brussels sprouts
celery salt. Cabbage
*Escarole
LIST 1. MILK EXCHANGES Eggplant
*Beet greens
One exchange of milk contains 8 gm. *Chard
of protein, 10 gm. of fat, 12 gm. of *Collards
carbohydrate, and 170 calories. *Dandelion greens
This list shows the different types of *Kale
milk to use for one exchange: *Mustard
*Spinach
Type of Milk Amount to use * Turnip greens
Cauliflower
Soy milk 1 c. Celery
Whole milk *Chicory
(homogenized) 1 c. Cucumbers
Skim milk 1 c. Lettuce
Evaporated milk 1/2 c. Mushrooms
Powdered skim milk 1/4 c. Okra
(nonfat dried milk) Radishes
Buttermilk Sauerkraut
(made from skim milk) 1 c. String beans
Summer squash
One type of milk may be used *Tomatoes
instead of another. For example, one *Water cress
half cup of evaporated milk in place of ***** *These vegetables contain a lot of*
1 cup of whole milk. Soy or rice milks are *vitamin A.*
much preferred to reduce disease risks
from dairy animals. **LIST 2. VEGETABLE**

Skim milk and buttermilk have **EXCHANGES: GROUP B**
the same food values as whole milk,
except that they contain less fat. Two fat Each exchange contains 2 gin. of
exchanges are added when 1 cup of skim protein, 0.7 gin. of carbohydrate,
and milk or buttermilk made from skim milk 35 calories. *One half cup of*
vegetable
is used in place of whole milk, calculated *equals 1 exchange:*
in a diet pattern.
Beets *Tangerine 1 large
*Carrots Watermelon 1 c.
Onions **These fruits are rich sources of*
Green peas *vitamin C.*
*Pumpkin
Rutabagas

*Winter squash **LIST 4. BREAD EXCHANGES**
Turnip **Bread** 1 slice
**These vegetables contain a lot of* Biscuit, roll (2” diam.) 1
vitamin A. Muffin (2” diam.) 1
Corn bread (1 1/2” cube) 1
Cereals, cooked 1/2 c.
LIST 3. FRUIT EXCHANGES Dry, flake, and puff types 3/4 c.
One exchange of fruit contains 10 Rice, grits, cooked 1/2 c.
gm. of carbohydrate and 40 calories. Spaghetti, noodles, cooked
1/2 c.
This list shows the different amounts of Macaroni, etc., cooked 1/2 c.
fruits to use for one fruit exchange: **Crackers,** graham (2 1/2” sq.) 2
Saltines (2” sq.) *5*
Fruit Amount to use round, thin (1½”) 6
Apple (2”’ diam.) 1 small Flour 2-1/2
Tbsp.
Apple sauce 1/2 c. **Vegetables:**
Apricots, fresh 2 medium Beans, peas (dried, cooked)
1/2 c.
Apricots, dried 4 halves (Lima, navy, split peas, cowpeas,.)
Banana ½ small Baked beans, no pork 1/4 c.
Blackberries 1 c. Corn 1/3 c.
Raspberries 1 c. Popcorn 1 c.
*Strawberries 1 c. Parsnips 2/3 c.
Blueberries 2/3 c. Potatoes, white 1 small
*Cantaloupe (6” diam.) 1/4 Potatoes, white, mashed 1/2 c.
Cherries 10 large Potatoes, sweet, or Yams 1/4 c.

Dates 2
Figs, fresh 2 large
Figs, dried 1 small **LIST 5**. **FAT EXCHANGES**
*Grapefruit 1/2 small
*Grapefruit juice 1/2 c. Margarine 1 tsp.
Grapes 12 Avocado (4” diam.) 1/8
Grape juice 1/4 c. Soy mayonnaise 1 tsp.
Honeydew melon 1/8 medium Oil 1 tsp.
Mango 1/2 small Nuts 6 small
*Orange 1 small Olives *5* small
*Orange juice 1/2 c. Peanut butter 1 Tbsp.
Papaya 1/3 medium
Peach 1 medium
Pear1 small
Pineapple 1/2 c.
Pineapple juice 1/3 c.
Plums 2 medium
Prunes, dried 2 medium
Raisins 2 Tbsp.

HYPOGLYCEMIA (Low Blood Sugar)

SYMPTOMS—Confusion, depression, nervousness, anxiety, antisocial behavior, emotional instability, exhaustion, headaches, impatience, inability to cope, fears, craving for sugar, faintness, dizziness.

Symptoms especially occur a few hours after eating sweets or fats. The more that is eaten and the longer the span before the symptoms occur, the worse they are.

CAUSES—The problem is adrenal exhaustion. The cause is too much stress, worry, and an excess of undigested sugars, starches, proteins, and dairy products. The cortin hormone is depleted, so food cannot be digested properly.

People consume large quantities of sugars, caffeine, soft drinks, and alcohol. These all contain simple sugars, and insufficient amounts of complex carbohydrates. Add to this: high stress levels, and the two adrenal glands become exhausted.

Hypoglycemia can be inherited, but more often it is brought on by an inadequate diet (and is then called *functional hypoglycemia*). However, there are several other physical problems which can weaken adrenal function and help bring on hypoglycemia. These include weaknesses in the thyroid, liver, kidneys, pituitary, and pancreas. Immune deficiency and candidiasis can also lead to it. Other causes include smoking and large amounts of caffeine.

Hypoglycemia is sometimes mistakenly diagnosed as asthma, allergies, fatigue syndrome, stomach, intestinal, weight problems, or mental or nervous disorders.

Half the people, over 50, who have hypoglycemia, are hypothyroid.

TREATMENT—

• Refined starches, sugars, and a high-meat diet wear out the adrenals. Too much sugar shocks the adrenal cortex, and the resulting physical reaction is to crave still more sugar.

• Stop eating or using meat, nicotine, alcohol, chocolate, soft drinks, black tea, and sugared and fat foods. Caffeine, alcohol, and tobacco produce wide swings in blood sugar levels.

• Read the labels at the grocery store, and avoid dextrose, dextrin, lactose, maltose, sucrose, fructose, modified food starch, corn syrup, corn sweetener, cornstarch, and natural sweetener. Only use honey and molasses in small amounts. Also stay away from sorbitol, hexanol, mannitol, and glycol.

• Too much salt also exhausts the adrenals and causes a loss of potassium, leading to lower blood sugar.

• Eat natural foods, the ones you should have been eating to begin with. Whole grains, raw and simply cooked vegetables, some fresh fruit. But eat in moderation starchy foods, such as corn, noodles, pasta, white rice, hominy, and yams.

• Eat a high-fiber diet and vegetables that are raw or steamed. These are good for you: beans, lentils, brown rice, white potatoes, soy products, and fruits.

• Useful fruits include apricots, apples, bananas, grapefruit, lemons, cantaloupes, and persimmons. For example, eat a raw apple instead of applesauce, for the apple has more fiber which will help keep blood sugar stabilized.

• Licorice acts like cortin and helps the blood sugar. Bilberry and wild yam help control insulin levels. Cedar berries help the pancreas. Spirulina tablets, taken between meals, help stabilize blood sugar.

• During a blood sugar reaction, eat something that has both fiber and protein, such as rice or bran crackers with almond butter. Fiber alone (popcorn, rice, oat bran, crackers, ground flaxseed, and psyllium husks) has the ability to slow down a hypoglycemic reaction. A half hour before each meal, eat some of this high fiber, to stabilize blood sugar.

• Once a month, go on a fresh vegetable juice fast for a day. Take enemas with some added lemon juice at that time. If a reaction starts to occur, reach for the fiber, protein powder, or spirulina.

• Avoid stressful situations. You may have a milk allergy, which often accompanies this disease.

ADDISON'S DISEASE (Adrenal Underactivity)

SYMPTOMS—Dizziness, fainting, nausea, loss of appetite, moodiness, decrease in body hair, inability to cope with stress. Slight darkening and discoloration of the skin is more noticeable when body parts are exposed to the sun. This would include forehead, knees, elbows, scars, skin folds and creases (on the palms, etc.). The mouth and freckles may appear darker. The hair becomes darker.

Bands of pigment run the length of the nails.

Reduced adrenal function (resulting either from Addison's or Cushing's Disease) can result in weakness, headaches, memory problems, dizziness, allergies, food cravings, and blood sugar disorders.

CAUSES—Both the adrenal underactivity of Addison's Disease and the overactivity of Cushing's Disease are caused by problems in the function of the adrenal glands.

Continued use of cortisone drugs for arthritis and asthma, etc., damage the adrenals. Those drugs cause them to shrink in size and not work properly. Yet, surprisingly enough, the shrunken glands can still overproduce and cause Cushing's Disease or underproduce and cause Addison's.

There is a way you can pinpoint whether or not your adrenals are functioning normally:

The systolic is the first number in a blood pressure reading, and the diastolic is the second. For example, 120/80. The systolic should be 10 points higher when you are standing than when you are lying down.

Lie down and rest for 5 minutes, and then have someone take your blood pressure. Then stand up and have it immediately taken again. The blood pressure will probably be somewhat higher.

But if it is lower when standing than when laying flat, the adrenals are not working properly. The lower it is, the worse the condition of the adrenals.

You will want to contact a medical professional. Addison's is a chronic condition which needs to be continually worked with. You may moderate the problem, but it is never fully eliminated.

TREATMENT—

• Maintain a good nourishing diet. Include Nova Scotia dulse or Norwegian kelp for trace minerals. Fresh, raw, and cooked greens and garlic should be part of your regime.

• Avoid tobacco, alcohol, caffeine, and soft drinks. Do not use sugar foods, fried foods, processed or junk foods. Do not eat meat.

• Avoid stress! This is very important, for stress is hard on weak adrenals. Take time for prayer and the study of God's Word, the Bible. He can help you solve the problems about you.

• Stress released ACTH through the pituitary, which can raise blood pressure, stores sodium and excretes potassium. Water retention in the tissues is another result.

CUSHING'S DISEASE **(Adrenal overactivity)**

SYMPTOMS—Rounded "moon" faces, heavy abdomen and buttocks, thin limbs, The muscles seem weak and wasting away. The eyelids may appear swollen and round; red spots may appear on the face. The skin seems to get thinner, and produces stretch marks and bruising.

Body hair grows faster, and women may grow mustaches and beards. Healing is more difficult and illnesses more frequent.

Reduced adrenal function (resulting either from Addison's or Cushing's Disease) can result in weakness, headaches, memory problems, dizziness, allergies, food cravings, and blood sugar disorders.

CAUSES—There are two adrenal glands in your body. One is on top of each kidney. Each one is remarkably small, and weighs only about one-fifth of an ounce.

The outer thick "rind" of each adrenal is the cortex. It produces cortisone. The inner portion is called the medulla; it secretes adrenaline (epinephrine) when stress occurs.

CYSTIC FIBROSIS

SYMPTOMS—The symptoms are first seen in very small children. Large amounts of thick mucous develops in the lungs, blocking lung passages and causing difficult breathing, chronic coughing and wheezing, and lung infections.

There are digestive problems, inadequate absorption of fats, after-meal stomach pain, and thinness. Body sweat will have very large amounts of sodium, potassium, and chloride salts. Any, or all, of these symptoms may occur.

CAUSES—In 1938, this physical problem was named "cystic fibrosis" because it was mistakenly thought that abnormal changes in the pancreas were true cysts (tiny pockets of fluid lined with normal tissue). But it was later discovered that those spots were just part of the shrinking process of the pancreas, as the disease worsened.

There are three views of the cause of cystic fibrosis (CF):

1 - CF is an inherited disease, which the sufferer must learn to live with.

2 - CF is caused by inadequate absorption of selenium, zinc, essential fatty acids, and other minerals (including trace minerals) as a result of subclinical celiac disease(Celiac disease is the inability to digest wheat and some other foods.)

3 - Dr. Joel Wallach, a veterinarian, who in 1978 was the first to diagnose CF in a laboratory animal, by noting characteristic CF changes in the pancreas and liver of baby monkeys, says he was fired when it was discovered that he could reproduce those CF changes in the body by giving or withholding the element, selenium. He had shown that CF was a nutritional problem which could be solved if caught early enough. *(See Let's Play Doctor, J.D. Wallach, D.V.M., N.D., pp. 109-110.*

"The prevention of CF has been accomplished in pet, farm and laboratory animals by the veterinary profession by assuring adequate levels of selenium and essential fatty acid nutrition to the pregnant and nursing mother. This is not as easy as it sounds because of malabsorption problems in a percentage of women. All things being

normal, a supplementation of 200 mcg selenium per day and 5 gm of flaxseed oil, three times a day [to the pregnant and nursing mother], would be adequate to prevent CF.

"Treatment of CF is very basic: treat the infant as early as possible with selenium IM [given intramuscularly] at 10-25 mcg per day."—*Op cit., p. 109.*

He adds that it is vital that it be determined if the infant is allergic to wheat, cow's milk or soy milk, so as to avoid what he is allergic to.

We might conclude that all three theories are correct; in that, if you give the mother and infant proper supplementation, the disease can be eliminated at the beginning of the child's life.

But if this is not done, he will thereafter not be able to absorb nutrients properly, will exhibit the symptoms of CF, and will have to cope with the problem the rest of his life.

However, Wallach says that, even later, the person can lead a more normal life if he regularly receives essential fatty acids, intravenously, and selenium, intramuscularly.

"The lungs of CF patients are normal at birth and only develop bronchiectasis after chronic essential fatty acid and copper deficiencies have taken their toll."—*Ibid.*

"CF . . is preventable, 100% curable in the early stages, and can be far better managed in chronic cases than it is currently managed by 'orthodox' medicine."—*Op. cit., p. 108.*

TREATMENT—

• In addition to the above instructions, the CF patient should consider the following:

• Eat a nourishing diet, high in raw fruits and vegetables and with adequate amounts of carbohydrates, protein, and vitamin/mineral supplements. A problem is that those with CF do not absorb food properly. They need to eat more than other people, in order to absorb the needed nutrients.

• Include germanium (found in garlic and onions), selenium, and vitamin E.

• Drink plenty of liquids and an adequate amount of salt in hot weather.

• Do not eat processed or junk food of any type. Avoid tobacco, alcohol, etc.

DIABETES—1

SYMPTOMS—*Diabetes insipidus:* Extreme thirst and enormous quantities of urine, regardless of how much water is consumed.

Diabetes mellitus - Type I: (insulin-dependent or juvenile diabetes): Excessive hunger, thirst, urination, depression, weakness, blurred vision, dry mouth, and vomiting.

Diabetes mellitus - Type II: (maturity-onset diabetes): Unusual thirst, frequent urination, general weakness, obesity, skin disorders, boils, blurred vision, and dry mouth.

CAUSES—Diabetes is a major problem; entire books have been written on the subject. We can only touch on the subject here.

Of the two types of diabetes, *diabetes insipidus* is the more rare and is caused by an inadequately functioning pituitary hormone (vasopressin) or kidneys which somehow cannot respond properly to it.

Diabetes mellitus is the third largest killer in the U.S., and is caused by a defect in the production of insulin by the pancreas. Without insulin, the body cannot utilize glucose, which is an important blood sugar. A blood glucose level above 180 mg. percent causes excess sugar to spillover into the urine and make it sweet. (Mellitus means "sweet.") Diabetes comes from a Greek word for "flow through," since diabetics produce so much urine.

Some people can develop diabetes mellitus as a result of stress, obesity, or pregnancy. Certain medicinal drugs can also cause it: oral contraceptives, adrenal corticosteroids, phenytoin, or thiazide diuretics. A diet high in sugar and white flour can lead to diabetes. Parasites (especially in children) can also do it. Hypothyroidism can also cause it.

It is of interest that people who eat much sugar eventually cannot taste it as well; so they pour on more sugar! But Type II diabetes sufferers also lack this sugar-tasting discernment. Leave off the sugar, and learn to enjoy the natural flavors in your food.

Because the diabetic cannot utilize glucose for energy, he loses weight and is weakened by excess consumption of his protein and fat stores. Because of this, he may be very hungry and eat large amounts of food.

TREATMENT—

• Stop eating sugar, white-flour products, greasy food, meat, eggs, cheese, excess vegetable oil, as well as rancid nuts and seeds. Totally avoid tobacco and those who use it. Because it restricts circulation, it will aggravate your condition.

• Eat smaller meals (if necessary, eat them more frequently), and chew the food thoroughly. Do not eat late in the evening. Overeating can induce diabetes or increase it, once contracted.

• Vegetable broths and fresh fruit are nourishing. A high-carbohydrate, high-fiber diet will reduce the need for insulin. (A low-fiber diet can bring on diabetes.) It will also lower the amount of fat in the blood. Get your protein from vegetable sources.

• Onions and green beans appear to lower blood sugar. A diet high in raw food is also helpful. One individual dropped his insulin dosage from 60 to 15 units per day, by increasing his raw food intake.

• But do not eat fruits and melons in large amounts. Do not eat apples or bananas. Do not eat milk and sugar combinations. Coffee can induce very high blood sugar levels. A fat-free diet will help reduce blood sugar.

• Eat your meals at regular times, and do not be in a rush to swallow the food. The quicker you eat, the higher goes the blood sugar.

• Eat raw garlic every day, to reduce your blood sugar.

• Do not take large amounts of niacin (vitamin B_3), B_1 (thiamin), PABA (para-aminobenzoic acid, another B vitamin), or vitamin C. But do take them in normal amounts.

• Get enough exercise; it will improve circulation, which is always poor in diabetics. This will also lower blood sugar levels.

• Huckleberry helps promote insulin production. Cedar berries help the pancreas. Other helpful herbs include black walnut, echinacea, burdock, buchu, dandelion root, and uva ursi.

• In case of a hyperglycemia attack, go to an emergency room. You must be given fluids, electrolytes, and possibly insulin.

• In case hypoglycemia occurs, in an emergency, immediately drink fruit juice, soft drinks, or anything else that contains sugar. If you are insulin dependent, carry a glucagon kit with you at all times.

• If your child has diabetes, tell his teacher the warning signs of hypoglycemia and hyperglycemia.

• Take good care of your feet, for they can become more easily infected than those of non-diabetics.

DIABETES—2 (J.H. Kellogg, M.D., Formulas)

INCREASE OXIDATION OF SUGAR—A large amount of moderate out-of-door exercise, especially respiratory exercise (exercise that requires deeper breathing) and daily Cold Baths.

INCREASE ABSORPTION OF OXYGEN—Graduated Cold Baths, out-of-door exercise, breathing exercises, oxygen inhalation.

IMPROVE INTESTINAL DIGESTION—Cold Douche with percussion to spine; short Cold Fan Douche to abdomen; Hot Abdominal Pack, day and night; Fomentation to abdomen, twice daily; abdominal message.

DIABETIC DIET—Zwieback (twice-baked bread), fruits, etc., but do not use dates and figs, green peas, strawberries, spinach, nuts, and nut products of all sorts except chestnuts. No meats of any kind.

SCIATICA—Hot Leg Pack, Revulsive Douche, rest in bed.

RHEUMATIC PAINS—Radiant Heat Bath or Sweating Wet Sheet Pack until he perspires for 5-8 minutes. Follow by a suitable cold application.

OBESITY—Vigorous exercise; monotonous diet (which automatically lessens the desire to overeat); sweating baths, 3 times a week; vigorous cold applications daily; dripping Wet Sheet Rubs; Half Bath; Cooling Wet Sheet Pack; Plunge Bath.

EMACIATION—Rest in bed, Cold Mitten Friction or Cold Towel Rub, Massage, a fattening diet.

BOILS—Prolonged Neutral baths, soap shampoo three times a week.

PRURITUS—Prolonged Neutral baths followed by Cold Mitten Friction to sound parts of skin, Neutral Compress.

SOMNOLENCE—Copious water drinking; Hot Enema, repeated every 3-4 hours; prolonged Neutral Bath, with Cold Pail Pour at 60^0 F. to head and spine at intervals of every 15 minutes. Hot Blanket Pack for 15 minutes, followed by cold Friction and Dry Pack.

CONSTIPATION—Enema, at 70^0 daily; Hot Abdominal Pack.

INSOMNIA—Prolonged Neutral Bath at bedtime; Neutral Pack, 30-40 minutes; Neutral Spray Douche, 3-4 minutes, at bedtime.

BRONCHITIS—Chest Pack, Steam Inhalation, Revulsive Douche to legs.

EDEMA OF LEGS—Rest in bed; Cold Compress over heart, 15-30 minutes, 3 times daily. Revulsive Compress or Revulsive Douche to legs, 3 times a day, followed during interval by Heating Compress.

CARDIAC DILATATION—Cold Compress over heart or Ice Bag over heart, 15 minutes, 3 times a day. Carefully increased moderate exercises.

THREATENED GANGRENE—Alternate Compress or alternate Pail Pour to affected part and large adjacent area, 3 times a day; Protected Heating Compress over it during the interval between.

CIRRHOSIS OF LIVER—Alternate Compress over liver or a Spray Douche to it twice daily. During the interval between, apply a well-protected Heating Compress.

ECZEMA—Alkaline Bath (using oatmeal, etc., in water) or a Neutral Bath, 30 minutes, twice daily.

THIRST—Frequent drinking of small quantities of cold water, half a glass every hour. Sipping very hot water.

DRY SKIN—Steam Bath or Prolonged Neutral Bath, followed by oil rubbing daily or 2-3 times a week.

CONTRAINDICATIONS—If emaciated, avoid exercise and prolonged hot or cold baths.

GENERAL METHOD—The general plan of treatment in this disease is essentially the same as that required in the treatment of obesity, which this disease closely resembles; but, in cases of diabetes accompanied by emaciation, very cold procedures, especially cold immersions (used in cases of obesity or in cases of diabetes in which he is fleshy) must be carefully avoided, and the principal reliance must be placed upon short cold procedures which build up his resistance while increasing oxidation of carbon to a moderate degree. Special attention must be given to improving the intestinal digestion

HYPOTHYROIDISM (Underactive Thyroid; Goiter)

SYMPTOMS—Fatigue and inability to tolerate cold are the most common symptoms.

Others include: loss of appetite, a slow heart rate, muscle weakness and possible cramps, dry and scaly skin, recurrent infections, water retention (edema) and overweight, brittle nails, constipation, depression, difficulty in concentrating, a yellow-orange coloration of the skin (especially on the palms of the hands). In women, there might be painful menstruation, a milky breast discharge, and fertility problems.

CAUSES—The thyroid gland is the body's thermostat. It tells the rest of the body when to produce more heat or less. Thyroxine is secreted by the thyroid (a butterfly-shaped gland in the front of your neck), and affects several body functions, including the general rate of metabolism. The pituitary, located in the center of the skull, sends out TSH (thyroid-stimulating hormone), to tell the thyroid to speed up or slow down.

When a weak thyroid does not respond, TSH levels remain high—and you have hypothyroidism.

The hormone, thyroxine, is almost pure iodine.

First thing in the morning, place a thermometer under your arm for 15 minutes while keeping still. A temperature of 97.6^{o} F. or lower may indicate an underactive thyroid. Write down the result for five days. (Others say that if the test is consistently below 98, you are low thyroid.)

A low thyroid condition generally does not produce goiter.If you had goiter, your thyroid gland would enlarge.

It is thought that Hashimoto's disease is the most common cause of an underactive thyroid. This occurs when the body becomes allergic to its own thyroxine! It is not clear why this happens.

In addition, the immune system can produce antibodies that invade and attack the thyroid, disrupting hormone production. This destruction of the thyroid, resulting in hypothyroidism, is called *myxedema.* It is actually a disease of the immune system. It is believed that an excess of chemicals, poisonous fumes, medicinal drugs, tobacco smoke, impure living, etc., disrupts the immune system and starts it on such rampages.

Get away from the chemicals by moving to the country, live a clean life, eat right, use a distiller to make your own water, work out-of-doors part of the time, have peace with God, and you will feel better every day.

Medical treatment includes the taking of thyroxine from animals, or synthroid. This is generally 3-9 grains each morning. An excess will cause increase in heart rate and shaking of the extended arm.

The active ingredient in synthroid and other synthetic thyroid medications, is levothyroxine. It can cause a loss of as much as 13 percent of bone mass. An estimated 19 million people in the U.S. take this drug for thyroid problems or thyroid cancer.

Thyroid supplementation can cause cardiac arrest in those whose hearts are not strong enough for the increased activity the thyroid dosage places upon it.

Thyroid medication can have a similar effect on the adrenals. They may be working poorly, as a result of years of low thyroxine. The medication can cause adrenal insufficiency. Diabetes can be made worse by the thyroid pill. Anticoagulants can be upset.

In newborn infants, synostosis can occur if they are given thyroid. The skull bones close prematurely and the brain does not develop properly.

Thyroid supplementation also increases the need for insulin and, in some, for antidepressants as they become extremely agitated.

Thyroid medication can produce arrhythmia, angina, and tachycardia, or hair loss.

After menopause, a smaller dose of thyroid medication is often needed by women.

The human body needs less thyroid as it gets older, so older folk should try reducing their dose of synthroid. To do this, try reducing the amount you take by one dose a week (example: 5 doses a week, then 4 doses the next week, etc.). When you encounter problems, stay with that amount for 4 weeks to see if the thyroid will adjust itself to this new amount. After a month, try reducing the dosage again, but staying one month at each reduced level.

TREATMENT—

• You need iodine every day, at every meal. But how do you obtain it? Long use of thyroid medication can weaken the bones or result in breast cancer.

• Among the seaweeds, Nova Scotia dulse or Norwegian kelp are the best balanced sources of trace minerals. Most other seaweed products also contain iodine, but they are not always as balanced in providing a wide spectrum of other trace minerals. California kelp is not as good.

• Some nature therapists recommend coating the bottom of your feet with iodine, in order to increase iodine absorption by your body. Others do not recommend it. You really have no certainty as to what substances and quantities you are taking into your body.

• Another source of iodine is Lugol’s solution. This, of course, should be taken in extremely small doses. Unfortunately, it is difficult to obtain. Pharmacies have it, but will not dispense it without a prescription.

• Of course, there is also iodized salt.

• Some turn to "sea salt," but generally this is nothing more than regular salt, extracted from the ocean rather than from salt mines. It is just regular salt!

• Some use rock salt (from salt mines), and grind it up. But this lacks the iodine.

• For some, thyroid problems can be corrected, but for others it is something to live with, for a lifetime, while doing that which may lessen the problem. In addition to taking added iodine, eat a nutritious diet. The experts say to only eat in moderation the cabbage family (broccoli, cabbage, kale, Brussels sprouts, mustard greens), for they tend to suppress the thyroid function. The same is said to hold true for peaches and pears.

• Chlorine, fluoride, and iodine are chemically related, and block entrance of iodine into the thyroid. So avoid chlorinated water, fluoridated water, and toothpaste.

• A thyroid deficiency can result from lack of sunshine and free fats (margarine, butter, mayonnaise, fried foods, cooking fats, salad oils, and peanut butter).

• Functions of the thyroid will be increased by more exercise, for it stimulates TSH production by the pituitary. T3 increases slowly in the blood during, and after, vigorous exercise.

• Mother's milk is a good treatment for hypothyroid babies, and it helps protect normal babies from developing the problem until weaning.

• Vitamin A is necessary for iodine to be properly absorbed; the B vitamins work together, to nourish the thyroid; B_6 helps the thyroid use its iodine effectively in hormone production; B_{12} helps the thyroid work properly.

• To stimulate the thyroid: Eat one serving each of oats and bananas daily, take a cool shower each morning and night, and work 3-5 hours out-of-doors every day.

• Avoid electric blankets if you can.

• Use a salt-free, oil-free, sugar-free diet until the thyroid is under control. But, on the long term, you need a little salt and oil.

• In cretins, who are born hypothyroid, try taking them off the thyroid medication after three years of supplementation. Maybe their thyroid will start functioning on its own.

• A nature healer in Central America recommends the following procedures:

• *To go off thyroid supplementation:* Go on a fasting, cleansing program of fruit and vegetable juices, followed by a building program of eating simple nourishing foods (especially raw food). Do this for 2-4 weeks. Get back and neck spinal adjustments, and take one kelp tablet daily. He says this always works.

GOITER—He also recommends this:

To eliminate goiter (an enlarged thyroid gland): Follow the above program; and then, after the 2-4 weeks, do one or more of the following four neck applications: (1) Put an Epsom salt compress on the neck every night, and leave it on all night for 10 nights. (2) Use a compress of white oak bark tea over the goiter for better results. (3) Put two hot fomentations around the neck, for 4 minutes each and one cold compress for 4 minutes. Continue alternating this for an hour. Then spend 5-10 minutes doing exercises with the neck in various positions. (4) Put a poultice of ground-up almonds completely around the neck and leave it on all night, for 3-10 nights. This is especially good for harder, more fibrous, goiters.

Nitrates are goitrogenic; that is, they stimulate goiter formation. Nitrates can be found in hot dogs, sausages, luncheon meats, and variously prepared meat products. Nitrates are also found in well water, from fertilizer runoff.

HYPERTHYROIDISM (Overactive Thyroid)

SYMPTOMS—Fatigue; insomnia; intolerance; irritability; increased perspiration; constantly feeling hot; frequent bowel movements; hair and weight loss; nails separate from nail bed; change in skin thickness; hand tremors; intolerance of heat; rapid heartbeat; goiter; and, sometimes, protruding eyeballs. In women, there may also be less frequent menstruation and decreased flow.

CAUSES—Hypothyroidism is caused by an underactive thyroid, and results in a slow metabolism and all it brings with it. Hyperthyroidism is the opposite: The thyroid is overactive; metabolism is too fast, and that brings its own problems. The thyroid gland is producing too much thyroxine.

Sometimes called *thyrotoxicosis,* hyperthyroidism is not a simple problem to deal with. Graves' disease is the most common form of it, which 2.5 million Americans have.

Both affect women more often than men. When the thyroid does not work properly, a variety of different physical problems can develop.

In fact, the word, "hypochondriac," was coined many years ago, to describe these strange people who have all kinds of things wrong with them, when they do not seem to have anything wrong with them. Surely, it must all be in their heads! Well, it was in their throats. We now know those people had under or overactive thyroids.

Infection of the thyroid or certain prescription drugs can temporarily produce hyperthyroidism.

TREATMENT—

• The eating of kelp helps every type of thyroid problem, including hyperthyroidism. Kelp is a rich source of iodine and thyroxine. The hormone produced by the thyroid is almost pure iodine.

• Genuine sea salt is another worthwhile source of iodine

• Deficiencies of vitamins C and E can result in overproduction of the thyroid hormone.

• Eat lots of the cabbage family of foods (broccoli, cabbage, kale, Brussels sprouts, mustard greens), for they tend to suppress the thyroid function. The same is said to hold true for peaches and pears.

• Cut down on dairy products and avoid nicotine, alcohol, caffeine, soft drinks, and processed and junk food.

• The pituitary, parathyroids, and sexual functions work closely together, and they are affected by the thyroid. Problems in one area can affect them all.

• Radioactive sodium iodine (iodine 131, also called I-131) may be recommended, but know that it can cause severe side effects.

• Do not be quick to try surgery on your thyroid. You have enough problems without doing that.

CHAPTER NINE

THE SKIN AND ITS DISEASES

The **skin** is the body's largest and most obvious organ. It is a tough yet flexible protective enclosure. Altogether, your skin is the heaviest organ in the body, and also has the largest surface area, over 3,000 square inches. In some places your skin is paper thin, while the soles of the feet and other calloused areas are more durable. Consider the incredible number of structures fitted into an area no bigger than your fingernail: several dozen sweat glands, hundreds of nerve endings, many yards of tiny blood vessels, numerous oil glands, hairs, and literally thousands of cells. In fact, one-third of all blood circulating through the body goes to the skin. This is why it becomes such a valuable organ to help control your circulation. Moreover, your skin is easily influenced by temperature, both heat and cold. This property is used effectively by the hydrotherapist.

Your skin is subject to many diseases. Most anciently feared was leprosy, where the skin appeared as white anesthetic patches. Although leprosy still exists in some areas of the world, many more common afflictions appear today, some resembling the boils of the patriarch Job and causing equal distress. Numerous common diseases will be discussed below, with appropriate treatments that can be rendered in one's home.

First, however, some general principles of the care of the skin are in order. Millions of pores, acting like tiny mouths, cover the visible protective surface. These sweat glands exude a tiny amount of perspiration having cooling properties, as well as eliminative functions. Regular bathing helps to keep the pores clean, but after a hot bath your pores need to be "closed" by

finishing with a cool spray or a cold mitten friction. This helps to prevent your catching a cold.

Our garments should be frequently cleansed, particularly underclothes, so that the impurities from the pores are not reabsorbed after the waste matter is thrown off. Regular exercise helps induce the blood to the skin' s surface, not only relieving the internal organs, but giving a healthful glow to the skin and distributing the blood more equally to the extremities.

Several nutrients are important in maintaining the health and integrity of the skin. Vitamin A guards against dry skin and helps to prevent blemishes. Vitamin C in the right amounts protects the small capillaries, preventing bruises. The B complex vitamins are very important in the prevention of eczema, and protein helps to form connective and elastic tissue retarding the aging process and wrinkling.

COMMON SKIN INFECTIONS

Many microorganisms normally reside on the skin. The bacterial flora function beneficially by inhibiting the growth of many strains of pathogenic bacteria. Infections develop when the normal surface of the skin is broken by injury or when some disease disrupts the protective "acid mantle" that, in health, protects the skin from colonization by infective germs. These organisms fall into the usual spectrum of infectious agents discussed in

Chapter Three.

Impetigo

Impetigo is a common infection of the skin caused by the bacterial germs *Streptococci* (Group A beta hemolytic) and *Staphylococci* (coagulase positive). These organisms are introduced into the skin after disruption of the normal barrier, such as following insect bites or trauma. If there is itching, the subsequent scratching allows the organisms to embed themselves into areas of normal skin and form pustules. This infection becomes contagious and is usually disseminated by direct physical contact. General symptoms, such as fever and swollen glands, are uncommon. The pustules, resembling acne, usually have surrounding areas of redness and crust formation, may multiply and spread.

Most commonly involved are the exposed parts, your extremities and face. Cultures are helpful in determining the exact organisms involved. Prompt treatment with hot moist compresses, disinfectant soaps and meticulous cleansing of the surrounding skin can bring rapid resolution of all but the most stubborn skin infection. Your hands should be washed frequently and fingernails kept clean. Conscientious avoidance of scratching or rubbing

the offending lesions is important to prevent the lesions spreading to other areas.

The diet that encourages resistance of infection is simple, with fruits, fresh vegetables, and whole grains predominating. Strictly avoid sugar and greasy foods.

Several types of complications can be seen, usually classified as a type of *pyoderma. Folliculitis* occurs when the bacteria invade tissues surrounding the hairs. This is more common in the armpits and bearded area. *Cellulitis* develops from the dispersion of the infection along deeper planes of skin. *Lymphangitis,* often confused with blood poisoning, presents itself as a streak of redness, indicating the advancement of infection along the lymphatic channels. Each of these problems responds well to alternating hot and cold compresses, or hot and cold contrast baths described in Chapter I 7 on hydrotherapy. Use them in combination with strict antisepsis of the skin.

Boils

Any collection of pus in a localized are is usually of bacterial origin. Small pustules, especially those occurring in the beard area, are called *furuncles.* A yellow discharge *(exudate)* will usually drain spontaneously when the lesions open, while pain and pressure are immediately reduced. Occasionally, mild fever and lethargy may occur, but signs of a severe infection are usually absent.

The mature lesion, brought to a head by repeated applications of hot compresses is ready for incision and drainage. After careful cleansing with alcohol or other antiseptic, a sterile needle or sharp blade can be used to open the top of the lesion and allow the pus to drain. The application of a charcoal poultice will also aid in its resolution. Lesions in the central portion of the face are more dangerous, because of the veins that drain in toward the cavernous sinus of the brain. A physician should evaluate these.

A second class of localized abscess is the *carbuncle.* These are usually deeper and more painful. Conditions, which predispose to developing these infections are high fat diets increasing oil production of the skin, occlusive

dressings and cosmetics that block the drainage of oil and sweat glands. Unusual friction rubs or excessive exposure to oil may also be harmful. Reduced resistance to infection transpire in the malnourished, alcoholics, diabetics, newborns, and those with blood diseases. Inasmuch as these germs are contagious in character, hand washing, antiseptic skin cleaning, and other hygienic measure are mandatory.
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Erysipelas

This distinctive type of **cellulitis** involving the skin and subcutaneous tissue is caused by the *beta-hemolytic streptococcus.* Beginning as a reddened, irregular, swollen plaque, the lesions spread to reach a maximum size of 15 cm. in diameter. Usually the sores are solitary with a preference for the face, scalp, extremities, or genitalia. Fever, headache, and lethargy are common, with a general physical appearance of toxicity.

Enzymes released by the offending bacteria produce marked swelling of the skin with inflammation. It is occasionally difficult to distinguish between **erysipelas** and severe cellulitis. The former condition, however, develops into "blood poisoning," with bacteria traveling to create abscesses elsewhere in the body. They may even infect the inner lining or valves of the heart. Rest with elevation of an infected extremity is beneficial. Cool, wet dressings or alternating hot and cold compresses are crucial, while in advanced cases specific antibacterial therapy is recommended.

Scarlet Fever

Scarlet fever results from the production of a toxin by the *betahemolytic streptococcus.* The rash involves the mouth and throat, and the skin over the body. Usually the patient manifests sore throat, headache, loss of appetite, and fever for two to five days before the skin rash appears. The latter begins as a patch on the posterior neck, chest, or axillae. It then extends to involve the abdomen, extremities, and face with a pin point type of redness. The involved skin feels and looks like sandpaper, and the rash blanches with pressure. Pallor is present around the eyes and on the end of the nose. The tongue is often coated white with the edges appearing red, as a strawberry. Peeling skin over the hands and feet frequently evolves.

Untreated, the condition may last from four to six weeks. Severe complications, such as mastoiditis, sinusitis, arthritis, and even carditis may occur. Specific antistreptococcal therapy is usually indicated in the prevention of these complications. General hydrotherapy treatments and a spare diet during the acute phase are valuable to hasten rapid convalescence.

Acne Vulgaris

A very distressing condition that occurs primarily among adolescents is **acne vulgaris**. Although the exact *cause* of this troubling affliction is not completely known, acne is definitely associated with hormone changes. These include those that cause sexual maturation and growth during the teenage years. Skin variations take several possible courses. Frequently, around the face, neck, and back ones hair follicles will become plugged with a waxy secretion that appears as the typical **blackhead** *(comedone).* These plugs can
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be removed with a "comedone extractor." The device can be purchased at any pharmacy. Using this instrument is much preferable to pinching the pimple. Traumatizing the skin can spread infection.

Obstruction to drainage of this material can develop a bacterial infection, producing the typical **whitehead** or pustule. These may be large and extensive, In more serious forms, called **cystic acne**, infection may produce permanent scarring. A high fat diet, rich in fried or greasy foods, or meat and cheese, frequently changes the oil secretions on the skin and thus aggravates this tendency. Average teenage diets are often low in natural seed oils, nuts, fruits, and grains. This further enhances the development of acne. Poor diets may perpetuate it for several years.

Combined with high—fat dietary patterns is the increasing use of fashionable cosmetics. Most of them block the pores and prevent the skin from breathing. There are dozens of skin remedies available in pharmacies today. However, I find the following remedial agencies important, both in prevention and treatment of acne.

The skin must be cleansed once or twice daily with an antiseptic soap. This reduces the germ count and prevents the bacterial colonization in deeper pores that may be plugged. **Blackheads** and other lesions should *never* be squeezed or picked at, particularly with dirty hands or fingernails.

Whiteheads can be treated, as mentioned above for furuncles, with incision and drainage after appropriate antiseptic preparation. Sunlight exposure is important, not only to curtail bacterial colonization, but for general toning of the skin to resist disease.

Teenager's diets should be simple but varied, with adequate vitamin and mineral composition, and a strong emphasis on fruits, whole grains, nuts, and vegetables. Butter fats, cocoa, coconut, meat, and fried greasy foods should be strictly avoided. Most saturated fats tend to clog the pores. Soymilk is valuable to further reduce any dietary source of cholesterol or saturated fat. Sugar intake should be restricted to aid general resistance to infection. Habits of adequate rest, daily exercise, and frequent bathing are most advantageous.

Cold Sores

Painful ulcerating lesions around the mouth, on the face, and in the genital region are usually caused by a virus, called *Herpes simplex.* These lesions, frequently called **cold sores** or **fever blisters**, may follow an infection. Respiratory illness, influenza, or serious bacterial diseases are some of the common triggers. Nearly everyone is exposed to the *Herpes simplex* virus during childhood or young adult life. In most individuals a gradual immunity develops, In the unfortunate others, the Herpes virus invades a regional nerve. From this protected position it periodically spawns the skin reaction. A

second type of *Herpes simplex* virus involves the genital organs. Transmitted usually by sexual relations, Herpes ulcers may become extremely painful. If present during late pregnancy, Herpes can provoke a serious, occasionally fatal, viral infection of the newborn.

Herpes simplex is frequently triggered by prolonged exposure to sunlight. Fever, trauma, menstruation, and cold exposure, as well as anxiety may be contributory causes. Because a sensory nerve is irritated, numbness or tingling may be present, associated with the skin lesions. Involvement of the brain *(meninges),* the cornea, or *Herpes* infections superimposed on eczema are more serious diseases. They should be evaluated by a skilled physician. Specific antiviral agents are somewhat experimental, all with potential side effects. The treatment of **keratitis** (infection of the cornea) is urgent, to

prevent ulceration and blindness.
Several simple treatments are most helpful for cold sores about the mouth or other skin locations. They act as drying agents to the skin, including *camphor,* alcohol, and similar proprietary medications. Topical hydrocortisone containing creams *(corticosteroids)* can be applied for temporary symptomatic relief.

Varicella

Chicken pox or *varicella* is caused by a virus in the same family as *Herpes simplex.* The virus produces in adults a disease called *Herpes zoster* or **shingles**. The childhood variety is quite typical with a reddened rash, becoming raised and developing small blisters. These evolve in various stages and eventually form crusts. This disease is contagious and is probably transmitted from one person to another through the skin or respiratory tract. Severe itching, however, can lead to secondary bacterial infection. Sometimes deep scabs produce permanent scarring. Topical drying lotions can give relief of itching, while specific treatment of secondary bacterial infections is essential.

Zoster or *shingles* is a second disease caused by the same Herpes virus. The first manifestation of this condition is usually severe pain, localized to one side and following a nerve distribution in the face, neck, or trunk. At this early stage of the disease the condition may be misdiagnosed as a heart attack, hiatus hernia, migraine, or other pain syndrome. Several days later, however, the eruption appears as grouped reddened papules that rapidly evolve into tiny blisters distributed on the skin over the nerve (called the *dermatome).* Diagnosis is usually simple at this stage, while therapy is more difficult. Although complications are rare and contagion is uncommon, in elderly people severe pain may persist. This is called “postherpetic neuralgia.” It is rare in patients younger than 50 years, but may be quite disabling to the

elderly. The shingles infection itself is self-limited. Topical drying lotions are helpful. A relatively new cream is now available for pain control. Called *Zostrix,* it is actually based on cayenne pepper, containing the ingredient capsicum.
In our institution I have seen relief from a series of steam baths, producing a mild fever. Just as the fever helps fight the childhood viral disease, I find fever effective in reducing the sequelae of this disease and hastening the clearing of the rash. Moist compresses, such as the use of a charcoal poultice, can also reduce the pain and local inflammation over the involved nerve. Sprays, such as Dermaplast, may produce temporary relief for the pain and irritation. Experimental treatment using the smallpox vaccine for shingles patients was studied and found ineffective.

Molluscum Contagiosum

This viral disease affects the mucous membranes as well as the skin. It produces multiple raised reddened lesions, each having a small central crater. The size is less than ¼ inch (2 to 4mm). Clusters of lesions tend to erupt in groups or lines. These papules emit a thick white material with pressure. They spread by contact. In order to remove them, a method must be chosen that minimizes scar formation and pain. Freezing with liquid nitrogen, the use of a comedone extractor (see page 136), or disruption of the central core with a scalpel or sterilized needle can produce rapid relief with insignificant scarring.

Warts

The **common wart** is caused by a virus, which invades the skin, producing the characteristic elevation of the skin or mucous membrane. Several forms occur. The common rough thickened plaques *(verruca vulgaris)* occur frequently in childhood. They are most familiar on the hands, fingers, and around the nails. Satellite lesions may occur, or they may appear in areas of trauma. Small capillaries, when thrombosed, may exhibit black dots, resembling seeds.

Flat warts are multiple skin-colored papules on the face, neck, or the back of the hand. Around the eye or mouth small pointed *(filiform)* warts may appear like soft pliable tags. A most difficult wart to eradicate is the one found on the sole or **plantar wart,** occurring in the thick calloused skin of the feet. It is important to differentiate these from corns or callouses. A final type of wart is seen in the genital area, called **condyloma accuminata**. These cauliflower— shaped, warty clusters may extend into the vaginal or rectal mucosa. Usually related to sexual contact, they may become quite painful. There are several acceptable methods of treating warts. Electric needles can be used to dry up the warts, but this usually requires local anesthesia.

Chemicals such as *bichloracetic acid* can destroy the wart tissue and, when carefully controlled to depth of penetration, it is usually successful. More recently *cryosurgery* is used, freezing the lesion with liquid nitrogen or with a special instrument utilizing carbon dioxide as the cooling agent. Most treatments of warts work by liberating the virus into the circulation, thus exposing it to antibodies. The usual type of warts on the hands should be frozen with liquid nitrogen or treated with chemicals, such as salicylic acid and lactic acid *(duofilm),* trichloracetic acid, ammoniated mercury ointment, or *cantharidine* (Cantharone). These treatments will not usually leave a scar.

Electrosurgery is also effective, and for most lesions the remaining scar will not be too visible. Approximately 20% of the warts resolve spontaneously within one year. Plantar warts should be treated carefully with a nonscarring procedure. Permanent scars may be painful. Gentle excavation of the wart with a scraping instrument *(curette).* Also, the use of chemical irritants or freezing measures are usually quite effective. The **venereal wart** *(condyloma accuminata)* can be *a* real therapeutic challenge. One treatment involves an application of a special solution, 25% podophyllin in tincture of benzoin. Caution is required, because of skin irritation risk. This treatment should NEVER be used during pregnancy!

The study of warts can be challenging, because of the antigen-antibody relationships of this ubiquitous virus. It has provided a model for understanding the production of tumors. This some day may help us develop safer and more physiologic ways of fighting other viruses, such as those that cause various types of cancer.

Yeast Infections

A number of distinct species of yeasts or fungi can infect the skin and its appendages. Although some are always disease producing (called *pathogenic),* many are *opportunists* and live normally on the skin, causing infection and symptoms only when conditions prevail that allow excessive growth or an imbalance in normal body flora.

Ringworm is a common and very distressing fungal infection. It is

classified sometimes by location and also biologically to describe different organisms which can be cultured. Small red, itching, scaling spots develop on the skin surface, then grow outward. The margin gradually increases in size, while the central portion of the eruption begins to heal spontaneously. Occasionally, after shaving their legs, women can develop deeper fungus infection of the hair follicles, characterized by redness, itching, and granuloma formation.

Another location for infection with the ringworm *(Tinea)* organism is the nails. Called **onychomycosis**, this infection usually involves single nails, more

commonly on the toes. As fungal organisms grow in the nail plate, the nail becomes opaque, brittle, cracked, and partially separated from its bed. Occasionally an associated fungus infection occurs in the surrounding skin.

The third type of ringworm, *Tinea cruris,* occurs in the groin. This may itch and exude some fluid. It slowly spreads until treatment is instituted. The hands, feet, and scalp can also be involved with the *Tinea* family of organisms. Formerly occurring as an epidemic in children, *Tinea capitis* is now less common. These round or oval, sharply defined lesions cause breaking of the hair, patchy baldness, and occasionally drain a pus-like material. A special fluorescent (Wood's) light may illuminate the lesions, producing *a* bright yellowish-green fluorescence.

The most superficial infection, *Tinea versicolor,* occurs in hot humid climates. Slight scaling patches usually involve the trunk, neck, and upper arms. Gentle scraping may make the scaling more evident. Confirmation of the diagnosis in these fungus infections involves scraping the scaling lesions into a glass slide. After applying a 10% solution of potassium hydroxide and heating the slide gently, the characteristic fungus organism can be seen under the microscope. They usually appear, like most yeasts and fungi, as branching strands, called *hyphae.*

Treatment of superficial fungus infections is quite effective, using a number of common antifungal preparations. The application of sulfur ointment, painting with tincture of iodine, or half strength of Whitfield's s ointment is usually helpful. Topical salicylic acid, or the use of newer creams, such as *Tinactin* can prove beneficial. Most are over—the—counter items available at any pharmacy. Toenail involvement is often resistant to therapy. It may require the surgical removal of the nail, or periodic trimming and tolerance of a slow, ever present infection.

Many yeast-type organisms can infect the skin, The most common infection, however, is produced by the yeast *Candida albicans.* Formerly called *monilia,* this infection still is described occasionally as **Moniliasis**. When seen in the mouth, the disease is called **thrush.** Cottage cheese-like growths are seen along the surface of the cheeks, in the tonsillar area, and coating the tongue surface. Frequent in infancy, this lesion responds well to specific antifungal therapies, such as *nystatin,* or the painting with Gentian violet.

Vaginal involvement with yeast is also a common occurrence. Often producing inflammation, pain, or a cheesy discharge these **Vaginitis** infections are easily treated, but seldom completely eradicated. Aggravating factors include the use of hormone agents, birth control pills, and elevated blood sugar, as in uncontrolled diabetes. It is a troublesome affliction of

pregnancy, also seen commonly in times of stress, and immune deficiencies.
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Common hygienic measures, such as the use of cotton undergarments, frequent bathing, and the avoidance of panty hose can allow necessary aeration, to reduce the moist and warm environment that favors growth of Monilia. **Douching** with one tablespoon of white vinegar in a quart of warm water or the topical application of specific yeast inhibitors may give rapid relief of symptoms and reduce the risk of recurrence.

A third type of yeast infection is seen in babies, occurring again in the moist diaper area. Appearing as pinpoint red papules, then coalescing to a red **diaper rash,** the yeast grows and spreads. Plastic "disposable" diapers contribute to this predicament. Careful drying, cleansing, and the topical use of mild ointments, such as A & *D ointment, Desitin,* or a powdered cornstarch can allow improvement of most cases. Ultraviolet light from the sun is helpful, not only in drying involved skin, but killing the offending organism.

ECZEMA

The terms **dermatitis** and **eczema** are used for a variety of inflammatory allergens, and other factors. Characteristically, the skin changes consist of reddening's swelling, moist "weeping," and mild to severe itching. Later stages exhibit scaling with crust formation and eventual scarring. Several types are described below.

Contact Dermatitis

Skin changes in this category of inflammation start in areas of contact with the irritating or allergy-producing agent. The reaction is usually localized, and limited to the area of exposure. There are two main types. **Primary** or **toxic dermatitis** may occur in any individual without prior exposure. The allergic type occurs only in *sensitized* individuals. Some of these will be considered in the next chapter.

Substances that contact the skin and produce this rash are found in clothing, soaps or detergents, cosmetics, industrial chemicals, or the outdoor environment. An example of the latter is the distressing rash produced *by poison ivy, poison oak,* and *poison sumac.* The causative agent is a plant resin, called *urushiol.* Certain exotic hardwoods resins, and the sap from the mango tree can produce a similar rash. *Formalin* and certain flame-retardant chemicals may be impregnated in garments and cause the same rash described above.

Occupational dermatitis may be due to cement *(chromics)* in bricklayers, to wheat in bakers, to adhesive tape, anesthetics, sunscreen lotion, and many other substances. Most important, first eliminate the offender as soon as it can be identified. Then apply soothing lotions to relieve the itching and
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prevent further spread. Needless to say, it is imperative to avoid scratching these lesions or otherwise irritating them during the healing phase.

Seborrheic Dermatitis

Areas of the body richly supplied with sebaceous glands may develop this skin condition. Scaly, somewhat greasy material is produced, which can vary from the **dandruff** of scalp involvement to the **cradle cap** seen on babies. Redness around the face is common, with specific involvement of the eyebrows, scalp, and other areas rich in oil glands. Dietary changes to reduce

the fat intake in conjunction with adequate sun exposure, frequent shampooing, reduction of stress factors, and improvement of skin hygiene are all important in relieving these conditions.

Atopic Dermatitis

Called at times **infantile eczema**, this condition typically begins early in life. Usually there is a strong family history of various allergic conditions. Dryness, cracking, and scaling produces the characteristic lichen-like *(lichenification)* appearance that is the hallmark of atopic eczema. The disease reaches its maximum severity during the second and third decades of life, then gradually subsides. Each episode starts with violent attacks of itching, probably related to excessive dryness of the skin. These attacks frequently occur at night, and provoke furious scratching, which often leads to infection.

Treatment is difficult in this chronic condition. It is important to avoid measures that produce excessive drying of the skin, such as harsh soaps, frequent washing, or scratching involved lesions. Special nondrying soaps, such *as Neutrogena, or Cetaphil lotion* can be soothing. Reduction of all known stress factors careful examination of the diet, and general habits of temperance are important to control this troublesome condition. The itching can often be relieved temporarily with the use of a moist oatmeal paste applied to the skin. *Aveeno* baths are also beneficial in this regard. The challenge of eczema is well worth further study for physicians or families interested in granting relief for these highly visible problems.

Psoriasis

Psoriasis is a common, chronic and recurrent disease of the skin. It affects people of both sexes and is most frequently seen from youth to middle age. Typical lesions appear commonly on the elbows and knees, as well as the scalp and the lower part of the back. These patches may be thick and tough. In early stages they are red with a dry, silvery scale. Coin-shaped lesions are common. Scrapings of the scales resemble scrapings of a candle. In acute

stages of psoriasis the characteristic lesions may develop in areas irritated by scratching or from contact with other nonspecific irritants. The nails may be involved and are usually pitted.

Occasionally, *psoriatic arthritis* is seen in conjunction with this rash. Tension and stress in the home, tobacco usage, and a diet high in fat, greasy foods and particularly meat will aggravate the condition. Sedentary indoor workers may carry these lesions for years. Sunlight, especially the natural ultraviolet rays, has been very helpful in treating psoriasis. Most lesions gradually clear where exposed to the sun. Even severe scalp involvement may respond if the hair is cut short.

Although steroids, such as Cortisone, are often used in treatment of psoriasis, the side effects are such that I advise real caution. A mixture of lanolin, zinc oxide paste, and *Burroughs' solution* (see Appendix) helps soothe the irritated, inflamed areas. Toxic mineral elements, such as mercury and arsenic or the use of coal tar are all quite irritating and should usually be avoided. With a combination of hygienic remedies, careful diet, and a liberal use of sunlight, this difficult condition can be improved and in many cases arrested.

THE AGING SKIN

Characteristic skin changes occur as a person grows older. In most individuals there is a loss of subcutaneous elastic tissue and wrinkles appear. Sometimes these are distressing, and many plastic surgery operations have been devised to lift the face, correct baggy eyelids, or otherwise make a person look younger. More important are the changes that can lead to disease. Chronic exposure to wind and sun with other forms of irritation to the skin may produce dry, scaling plaques, particularly on the face or exposed areas. A premalignant skin irritation known as **senile keratosis** may occur under these circumstances. The lesion should be removed or otherwise treated to prevent skin cancer.

Common raised pigmented waxy looking plaques occur in aging skin, both on the face, extremities, and trunk. These **seborrheic keratoses** are completely benign and are normally quite superficial. Freezing with liquid nitrogen, electrodesication (cautery), scraping, or curetting of the lesions may remove them completely and allow for the return of normal skin in that area. Thinning of the hair and eyebrows are also common in the aging process. Individuals should anticipate the waning of youth with an acceptance of certain changes and the cultivation of a disposition that will produce “happy wrinkles” and an adjustment to the golden years that preserves maximal health and interests in life.

The low fat vegetarian diet greatly improves circulation. Its influence on the skin is beneficial as well. Many are promoting the use of **Vitamin E** to retard aging. While this oil is helpful in certain topical applications, wholesale supplementation is seldom necessary. In preference, I recommend the use of nuts, whole grains, fruits, and vegetables as the diet best calculated to promote longevity and insure good health of the skin. Cleansing baths, exercise, and regular changing of clothing are just as helpful to the senior citizen, as they are important for the baby.

ITCHING SKIN

Although the symptom of **itching** *(pruritis)* has been discussed in connection with some of the above disorders, this symptom warrants separate discussion, because it is so common and there are many approaches to therapy. Most normal people have some irritated places that they scratch every day. Often the sensation is so mild that it is barely noticed. There is no harm in an occasional scratching, but constant itching is different. It is typically a distress signal indicating specific trouble.

With about 20 square feet of skin covering our bodies, there are literally millions of nerve receptors. Many of these can convey the sensation of itching, at times becoming so sensitive as to be almost beyond control. Allergies may produce itching and are described in Chapter Ten. Insect bites, pinworms, nettles, plant juices, chemicals, metals and many body secretions can produce similar distress. Excessive sweating, as well as unusual dryness, can provoke itching. In the winter season, many people suffer from dry skin. Often this is made worse by bathing especially with soap or worse yet, the bubble bath, a detergent bath water that removes most natural body oils. Mild soaps such as Dial, Aveeno, Neutrogena, and AlphaKeri are good for sensitive skin. Occasionally, the *habit* of scratching can develop. When present, this should be overcome. Nervous tension often aggravates itching, as does anxiety.

Relief can usually come by breaking the “itch-scratch cycle,” and simply refusing to scratch. If this is impossible, careful trimming and filing of the nails, or the wearing of soft gloves at night may be necessary. Starch baths are useful using either cornstarch or powdered oatmeal. It is important to avoid soap, except in cleansing the groin, armpits, or feet. Avoid all excessive washing. Hydrotherapy employing moist, hot packs or the contrast shower acts as a *counter irritant* and relieves the itching. Further examination, laboratory tests, and hormone analyses can become worthwhile in difficult cases. In all these conditions the cause should be ascertained. Then nature can be assisted in restoring health again.

HAIR LOSS

Hair is present over most areas of the body. Our *follicles* are the source of these hairs. Although most of them are very fine, the top of the head, the eyebrows, the eyelashes, and the groin are sources of coarser pigmented hair. A tiny muscle is attached to each hair follicle, and can literally make the hair stand on end! *Goose flesh* is an example of this, when the muscle contracts in an attempt to reduce heat loss and generate body heat. This same muscle (the *arrector pili)* helps to compress the oil glands, lubricating not only the hair but also the surrounding skin. Specialized hairs, such as eyebrows and eyelashes, prevent dust from irritating the eyes and give symmetry and shade. When hair loss occurs over the scalp, varying degrees of baldness may develop. Some types are hereditary, others are related to hormonal changes, aging, or the presence of disease. It is important to exclude fungus infections and carefully examine the hair shaft and follicles for signs of disease. Meticulous evaluation of the diet, together with hygienic care of the scalp and the use of appropriate bathing aids can reduce the amount of hair loss and its associated distress. When unusual necessity requires, transplants are even available to restore hair to bald areas. Because of significantly increased heat generated over the scalp, the employment of wigs and hairpieces is best avoided. Contentment with our appearance is a great gift. When all natural health measures are being encouraged, we can certainly be at peace and trust our countenance to the Creator.

SKIN PROBLEMS

GENERAL SKIN CARE—The condition of your skin is a window to your lifestyle. Eat, work, rest, exercise properly, and take care of your liver. Avoid oils, fats, and fried foods. Take a cold shower every morning and a warm shower at night. Use less soap and never use strong soaps.

HYDRO—

SKIN DISEASES—Short, Cold Full Bath *(pp. 124-125)*. But restrictions are listed as to who this can be used on.

BURNS—The Evaporating Compress; the Cold Irrigating Compress (cool, wet cloth over the area, to reduce heat or sprinkle water over it, to intensify the cooling effect); if very extensive, the Prolonged or Continuous Neutral Bath.

DRY SKIN—Sweating Wet Sheet Pack, oil rubbed on skin, Cold Mitten Friction, Cold Towel Rub; Wet Sheet Rub, Steam Bath, Hot-air Bath, Electric Light Bath, Sun Bath *(p. 240)*.

ERUPTIONS—If *dry*, not irritable, give prolonged Neutral Bath. If *scaly*, alkaline bath (soda bath or oatmeal bath). If *moist* and irritable, cool evaporating compress moistened with soda solution (1 oz. to 1 gal.). If skin is *thickened*, as in chronic eczema, Hot or Alternate (hot and cold) Spray Douche or Compress for 10-15 minutes, 3 times a day. If *extensively damaged* skin (as in pemphigus, confluent smallpox, bad burns), the Continuous Neutral Full Bath until the skin is healed *(p. 242)*.

ERYTHEMA—Cool Evaporating Compress or Irrigating Compress *(p. 242)*.

SWEATING FEET—Revulsive Douche to feet, with extremes in temperature as great as possible; Alternate Hot and Cold Foot Bath, Heating Compress to feet during night, with Cold Mitten Friction of feet in the morning on arising *(p. 243)*.

INACTIVE SKIN—Sweating process, followed by a cold bath *(p. 180)*.

INCREASE SKIN CIRCULATION AND TONE—Short sweating procedures, followed by short cold applications— such as Wet Sheet Rub, Shallow Bath, or Cold Douche. Daily Cold morning Bath, Cold Towel Rub, Cold Shower, or Shallow Rubbing Bath. *(p. 226)*.

PRURITUS—Prolonged Neutral Bath; copious water drinking; large enema; daily aseptic dietary *(p. 242)*.

SKIN GRAFTS—Paraffin Bath *(pp. 79-82)*.

SKIN SCALING—Neutral Alkaline Bath daily for 15 minutes to 1 hour *(p. 241)*.

BRUISING (Contusions)

SYMPTOMS—Although the skin is not broken, the underlying tissue is injured. The result is some pain and swelling, and perhaps black and blue marks.

CAUSE—Contusions occur when the skin is injured, but the skin is not broken. Blood vessels have been ruptured, and thus have released blood into the surrounding tissue, including the skin.

TREATMENT—

•As soon as possible after an injury, place an ice pack on the bruised area and keep it there for 30 minutes. If done right away, this will keep it from swelling. Often the swelling does more damage than the bruise. Later apply a poultice of greens (fresh or dry), oatmeal, wheat bran, comfrey, or charcoal. Pulverize the charcoal, tie it in a cloth, wet it in warm water, and lay it over the bruise for several hours. Repeat until it is better.

PREVENTION—

• Strengthen the blood and vessels by eating a nourishing diet, rich in green leafy vegetables and fresh fruit. Buckwheat is also helpful; also vegetable juices containing carrot, celery, and beet.

• Take vitamin C, to bowel tolerance (be sure bioflavonoids are included), and vitamin E: 800-1,200 units daily. Go out in the sun and absorb some vitamin D. People with vitamin C deficiencies bruise more easily than do others, for their blood vessels are weaker. Also important is vitamin P (bioflavonoids).

EASY BRUISING (Ecchymosis)

SYMPTOMS—Frequent and easily made bruising, when others around you do not seem to have this problem.

CAUSE—Low fiber diets, containing little fruit and vegetables. In other words, junk foods such as coffee, tea, white flour products, and soft drinks.

TREATMENT—

• Improve your diet. Take alfalfa tablets and a good vitamin-mineral supplement 2-3 times a day.

• Frequent bruising indicates that the body's clotting factors are not strong. Take more vitamin K. Vitamin D is another natural clotting factor. Take care of yourself—and don't bang yourself against things!

• Some people are more prone than others to produce bruise spots. That can be a sign of kidney and liver disorders.

• Anemia can also cause bruising, as well as allergies.

• Other factors that make one more susceptible to bruising are overweight and the time of menstruation.

• Purplish bumps under the skin which do not heal and look like bruises could be a sign of AIDS. Leukemia can also cause frequent or large bruises.

• Aspirin causes internal bleeding, and can increase surface bruise marks. Also beware of anti-clotting drugs, anti-inflammatory drugs, antidepressants, asthma medicines. Alcohol and hard drugs will weaken the clotting factors also.

• Helpful herbs include burdock, aloe vera, cayenne, kelp, and white oak bark.

• Garlic, alfalfa, and rose hips are useful. .

CUTS, SCRAPES, and WOUNDS

SYMPTOMS—Cut, scraped, and torn skin from collisions, falls, or cutting with glass, metal, etc.

TREATMENT—

• If the wound is small, let the blood flow for a short time as you clean it. This helps cleanse the wound better. If the wound is larger, then you need to stop the bleeding first, and then cleanse the wound. Superficial cuts can be cleaned with soap and water or 3% hydrogen peroxide.

• Golden seal root powder helps stop bleeding and promote healing.

• Wounds may be bathed with several herbal washes or poultices, including aloe vera, comfrey, or plantain.

• Squeeze together the edges of the wound and place a butterfly bandage, or something similar, over it. Apply one for every inch of the cut. A small cut can be closed up and sealed with a Band-Aid or gauze wrapped enough to seal it, but not tight enough to hinder circulation.

• To stop bleeding, apply direct pressure. If an artery has been cut, the blood will spurt with each heart beat. Small artery cuts should receive direct pressure by your finger, pressed down over clean cloth on the wound. Larger ones may require a tourniquet to control it until you get help. But do not use a tourniquet unless you have to, for they can be dangerous if left too tight and too long. Placing the wound in ice-cold water will also tend to stop the bleeding.

• If blood soaks through your bandage, add a new one over the old one. If applying pressure does not solve the problem, elevate the limb above the level of the heart, all the while applying pressure with your finger.

• If inflammation or redness occurs later where the cut was, make a strong tea of a nonpoisonous, green herb (Goldenseal powder is the best), and soak the injured area in this hot tea for about an hour every day until it is all right. Re-bandage after each soaking.

• If a finger, etc., is cut all the way off—and there is no help available—quickly place it right back in its own blood, and hold it in place with a wrapping till you can get help. Healing will often occur. Go to the nearest hospital emergency room.

• Give vitamin C orally, to bowel tolerance (1-5 grams).

• Apply tee tree oil to prevent infection, and reapply every 2-3 hours. To accelerate healing, apply locally one or more of the following: vitamin E (it will also reduce scarring), fresh aloe vera juice, or a comfrey poultice.

INTERTRIGO

SYMPTOMS—This is an eruption of the skin, caused by two skin surfaces rubbing together (groin, breasts, underarms, or inner thighs)

CAUSE—Bacteria and yeast can grow in those areas and start an ulceration. Intertrigo primarily affects overweight women who perspire heavily or anyone who has urinary incontinence. In people with diabetes, it is more likely to develop into secondary infections. It most often occurs in warm climates and during the summer.

TREATMENT—

• Keep the skin surface clean, dry, and free of friction. Use only natural, chemical-free soaps, deodorants, and other products you place on your skin. These are available from a health food store.

• To add dryness, starch can be applied. But never use talcum (baby) powder. It is ground talc, a soft rock which can cause cancer. Do not use it on your body or a baby's.

• Improve the diet and the general health. Eat garlic, soured products, and acidophilus. Avoid sugar and refined foods, for they nourish bacteria.

• Avoid sitting in one position too long. Wear loose fitting, all cotton, clothing. Make sure it is not rubbing on the skin.

• Helpful herbs include chamomile tea, which soothes the skin, fights bacteria, and help healing occur. Aloe vera gel is also good. Tea tree oil will help the skin heal.

SWELLING

SYMPTOMS—Swellings occur in various parts of the body.

CAUSE—This can be caused by bruising, sprains, infections, arthritis, or edema.

TREATMENT—

• Take bromelin (which is fresh pineapple enzyme), either in tablet form or in fresh pineapple juice.

• Make a tea out of chamomile, comfrey, white oak bark, mugwort, dill, or oregano. Drink it and apply it externally to the swelling.

• A contrast (hot and cold) bath or shower may help relieve it. Cold water alone may do it. A raw potato poultice over the area is helpful.

SCARRING

SYMPTOMS—A cut or wound has occurred, and you want to avoid later scarring.

TREATMENT—

• To accelerate healing, apply locally one or more of the following: vitamin E, fresh aloe vera juice, or a comfrey poultice. Of these, vitamin E is especially good in avoiding later scarring. Apply vitamin E locally (topically) and include it in the diet. Prick an E capsule and let the oil ooze over the cut or scar. In some instances, if this is done even old scars will reduce in size and possibly disappear.

• Clean and care for all wounds, so that they heal properly. Close gaps with a butterfly bandage. This will lessen scarring. Do not pick at scabs; let healing progress naturally. Eat healthfully. Be gentle on healing wounds, when rubbing the skin, bathing, etc

BLISTERS

SYMPTOMS—Rounded, fluid-filled spots on the skin.

CAUSES—They are most frequently caused by wearing different shoes or the excessive handling of tools.

TREATMENT—

• Decide whether or not you want to prick it and let out the fluid. It is generally best to prick large ones, and ignore small ones. But if it is likely to break, you do better to drain it ahead of time. Sterilize the area before doing this. Leave the roof on afterward; this protects the skin while healing occurs.

SORES, ABSCESSES, PUS

SYMPTOMS—Included here are sores that will not heal, and abscesses, which are large and also have pus. But they do not seem to heal, so become open skin ulcers. The swollen part becomes inflamed and tender. There may be alternate fever and chills.

An abscess can form on the surface of the skin or within the body—in the sinuses, teeth, gums, tonsils, lungs, brain, abdominal wall, intestinal tract, breasts, kidneys, etc.

CAUSES—Causes include poor living and bad diet; enervation; lack of rest; worry; exhaustion; as well as toxic poisoning. It may also be caused by an infected wound, an illness, lowered resistance, certain drugs, food allergies, stress, or junk foods. Drugs containing sulphur can produce boils.

Leg ulcers are a special problem; they are open sores which develop on the legs. They are more likely to occur in those with varicose veins. Poor circulation causes the skin tissue to break down. Because we have here a circulatory problem, the following treatment may, or may not, benefit the patient.

TREATMENT—

• For sores that will not heal: vitamin E: 200 units a day. Apply a dressing of fresh comfrey leaves and root or a paste made from raw garlic on gauze for 8-10 hours.

• *For a boil (furuncle), or carbuncle,* follow the directions below for an abscess.

• *For a surface abscess:* Keep the infected area clean with soap and water. Bring it to a "head" by placing hot compresses on it. This will make it soft in the center. (Hot

compresses or ice bags will also help relieve the pain; hot compresses also promote healing.) A poultice with 3% boric acid can be used or a hot Epsom salt compress (dissolve Epsom salt in hot water and apply as a compress all night). Echinacea can be used, or a clay poultice. Some use a flaxseed poultice to soften and mature the head. Either it will open itself or, when "ripe," you can open it with a sterile needle. Then flush it clean with a syringe with pure water or one of the above solutions. If bits of puss or dead flesh still remain, apply 3% hydrogen peroxide; then flush out with pure water. The cavity will gradually fill in and heal.

• Take vitamin C orally to bowel tolerance, along with A, B complex, and E. Get plenty of bed rest, and drink lots of fluids to help flush the system. Clean the bowels with an enema once a week. Stay on a vegetarian diet, avoiding heavy starches, chocolate, excess sweets, too many saturated or hydrogenated fats. Brief juice fasts of one to three days are very helpful, especially if you are overweight. Take alternate hot and cold showers every morning and evening (or cool baths every evening). Also good: chlorophyll, garlic, and kelp.

• Drink distilled water with fresh lemon juice, plus 3 cups of goldenseal or echinacea tea, each day.

• Go on a liquid fast for 24 to 72 hours and stay in bed as much as possible during that time. This will cleanse the system and prepare it for a nourishing diet.

• A nutritious diet with adequate vitamins and minerals is needed to correct the problems in the body which led to the abscessed condition.

• A slippery elm bark and lobelia poultice soothes and helps promote healing.

• Apply honey externally to the area. It is believed that honey destroys bacteria by drawing the moisture out of those sores.

• On such open skin ulcers, you can also place herbal poultices, such as German chamomile, marigold, arnica, euphorbia, cliff rose, snake root, and/or witch hazel. Also helpful is red clover tea and carrot and beet juice. Also useful: Burdock root, cayenne, and yellow dock root.

• Applying chlorophyll water to the area several times a day will keep it cleansed.

CANKER SORES (Aphthous Ulcers)

SYMPTOMS—Small oval or round white ulcers that can be very painful. They appear on the tongue, gums, inner or outer lips, or on the insides of the cheeks.

At first it appears as a red, warm spot, which then ulcerates and has a yellowish border. Next, a yellowish mixture of fluid, bacteria, and white blood cells is seen. There is often burning or tingling at the place.

Canker sores are different in appearance than cold sores, in that canker sores do not form blisters.

CAUSES—The Greek word, *aphthae*, means "to set on fire." Allergies, stress, vitamin deficiencies, endocrine imbalance, and viral infections are considered to be possible causes.

You are more likely to have them if your parents had them. They generally do not begin appearing till the age of 20, and occur equally among men and women. Older people have them less frequently. Canker sores generally heal by themselves within a week or two. It is said that as much of 40% of the adult population experiences them. Some people seem to have one after the other. People with Crohn's Disease (an illness of the bowels) are more likely to have them. Vaccines and antibiotics may cause them.

TREATMENT—

• Goldenseal powder or a moistened goldenseal tea bag applied over the ulcer is one of best treatments. It may also bring relief of the pain.

• Wash your mouth with plain hot water, to draw healing blood and help relieve pain. This is a simple hydrotherapy treatment.

• Squeeze vitamin E oil on the sore several times a day.

• As soon as the first tingle is felt, take 500 mg of Vitamin C with bioflavonoids, 3 times a day, for 3 days.

PREVENTION—

• Careful thought will teach you things you do which tend to cause them. This might include mouthwashes, citrus fruit, coffee, or certain other foods—especially sharp, highly seasoned, or tart foods. Do not smoke or chew snuff!

• Onions help reduce their number; include them in your food preparation. Lysine, vitamin B12, and folic acid help also.

• Do not eat meat for two weeks. Meat increases body acidity. Stop eating it entirely, and you are less likely to have canker sores.

• Avoid sugar and processed foods. Citrus fruit cause them in some people.

• Avoid physical damage to the area immediately in, and around, the mouth. Avoid sharp foods, such as peanut brittle. Use a soft toothbrush with no toothpaste.

• Try not to bite the tongue or cheek. Do not talk or turn your head while chewing.

• A hair analysis will help you determine your mineral and pH balance. Maintaining a proper balance can help you avoid canker sores.

• In the Midwest, they put a little earwax on the sore to help heal it.

• If you have repeated attacks of canker sores, something is wrong. With careful checking, you should be able to find it. For example, with some people, it is simply a matter of not overeating on sweet foods, even naturally sweet fruit.

• Beware! If you have a mouth sore which does not heal, see a dentist. There are certain other diseases which first appear somewhat like canker or cold sores—yet which are much more dangerous.

COLD SORES **(Fever Blisters)**

SYMPTOMS—These are thin-walled inflamed pimples which have a tendency to recur in the same area, most frequently at the borders of the mouth, but sometimes on the gums or conjunctiva (the lining of the inner surface of the eyelid). It tends to occur at, or close to, where the skin and mucous membrane meet. First comes a local tenderness with a small bump. Then this bump changes into a blister, and the tenderness may increase. Nearby lymph nodes may become swollen. After about 48 hours, the blisters crust over. Sometimes pus oozes, making eating difficult. Cold sores appear 3-10 days after exposure and may last up to 3 weeks, but generally only 7-10 days.

CAUSE—This is an infectious disease caused by herpes simplex *(*herpes simplex virus I; *Herpes virus hominis)*. But, for practical purposes, there are other causes as well:

Some people never have cold sores, and others have them frequently. Stress is a significant cause. Eating too much sugar is another. Excess ultraviolet light or acid foods cause them in some people. For some women, the onset of menstruation can be a cause. Alcoholic drinking and poor diet also bring them on. Local irritation can be an incipient factor. For some, cold sores tend to occur with a fever, infection, or cold, after exposure to the sun and wind, or when the immune system is depressed.

If cold sores occur frequently, the problem may be low thyroid function.

Cold sores seem form blisters, but canker sores do not. They can form anywhere on the body, although especially on the mouth area or on the genitals. Whereas we are not certain of the bacterial or viral origins of canker sores, cold sores are caused by herpes simplex virus I.

TREATMENT—

• Trust in God and stop worrying about so many things. Eat better, take time to walk outside, and get enough sleep at night.

• Eat plenty of raw vegetables.

• Apply ice for 15-20 minutes at the first sign of tingling. If possible, repeat it frequently. Apply vitamin E between applications. Get enough vitamin A (50,000 units) and B complex. Zinc is also important (zinc gluconate lozenges); dissolve in mouth every 3 hours for 2 days or take 25-50 mg daily. Daily take 2,000-3,000 mg of the amino acid lysine till the cold sore is gone. Protect your lips from sunburn and wind. Exercise plus adequate rest bolsters the immune system, so it can better resist cold sores.

• Also helpful is goldenseal, echinacea, red clover, and pau d'arco.

• If it is not bothering you very much, leaving a cold sore alone is a good idea.

BOILS (Furuncles; Carbuncles)

SYMPTOMS—Itching, mild pain, and local swelling, often on the scalp, buttocks, face, or underarms. Within 24 hours, the boil becomes red and filled with pus. Fever and swelling of the lymph glands nearest the boil may occur. Boils are tender, red, painful, and appear suddenly.

CAUSES—Boils are small pus-filled bumps. The medical name for them is *furuncles*.

Carbuncles are many-headed boils which tend to combine and enlarge. They begin as a painful, localized infection, producing pus-filled areas in the deeper layers of the skin. Carbuncles are slower healing than boils. They are both treated alike.

Boils are contagious. Do not let the draining pus get on the skin elsewhere! When it spreads to nearby areas, the result is a carbuncle.

Untreated boils tend to exude their poisons and disappear within 10-24 days. But, given careful treatment, they are contained and less severe.

Keep in mind that if the body is trying to expel a poison (especially sulphur!) through the skin, you may continue to have a string of boils for a time. The body is trying to cleanse itself of something bad. Inorganic sulphur in the body is especially prone to come out in skin boils.

TREATMENT—

• Go on a brief cleansing fast, to rid the system of impurities. The problem may be toxins, but it may be chemical poisoning. One example would be sulphur. Whenever

it is taken into the body, it tries to leave—not through the bowels or kidneys—but through the skin.

• While on this liquid fast for a couple days, you may drink 3 cups of an herb tea daily of one or more of the following: comfrey, red clover blossoms, yellow dock root, chickweed, plantain, and wild cherry bark.

• Every night apply a poultice of raw potato mixed with flaxseed. If you apply a poultice during the day, use whole wheat flour and stiffened it with enough honey so it will not run.

• Apply moist heat (a clean towel, cloth, or gauze that is wet in warm water) 3-4 times daily to the boil. This will reduce pain and help bring it to a head more quickly. Avoid irritating the area or spreading the pus. Avoid exercise which might cause sweating until it heals.

• Keep the skin clean by washing it several times a day. Place honey directly over the boil. Alternates would be clay, charcoal, and/or chlorophyll.

• Apply vitamin E oil to the area.

• Some boils are large and persistent. Some type of poison in the body is trying to get out. Bed rest, a short fast, followed by a light, nutritious diet will greatly help.

• Helpful herbal teas include oat straw, goldenseal, dandelion, and burdock root.

BED SORES (Pressure Sores)

SYMPTOMS—These are deep skin ulcers—especially found on buttocks, hips, sacrum, shoulder blades, elbows, and heels.

CAUSES—These ulcers form during periods of prolonged bed rest, as pressure is continually applied to bony parts of the body. The bedridden elderly, the unconscious, and the paraplegic are those most likely to experience this problem.

Such individuals generally have a high pH (too alkaline), and are deficient in vitamins A, B2 (riboflavin), E, and C, as well as zinc.

TREATMENT—

• Apply sugar or honey poultice to the sore; it will help draw out the poisons. Local applications can also include zinc oxide ointment, aloe vera, wheat germ oil, or comfrey. Avoid meat products. Make a paste out of crushed comfrey leaves and slippery elm, and cover the sores. Wash the sores 3-4 times a day with a combination tea (witch hazel and myrrh or goldenseal). Mix powdered comfrey leaves and slippery

elm in equal parts, mix with water, make a paste, spread on a cloth, and tie it over the sore. It can be left on overnight. When dry, sprinkle some powdered goldenseal or echinacea over the sores to disinfect the area; cover with cotton or wool (not a synthetic fabric).

• Improve the diet; this is crucial to solving the problem. Drink enough liquids, even when not thirsty. Avoid processed, fried, and junk food. Do not eat meat.

• The diet should include enough fiber. Oat bran is especially good. The bowels should move every day. Lower the pH with acid foods (such as cranberries).

PREVENTION—Prevention is much easier than treatment.

• Use protective padding on the bed, massage the skin to stimulate the circulation, and keep the skin dry and clean. Turn the patient regularly. Watch for signs of redness. Occasional sunlight to the skin is beneficial. Sponge bathe daily with a mild herbal soap (never with harsh soaps). The bed must be kept clean and the sheet without wrinkles. Sheepskin bed covers help disperse weight more evenly. The use of air or water mattresses can be helpful. Sponge baths are helpful. Loose-fitting clothing allows air to penetrate to the skin (cotton is best). If the patient can sit up, have him do it 3-4 times a day. Sometimes prop him up with a pillow.

• Give a well-balanced, adequate diet. Give plenty of greens and carrot juice. Give vitamins A, B, C, E, and zinc.

• Apply vitamin E oil to the skin area.

• The alternate hot and cold compress is very helpful. This is a fomentation application with the application of a cold compress after it.

BURNS (Scalds)

SYMPTOMS—There are first degree burns (redness), second degree burns (redness and blisters), and third degree burns (the entire skin and some of the underlying muscle is destroyed). For third degree burns, immediately go to a doctor or an emergency room. Even more extreme is a fourth degree burn: Instead of oozing flesh, the area is dry and charred.

CAUSES—Tissue damage to the skin as a result of heat, chemical, electrical, or radiation injury. First degree: usually from sun or water; second degree: generally from hot metal objects, flame-contact burns and severe sunburn; third: hot fluid burns, steam from a pressure cooker, electrical burns, or high flame contact.

TREATMENT—

• *First degree:* Mix equal parts of white vinegar with water and cover the burn surface, twice a day. Also apply aloe vera or vitamin E oil locally. Tannic acid has been used in clinics for surface burns that have begun to heal, so you can use white oak bark tea. Apply locally as a tea and wet compress.

• *Second degree:* Apply vitamin E oil or zinc oxide. Take vitamin C to bowel tolerance. Apply aloe vera after healing begins.

• *Third and fourth degree:* Immediately take the person to a professional. Do not try to remove clothing stuck to the burned area. Apply aloe vera after healing has begun.

• Soak the clothes, so the hot cloth will not increase the burn. Apply cold until the pain subsides.

• Cold water or cold, wet cloths on the area reduce pain and swelling. Cover the burn, to reduce likelihood of infection. Mix and apply olive oil with baking soda to the area. Elevate the area, to reduce swelling, and keep it out of the sun. Do not break the blisters, and never put salves or butter on burns. Watch for indications of infection, odor, pus, or angry redness. Cold clay poultices are useful.

• Second degree, on up, requires a high protein diet and 5,000 calories per day. Increase fluid intake. Also important: vitamins A, B, C, E, and F.

• Applying vitamin E and spraying on a 1-3% solution of vitamin C every 2-4 hours is very helpful. This reduces pain and accelerates healing. Take 1,000 mg of vitamin C orally, every hour.

• Have the patient breathe deeply every so often. He needs the vital oxygen for healing of the burn.

• Fresh aloe vera juice is outstanding on burns, to hasten healing. But this can only be done if you have a growing plant to cut the leaves from.

LEG ULCERS

SYMPTOMS—Open sores which develop on poorly appearing skin areas of the legs.

CAUSES—Leg ulcers occur when the blood circulation to the legs is inadequate. Skin tissue tends to erode and ulcers can form. Individuals with varicose veins, thrombophlebitis, or other conditions caused by poor circulation are most likely to develop this problem.

TREATMENT—

• Eat a light nourishing diet with adequate vitamins and minerals. Much of it should be raw. Leafy, dark green vegetables and garlic are important.

• Do not eat meat, and avoid alcohol and nicotine!

• Make a gallon of goldenseal tea (stronger than you would drink); and, after straining out the herb, put the leg in it for an hour. When finished, let it dry for 10 minutes; apply olive oil in, and around, the ulcer. Dust a little powdered goldenseal on it. If needed to keep out insects, put a light gauze bandage over it while letting the air in. It will heal, but slowly. As much as two months may be required.

MOLES (and unknown spots)

CAUSE—Most moles are harmless. But those that are flat, or nearly flat, are larger than the top of a pencil eraser or have a mottled color should be checked. If an existing mole turns blue, white, or red and begins to bleed or develops a crust—have it checked. It may be skin cancer.

TREATMENT—

• To remove a suspected skin cancer (before it has continued long enough to go into the system), fasten a thin slice of garlic to it in the evening and leave on overnight. Do this for 2-4 nights. The spot will slough off; and, as it heals new, fresh flesh will take its place.

ACNE

SYMPTOMS—Blackheads, whiteheads, pustules, inflamed and infected nodules, sacs, and cysts. They occur where the sebaceous (oil) glands are most numerous: face, neck, chest, and back. Permanently expanded pores, as well as scarring, can result.

CAUSES—A sebaceous gland is located in every hair follicle, and produces oil which lubricates the skin. Some of the oil becomes clogged, bacteria multiply, and inflammation results. This occurs during adolescence (between 12 and 24), when androgens (male hormones) are released in increased amounts in both boys and girls. A few have acne all their lives.

Other causes include junk foods, oral contraceptives, allergies, stress, and heredity.

The problem is intensified when sebum, combined with skin pigments, plugs the pores—and produces blackheads. If scales below the surface fill with sebum, whiteheads are formed.

Canadian Eskimos, prior to 1950, never had acne. When "modern foods" were brought in, acne became common.

TREATMENT—

• Cleanliness is important. Keep the skin washed and clean. Keep the infected area free of all oils. Wash or pat the face with lemon juice 3 times a day. Shampoo the hair frequently. Eat a good, balanced diet, exercise regularly, and get adequate sleep at night. Drop all saturated fats from the diet, along with junk food, fried food, refined food, dairy foods, carbonated drinks, caffeine, alcohol, and tobacco.

• Certain dietary deficiencies have been linked to acne. This includes vitamin B6, zinc, and essential fatty acids.

• Increase raw vegetable intake. Eat plenty of non-citrus fruits, raw vegetable juice, cooked vegetables, salads, whole grains, and a few seeds and nuts. Include some seaweed (for iodine) and pumpkin seed (for zinc).

• Go on a short vegetable juice fast of 1-3 days, along with enemas. It would be well to do this every 2 to 4 weeks, until the skin is perfectly clear.

• Beware of all oily foods which have saturated fats. This would include peanut butter, cheese, milk, and cream. A small amount of unsaturated vegetable oil would be acceptable.

• Herbs which could be applied to the skin would include dandelion root, echinacea, alfalfa, chaparral, and red clover.

BLACKHEADS

SYMPTOMS—Blackheads are small, tallow-like plugs formed in the pores by the accumulation of dirt, oil, and bacteria. They are black, at the exposed end, because of oxidation rather than the presence of germs. They generally cause no itching or pain, but are unsightly.

CAUSES—The duct of an oil gland becomes plugged with partly dried oil mixed with, more or less, dust or dirt. Most cases occur between 12 and 30 years of age.

Problems with digestion, constipation, or underactive thyroid and anemia seem to be contributing factors.

Although germs do not cause them, blackheads can easily become infected.

TREATMENT—

• Squeeze out the visible blackhead very gently, with a blackhead remover (available in a drugstore). Never use fingers to do it. Then wash with mild soap and water.

• Sunlight kills the surface bacteria, and thus clears the condition temporarily. But sunlight can also stimulate the oil glands, possibly making the condition worse later.

• Do not overeat. Avoid fat, greasy, or fried foods, ice cream, cream, butter, margarine, chocolate, pastry, sweets, or much starchy food.

• Eat a nourishing diet of vegetables, but avoid corn. Eat protein foods in moderation. Supplement the diet with vitamins and minerals. Vitamin A is important.

• Avoid alcohol, tobacco, coffee, or cocoa.

• Obtain adequate rest at night and keep the bowels open.

• Exercise out-of-doors, but avoid exercise which causes perspiration.

• Put no creams, oils, or ointments on the face. Keep hands away from the face.

• Wash the hair twice a week.

AGE SPOTS (Liver Spots)

SYMPTOMS—Age spots (also called liver spots) are the flat brown spots which appear on the skin. They are especially noticeable on the back of the hands.

CAUSES—Liver spots are different than freckles. Freckles are caused by melanin pigments which react to the sunlight in fair-skinned people. Liver spots are the result of a "ceroid" pigment build up in the skin of older people.

These latter spots are the outward signs of free radical destruction within the body. There is pre-oxidation of fats—in the cells instead of in the liver. Free radical damage produces waste materials in cells throughout the body, including the brain and liver. The causes are poor diet, eating rancid fats, lack of exercise, excess exposure to the sun, autointoxication, and sluggish liver function.

TREATMENT—

• Eat high quality food, purify the blood, nourish the glands, and keep the bowels open. Exercise
the body and the mind. Keep the immune system in good shape. Take nutritional supplements.

• A powerful helper is the use of vitamin E (800-1,200 units per day), which tends to destroy free radicals. Also take vitamin A as beta carotene. Obtain all your fats as unsaturated fatty acids.

• Eat quality protein foods and stay away from old seeds and nuts. The oils in them may be rancid. Do not use meat or milk. Do not eat meat.

• Drink enough water, and make sure it is either pure or distilled. Practice deep breathing. Learn how to relax.

• Avoid all alcohol, coffee, salt, tobacco, white flour, and white sugar. Avoid all chemicals, drugs, etc., in foods. Do not overeat. Center your diet around broccoli, cabbage, fruits, whole gains, nuts, oats, seeds, and soybeans. A high fiber diet is important.

• Go on a brief fast, to cleanse the liver.

• Avoid too much exposure to the sun.

• Do not use commercial skin creams. Use olive oil and a warm wet washcloth, then rinse with lemon juice and water.

CHAPPED HANDS

SYMPTOMS—Red, dry, cracked hands.

CAUSES—The low humidity in the fall and winter dries and irritates the skin. The skin of older people has less natural oils. This prepares you for problems. But the other causes, listed below, you can do something about.

PREVENTION—If you find you have this problem, there are several things you can do, to prevent or lessen it.

• Water removes oils on the skin. But a special kind of water is especially devastating: soapy water. Dish water not only removes oil from the plates, but also from your hands. That is part of the reason why your hands are chapped and your arms are not! When you must wash your hands, try washing only the palms and not the backs—which, having thinner skin, tends to dry out more easily.

• Soak your hands in warm (not soapy) water for a few moments. As you do this, some of the water is absorbed by the dry skin. Then pat dry and gently rub a little vegetable oil on your hands.

• What you place on your skin is absorbed into your body, so beware of all the creams and lotions on the market. The makers of these products are not required, by the FDA, to include food grade ingredients; yet those lotions are absorbed into your system for the body to have to deal with.

• Massage a few drops of glycerine, combined with a few drops of lemon oil (both are available at pharmacies), into your hands at bedtime.

• Put oil on your hands at night, and then slip cotton gloves over them.

• Hot-air blowers tend to chap the hands; use a towel instead.

• Wear white cotton gloves while doing dry work. For harder work, use leather gloves. Regarding gloves, avoid vinyl ones, if you can; they makes the hands worse! The rubber traps the moisture and keeps the skin from breathing.

• Use a long-handled brush, when washing dishes.

CHAPPED LIPS

SYMPTOMS—Chapped and cracked lips.

CAUSES—Low humidity, sunlight, wind, and lack of oil on the lips. Here are several other factors you can control:

TREATMENT—

• Avoid licking your lips; it dries them out. Occasionally place a little vegetable oil on your lips.

• Drink enough water.

• Rub your finger alongside of your nose and then on your lips; that puts natural oils back in them.

• Finish your meal with a small amount of lecithin (which your brain, nerves, and blood vessels need anyway). When you do this, be sure and leave a small amount of it on your lips.

• Vitamin B2 and brewer’s yeast both help cracked lips.

• Toothpaste dries the lips; instead use a toothbrush and baking soda.

DRY SKIN, CHAFING

SYMPTOMS—The skin is overly dry, and there can be a tendency to chafing.

CAUSES—There is both a water loss and an oil loss in the skin. This may seem to be a matter of little concern. But it can be a sign of a more serious problem: essential fatty acid deficiency that can result in cardiovascular disease (stroke, heart attack, etc.)

If you are supplementing with vitamin A, in amounts over 100,000 units daily, dry skin may be the first warning of overdose.

TREATMENT—

• The solution is not superficial creams, but obtaining enough unsaturated fatty acids in the diet. These would be the uncooked vegetable oils, such as wheat germ oil, flaxseed oil, sesame seed oil, corn oil, and soy oil. The oil should be fairly fresh; never use rancid oil, for it destroys the vitamin E in that meal. Take additional vitamin E supplementation (800-1,200 units a day).

• If you are not taking supplemental vitamin A, begin taking a moderate amount (not over 50,000 units a day). Carrot juice will also help.

• For the chafing, wear cotton clothes; not synthetics. Australian wool (the wool which does not scratch) is also good. Wash new inner clothing before you wear it. This softens the fabric. Do not wear coarse cloth next to the skin.

• Cut out all greases and other saturated fatty acids; and, in their place put a tablespoon of a good oil (wheat germ oil, flaxseed oil, almond oil, sesame oil, and corn oil) on your food after it is cooked.

• Drink an adequate amount of water. If necessary, gently rub a small amount of oil over your body after the bath. Avoid commercial lotions and saturated fats (greases). These are all absorbed by your body.

• For your shower, rinse off every day with lukewarm water, and use as little soap as possible. Do not use hot water.

• Pour 2 cups of oatmeal, ground to a fine powder, into a bathtub of warm water. Tie some oatmeal in a washcloth and, then, use it as a washcloth. Oatmeal is extremely soothing to the body.

• Use soap which has cocoa butter, coconut oil, or another vegetable oil. They do not clean as well, but are more soothing to the skin.

• Keep the house warmer, and it will not be as dry. Use a humidifier to put moisture back into the house.

• For itchy skin, add vinegar to the bath water, and take 2 tablespoons of vegetable oil daily. Helpful herbs include yarrow, violet, and marjoram. Dry brush massage your skin, to tone it up.

SCABIES (The Itch)

SYMPTOMS—An itching in a body part, which tends to continue, then let up, then continue again. Almost never occurring above the neck, it is most commonly found in hands, finger webs, wrists, elbows, underarms, waist, and feet. In men, it may also occur in the scrotum and penis; in women, the nipples are most often affected.

CAUSE—Scabies is an infectious skin disease caused by an almost microscopic mite, called *Sarcoptes scabiei.* Although he is a little fellow, you know he is there.

Scabies is found on all social levels. Contact, even by a handshake, is all that is needed to acquire it. It can also be transmitted through clothing and bed linen. It is more common in older adolescents and young people, and in girls rather than boys. People can also get it from touching dogs, other animals, or their bedding. It is a special problem in institutions, such as nursing homes, etc.

Scabies can only be accurately diagnosed by taking skin scrapings and viewing them under a microscope. If one person in a family has them, it is generally well to treat everyone. Children under 15 are often the first to contract them.

TREATMENT—

• Mix flowers of sulphur with petrolatum (petroleum jelly). Sulphur is a poison, so do not swallow it! In addition, it will stain clothing and does not smell good. But it will work to kill the scabies mites. For children, use a 5% sulphur (5% sulphur and 95% petrolatum) mixture; for adults, a 10% mixture. Take a warm, soaking bath before applying the mixture. Apply it for 3-5 nights before retiring. Cover from neck to toes. Have someone else apply it to you, so everything is covered.

• During this period, launder your clothes frequently, using hot water. The mite cannot survive temperatures above 120^{o} F. for more than 5 minutes.

• To reduce the itching sensation soak in a cool bath, starch bath or oatmeal bath (see directions under Dry, Itching Skin); mix calcium gluconate with a little oil and apply to the area.

• Eat foods high in zinc, such as soybeans, sunflower seeds, whole-grain products, yeast, wheat bran, and blackstrap.

• Avoid processed, fried, and junk foods. Use no sugar, chocolate, soft drinks, alcohol, or tobacco.

WARTS (Papillomas)

SYMPTOMS AND CAUSES—There are three primary types of skin warts:

1 - Contagious (viral) benign skin warts *(verruca vulgaris);* these are also called common warts and may be found on the hands, arms, face, or body. These warts, which can be dark or flesh-colored, may range in size from a pinhead to a bean, and most frequently occur where the skin is in friction with clothing, etc. They can also occur on the larynx (voice box) and produce hoarseness. They can be spread by picking, trimming, or touching them. On the face, they can be spread by shaving.

2 - Plantar warts are *verruca* on the sole of the foot. Both types of *verruca* are actually benign epithelial tumors, caused by a virus.

3 - Venereal warts *(condylomata acuminata)* may be found on the vulva and penis. Venereal warts are caused by the human papilloma virus (HPV), of which there are more than 35 types. Genital warts on a woman can change into cancer of the cervix or genital area. They should be removed! One study showed they can increase the risk of cervical cancer by 200 percent! The incubation period for genital warts is generally 3 months. It can spread to others even before the person realizes he or she has it. Professionals recommend that you not have sexual intercourse until these types of warts are eliminated.

With the exception of plantar warts which are flat, warts are always raised bumps. Where there is constant contact, they can cause discomfort and even pain. Venereal (genital) warts are single or clusters of soft cauliflower-like growths.

TREATMENT—

• Since everyone seems to get better using a different treatment, here are lots of them:

• As with any infection, warts appeared because the body has lowered vitality and lack of resistance. Eat right, keep proper hours, exercise in the open air, and breath deep. Tone up your whole body.

• They also appear more frequently in adolescents who are experiencing hormonal changes, especially between 12 and 16.

• Deficiencies of vitamins A, C, and zinc have all been related to an increased incidence of viral infections.

• The usual methods of removing warts (surgery, acids, burning, electrotherapy, or freezing) often results in their reappearance. The underlying causes should be eliminated: Improve the diet; eat foods high in vitamins A, B complex, C, and zinc. Also increase the sulfur-containing amino acids in the diet, such as are found in asparagus, citrus fruits, eggs, garlic, and onions. Be sure and take enough vitamin C every day! Eat raw garlic.

• Place thin sections of garlic on the wart. Try to avoid touching the garlic to normal tissue. Hold it in place with cloth and tape and leave it there overnight. Do this for 2 or 3 nights. Within a week the wart will fall off.

• Apply castor oil to the wart, for 3 weeks.

• Cover with honey, for 15 days.

• Put 1 drop muriatic acid on the wart once a day, for 8 days.

• Dissolve as much sodium carbonate (washing soda) in water as will stay in solution. Swab this onto the warts for 2 minutes, 4 times a day, and let it dry in the air. Very large warts have responded to this.

• Apply the juice of milkweed, celandine herb, or the milk from green figs or marigold to the wart.

• Mix castor oil and baking soda into a paste and apply to wart, cover, and keep on all night. Do not pick at it, but let it slough off within 3-6 weeks.

• Apply an iron formula, such as Ironite or black walnut tincture.

• Apply castor oil to the wart for half an hour, 3 times a day.

• Apply powdered vitamin C, as paste, and cover.

• Soak the wart in a concentrated salt water solution: 1½ tsp. salt to ½ cup water equals a 30% solution. Soak the wart for 20 minutes 2-3 times a day for a few weeks.

• Here are several other helpful applications: green fig juice; that is, juice from barely ripe figs (or milkweed sap) applied several times a day. Fresh grated celandine juice. Cut a raw potato, rub it on, and repeat several times a day for several weeks. Chickweed juice. Sassafras oil. Green papaya juice. Aloe vera. Onion and salt compress. The juice of white cabbage. Wheat germ oil. Fresh pineapple juice. Cashew nut.

• For plantar warts (warts on the bottom of your foot), apply a plantain poultice (the leaf itself) to the wart. Another method is to place the inner side of a fresh piece of banana skin over the wart and hold it there with tape. Change daily after washing the entire area. Once a week the thickened outer horny layer is removed. Maximum time for complete disappearance of a wart is 6 weeks, with no recurrence within 2 years.

WENS **(Sebaceous cysts; Steatomas)**

SYMPTOMS—These are slow-growing benign cystic cutaneous tumor-like formations. They contain sebaceous material and are often found on the scalp (wen), ears, back, or scrotum. Ranging in size from a pea to a golf ball, a wen is painless and feels soft but firm.

TREATMENT—

• A "stab" incision is made at the lowest edge of the cyst. The contents are then sucked out, and the insides are flushed with hydrogen peroxide. If the cyst is large, the wall will have to be removed so it does not refill. Then place a daily changed sterile gauze over, and within, it to keep it draining for a week to 10 days.

• To keep them from growing or returning, avoid fats, especially saturated fats, and all fried foods, cheese, chocolate, butter, margarine, and dairy products. Do not use alcohol, nicotine, or caffeine products.

OILY SKIN

SYMPTOMS—Excessively oily skin.

CAUSES—The sebaceous glands, which secrete oil onto the skin, produce more oil than they should. The excess oil clogs pores. Heredity is a major cause, but diet and hormones affect it. Oil gland secretions can be increased by stress, hormonal activity changes, hot weather, pregnancy, or taking certain types of birth control pills.

The forehead, nose, chin, and upper back tend to have more sebaceous glands; hence can be the sites of the most problems. Oily skin is most common among teenagers.

TREATMENT—

• Keep your skin clean. Beware of certain cosmetics; they aggravate a problem which might not otherwise exist.

• Wash twice a day with soap; it was made to remove oil. Hot soapy water is even better. Ivory soap is a more drying soap than many others. Scrub the skin with soap and water.

• Some people put mud masks on to remove oil.

• Avoid smoking; it increases the size of your skin pores and weakens the skin generally.

Fortunately, oily skin tends to age better than dry skin, producing less wrinkles. So count yourself fortunate in one way.

PRICKLY HEAT

SYMPTOMS—Skin feels hot and prickly.

CAUSES—Hot weather, dry skin, sweaty skin.

TREATMENT—

• Wash with mild soap, twice a day; apply apple cider vinegar (½ tsp. in glass of water) after the bath. Take vitamin C orally (1,000 mg or more). .

HEAT RASH

SYMPTOMS—An itchy skin rash which can occur in the heat of mid-summer.

CAUSES—As a result of poor diet, overwork, and lack of proper rest, the skin has become too acid.

TREATMENT—

• Take a soda alkaline bath. This helps counteract acidity in the rash. Fill a bathtub with water at 95^{o}-98^{o} F. Add a cup of baking soda. Sit in the tub and continually pour the water over yourself. About 30-60 minutes later, stand in the tub and partially drip-dry. Then pat yourself dry and get out.

• Eat a more nutritious diet, obtain adequate rest, avoid meat and junk food. Do not smoke or drink liquor.

SUNBURN

SYMPTOMS—First degree sunburns cause reddening of the skin and possibly slight fever. Second degree sunburns makes reddening and water blisters. Third degree sunburns produces damage to lower cells and the release of fluid, resulting in eruptions and skin breaks where bacteria and infection can enter.

CAUSES—There has been excessive exposure to ultraviolet light rays. They first burn the surface skin and, later, the lower cell layers. Ultraviolet rays can penetrate clouds, so be careful even on hazy days.

PREVENTION—Do not expose yourself to the sun for extended periods of time between 10 a.m. and 2 p.m., when the highest concentration of ultraviolet rays are present. Reflections from snow water, metal, sand, or white- and aluminum-painted surfaces can intensify the effect.

Apply a sunscreen about 30 minutes before going out. Protect your lips, hands, ears, and the back of the neck. Reapply as needed after swimming and sweating. Get a tan gradually, beginning with only a few minutes (never over 15). Wear protective clothing whenever possible. Keep a hat with you, and use it. Long sleeves help.

TREATMENT—

• A third degree sunburn is serious; see a doctor. Water applications help. Keep the muscles flexible. A strong sunburn can cause underlying muscles to contract somewhat.

• For both second and third degree burns, be sure to eat high-protein foods. A lot of tissue needs to be repaired; your body is hard at work. Drink a lot of fluids.

• Put cold water on the burn. Let him lay in a cool bath.

• Mix a cup of skim milk with 4 cups water and add a few ice cubes; every few hours, apply compresses for 15-20 minutes.

• Place dry oatmeal in a bag, run cool water through it, and save the water. Throw away the contents of the bag, and use the water in compresses. Apply every 2-4 hours.

• Here are other suggestions: Clay poultices can be used. Massage aloe vera on the area. Do not apply any product which has alcohol, mineral oil, coloring, or waxes in it. Moisten a cloth with witch hazel, and apply often for temporary relief; for small areas, apply with cotton balls. Apply plain yogurt to the area. Make a paste of cornstarch and water, and apply it. An ice pack can help reduce pain. Get lots of sleep.

• If the legs are burned, elevate them above the heart level.

• That skin area will be delicate for 3-6 months, so be careful.

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ROSACEA

SYMPTOMS—A reddening of the skin, generally on the forehead, nose, cheekbones, and chin. Pustules may appear on the nose, and are tender. The skin may thicken. Groups of small blood vessels, close to the surface, become enlarged, resulting in blotchy red areas with small bumps. Pimples may accompany the problem. The rosacea may disappear, or become permanent. Blackheads or whiteheads are rarely present.

It often begins with a frequent flushing, or reddening, of the face. This is most often seen on the nose and cheeks. A burning, or grittiness, in the eyes may be felt.

CAUSE—Rosacea, which usually begins in the 40s, is a skin disorder which can become chronic. It is important that you try to eliminate the underlying causes, which are closely related to a wrong diet and way of life.

People who flush easily are more likely to develop this problem. White women between 30-50 have it the most. When men have it, the appearance of the face is worse, often accompanied by a roughened, enlarged nose (rhinophyma).

TREATMENT—

• Alcohol, stress, excessive heat or cold, sunlight, hot liquids, or spicy food may trigger a reaction. It is believed that a B complex deficiency is involved, along with a poor diet, resulting from too much junk food. Alcoholics, who perennially lack in B vitamins and good food, often have reddened faces. Avoid commercial skin creams, etc.

• Once or twice a month, go on a short fast, to clean out the body. Eat nourishing food. Do not drink hot liquids.

ENLARGED PORES

SYMPTOMS—Unsightly larger pores in the face and on the skin, which gives an appearance of premature aging.

CAUSE—Using nicotine in any form.

TREATMENT—

• Stop believing those ads which show beautiful people smoking. They only want to get your money.

• After quitting all tobacco products, get on a good nutritional, exercise, and rest program. Take vitamin-mineral supplements. Do not drink soft drinks or eat sugar, chocolate, potato chips, or other junk foods.

WRINKLES

SYMPTOMS—Wrinkles on the face. The skin tells what is inside. If you have healthful, youthful, skin, it is a good sign of a healthy body inside.

CAUSE—The skin loses its elasticity and suppleness. It becomes thinner and dryer. With age, wrinkles are inevitable. But there are ways to avoid getting them earlier than necessary.

PREVENTION—

• Stay out of the sun. Avoid tanning booths; they produce the same wrinkling as the sun. Wear a hat when out in the sunlight.

• Eat carefully of good food. Exercise, drink enough fluids, and get adequate sleep. Pressing your face against a pillow adds more wrinkles. Do not scrunch up your face when you talk; that makes new wrinkle patterns.

• Avoid alcohol and nicotine. Tobacco dramatically ages the skin! Smoking makes a 25-year-old woman look like a 35-year-old! Smoking also decreases blood supply to the face and skin.

• Dampen the skin and then apply a little vegetable oil, to lubricate it. That will help put water and oil into your skin cells.

• Massage your face as the Orientals do. That tends to exercise the skin and facial muscles and strengthen them.

Now, don't laugh, and I will give you more suggestions:

• To soften and nourish your skin, mash half an avocado and put it on your face. Leave it there until it dries, and then wipe it off with water. Avocado has essential oils.

• To reduce puffiness under your eyes, place cool slices of cucumber over them for 10 minutes.

• To tighten and refine skin pores, whip an egg white and apply it to your face. After 15-20 minutes (if you can still breathe), rinse it off with water.

• To remove dead surface skin cells and improve skin texture, Japanese women gently rub a small handful of dry short-grain rice against their faces.

• To cleanse the pores, rub mashed tomato over your face.

NIGHT SWEATS (Hyperhidrosis)

SYMPTOMS—Sweating during sleeping hours which seems abnormal. The sweating may begin all at once.

CAUSES—There may be a lack of air in the sleeping room. The body may be eliminating toxins and needs help. You may have a thyroid problem.

TREATMENT—

• Not enough air in a room can cause you to break out in an abnormal sweat. Make sure a current of air flows through your bed chamber when you are sleeping. It does not have to be much, but you need a slight amount of moving fresh air. In some instances, there may be enough air in the room; but, when you breathe out air, it tends to remain in a hollow formed by the bedding. If necessary, breathe through your mouth. If you find that your brain quickly feels better when you do this, then that is a significant way to solve your problem.

• If you are not living right and eating right, then the sweating can be the result of a toxic overload.

• Avoid meat, salt, tobacco, and junk food. Drink 2 oz. of green drink (whizzed up greens in pineapple or apple juice) every day. Do not eat closer than four hours before bedtime. Fast one day a week on distilled water or fruit and vegetable juices.

• Take Epsom salt (2 cups) baths every night, and hot/cold showers in the morning. After the night sweats are past, take 10-minute cool baths in the morning, to tone the system.

• An alternative is to take a hot salt water sponge before retiring. Use 2 tbsp. salt per quart of water. A hot bath followed by a salt glow is also good.

• You may have hot flashes, caused by irregular thyroid activity.

BODY ODOR (Bromhidrosis)

SYMPTOMS—The secretion of foul-smelling perspiration.

CAUSES AND TREATMENT—

• A lack of soap and water applications causes the sweat to accumulate. Wash your body more often, especially in the axial areas (under arms and groin), and change

underwear daily. Make sure your clothes are clean. Choose natural fabrics; cotton and wool enable the absorbed sweat to evaporate from the body.

• Foot odors can be caused either by not changing the socks often enough or by wearing rubber or plastic shoes. They will make your feet smell like an old rubber tire. The problem may be the shoes, not your feet. Many people today wear such shoes, since they are so much less expensive than leather ones.

• Body odors can also be caused by an excess of toxins in the body which it is trying to eliminate. Are you eating too much or eating the wrong foods? Are you staying up late at night, drinking alcohol or smoking cigarettes? Apply a wet sheet pack overnight. It will help pull the toxins out of a heavy meat eater. By morning, the sheet will be stained by the eliminated poisons. Fast one day a week on juice or vegetable juices, or a water fast. Epsom salt baths help the body eliminate toxins. Repeat daily for one week, and then reduce to once a week.

• Not eating enough unsaturated fatty acids (quality vegetable oils) or not getting enough zinc can also produce body odor.

• Take a tip from hunters who wash with pine soap, so their odor will not be detected by wildlife. Another is old-fashioned glycerine soap.

• Another cause of body odor is excessive sexual activity.

• Pouring tomato juice on a dog to de-skunk him has been done for generations. Some have found that they can pour some tomato juice in a tub of water, sit in it for a time, shower off and get out—and they also smell fine!

SKIN RASH

SYMPTOMS—Reddening of various kinds on the skin, with possible bumps, scaling, and thickening.

CAUSES—In our modern world, skin rashes can have many causes, including reactions to chemicals, sun, wind, insect bites, alcohol, detergents, and friction.

Skin rashes in children are often caused by food rashes from chocolate, peanuts, dairy products, wheat, eggs, or meat. It has been estimated that 75% of children's skin rashes are caused by sensitivity to eggs, peanuts, or milk.

TREATMENT—

• Quick relief from many rashes may be obtained by soaking a clean cloth in cool water, wringing it out, and applying it to the area for 10 minutes. Repeat as often as needed.

• Better yet, soak the cloth in comfrey tea or in calcium water. To make calcium water, take a spoonful of calcium gluconate powder (obtainable at a health food store) and stir it into a cup of water.

• A wash of chamomile tea helps reduce rashes. A poultice made from dandelion, yellow dock root, and chaparral helps alleviate many of them.

SKIN DISORDERS (J.H. Kellogg, M.D., Formulas)

CHILBLAINS—Alternate Foot Bath; Revulsive Douche to feet; Alternate Douche; Hot Foot Bath, followed by Foot Bath under flowing (cold) water; foot pack.

BURNS—The evaporating compress; the cool irrigating compress (cool, wet cloth over it to reduce heat or sprinkle water over it ["irrigate"] to intensify the cooling effect); if very extensive, the prolonged or continuous Neutral Bath.

ERYTHEMA—Cool evaporating compress or irrigating compress (explained just above); neutral compress.

PRURITUS—Prolonged Neutral Bath; copious water drinking; large enema; daily aseptic dietary.

ERUPTIONS—If dry, not irritable, give prolonged Neutral Bath. If scaly, alkaline bath (soda bath or Oatmeal Bath). If moist and irritable, cool evaporating compress moistened with soda solution (1 oz. to 1 gal.). If skin is thickened, as in chronic eczema, Hot or Alternate (hot and cold) spray Douche or Compress, for 10-15 minutes, 3 times a day. If extensively damaged skin (as in pemphigus, confluent smallpox, bad burns), the Continuous Neutral Full Bath until the skin is healed. [Editor's note: One of Jethro Kloss's workers personally told me that when his son was injured in an automobile accident, he gave him a Continuous Bath (of water with goldenseal in it) for several days.]

JAUNDICE—Copious water drinking; large Enema twice daily; sweating hot bath for 15 minutes: such as Radiant Heat Bath; Steam Bath; Hot Full Bath; Wet Sheet Pack, followed by prolonged Neutral Bath. Give the sweating bath once daily, or even twice, if he is not too weak. For general tonic effects, apply Cold Mitten Friction or Cold Towel Rub twice daily. Alternate Hot and Cold Compress over the liver twice daily, with Heating Compress over the liver or flannel-covered Hot Abdominal Pack during intervals between.

DRY SKIN—Short sweating bath, such as Radiant Heat Bath, Steam Bath, hot-air bath, Hot Full Bath, Hot Blanket Pack, Dry Pack, sweating Wet Sheet Pack, followed by a cold bath suited to his general condition, and this followed by massage with friction.

HYPERHIDROSIS—Steam Bath, sweating Radiant Heat Bath, followed by Revulsive Douche to spine and general Cold Douche.

SWEATING FEET—Revulsive Douche to feet, with extremes in temperature as great as possible; alternate hot and cold Foot Bath, Heating Compress to feet during the night, with Cold Mitten Friction to the feet, in the morning on rising.

ECZEMA (Dermatitis)

SYMPTOMS—Dermatitis, also called eczema, is a skin problem indicated by reddened skin, thickening, itching when touched, the formation of dry, patchy scales, and flaking,

CAUSES AND TREATMENT—

• Dermatitis is an inflammatory skin condition that generally keeps reoccurring. Its primary symptom is eczema. Dermatitis is actually an allergy which may be caused by contact with perfumes, cosmetics, rubber, medicated creams and ointments, poison ivy, or contact with metal alloys (including nickel, silver, and gold). Some type of food could be the problem. If the irritant continues to be in constant contact with the skin, the dermatitis will spread and get worse. Obviously, if you have this problem you want to solve it!

• The condition can be intensified by emotional stress and fatigue. Deficiency of any of the B complex vitamins can cause dermatitis. Another important item is unsaturated fatty acids. If you are not getting enough, you can begin itching wherever you rub on your skin. Adequate vitamin A and enough protein are also essential.

• Oddly enough, hair loss (alopecia) is commonly associated with dermatitis, especially if a concurrent unsaturated fatty acid deficiency in the diet exists.

• If the dermatitis is not terminated, it can so weaken the system, so that more serious infections occur. This is because, at the same time that you are having skin problems, your intestines are developing lesions which can greatly weaken your ability to digest and absorb nutrients!

• It is a fact that 13% of those with severe dermatitis later develop cataracts.

• Here are some of the allergies which the experts have found to especially cause dermatitis:

1 - *Cow's milk.* Either stop drinking cow's milk or try switching to goat's milk.

2 - *Wheat gluten* (wheat protein). There are other grains you can eat instead.

3 - *Nickel.* The experts call this "nickel rash." Women who have their ears pierced and the nickel post placed in them can produce various rashes on the body—especially

where any other metal jewelry touches the skin. By the way, any gold jewelry less than 24-karats has some nickel in it.

• Beware of the bubble bath and similar soapy tub baths.

• Children's rashes: A skin rash in children may be caused by eating eggs, peanuts, milk, wheat, fish, chicken, pork, or beef. Eggs, peanuts, and milk account for 75 percent of the skin rashes in children.

• Regardless of what may be the cause, omit wheat, rye, oats, and barley for six weeks. Then slowly add one back at a time—and see how all this effects the dermatitis.

• If you know how to do so, you may wish to do a pulse test after each meal, in an attempt to ascertain which foods increase heart beat. Those which do are the problematic ones.

• Avoid dairy products, white flour, fried foods, other processed fats, and sugar. Avoid antiperspirants, for they have metal in them. Use cotton undergarments. Fake fingernails cause skin rashes. Always use white bathroom tissue only. The dyes irritate the skin. Be sure and rinse the soap out of your clothes which have just been washed.

• Mix goldenseal root powder with vitamin E oil and put some on the affected area. This will reduce the itching.

• Primrose oil and vitamin B6 (pyridoxine) have helped infants with dermatitis.

• An oatmeal bath is another helpful measure, to reduce the itching during the time required to solve the underlying cause. Use 2 cups of colloidal (powdered) oatmeal per tubful. Colloidal oatmeal can be obtained at a pharmacy.

• Herbs that may help include comfrey, dandelion, red clover, and pau d'arco.

• Steep a tbsp. each of burdock root, yarrow, and yellow dock root in a pint of boiling water for half an hour. Strain, add a pound of cocoa fat, and keep boiling and stirring until it is a salve. Use this for eczema.

• Other useful herbs are plantain, chickweed, burdock root, yarrow, and strawberry leaves. One can either drink the tea made from any of them or apply it to the affected area.

HIVES (Urticaria)

SYMPTOMS—Strong itching (pruritus) may suddenly occur. Elevated wheals result, along with swollen eyes. The subsequent scratching makes you appear swollen and

scratchy. The intense itchy wheals which may result may disappear in minutes, hours, or several days. Hives are generally gone within 1-7 days, except in cases of severe hypersensitivity, when death may result. Occasionally a fatal anaphylactic reaction occurs. At such times, edema of the breathing passages produces respiratory difficulty similar to severe asthma.

CAUSES—The skin is reacting to allergies, physical irritation, stress, or emotions. Special dermal cells begin releasing histamine, which causes internal blood vessels to leak fluid into the deepest layers of the skin.

Meat; dairy; and poultry products, especially in frozen or fast foods, are frequent causes of hives. This is due to the chemicals, antibiotics, and hormones given to farm animals.

Here is a list of special things known to cause hives in some people:

Aspirin, antimony or bismuth (in various metal alloys), anti-pyrine or phenacetin (pain relievers), barbiturates, BHA and BHT (preservatives), phenobarbital or chloral hydrate (sedatives), chlorpromazine and meprobamate (tranquilizers), fluoride (dental products and fluoridated drinking water), food colorings, griseofulvin (antifungal), insulin, liver extract, menthol (in perfumes, candy, cigarettes), mercury (dental fillings), morphine, penicillin, pilocarpine (glaucoma medication), preservatives, procaine (anesthetic, known as novocaine), quinine, (quinine water and malaria medication), reserpine (heart medication), saccharin (artificial sweetener), salicylates (flavoring and preservative), sulfites (preservative in dried fruit), and thiamine hydrochloride (cough medications).

TREATMENT—

Immediate help:

• Anything that is alkaline generally helps the itching. Place a calcium gluconate paste on the skin or apply milk, calamine, or milk of magnesia.

• Cold compresses or cool baths will immediately help also.

• An oatmeal or bran bath will help relieve the itching. Place 2 lbs. of ether in a muslin bag and set in a hot bath (104^{o}-106^{o} F.).

• A paste of cream of tartar and water can be applied to the area.

Longer term solutions:

• Try to find the cause or causes of this problem. Here are some of the things which result in hives in others:

• Stress, food allergy (milk, wheat, eggs, shellfish, pork, onions, some fruits), chlorine in drinking water, adrenal exhaustion and/or liver congestion resulting from an allergy, hydrochloric acid deficiency, food dyes, preservatives, drug allergy, acid conditions,

insect stings, chronic infection, penicillin in the milk you drink, aspirin, coffee, alcohol, and tobacco.

• Secondary factors will be spinal lesions, stoppage of lymph flow, imbalance between deep and surface blood circulation, and adrenal exhaustion.

• Another factor is improperly (too hurriedly) weaning a child from breast milk.

• Reading over the above lists, it appears that the primary cause is frequently a physical reaction to a substance which the body cannot tolerate to have put into it. We live in a chemical age. One cannot even drive down the highway without breathing dangerous fumes.

• Do not use steroids, alcohol, or processed foods.

• Lymph stasis and poor circulation may result from poor skin function, lack of exercise, fresh air, and poor elimination; but ingesting poisonous substances top the list.

• Aside from trying to find the chemical offenders, prolonged fasting is generally considered the best method of terminating recurrent hives. This cleans out the body and enables it to better deal with the chemicals it is daily confronted with. Fasting will help the intestines and other organs to heal. It will eliminate toxins and help the bowels begin working properly again. Trunk packs will help induce sweating. Moderate sunbaths will help also.

• As a rule, fasting should not be over 1-3 days in length. If you are overweight, longer fasts might be considered. If you are thin, never go over 3 days; indeed, one meal or 1 day fasts are best for frail individuals. A carrot, beet, and green vegetable juice fast is better than a straight water fast.

• Use enemas during the fast, and even afterward, until the hives do not return. Maintain good bowel action thereafter.

• Also important are dietary changes: Be sure and get nutritional supplements, including vitamins A, B complex, B^6, B^{12}, C, and calcium. You may need to take hydrochloric acid with meals.

• There is one other cause which we have not yet mentioned: a lack of unsaturated fatty acids. The best is wheat germ oil. Flaxseed oil is also outstanding. But corn oil would be acceptable. In addition to including only such oils in your diet, you would do well to rub wheat germ oil on the affected area.

• When the problem exists for weeks or months, it is vital that you identify the cause, so you can eliminate the hives.

• Chronic hives can be linked to candida.

• When severe anaphylactic reactions occur, immediately take the person to the hospital. It is best not to let situations come to such a crisis. Solve the problem before hives produces such an emergency.

IMPETIGO (Impetigo Contagiosa; Echthyma)

SYMPTOMS AND CAUSES—Impetigo is not something to ignore. Neglected, it can produce boils, ulcers, or other skin complications.

Untreated, it can result in deep infections of the tissue beneath the skin. Impetigo is a skin disease caused by a streptococcal bacteria. It occurs primarily in children, especially in undernourished ones, and in the summer months. Lower economic groups living in crowded conditions are the most likely to contract it. It is more frequently found on the face, hands, and arms next and feet and legs third.

Cuts, abrasions, insect bites, and stings allow entry of the bacteria. An area of redness is seen, followed by blister-like swellings. The fluid is straw colored. If not scratched, the lesions break down in 4-6 days and form a honey-colored crust which heals slowly. The skin beneath may lose its color, not to be regained for months. The scratching generally results in more skin injury and a spread of the infection.

TREATMENT—

• Impetigo is actually an early sign of immune depression, which allows organisms normally on everyone's skin to produce disease. The body needs to be built up.

• Proper nutrition is needed, along with sanitary living conditions.

• In some individuals, a food allergy (such as milk, wheat, or soy) or a contact dermatitis (such as detergents in the clothes) weakens the immune system—permitting the impetigo to gain a foothold.

• Strict hygiene is necessary to prevent the spread of the infection to other parts of the body—or to other people.

• Vitamin A is necessary for good skin health. Give the child a good multivitamin supplement. Give vitamin C, to bowel tolerance.

• Put a wash of boric acid and herbs such as comfrey, golden seal, or echinacea on the affected area.

• Place garlic oil, squeezed from capsules, on the area.

• Removal of the crusts results in a more rapid cure. Bathing in soapy water every 4 hours during the day is helpful. Severe cases may require a slightly salty or hydrogen

peroxide application (3 parts water to 1 part 3% peroxide). Apply soaks or warm compresses to the attached crusts. Hot and cold compresses may be applied after the crusts are gone. At night, charcoal poultices can be attached and left overnight.

• Use disposable tissues instead of cloth handkerchiefs. Each person should be given his own towel and washcloth. Wash the hands frequently; and, while the infection lasts, keep the fingernails short and clean. Change pillowcases and bed sheets daily, and boil all linens for 10 minutes. If possible, isolate the child.

• Exposure to the air and sunlight will help, but do not swim.

• If impetigo is on the scalp, cut the hair so you can treat it.

SHINGLES (Herpes Zoster)

SYMPTOMS—Sharp, burning pain along a nerve route somewhere in your body for 3-4 days. There are angry red blisters at that pain site several days later. These are very painful and itchy. Later the bumps blister, turn cloudy, and form scabs. It usually lasts 7-14 days from the time the blisters appear before the scabs drop off. This is no ordinary rash; it is shingles, which is a viral infection of a nerve. It most often occurs on the skin of the abdomen, under the ribs and above the navel. But it can appear anywhere on the body. It most frequently occurs after the age of 50.

If shingles starts near an eye, beware! The cornea can become infected and blindness may result. You would then do well to consult an eye specialist.

CAUSES—This staphylococcal infection consists of small round bacteria growing in clusters. The virus in the chickenpox you had as a child never really left your body; and, when you are an adult, it comes back in the form of shingles. The virus may lie dormant in the spinal cord and nerve ganglia for years until triggered. It normally lives on the nostrils and skin of everybody.

What triggers the attack? It is known that poisonous substances in food, metals, drugs, and other toxic substances can do it. For example, risk of shingles increases with the use of anti-cancer drugs. Anything that weakens the immune system can bring on an attack of shingles. Once it occurs, the pain can continue on for months or years. So it is better to prevent an attack.

TREATMENT—

• Massive doses of vitamins C (1,000 mg 3 times a day and 200 mg 5-6 times a day), rutin, and B complex. In addition, take vitamin F, calcium, and lecithin. The amino acid, lysine, can help inhibit the spread of the herpes virus. The diet must include raw fruits and vegetables, brewer’s yeast, brown rice, and whole grains. Be sure and eat enough protein.

• Some suggest leaving the blisters alone if they are not too bothersome. Other suggestions include placing one or more of the following on them: calamine or other calcium preparation on them. Calcium is always soothing to skin rash conditions. Apply vitamin E oil from a capsule to the area.

• Put cold water on a cloth and place it over the area. The cooler it is, the better it feels. Avoid anything that will make your blistered skin hotter.

• Put apple cider vinegar on it daily. Take hot baths 2-3 times a week. Take a starch bath (one cup of cornstarch or colloidal oatmeal) into a hot tub. Colloidal oatmeal is powdered, and is at the pharmacy. Do not slip in the tub!

• Clean out the bowels frequently. Light fruit and vegetable fasts will also help clean out, and strengthen, the body. Wear only cotton clothing while the condition exists.

• Dab the infection with hydrogen peroxide to purify it. If pain exists after the blisters are gone, put ice on the area.

• Avoid drafts. Allow sunlight on the area for short intervals. Gently wash the blisters when bathing and avoid touching or scratching them.

• If the shingles appear on the forehead, tip of the nose, or near the eyes, contact an ophthalmologist. Such cases can lead to blindness.

PSORIASIS

SYMPTOMS—It appears like patches of silvery scales or red areas, and is found on the scalp, arms, legs, knees, elbows, ears, and back. There are cycles of flare-ups and remission. Sometimes it disappears for months or years, and especially occurs in winter months. In some, aging makes it better; in others, worse. It is most common between 15 and 25, and is not infectious.

Do not use steroids, alcohol, or processed foods.

CAUSES—The skin cells seem to run out of control. Instead of skin renewing itself in 30 days, the new cells reach the top layer in 3 days. This produces raised areas of skin, called plaques, which are red and often itchy. Because so many cells are rising and dying (as they normally do), they have a raised, silvery, patchy appearance.

Psoriasis may be linked to faulty fat utilization. Attacks are related to times of stress, illness, surgery, cuts, certain viral and bacterial infections, sunburn, poison ivy, or poison oak. The drugs such as chloroquine, lithium, and beta-blockers also cause it to flare up.

There appears to be a hereditary factor involved.

Previous immunizations seem to be a causative factor for some people.

TREATMENT—

• There is no certainty that one can totally eliminate psoriasis. Do not spend time worrying over the matter, for the resultant stress may only aggravate it.

• Only the scales and skin debris can be removed. Because psoriatic skin is dry, it is well to put petroleum jelly or vegetable oil on the area. Researchers have found that covering lesions with tape or plastic wrap for days or weeks can sometimes help clear it up. This seems to work only for small areas, no larger than half a dollar. But do not let the area become gooey and infected.

• Lose weight if you are overweight. Weight loss helps many who have psoriasis.

• Heavy stress can make it worse; try to retain a calm, cheerful outlook on life. Existing psoriasis tends to get worse when you come down with some other infection.

• Exposure to sunlight or ultraviolet light reduces the scaling and redness. With regular amounts of intense sunlight, 95% of psoriasis sufferers improve. But keep in mind that too much ultraviolet light also produces skin cancer.

• You may wish to consider moving to a warmer climate, since the problem becomes much worse in the winter.

• An increased intake of animal protein can make it spread outward; conversely, a reduction tends to shrink it. Citrus juices may also be a problem.

• Since psoriasis is a metabolic disease, a cleansing juice fast, 2-3 times for the first week, is a good way to begin working toward its recession. Four weeks later, the fast can be carried out again. But in the meantime, an extremely nourishing diet should have been started. All junk food should have been discarded. Search out, and eliminate, allergy foods. Beware of milk and wheat. It may be well to exclude them for 6 months, even if they may appear harmless.

• Avoid fats (butter, milk, cream, eggs, meat), processed food, white flour, sugar, and citrus fruit. Red meat and dairy products contain arachidonic acid, which makes the lesions turn red and swell. Get your oils from natural foods, such as flaxseed, sesame seed, and soybeans.

• Vitamins A, B complex, C, and D all help the skin and appear to be of help in reducing psoriasis.

• Swimming in the ocean is good for reducing psoriasis. Bathing in heated baths is also helpful, but it also tends to increase the itching. Put seawater, several times a day, on the area.

• The various medicinal drugs recommended for psoriasis all have potentially dangerous side effects.

• To reduce the itching, a cold-water bath, perhaps with a cup or so of vinegar added, is very helpful. Another help is ice. Put some in a plastic sack and hold on the area.

ERYSIPELAS—1

SYMPTOMS—Redness, discoloration, blisters, and swelling that most commonly attack the face and is accompanied by high fever and other indications of acute illness. The skin is deep red or pink and appears glazed. It has a combined itching and burning sensation. There is a definite edge or margin to the affected area. Blisters may develop. The swollen area feels firm and hot. The condition tends to spread in all directions from where it first began. Even in cases moderately severe, generally the face is swollen; eyes are closed; and the lips and ears are thickened and feverish.

CAUSES—Erysipelas is serious; and, in babies, the aged, and women who have recently given birth, it may prove fatal. It is likely to cause abortion in pregnant women. This is obviously a very serious condition. You will want to contact a physician. If you have contacted a physician, apply ice bags or ice-cold compresses (20 minutes on and 10 minutes off) to the affected area until he arrives. Cold compresses to the head, to help reduce the headaches.

Erysipelas is contagious. Wear rubber gloves. Never simultaneously care for children or other sick persons. Disinfect clothes placed on his skin. Soak 10 minutes in a Lysol solution (1 tbsp. per pint water) before putting in laundry.

TREATMENT—

• Go on a thorough cleansing program, with fruit and vegetable juice fasting, followed by a careful nutritious diet.

• In addition to the liquid diet, he must drink at least 3 quarts of water every day.

• Avoid constipation. When eating, there should be 3 movements a day, or use an enema.

• Do not wash with soap and water; only use a saturated solution of boric acid.

• Helpful herbs include plantain, yellow dock, chickweed, burdock root, chamomile, mullein, and yarrow. Dissolve herbs in a quart of boiling water, dip a cloth in, cool, and lightly touch the affected areas. Do not wipe the skin. Chickweed tea is excellent for this purpose. Add 1 tbsp. per pint of boiling water.

• A raw cranberry poultice, applied cold, will help remove the burning. Dilute lemon juice 50-50 with water and apply gently.

• Cover the area with grated potatoes, about a fourth inch thick. When dry, remove, and do it again.

ERYSIPELAS—2 (J.H. Kellogg, M.D., Formulas)

GENERAL—Cold Mitten Friction or Towel Rub every 3 hours.

COMBAT LOCAL INFLAMMATION AND EXTENSION OF THE DISEASE—Cold Compress during the early stage of the disease, renewing before it becomes warm. Later, give it less frequently. Avoid Ice Bags or Ice Compresses, which involve risk of sloughing. Fomentations for 2-5 minutes every 2 hours. Ice Collar when the skin of the head or face is affected.

FEVER—Graduated Bath, Prolonged Neutral Bath, Cooling Enema, Cooling Wet Sheet Pack.

RECURRING CHILLS—Dry Pack and hot water drinking.

VOMITING—Ice Bag over stomach, Hot and Cold Trunk Pack.

PERICARDITIS, ENDOCARDITIS— Fomentation over heart for 30 seconds, followed by Compress above heart at 60^0 F.; change every half hour.

GENERAL METHOD—During the early stage of the disease, while the surface is bright red and the inflammation is extending, apply cooling measures, changing every few minutes (3-5 minutes), as often as the fomentation is warm. Prevent extreme depression by a Fomentation that is not too hot, every hour or two. When the parts become a dull red color or the rapid extension is checked, employ the Heating Compress, changing it at intervals of 15-30 minutes, prolonging the interval as the fever and inflammation subside.

If any of the following related problems exist, see under their respective headings: Myocarditis, Arthritis, Acute Nephritis, Delirium.

KERATOSIS (Sharkskin)

SYMPTOMS—This is the rough "goose bump" skin you will find on your elbows, and also on the backs of your arms, thighs, and buttocks. It feels like a sandpaper surface.

CAUSES—This is a sebaceous and keratinized build up of hard granular plugs in the openings of hair follicles. Many physicians claim that this is a normal condition, but it is actually a deficiency of vitamin A and zinc.

TREATMENT—

• Take vitamin A supplementation. This should be 25,000 units per day, for children, or 30,000 units per day, for adults. However, keep in mind that vitamin A can be dangerous; since it is an oil-soluble vitamin, it is normally stored quite well by the body. Many experts recommend never taking over 50,000 units a day, and only for a limited period of time.

• Increase zinc to 50 mg, three times a day, and essential fatty acids to 5 gm, three times a day.

LEUKODERMA (Vitiligo)

SYMPTOMS—This is a loss of skin color, especially in black or dark-skinned people. When occurring in Europeans, it is less likely to be noticed. It is most commonly seen as white patches, surrounded by a dark border.

CAUSES—The skin is no longer producing melanin, the dark coloring pigment. It most frequently occurs to someone who has thyroid problems. Premature gray or white hair may also occur. All this points to a deficiency of certain B complex vitamins.

When treatment is effective, small spots of pigment will appear in the white patches, and then gradually fill in. But only a few experience a complete return to the original color.

TREATMENT—

• B complex supplementation, plus emphasis on two special B vitamins: Para-amino benzoic acid (PABA, 100 mg four times a day) and pantothenic acid. PABA injections may be needed. Also be sure and take hydrochloric acid if it is needed.

• Other helpful nutrients include vitamins A, B complex, B12, zinc, and copper.

CHAPTER TEN

ALLERGIES

The number of people suffering from various types of allergies is tremendous. These disorders range from the sniffles during certain pollen seasons to a danger of sudden death from shock after one bee sting. A number of body organs are affected by allergies, including the gastrointestinal tract, the lungs, the nose and sinuses, the eyes, the skin, and even the bladder. In fact, almost all membranes and mucous linings of the body can be target organs for allergic manifestations.

Literally hundreds of different remedies are sold across the counter and by prescription in neighborhood pharmacies. Similarly, hundreds of skin tests are performed to try and determine the exact cause. Specialists devote their lives in an attempt to understand the nature of allergies. Yet with all of this light and scientific research focused on the problem, a *cure* has not yet been found. We will consider some of the more common types of allergy and a few simple treatments that anyone can do in his or her home to either avoid the cause or provide relief.

Asthma

This allergic disease of the respiratory system primarily affects the lungs. At the end of each tiny air tube that reaches the lung is the alveolus, where gas exchange occurs. Here oxygen enters the red blood cells to be exchanged for carbon dioxide, which is then exhaled. The bronchial tubes that form the large and small air passages have a smooth specialized muscle in them that constricts under certain conditions. In contrast, with the smooth muscle of the artery walls, these bronchial muscles dilate in response to adrenalin and constrict in the presence of histamine as well as other chemical mediators of allergies. A condition described as bronchial asthma occurs when there is

spasm of the bronchial tubes, leading to obstruction in the airway. Usually there is also excess mucus accumulation and thickening of the mucus's making it more tenacious and difficult to clear.

The asthmatic patient, then, primarily has an air hunger, with musical wheezes in the lung. These can be heard easily with a stethoscope over the chest and in more severe asthmatic crises becomes audible to the unaided ear. A number of conditions can produce these symptoms. There are certain drugs that can create an allergic reaction, as well as many industrial inhalants that irritate the lungs. A few people react to food allergies with the production of asthma's though this is less common. Most frequently, the asthmatic sufferer reacts to inhaled particles in the air, called *allergens*, which may be of a biologic nature or inanimate particles. House dust is an example of the latter. Danders from cats, dogs, horses, feathers, or down also can produce wheezing.

Commonly seen in the spring, summer, and fall are allergies to various inhaled pollens. Although some people primarily suffer from hay fever (discussed below), others are affected in their lungs. The inhalation of pollens, such as those from pine trees in the spring, wildflowers in the summertime,

ragweed or goldenrod in the fall, may produce characteristic responses. These are related to the number of particles inhaled and the efficiency of the nasal filtering mechanism.

Emotions can also trigger allergies. I remember vividly the experience of a teenage girl who suffered a violent asthma attack in a hospital when she remembered with nostalgia her dear pet cat at home alone! Moreover, numerous infections in the lung are seen in conjunction with asthma. These are usually termed **asthmatic bronchitis**. Frequently seen in childhood, they are often associated with an upper respiratory infection.

A physiologic approach to asthma then involves several factors. The secretions should be thinned with a copious fluid intake's preferably by the oral route. Inhalations of cool moist air can often help in the clearing of secretions and the thinning of this very sticky mucous material. Gentle coughing assists in expelling of the mucous plugs, but this should be done in combination with the inhalation of humidified cool air. The use of a stem vaporizer is to be discouraged, as this often adds to the swelling and edema formation in the bronchial tubes.

Hydrotherapy is important in the treatment of asthma. Often the adrenal glands can be stimulated early in the disease by a quick ice rub to the spine in the upper back, associated with brisk tapping *(percussion)* over the adrenal area (see Chapter 17). This stimulation of the sympathetic nervous system results in the discharge of enough adrenalin to counteract the acute effects in beginning stages, as well as induce dilation of the bronchial tubes.

Prolonged hot packs to the chest can sometimes be effective in relaxing both the respiratory muscles and the patient's s nerves. This must be repeated several times, and will often abort the acute asthmatic attack and eliminate the need for medication. Inhalation therapy with the use of bronchial dilators and theophylline derivatives are often used in a hospital setting. Sometimes mullein *tea* (Chapter 18) or other teas containing theophylline can be used with some effectiveness to further aid in combating the bronchial spasm. As in any disease, a thorough attempt to discover the cause's then as far as possible eliminate it's will reward the asthmatic sufferer with an increase of comfort and removal of those conditions that progresses in the advanced case too often leading to emphysema.

Hay Fever

Hay fever or *allergic rhinitis* is a hypersensitivity disease involving the nose and sinuses, The mucous membrane becomes inflamed in response to an allergic substance and produces *a* watery, profuse discharge associated with increased tearing, itching of the eyes, and sneezing. This condition is usually seasonal, with the peak incidence corresponding to the presence of the offending allergenic inhalants. Pollens of trees, grasses, wildflowers, and other weeds are the most common culprits in producing this allergy. Some people are affected by danders, the particles produced from the skin of animals or hair from cats, dogs, horses, etc. House dust, molds, feathers, and even certain foods can produce hay fever. The appearance of the inner mucous lining of the nose is usually pale and thin, as opposed to upper respiratory infections where the mucus becomes thick, and the mucous membrane reddened and swollen.

Usually it is quite helpful for the allergy sufferer to know and identify the

offenders. Scratch tests are usually helpful in evaluating the type of sensitivity. Intradermal injections are more commonly done by ear, nose, and throat specialists or allergists. However, the simpler and less expensive scratch tests are usually sufficient to establish the cause and initiate desensitization therapy. Recent advances in the use of allergy shots have allowed a more rapid desensitization procedure that is replacing the traditional year-round technique. The hay fever sufferer will find relief from the plentiful use of tissues, by placing cool compresses over the nose and sinus areas. Frequent nasal irrigation with cool saline (sniffing or spraying the salty solution) will help remove entrapped pollens and other particles, and clear the nasal passages of the allergy—producing substances.

When the allergy is due to *Bermuda grass* or *ragweed,* activities outdoors such as yard work and lawn mowing may require the use of a mask. An appropriate respiratory filter can trap these pollens and minimize the

symptoms, while still allowing work outside. Botanical identification of certain plants, such as ragweed, goldenrod, and various trees, grasses, and wildflowers will interest the pursuit of further nature study, while cautiously avoiding fields and forests where the prime offenders abound.

The chronic use of antihistamines and nasal sprays is to be discouraged, as side effects are frequent and troublesome. Excessive drowsiness, disturbance of digestive secretions, and the “rebound phenomenon” associated with nasal reaction to decongestants are all avoidable with this emphasis on natural remedies. Further attention to the diet, or in unusual cases, the relocation to a different climate may be necessary to bring hay fever and its troublesome symptoms under control.

Hives

A number of allergic conditions, affect the skin. Some of these, such as *eczema* are mentioned in the previous chapter. **Hives**, or *urticaria,* is a very common manifestation of hypersensitivity. Many causes for this exist.

The disease itself is manifested by the sudden appearance of reddened areas, which rapidly become welts, being distributed generally over the body or localized to the face, neck’s or extremities. Intense itching is usually present. The lesions often migrate and change their appearance rapidly. The rash, however, usually does not blister or weep unless scratching has abraded the skin and allowed the entrance of germs.

Food allergies can sometimes cause hives. Very frequently an allergy to strawberries, shellfish, or some less common food can trigger a sudden onset of this rash. Reaction to substances such as wheat, milk, or eggs is more rare. It is necessary to avoid the food if one wishes to eliminate the symptom.

Several drugs can also cause hives. This condition is usually termed a **drug allergy**. The most common producers of this drug reaction are Penicillin and related antibiotics. Sulfa drugs and pharmaceuticals from nearly every major class of medicinal agent can produce an urticarial reaction in the sensitized individual.

Babies seldom get hives unless a drug has been present in the milk or they have had previous exposure. But it is frequently seen in children and adults with no particular preference as to age, sex, or race. The result of stress at both conscious and subconscious levels may trigger a sudden onset of urticaria. However, in up to *50%* of the cases the exact source cannot be

detected with certainty. It is very worthwhile to **look** for the cause, however, and consider any substance that is inhaled, ingested, or contacted by the skin as a possible factor to exclude.

Treatment of hives should first begin with reassurance. This condition is self-limited and is usually neither life threatening nor contagious. The intense

itching can be relieved considerably by cool baths with the addition of one cup starch or oatmeal powder *(Aveeno),* or alternately using 1/2 cup baking soda. Lotions may be helpful to reduce the symptoms. Try ice packs for local lesions. Antihistamines seem to counteract the reaction, but usually are not necessary as the condition commonly disappears within hours.

An exception to this may occur with bee sting allergy. If an individual is highly allergic to the sting of a honey bee, wasp, hornet, or yellow jacket, the reaction with hives will be immediate and generalized. Not only should ice and/ or moistened charcoal be applied to the site of the sting, but in emergencies the administration of adrenalin or a similar substance is necessary to prevent rapid progression into the swelling of the respiratory passages or the sudden development of shock. Since bee sting hypersensitivity can be lethal, careful diagnosis and prompt treatment is essential. Moreover, in such cases, desensitization injections can permit greater freedom in outdoor life and remove the fear that often grips parents as well as children who live with this threat of danger.

Food Allergies

There is probably no area more controversial and perplexing as suspected allergies connected with food. These range from sensitivity to food additives, such as coloring, preservatives, and other foreign chemicals, to plant sources, to actual hypersensitivity to protein and other constituents of fruits, grains, nuts, vegetables, or animal foods. Careful detective work and long-term adherence to dietary regimens are frequently necessary to first diagnose and then live with food allergies.

It is my belief that the stage is set for many food allergies by feeding patterns in infancy, such as the early introduction of solid foods, the widespread use of cow's s milk in prepared formulas, and the relative lack of mother interest in prolonged breast feeding. Maternal use of drugs which sensitize the babies in *utero* or during the breast-feeding period can also prepare the way for allergic responses to develop.

The most common allergy that occurs in infancy is a sensitivity to cow's milk. This is often manifested in diarrhea, unusual regurgitation, excessive gas or colic, or a "failure to thrive." Usually a change to soymilk formula if breast feeding is not available will stabilize the situation, although rarely more restricted and specific formulas have to be devised.

A majority of the black and oriental races and lesser percentages of Caucasians are sensitive to cow's s milk even in adult life. This, however, is due to the deficiency of **lactase,** an enzyme which helps to split milk sugar (lactose) and render it available for absorption. Diarrhea, excessive gas, and an acid stool are produced. Simply abstaining from milk is curative. You must

always suspect the diagnosis in order to apply the proper remedy at once, thus removing the cause.

Other people are truly allergic to the proteins of cow's milk and find

unpleasant symptoms, such as frequent sinus or nasal congestion, related to the intake of milk. Please note, however, that skin scratch tests for food allergies are notoriously unreliable as indicators of an individual's s sensitivity to the **eating** of these foods. It appears that the skin is just not a parallel indicator with the gastrointestinal tract. The only way to be certain in diagnosing food allergies is through trying an elimination diet.

Next to milk as a cause of allergy, chocolate and wheat lead the list. Usually the grains are less common allergens, but berries (such as strawberries), nuts, shellfish, eggs, and many other foods can produce similar symptoms. It is believed by some that symptoms resembling hypoglycemia, such as episodic weakness and certain mental aberrations (anxiety, panic attacks, depression, etc.) may be related to food allergies. It must be acknowledged, though, full proof is lacking to completely confirm this theory as yet. Nevertheless, eliminating the offending food, then gradually progressing from a limited diet to a more liberal intake of varied foods **will** help bring a return of health and strength, with fewer physical symptoms and more emotional stability.

Sulfites are added to foods to serve a variety of purposes. They preserve food by killing bacteria and yeasts. They retain color and apparent freshness by acting as antioxidant. They may also be used to sterilize containers and arrest fermentation in alcoholic drinks. The label may contain any of the following listings, all various types of sulfites: *sulfur dioxide, sodium sulfite, sodium bisulfite, potassium bisulfite, sodium metabisulfite* and *potassium metabisulfite.* Many people are allergic to sulfites, reacting with skin rash or asthmatic wheezing.

Carefully test for allergies with a medically approved method. **RAST** (Radio Allergo Sorbent Test) testing offers an easy way to evaluate the blood for immediate immune reactive (IgE) factors. The more definitive, though expensive, **ELISA/ACT TM** (Enzyme Linked Immune Sorbent Assay / Advanced Cell Test) measures both immediate and delayed responsiveness to over 300 foods and environmental chemicals. Additional detailed evaluations, however, may require a period of observation and careful dietary therapy in a sanitarium or preventive lifestyle institution to isolate specific factors or undertake dietary trials.

Anaphylactic Shock

Anaphylactic shock is a highly dangerous allergic manifestation that occurs when an individual has an immediate life-threatening reaction to

contact, ingestion, or injection of an allergen. This rarely occurs with food allergy, but is most commonly associated with drugs. Penicillin injections have periodically produced this severe type of anaphylactic shock.

Stings from hornets, honey bees, bumblebees, and yellow jackets in sensitized individuals can provoke anaphylactic reactions. Even inhalation of allergens, such as antibiotic powder, or caster bean flour, may cause anaphylaxis. Symptoms occur within seconds to minutes after the substance enters into the body, when precipitous drop in blood pressure occurs. Frequently there is difficulty breathing, profuse sweating, and sudden generalized vascular relaxation that causes faintness. In fatal cases stoppage of the heart or respiration follows.

Prompt emergency resuscitative measures are necessary to save the life of

a victim in anaphylactic shock. Subcutaneous injection of adrenalin in the appropriate dosage (based on body size) is life saving in such a situation, while general first aid measures involving adequate **airway**, artificial **respiration**, and closed chest **cardiac massage** are instituted. Increasing anaphylactic cases of this nature has brought physicians to adopt a more conservative attitude in the administration of antibiotics by injection. **Bee sting allergy kits** are available for those sensitized individuals who live with this ever present threat of danger.

Specific Hypersensitivity

Several other types of allergies manifest themselves in inflammatory states of various body organs. Allergies have been implicated as the cause of **cystitis** or inflammation of the bladder, and this typically resembles a urinary tract infection. The joints can be affected by allergies, with ensuing pain, swelling, and disability. Allergies in the bronchial tree, the sinuses, and the upper respiratory tract are likewise common.

Most commonly seen is hypersensitivity to substances contacting the **skin.** Nickel, as in watch bands, elastic in undergarments, various cosmetics, dyes, creams, lotions, medications, and plant substances all can produce the skin rash of allergic dermatitis or aggravate an existing **eczema**. All known offenders must be avoided to regain health. Allergy as a medical specialty is growing, with the increasing number of chemical, biological, and food sensitivities that send more people for testing and treatment each year. While cures are illusive, control is frequently possible, offering considerable hope, especially good news to allergy sufferers.

CHAPTER ELEVEN

BREATHING AND RESPIRATORY DISEASES

When it comes to the lungs, everyone needs a healthy pair, for without air no one can live more than a few minutes. Of all the elements in nature, oxygen has to be most constantly supplied to the human system. With rare exceptions, more than 4-5 minutes without oxygen will result in irreversible damage to the brain and other vital organs. For this reason, our bodies have been designed with a mechanism for constant exchange of air. Furthermore, the respiratory tract has been provided with marvelous safeguards to cleanse the membranes and prevent any entrance of infectious agents.

The rapid growth of urban populations, as well as the use of tobacco, has produced a large number of respiratory diseases. Still, most of the diseases of the respiratory system are of an infectious nature. In studies of mortality, the deaths due to pneumonia and tuberculosis have been replaced by an increasing number from lung cancer and emphysema. A few of the more common conditions will be dealt with below.

First, it is helpful to include a brief description of the proper mechanics of breathing. Correct **posture** is invaluable in allowing complete expansion of the lungs. It is proper to avoid tight-fitting garments, such as elastic bands about the chest and waist, all habitual stooping or a slumped sitting posture, all of which can prevent complete chest expansion. The most efficient respiration utilizes the diaphragm. This is a large flat muscle that separates the chest from the abdominal cavity. Contraction of the diaphragm creates *a* vacuum within the chest, allowing entrance of air concurrent with the moderate protrusion of the abdomen. Sitting erect and standing with the

shoulders back and the head up, together with a straightened position of the spine are all essential to deep, full diaphragmatic breathing.

The **vital capacity** is a measure of the greatest volume of air one can take into the lungs in a deep breath. Pulmonary function tests can also measure the **timed vital capacity,** which shows the degree of elasticity of the lungs, which is impaired early in the development of emphysema. Other breathing capacity measurements can be made and serve as predictors of the development of diseases such as asthma, emphysema, or other chronic conditions. The examination of the chest and lungs, as well as brief comments on diagnostic x-rays are described in chapter one.

Lung development just before birth coincides with the production of *a* detergent-like substance called *surfactant.* This is deficient in a premature baby and is one of the reasons why *hyaline membrane disease* may develop. Another enzyme that is usually present in the bronchial tubes is called *alpha-1antitrypsin.* Congenitally deficient in some people, this can lead to the development of early emphysema, particularly in smokers or people exposed occupationally to inhaled particles, such as asbestos or coal dust. A simply performed blood test can determine the existence of this hereditary enzyme deficiency. We turn now to consider some of the common diseases of the respiratory tract.

Emphysema

Pulmonary emphysema takes the lives of increasing numbers of people each year. Called *chronic obstructive pulmonary disease,* this condition develops insidiously in people exposed to heavy pollution of the airways. The commonest cause of emphysema today is tobacco smoking. Unfortunately, most individuals do not know that their disease has developed until it is too late to cure the condition. The basic process involved in the development of emphysema first involves the destruction of elastic tissue in the bronchial tubes. Respiration becomes increasingly difficult. Then in later stages many tiny air sacs, called alveoli, lose their walls and coalesce, forming large air sacs or *emphysematous blebs.*

The earliest symptom in developing emphysema is shortness of breath. This is commonly associated with exertion. This exhibits disease risk with decreased ability to carry packages, climb stairs, walk rapidly, or engage in the usual sports. Advanced sufferers of emphysema may develop cyanosis, a bluish tinge around the mouth with a dusky appearance of the nail beds. This sign indicates advanced impairment of oxygen intake with a chronic deficiency in the blood. There is abnormal shunting of blood across the lungs, with resultant deficient oxygenation.

When chronic bronchitis or pneumonia are superimposed on the underlying condition, **respiratory failure** can develop. Heroic efforts are being made today in intensive care units to salvage individuals who would otherwise die in such a respiratory crisis. Unfortunately, some hapless victims continue smoking after surviving an acute crisis. I have seen individuals who unfortunately were completely resistant to heroic educational efforts for improving their lifestyle and thus failed to avoid additional relapses.

There is good news, however, for many people with mild to moderate emphysema. Not all need to progress to the end stage, sitting beside an oxygen tank just to support life. Proper diaphragmatic breathing with learning to exhale forcefully through pursed lips constitutes a valuable way of retraining the respiratory muscles and improving the oxygen delivery to the blood and distant tissues. Exercise programs with gradually increasing walking distance has, in my experience, enabled many patients again to return home, climbing stairs, mowing the lawn, working in the garden, or engaging in moderately active sports. It is certainly worthwhile to attempt rehabilitation of a patient with emphysema, at any stage. These efforts, in combination with a strict avoidance of tobacco and air pollution, will add quality to the life of many.

Pulmonary Hygiene is also important. The individual with fragile or delicate lungs must avoid contact with people who have colds or other respiratory infections. For those producing large amounts of mucus, postural drainage treatment is a daily necessity. This can be done in the morning, usually after a few minutes of steam inhalation. Bend over or lie with the head down, allowing gravity to help drain mucus from the chest. The side of a bed is a good place to do this drainage procedure. Calculated to drain the affected segments of the lung, these postural maneuvers are very effective. Clapping of the chest, inhalation therapy, and other specialized procedures may be prescribed by a physician to aid in the home care of the emphysema victim.

Pneumonia

Infection of the lungs is usually called **pneumonia** or **pneumonitis**. This results when harmful germs invade the upper respiratory tract and find their way down to the deeper bronchial tubes and alveoli. When the infection reaches the level of these air sacs (alveoli) pneumonia has developed. Sometimes the infection is very mild and may not even appear as a shadow on x-ray. Coughing is the most common symptom. However, usually the individual will have fever and some shortness of breath also. Generalized chills, malaise, and apprehension appear frequently.

Chest pain is of a pleuritic nature, involving the membrane lining of the lung. It is a sharp pain, well localized, and aggravated by breathing, coughing,

or moving. Usually pressure against the area, as well as moist heat is extremely useful in relieving the pain of *pleurisy.*

Investigation should begin early to determine the **cause** of the pneumonia. The sputum can be cultured in the laboratory. If germs are present, a gram stain or bacteriologic culture will give the clue as to a cause. Viral pneumonia usually shows a normal blood count with negative cultures, while bacterial pneumonia germs can frequently be cultured from the sputum.

Unfortunately, the expectorating of cough material usually contaminates the culture with normal organisms resident in the mouth. Doctors therefore attempt to aspirate the tracheal secretions, although this invasive procedure is not without hazards. The chest x-ray can be most helpful, as certain bacteria produce characteristic patterns in the lung. Alcoholics commonly develop *pneumococcal* pneumonia, while children are more likely seen with *Hemophilus influenza* or *Staphylococcal* organisms.

Individuals who are routinely taking broad-spectrum antibiotics may develop pneumonia caused by less common organisms such as *Pseudomonas, Klebsiella,* and *Candida* species. The latter is a fungus infection that is particularly difficult to treat and is often seen in those whose normal organisms have been artificially suppressed, or whose immune system was compromised by drugs such as Cortisone derivatives. Even worse is the *Pneumocystis carina* pneumonia found in AIDS patients or HIV carriers.

Once the diagnosis is established, specific treatment should be instituted promptly. Cooling measures can be used for high fevers. Pneumonia patients must be adequately hydrated. Usually this can be done by mouth. Water, fruit juices, and diluted soups are most helpful to maintain hydration. These also enable the mucus to be thinned, making expectoration less difficult. Steam inhalation with a moist steam vaporizer is helpful to bring up the secretions. Eucalyptus oil or other inhalant additives can be used to enhance its value.

Hot packs are extremely useful when applied to the chest in a manner similar to the general hydrotherapy approach described in chapter seventeen. These alternating hot and cold treatments may be repeated two to three times daily. In critical cases fomentations may be given more often for brief periods to enhance the circulation and clearing mechanism inherent in the lungs. Postural draining helps to clear secretions.

A spare fruit and juice diet is advantageous in the early stages to enable the body to concentrate on attacking the invading germs and winning the battle for survival. It is important to note that viral pneumonias are entirely unresponsive to antibiotics and most fungal infections respond poorly also. Because pneumonia is typically contagious, it should be diagnosed

whenever possible and isolation measures instituted. Cough into a tissue and dispose of it immediately. That is usually sufficient to trap the expectorated
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germs and prevent contagion. Adequate sunlight in the sick room helps to kill germs, as well as purify the air. Some fresh air should be circulating in the sick room, even if this means utilizing a little more heat. Cold drafts, however, should be kept away from the sick individual, as a chill may provoke a relapse more serious that the first infection.

Persisting in these measures for many days can cure all but the most stubborn cases of pneumonia. When complications such as advanced asthma, emphysema, or other chronic lung disease are superimposed on the underlying pneumonia, a physician should be consulted to perform the appropriate laboratory tests and supervise the treatment of any serious illnesses.

It is so very rewarding to see these infectious diseases improve with the use of these simple treatments. I have been impressed many times that patients treated naturally develop better resistance and more healthful, long-term consequences in their lungs that comparable cases where antibiotics and other drugs are used prematurely and without adequate consideration of the causes and abnormal physiologic mechanisms involved.

Tuberculosis

At one time a dread killer affecting most (80%) of the population, tuberculosis is thankfully less common, at least in the United States. Because of its profound influence on body metabolism, with a general wasting of flesh and muscles in the advanced states, this disease was early called *consumption.* In spite of modern public health control with its improved sanitation, quarantine, x-ray screening, skin testing, and drug therapy, tuberculosis is still a problem in the United States and is a leading cause of death worldwide. Recent reports of resistant strains have caused renewed public health concern, especially in the ghettos and prisons of large cities.

The tuberculin skin test has become a very valuable screening test, demonstrating clear immune response to the tubercle bacillus after contact by a person. This does not imply that the condition is active. Many childhood infections heal with sufficient antibodies produced to prevent reinfection throughout the lifetime.

Circumstances, however, that cause an individual to lose the natural immune resistance may allow a tuberculosis carrier to become reinfected and contagious. Such habits as tobacco smoking and the occupational exposure to coal dust and other industrial pollutants produce a condition of lowered resistance in the lungs that makes active tuberculosis more likely. Crowded living conditions may coexist with an infected carrier in the family. Exposure to contaminated air, as in hospitals, tuberculosis treatment centers, or large clinics in the underdeveloped nations where infected patients are frequently seen, carries with it a higher risk of contact and exposure.
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The symptoms of tuberculosis are multiple. Most infections begin silently with a slight cough or fever, resembling a cold or flu-like illness. The presence of tuberculosis in the lungs, however, nearly always produces a cough. At time the erosion into a blood vessel may produce **hemoptysis**, the coughing of blood-streaked material, or actual pulmonary hemorrhage. Lung abscesses can develop, while the residual germs multiply slowly in these pockets. Mucus

is eliminated by coughing, thus cleansing the lungs of germs.
Often the sputum is swallowed. Since tuberculous germs are quite resistant to acid, these may then pass into the intestinal tract and create infection there. Formerly, in the United States a large amount of tuberculosis involved the small intestine, being acquired through the infection of contaminated milk. Modern pasteurization has eliminated most of this risk, but some intestinal tuberculosis is still seen. The organism can also involve the lymphatic organs or the bones. In less common cases nearly every vital organ can be infected. Meningitis, kidney involvement, and draining sinuses from the skin can all be seen in advanced TB.
It is important to recognize this illness as early as possible, since it is contagious. The use of prolonged moist heat over the lungs can aggravate tuberculosis. Cold compresses, on the other hand, can be much more helpful. Strict rest is necessary, while the body heals this invader. No simple measure is more helpful in the treatment of tuberculosis than the liberal presence of sunlight. The tuberculosis germs are killed on contact with the ultraviolet rays. Even in widespread infections involving the bone, exposure to sunlight has been helpful in effecting a cure.
Fresh air, proper diet, and public control measures of quarantine can also aid in the eradication of this difficult germ. Many antituberculosis drugs are being used by health authorities. They certainly arrest the multiplication of germs so that recovery can be made possible. As with all drugs, these too have side effects, many of them serious. So the further exploration of natural approaches will be utilized to the utmost by those maximally interested in promoting comprehensive health.

Bronchitis

Inflammation of the bronchial tubes may be acute or chronic. A sudden onset of cough is frequently due to bronchitis. This is usually of viral or chemical origin. It affects the upper airways from the larynx down to the secondary divisions of the major bronchi. The cough is termed “brassy” and is usually not productive of mucus.
Prolonged coughing can irritate the bronchial tubes enough to cause bleeding. If hemoptysis occurs, further investigations should urgently be performed. With persistence of a bronchial cough, the upper chest may

become sore, with pain on inspiration. There is seldom any fever or general symptoms. However, fatigue and sleeplessness may develop if the illness is prolonged. Hot, moist compresses ordiathermy treatments over the upper chest are helpful. They work best when combined with expectorant cough syrups such as honey— eucalyptus (see Chapter 18) and the use of steam inhalations. The earlier these treatments are started, the less severe the illness will be.
Chronic bronchitis is common in smokers. It results from the accumulation of tar and numerous respiratory irritants over a prolonged period. The typical “smoker’s cough” is an example of chronic bronchitis, which is typically productive of mucus. The sputum is usually white or gray, but at times may become infected. Then it would be thick, tenacious, and greenish or yellow in color. As in acute bronchitis, fever is seldom present. Many people “learn” to live with a cough when they could be healed, and live enjoyably without it. Strictly avoid all tobacco. Then combine deep

breathing exercises in combination with other pulmonary hygiene measures. The treatments mentioned under the treatment for pneumonia will bring considerable relief to bronchitis sufferers. The coexistence of emphysema naturally complicates the situation. However, with appropriate steam inhalation, postural drainage, and other hydrotherapeutic measures the bronchitis can usually be cleared without residual damage.

Bronchiectasis

A chronic condition of the lungs resulting from acute infection results in the disease called **bronchiectasis.** This involves the more distant bronchial tubes and consists of a *tubular* or *saccular* dilation of the terminal air channels. The copious production of mucus sputum, often pus-filled, may severely cripple a person's efforts to speak in public, sing, or use the voice as formerly.

The above described pulmonary hygienic measures are helpful in both the control and treatment of this disease. Postural drainage, with manual *clapping* (percussion), are especially valuable. Many of these sufferers develop chronic changes which make long-term treatment mandatory. Lifelong adherence to a nonsmoking pattern, and a rural home location may be necessary.

Lung Cancer

The specific symptoms, signs, and diagnosis of lung cancer are well covered in Chapter 6 and will not be discussed at length here. Remember, however, that cigarette smoking still constitutes the largest **single cause of** this disease! Very little improvement has been seen in survival statistics over

the past twenty years. In this largely preventable disease, the "ounce of prevention" is certainly appropriate.

MISCELLANEOUS CONDITIONS WHICH MIMIC LUNG DISEASE

Several diseases may affect the respiratory tract or cause symptoms in the chest. A **hiatus hernia** may mimic the pain of pleurisy or lead to expectoration of mucus. This occurs when the upper portion of the stomach protrudes into the chest cavity through a dilated portion of the diaphragm. Heavy meals, supine posture, tight garments, and obesity are predisposing factors to the symptoms of a hiatus hernia. Characteristically called "heartburn," these symptoms respond well to careful dietary measures, which will be described in detail elsewhere.

Tracheobronchitis, also called **croup,** may be seen in children. It is often a source of deep concern to their parents. Considerable difficulty in breathing may occur, associated with an uncontrollable cough and the rapid development of fatigue. Usually of viral origin, this croupy cough responds to the use of cold vapor, utilizing a humidifier. Moist steam packs on the chest are also helpful in rapidly restoring health to the irritated respiratory tract. Upper respiratory infections are frequently precursors to the lung diseases mentioned above and should be promptly treated to avoid complications. Consult frequently the chapters on hydrotherapy and the specific discussion of these infectious diseases. This can aid in the home treatment of these annoying, but usually self-limited conditions. Furthermore, the prompt recognition of pulmonary complications in otherwise mild illnesses can be life saving when rational treatment is instituted in the home. Nature is thereby aided in her valiant efforts to combat disease and restore right conditions in the system.

POSTNASAL DRIP

SYMPTOMS—The back of the mouth drips fluid and runs down into the respiratory tract, starting a coughing attack, or into the voice box.

CAUSES—Most people only experience postnasal drip when they are sick with a bad cold or something similar. But some have it when they are well. This article is for them.

Normally, these secretions, from the sinuses, flow down the back of the nose and throat and are swept away by cilia, which are small waving hairlike projections.

But sometimes the mucous dries out and the cilia no longer wiggle. Then the secretions pool in the back of the nose, thicken, and then begin dripping into the bronchial tubes or into the voice box.

Here are several suggestions, one or more of which may solve the problem for you at such times:

TREATMENT—

• Blow your nose regularly, but do it very gently.

• Flush your nose with saltwater and gargle with it. Place a half teaspoon of salt in about 8 ounces of warm water (the experts recommend only a third of a teaspoon, if you have high blood pressure). Draw the water into an aspirator and put the tip into your nose. Then hold your head back, so you are looking up—and gently squeeze on the aspirator as you carefully suck it into your nostrils.

• Although this may, at first, seem uncomfortable, it can bring you a lot of relief. Conclude by blowing your nose gently, to get all the fluid out. Do this 3 times a day for 5 days.

• Next, gargle with the same ratio of salt in the water.

• Reduce the amount of stress you are under, stop drinking milk, but do drink lots of water or nourishing fluids. An herb tea with some lemon and honey is helpful.

• A humidifier in the room can keep the air moist.

• Avoid nasal decongestants, nose drops, etc. In the long run, they will cause you more trouble than they are worth.

CROUP—1

SYMPTOMS—The larynx (vocal cords) or trachea (windpipe) narrows because infection causes the walls to swell inward. There is difficulty in breathing; hoarseness; tightness in the lungs; a harsh, barking cough; and even a feeling of suffocation. Because their air pipes are smaller, croup most often occurs in children.

The special symptom of croup is a harsh, wheezing noise as air is breathed in through the narrowed windpipe and past the inflamed vocal cords, often accompanied by fits of coughing.

CAUSES—Croup can be caused by bacteria or viruses. When caused by a bacteria, croup generally follows a cold or another mild respiratory infection. But when it is caused by a virus (as happens more often, especially in boys), more serious conditions, such as the flu, have occurred.

Croup most often occurs during the winter months, and most frequently affects children from 3 months to 3 years (9 to 18 months is the peak).

TREATMENT—

• Maintain a good water intake, to help loosen secretions. Only drink lukewarm water. If the child is told to drink a glass of water after each coughing attack, the coughs will stop after the third or fourth glass. Water is the best cough medicine.

• Use a vaporizer or humidifier at night, or put a pan of water or tea kettle on a hot plate. This will help keep the air moist for the child through the night.

• Try to have someone stay with the child. If he is too anxious, you may find it best to hold him for a time. This will reassure him.

• Avoid sudden temperature changes. Keep the child warm, but avoid overheating.

• During the day, you might wish to put a few drops of eucalyptus oil in a vaporizer; and, for a time, have him inhale the vapor.

• Echinacea, fenugreek, goldenseal, and thyme are helpful herbs.

• Homemade soups and broths are good for the child.

• Fomentations to the neck and upper chest region bring relief. After the acute phase, a heating compress may be applied to the chest.

• You can apply hot onion packs over the chest and back 3 times a day. Place sliced onions between cloths, and cover with a heating pad.

• Steroids and antibiotics are useless if this is a viral sickness. Do not use cough medicines and other colds preparations, for they tend to thicken the secretions (anti-congestants are always drying agents) and make it still harder to clear the throat.

• When croup keeps reoccurring, the cause may well be that the child is allergic to some type of food. Try to ascertain what it might be

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CROUP—2 (J.H. Kellogg, M.D., Formulas)

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(1) ACUTE CATARRH OF LARYNX —

GENERAL TREATMENT—Hot Bath with Cold Compress to head; hot water drinking; Cold Mitten Friction, every 3 hours; Steam Inhalation, inhalation of vapor from water with calcium in it. Cold Compress at 60^0 F. over throat, changed every 10-20 minutes; Hot Blanket Pack, every 3-4 hours for 15 minutes; keep feet, legs, and arms warm.

(2) FALSE CROUP, SPASMODIC LARYNGITIS —

PREVENT ATTACKS—by hardening the skin with daily Cold Bath. Remove nasal obstruction, hypertrophies, or adenoid vegetation. Inhalations.

PREVENT CHILLING OF SHOULDERS—during sleep, by warm sleeping jacket. Proper clothing.

DEVELOP RESISTANCE—Graduated Tonic Frictions, out-of-door life, careful regulation of clothing.

RELIEVE CONGESTION—If spasm is severe, relieve the congestion by Hot Blanket Pack or Hot Full Bath. Repeat every 3-6 hours. Hot Half Bath with Cold Pail Pour to head, back, and chest. Follow bath with ice-cold Heating Compress to neck, to be changed every 2-4 hours. Fomentation to cervical, upper, and middle spine for 15 minutes each time the ice compress is changed.

TO RELIEVE SPASM—Compress the phrenic nerve by pressure just above the sternal intersection of the sterno-cleido-mastoid muscle; percuss (hit) chest with end of cold wet towel or dash cold water over chest and back.

BRONCHITIS—If present, relieve it with Chest Pack; repeat in 4-6 hours. Cold Mitten Friction twice a day. Steam Inhalation and copious water drinking when bronchial, or laryngeal, catarrh exists.

ASTHMA—1

SYMPTOMS—Difficult breathing, coughing, wheezing, tight chest. Attacks of multiple symptoms can occur suddenly or gradually. Sometimes there is coughing with thick, persistent sputum that may be clear or yellow. There is a feeling of suffocation.

CAUSES—Asthma is a lung disease that results in blockage of the airways. During an asthma attack, the muscles around the bronchi (which are the small passageways of the lungs) tighten and narrow, making it difficult for air to leave the lungs.

The chronic inflammation and excessive sensitivity of the bronchi produce those constricting spasms. The bronchial tubes swell and become plugged with mucous. An attack, often occurring at night, usually begins as a nonproductive cough and wheezing, which is often followed by difficult breathing and a tight chest. After a few hours it subsides.

But what causes an attack to come on? Only certain people have asthma, and those that do may have an attack triggered by an allergen or other irritant, such as chemicals, drugs, dust mites, feathers, food additives, pollutants, fumes, mold, animal dander, tobacco smoke, etc. But other things can also do it: anxiety, fear, laughing, stress, low blood sugar, adrenal disorders, temperature changes, extremes of dryness or humidity, or respiratory infections.

About 80% have an allergic disorder, but the others do not. The experts warn that ever-increasing amounts of pollutants will cause the number of asthmatics to increase. Many workers must continually live with such things as sulfites, urethane, polyurethane, epoxy resins, dry cleaning chemicals, and many other chemicals common to industry. In the last decade alone, the number of asthmatics in America has increased by one third! Children under 16 and adults over 65 suffer the most from it.

Asthmatics are frequently very sensitive to foods containing sulfite additives: potassium metabisulfite, sulfur dioxide, potassium bisulfite, sodium bisulfite, etc. Restaurants use them, to prevent discoloration in salads and other foods. Sulfites are also added to many other foods by the food industry.

Nitrogen dioxide, sulfur dioxide, ozone, carbon monoxide, hydrocarbons, nitrogen oxide, and cigarette smoke are also known to precipitate asthma attacks.

Fumes and strong odors, such as turpentine, paints, gasoline, perfumes, etc., disturb many asthmatics.

There are two types of asthma: intrinsic and extrinsic.

Extrinsic asthma usually begins in childhood, is seasonal, and is usually caused by a definite number of substances which can more easily be identified. Asthma is the leading cause of disease and disability in the 2-17 age group.

Intrinsic asthma is the more severe, and generally begins after 30 years of age. Attacks can occur at any time, and the causes are much more difficult to identify.

About half of asthmatics are diagnosed between 2 and 17, another third after 30. The other one sixth does not fit either the intrinsic or extrinsic category. For example, some may initiate the problem in their 20s and others may, after their 30s, develop reactions to only one or two seasonal allergens.

But asthma can be difficult to diagnose, for its symptoms are similar to those of bronchitis, emphysema, and lung infections.

Over a period of time, the attacks can become more frequent, so it is best for the person with asthma to learn every possible way to lessen the problem. Here are several suggestions:

TREATMENT DURING THE ATTACK—

• Hot fomentations to the back of the neck, thorax, and front of the chest are helpful, along with a hot footbath. Keep the head cool by sponging with cool water or use a fan.

• Pouring cold water on the back of the neck is useful. As the person bends over, the water is poured on the back of the neck from a container holding about a gallon of water. From about 24 inches above the neck, pour it for about 30-90 seconds. Do this 3 times a day during the critical phase.

• A vaporizer, which blows cold, moist air is helpful during an attack. Menthol or eucalyptus oil may be added to the water.

• After blending a clove of garlic in a cup of water, drink it. This may be vomited back out, loosening the phlegm. If vomited, give another cup. The garlic really helps.

• Some take a cup of hot water, catnip tea, or mullein tea each hour.

• At the first sign of an asthmatic attack, sit up straight in a chair for the first 10 minutes. Inhale through your nose and exhale through pursed lips. This helps press open the bronchial tubes.

• Then lie on your stomach, with your head and chest over the edge of the bed. Cough gently for 2-3 minutes, to bring up the sputum. (But, during an attack, some cannot tolerate this position; instead, they lie face down on the bed with 2-3 pillows under their hips and a towel under their face.)

• A neutral bath (94^{o}-98^{o} F.) is quieting to the nerves and helps relax them.

• Lobelia is an herb that, when sipped slowly, relaxes the nerves and tends to stop the spasm. (If one drinks more quickly, it has a different effect, and induces vomiting.)

• Mullein oil is a worthwhile remedy for bronchial congestion. The oil stops coughs because it unclogs bronchial tubes. When taken with water or fruit juice, the effect is even more rapid.

• Other useful herb teas include juniper berries, echinacea, and, of course, that old standby, slippery elm bark.

TREATMENT DURING THE REST OF THE TIME—

• Eat a nourishing diet. Include garlic and onions. Eat lightly.

• Avoid processed and junk food, and do not use nicotine, alcohol, or caffeine. Do not use chocolate, fish, eggs, and other common allergenic foods. Avoid foods containing additives.

• Avoid bananas and melons, especially if you are also sensitive to ragweed.

• Do not use milk products. You may be allergic to wheat products. Do not eat ice cream or other cold liquids. Cold can shock the bronchial tubes into a spasm.

• Research has revealed that a fat-free diet can help reduce asthma attacks.

• Be sure and drink enough water. This vital fluid is greatly needed to keep your lungs and bronchi free of thickened phlegm.

• Strictly adhere to the above diet.

• Learn to play a wind instrument, harmonica, or sing. Practice deep breathing when you are out-of-doors. Have regular physical exercise. Hiking, swimming, etc. are good. You need to build up your lung capacity and utilization. This will strengthen your entire respiratory tract. A person at rest uses only 10% of his lung capacity; hard work increases it to about 50%.

• Exhale forcefully through a small drinking straw into a large bottle of water. This forces the bronchial tubes to expand somewhat and become larger.

• Some asthmatics have problems when they breathe too deeply. One way to minimize exercise-induced asthma is to wear a mask that retains heat and moisture and limits the effects of cold, dry air.

• Spend a few minutes each day practicing standing tall, expanding your chest, and breathing deeply. Devise simple exercises (on the floor, against walls, etc.) which help you do this.

• Move out to the country where the air is purer.

• Practice breathing through your nose rather than your mouth.

• Go on a juice fast, 3 days each month, of distilled water and lemon juice, to help clean out the body of toxins and mucous.

• Reduce stress. Avoid worry and fear.

• Get a good vacuum cleaner and get rid of the dust and dust mites in your bed, cushions, rugs, and floor. Avoid goose feathers (pillows and down coats). Dead cockroaches are also known to produce a dust which can bring on an attack. House plants may contain mold spores. Keep the bathroom clean of mold, also under the sinks.

• Eliminate things from the house which harbor dust: carpets, venetian blinds, draperies, etc. Washable cotton curtains are all right. Avoid the use of electric fans; they stir up dust.

• Practice "sleep breathing." This is done by breathing slower and deeper than normal, with a three second pause at the top of the inspiration and at the end of the expiration.

***HYDRO*—**Neutral Bath at bedtime, Hot Abdominal Pack, copious water drinking, Enema before retiring, graduated Cold Baths, Renal Douche. Cold Colonic daily in cases of toxemia with dilated colon. Correct any existing stomach disturbance. If skin is inactive, give sweating process, followed by a cold bath of an appropriate form.

ASTHMA—2 (Nocturnal Asthma) (J.H. Kellogg, M.D., Formulas)

GENERAL TREATMENT—Neutral Bath at bedtime; Hot Abdominal Pack; copious water drinking; Enema before retiring; graduated Cold Baths; Renal Douche; Cold Colonic daily, in cases of toxemia with dilated colon. Correct any existing stomach disturbance.

INACTIVE SKIN—Sweating process, followed by a cold bath of an appropriate form.

SUFFOCATION

SYMPTOMS—The person is apparently suffocating.

TREATMENT—

• Immediate action must be taken. Quickly plunge him into cold water or pour cold water (the colder the better) on him. This simple procedure powerfully affects the breathing centers, and he may immediately begin taking deep breaths.

• Then begin other resuscitation treatments while someone calls for emergency help.

BRONCHITIS—1

SYMPTOMS—Coughing and mucous, pain in the chest (and possibly back), fever, sore throat, and difficult breathing. Sudden chills and shaking may occur.

CAUSES—The bronchial tubes are the airways which lead into the lungs. The bronchi are two main branches of the trachea. They divide into many smaller bronchi, like tree roots. These, in turn, divide off into the grape-like maze, called the lungs.

Bronchitis is inflammation of the bronchi, and is frequently complicated by mucous obstruction of those passageways. When the bronchi are badly infected, the cause is often viral rather than bacterial. Irritating substances (or invading bacteria or viruses) cause the bronchi to produce an excess of mucous, which clogs the airways.

There are two types of bronchitis: acute and chronic. The acute very often occurs as infection in throat moves on down toward the lungs. A cold or the flu, if not immediately given careful treatment, can spread into other areas, such as the bronchi or the eustachian tubes. If bronchitis is not carefully dealt with, the infection will move on into the lungs, resulting in pneumonia.

Chronic bronchitis is an ongoing problem, which results from repeated bouts of acute bronchitis or from something that is frequently irritating the lungs. This can be allergies, especially tobacco smoke. The only ones who gain from tobacco are the manufacturers. Interestingly enough, only 9% of bronchitis patients in the U.S. are non-smokers. Infants exposed to cigarette smoke are far more likely to come down with bronchitis.

Chronic bronchitis reduces the amount of oxygen to the lungs and the amount of carbon dioxide exhaled. This eventually can lead to enlargement of the heart; pulmonary hypertension; and finally, heart failure.

TREATMENT—

• Stop smoking and get tobacco out of the house. If you have chronic bronchitis, do not expect much improvement as long as tobacco smoke is in the home.

• Do not use milk; it produces a thick phlegm which complicates healing. White-flour products and sugar foods should not be used until bronchitis is past.

• Drink plenty of fluids: pure water, soups, and herb teas. Vitamin C is important! Take it to bowel tolerance.

• Anise tea and almond milk are helpful in bronchitis. Make the almond milk by blending 6 tbsp. of almonds in a pint of water.

• Cayenne and lobelia will help break up the congestion.

• Add moisture to the air with a vaporizer or humidifier or heat a pan of water on the stove.

• Remain in bed as long as fever is present. Bronchitis often hangs on because people think it is about over and begin going about their everyday duties. Go to bed and get well.

• Deep breathing exercises should be taken 3-4 times a day. Take a deep breath, hold it a few seconds, and exhale. Do this 10-20 times. This will help air out of the infected area.

• Breathe deep. Blow up a balloon several times every day. This helps open up and enlarge the airways.

• Apply a heating compress at night.

• A hot footbath will help pull the blood away from the chest and reduce congestion.

• Hot drinks help you cough out the phlegm. Coughing is the only way the phlegm can come out. Do not use cough suppressants while you have bronchitis.

• Apply warm, moist heat or a hot water bottle over the chest and back before bedtime. This will help relieve congestion and aid in sleep.

• Avoid fatigue and chilling. Do not walk barefoot on cold floors while you are trying to get well.

• If the coughing gets worse, there is a high fever, wheezing sounds, lethargy, and weakness. Chest pains develop and very difficult breathing. Contact a health professional; the condition may be developing into pneumonia.

• If the condition persists over too long a time, there is the possibility of tuberculosis or lung cancer.

• A professional can use bronchoscopy instruments to examine the bronchial tubes and suction out phlegm.

• In recent years, a new type of bronchitis has arisen, which is contracted primarily by women. Difficult to treat, it often continues for 3 weeks to 5 months. Drinking goldenseal tea is helpful with this condition, as well as with other types of bronchitis.

• Other helpful herbs include pau d'arco, chickweed, ginkgo biloba, burdock, lobelia, slippery elm bark, echinacea, and wild cherry bark.

BRONCHITIS—2 (J.H. Kellogg, M.D., Formulas)

BRONCHITIS (ACUTE) —

INCREASE RESISTANCE—Graduated cold applications (Tonic Frictions) daily; out-of-door life; daily air bath; avoid excessively warm clothing and very warm sleeping or living rooms.

ELIMINATE TOXINS—Moderately prolonged sweating procedures followed by cold applications.

RELIEVE INTERNAL CONGESTION—Radiant Heat Bath, 10-20 minutes; sweating Wet Sheet Pack, 1-2 hours or Steam Bath for 6-15 minutes, followed by Wet Sheet Rub or Cold Douche; Hot Full Bath at bedtime for 6-10 minutes, followed by prolonged Neutral Bath for 2-40 minutes. Apply daily or twice a day, Hot Hip and Leg Pack, followed by Dry Towel Rub.

COUGH—Heating Chest Pack, to be changed every 8 hours. If temperature is elevated, change Chest Pack every 2-4 hours. Copious water drinking, 2-3 pints daily.

IRRITABLE COUGH, WITHOUT EXPECTORATlON—Sip very hot water; gargle hot water; Steam Inhalations; avoid mouth breathing; keep air of room warm (75^0-80^0F.) and moist with steam; carefully avoid exposure of the back of neck, chest, or shoulders to drafts or to chill by evaporation during treatment.

COUGH WITH VISCID EXPECTORATION—Copious hot water drinking; fluid diet; Fomentation to chest every 2 hours, followed by Heating Compress.

PAINFUL COUGH—Fomentation to chest every 2 hours; tight bandage about chest, to restrain movement, if necessary; Revulsive Compress for 15 minutes, every 2 hours, as often as needed; dry cotton Chest Pack between applications.

BRONCHITIS (CHRONIC) —

IMPROVE GENERAL RESISTANCE—Graduated cold treatment, aseptic dietary, warm dry climate, outdoor life.

COUGH—Heating Chest Pack, protected by plastic covering. Copious water drinking, 3-6 pints daily; Steam inhalation.

NON-PRODUCTIVE COUGH—Increase expulsive power by rubbing or percussion of the chest with the hand dipped in ice water or slapping the chest with a cold, wet towel.

ASTHMA—Cold fan Douche to back of chest, followed by Heating Chest Pack; Revulsive Compress to chest; Revulsive Douche to legs; Hot FootBath or Hot Leg Bath; Hot Leg Pack; Hot Enema; if sympathetic nerve is irritable, apply a Hot Abdominal Pack; Chest Pack, well-protected.

EMPHYSEMA—Alternate Compress or Alternate Douche to spine; Cold Mitten Friction; Cold Towel Rub; Wet Sheet Rub; Hot Abdominal Pack, covered with

flannel only; Hot Leg Packs; Cold Compress over heart for 5-30 minutes, 3 times a day.

BRONCHIECTASIS

SYMPTOMS—Chronic cough with sputum. He may cough up blood or bloodstained sputum and have inflammation of the lungs. In advanced cases, there may be shortness of breath when any exertion is made.

CAUSES—Bronchiectasis is permanent dilation and infection of one or more bronchi.

Causes can include obstructions in the bronchi, lung infections, breathing in of foreign substances or vomitus, enlarged lymph nodes, pressure tumors, or dilated blood vessels.

TREATMENT—

• Determine to cough slowly by first breathing slowly and deeply, then hold the breath for several seconds. Then give two short, forceful coughs with the mouth open. The first loosens the phlegm; the second brings it up. Hold the breath again and then breathe in slowly, to avoid non-productive coughing.

• Do not use cough medicines and antihistamines. They dry up the secretions, making them even harder to expel.

• Drink lots of fluids, so the phlegm will be thinner and looser.

• Use a cool-air vaporizer each night. Try to maintain 30-50% humidity in the house during the day.

• Do not wear belts; the abdomen should be free to breathe and cough properly.

• In cold weather, wear a scarf or mask over the mouth and nose, to warm the air.

LUNG CONGESTION (J.H. Kellogg, M.D., Formulas)

ACTIVE CONGESTION—Fomentation to back; Cold Compress to chest with Hot Leg Pack, followed by Cold Mitten Friction and dry heat to legs; short cold applications to hands and arms, followed by Hot Packs to arms; Revulsive Douche to legs; Hot Leg Bath with very Cold Compress to the chest and to the back opposite the chest. Change compress as soon as it is warmed.

PASSIVE CONGESTION OF CHEST—Apply Fomentation over chest for 10 minutes every hour; during the interval between, apply a Cold Compress, renewing it every 15 minutes, rubbing surface well at each change. This condition most frequently occurs in fevers. Prevent it by frequent change of his position. Apply same derivative measures as for active congestion (see just above).

PULMONARY HEMORRHAGE—Ice Pack to chest; remove and rub the chest with dry warm flannel, 1-2 minutes every 15 minutes; Hot Leg Pack, very Hot Sponging of the upper half of the spine. Place hands in ice water for 1-2 minutes; maintain skin circulation by dry rubbing. Keep him very quiet. After hemorrhage ceases, graduated cold treatment to increase resistance and combat the disease causing the hemorrhage.

PNEUMONIA (Lung Fever)

SYMPTOMS—Fever, chills, aching muscles, coughing, sore throat, bloody sputum, enlarged lymph nodes in the neck, pain in the chest, rapid, difficult breathing, and cyanosis (bluish skin and nails from lack of oxygen).

In bacterial pneumonia, it comes suddenly and the cough is dry at first; then a rust-colored sputum is produced, and breathing becomes rapid and labored. The viral form is more *variable* in seriousness, from the time it begins.

CAUSES—Pneumonia is a serious infection of the lungs and bronchial tubes. It can be caused by bacteria, viruses, fungi, or protozoa. The tiny sacs in the lungs (which look somewhat like grapes hanging from their stems) are where the oxygen and carbon dioxide exchange is made. These sacs become inflamed and filled with mucous and pus.

Generally an upper respiratory infection (in the throat and the bronchial tubes), such as a cold, the flu, or perhaps the measles, occurs. Those under one year or over 60 are the most susceptible.

Bacterial pneumonia is more dangerous and severe than the viral type. There is also a fungal pneumonia, but those with HIV are most likely to contract it.

In children, the pain of pneumonia is frequently located in the abdomen, and cause others to think there is acute indigestion or appendicitis.

TREATMENT—

• You will want to use essentially the same treatment as outlined for bronchitis; except that, because the person's illness is so much more serious, he must be given much rest and intensified care.

• Rinse out the nose with saltwater, gently taking it in and blowing it out. Gargle with saltwater. Then repeat the rinsing and gargling with a goldenseal and myrrh mixture. This will help keep a cold or flu from going down into the lungs.

• But if the lungs are already affected, do the above treatment. Also give hot footbaths and a high herb enema at least once a day. Drink plenty of water. Take laxative herbs, to keep the bowels working properly. Give short, hot fomentations to the chest and upper back, with short cold between each hot application.

• Only give liquids the first few days. These should consist of fruit juices (diluted pineapple juice or orange juice) or lemon and water (without sugar), etc. Continue this until the high fever abates. Then give strained vegetable broths, whole grains (best in dry form, so it will be chewed well).

BRONCHO-PNEUMONIA (J.H. Kellogg, M.D., Formulas)

GENERAL MEASURES—

BRONCHIAL IRRITATION—Steam Inhalation, 15 minutes every hour; Fomentation to chest every 2 hours for 15 minutes, followed by Heating Compress; Hot Blanket Pack.

CYANOSIS—Short Hot Half Bath; pour Cold water over head, spine, and chest, to induce cough, if cough is checked or inefficient while secretion is abundant. It is well to have him sit in a tub with a small amount of hot water while a Cold Pail Pour is given, followed by vigorous rubbing and wrapping in dry blankets in bed.

AFTER CONVALESCENCE BEGINS—Heating Chest Pack night and day. Graduated cold applications, to build up general resistance.

LOBAR PNEUMONIA (J.H. Kellogg, M.D., Formulas)

GENERAL—Exercise special care, to prevent lung congestion due to exposure of shoulders or chest to chill by evaporation. Provide him with an abundance of pure warm air; have a supply of oxygen at hand for immediate use if required.

MAINTAIN GENERAL VITAL RESISTANCE—Cold Mitten Friction or Cold Towel Rub 2-4 times daily, after some appropriate heating procedure, as a Fomentation to chest or back, Hot Blanket Pack, or Sweating Wet Sheet Pack.

COMBAT LOCAL CONGESTION OF THE LUNGS AND INVASION OF THE SPECIFIC BACILLUS—Fomentation to the chest (both front and back) for 15 minutes every 3 hours. During the interval between, apply Cold Compress at 60^0 F., changing every 15 minutes or as soon as warmed. Lengthen the period between fomentations and change the compress less frequently as the temperature is lowered, the pain less, and the stage of the disease more advanced. Several Ice Bags may be used in place of the Cold Compress, but the bags should be removed at least every half hour and the chest should be rubbed until red and warm, to maintain surface circulation and skin reflexes. The skin must be kept warm.

ELIMINATION OF POISONS—Sweating Wet Sheet Packs, continued for 2-4 hours, followed by Cold Mitten Friction, carefully administered. The Sweating Bath may be preceded by the short Full Hot Bath. Copious water drinking. Neutral enema twice daily.

COUGH—Fomentations every 3 hours; Heating Compress, changing every 15-30 minutes during the interval in between. Steam Inhalation 15 minutes, every hour; sipping half a glass of hot water when inclined to cough; careful protection of neck and shoulders from chilling by contact with wet bed clothing. Keep shoulders covered.

PAIN IN CHEST—Revulsive Compress covering the whole chest before and behind.

EXUDATION (ELIMINATION) OF PHLEGM—Alternate Compresses for 20 minutes 3 times a day, with continuous well-protected Heating Compress during the intervals in between and after convalescence begins; for unresolved exudation, Alternate Fan Douche or Alternate Spray.

CONSTIPATION—Daily Cold Enema or Cold Colonic.

DIARRHEA—Enema at 96^0F. after each bowel movement; Cold Abdominal Bandage, renewing every half hour; Fomentation every 2-4 hours, if pain or tenderness is present.

TYMPANITES (gaseous distension of abdomen)—Hot Enema followed by small Cool Enema; Cold Colonic; Cold Abdominal Compress, changing hourly.

GASTRO-DUODENITIS—Fomentation over stomach and bowels or Hot Trunk Pack every 3 hours. During intervals in between, Cold Compress at 60^0F., changing every 30 minutes; Neutral Enema daily.

JAUNDICE—Large Hot Colonic at 105^0F., followed by small Cold Enema twice daily. Fomentation over the liver and stomach every 2 hours. During the interval in between, Heating Compress, changing every 30 minutes.

WEAK HEART, FEEBLE PULSE—Cold Compress or Ice Bag over the heart for 15 minutes every 2 hours. Cold Mitten Friction every 2 hours. Prolonged Neutral Bath with Ice Bag over heart, Cold Pail Pour to back of head and upper spine at the end of the bath.

CYANOSIS (BLUENESS)—Hot Blanket Pack for 15 minutes, followed by Cold Mitten Friction. Avoid exposure of the body to chill by evaporation.

HEADACHE—Ice Compress to head, or Ice Cap; Hot Pack to legs and hips, or other derivative treatment; Hot and Cold Head Compress [Simultaneous Hot and Cold to the Head].

NOSEBLEED—Ice Bag to back of neck, short hot Fomentations to face.

DELIRIUM—Heating Wet Sheet Pack, Ice Cap to Head, Prolonged Sweating Wet Sheet Pack.

INSOMNIA—Neutral Wet Sheet Pack.

CEREBRAL CONGESTION—Hip and Leg Pack, Ice Cap to head.

FEVER—Prolonged Neutral Bath, Wet Sheet Pack, Cooling Enema.

SUBNORMAL TEMPERATURE—Dry Pack, Hot Blanket
Pack, Hot Enema, and hot water drinking. Do not expose him during changing of application or after it.

PAIN IN ABDOMEN AND BACK—Hot Blanket Pack or large Fomentations over affected parts, followed by Heating Compress.

CAPILLARY BRONCHITIS—Hot Blanket Pack followed by Sweating Wet Sheet Pack. Hot Enemas followed by Cold Friction, carefully given. Fomentation to the chest followed by Heating Compress or Chest Pack, to remain in place an hour or until thoroughly warmed. Repeat bath when temperature rises to 102^0F.

CONTRAINDICATIONS—Do not use Cold Full Baths or anything equivalent.

GENERAL METHOD—Maintain warmth and activity of the skin, taking special care to avoid chilling of the shoulders, which should be especially protected by a wrapping, closely applied. Combat pulmonary congestion by local applications made as directed above. Keep the temperature down by carefully managed hydrotherapy measures such as the Heating Pack, the Hot Blanket Pack, followed by Cold Mitten Friction and like measures rather than Cold Full Baths and Cooling Packs, which aggravate lung congestion by producing retrostasis. Promote vital resistance by frequently repeated partial Cold Frictions, and thus sustain the vital powers until

opportunity has been afforded for the development of antitoxins and the suppression of the disease by the natural healing processes.

TUBERCULOSIS—1 (Consumption)

SYMPTOMS—Coughing, general fatigue, loss of appetite, chest pain, night sweats, and low-grade fever. The cough is at first not too productive, but later increasing amounts of phlegm are coughed up.

The person loses weight and the sputum becomes bloody.

CAUSES—In the 19th century, tuberculosis (TB) was called consumption, for the person seemed to waste away. It is caused by a highly contagious bacteria, the Mycobacterium tuberculosis. Although it generally affects the lungs, it can attack any part of the body: kidneys, bones, skin, intestines, spleen, and liver.

In adults, pleurisy is frequently a complication of tuberculosis. The sharp chest pain one may feel might be the pleurisy

It is spread by coughing. Tiny droplets are inhaled by others. The germ enters the lungs and remains there. As long as the person maintains a healthy lifestyle, the body encapsulates the germs; that is, a tiny calcium shell is placed around the TB germ, to render it harmless.

If the person continues to eat right, get enough calcium in his diet, obtain adequate rest, exercise out-of-doors, and breathe vigorously to keep his lungs in good health—he will not develop TB, even though the germs are in his lungs.

TREATMENT—

• The treatment is obviously a matter of retracing one's steps—and doing what he should have done earlier.

• Initially, he must overcome the critical phase of the disease with fasting, rest, and good food, all the while having fresh air in his room.

• But later, he must take time each day to do something out-of-doors (such as walk up a hill) that will exercise, not only his body, but his lungs.

• Keep in mind that the tubercle bacillus remains with you; it is believed that you will have the seeds of it in your lungs for the remainder of your lifetime. So once you are on your feet again and appear to be well, you must continue a program of careful eating, living, outdoor activity; all the while obtaining adequate rest every night.

• At the present time, TB is making a powerful comeback—and is once again becoming a modern plague. So be careful. It may be in the air of the next building you enter. Live right every day.

TUBERCULOSIS—2 (J.H. Kellogg, M.D., Formulas)

GENERAL—Destroy sputum (spit); he should avoid swallowing it again; live in the open air and sleep in cool, well-ventilated rooms.

INCREASE GENERAL VITAL RESISTANCE—Graduated Cold Baths, twice daily; fattening dietary; systematic exercise; out-of-door life; cool, dry, elevated climate; very brief Radiant Heat Bath, daily or 3 times a week.

ANEMIA—Cold Bath twice daily; food rich in blood- making material; easily digested foods, rich in protein.

INDIGESTION, ANOREXIA—Dry aseptic dietary, dry toast, malted cereals. Hot Abdominal Pack; Ice Bag over the stomach half an hour before meals.

CHILL—Rest in bed, Dry Pack, hot-water drinking.

COUGH—Fomentation to chest, followed by Heating Chest Pack; sipping hot water when inclined to cough.

PAIN—Revulsive Compress for 15 minutes, 2-3 times daily; during intervals between, well-protected Heating Compress.

PULMONARY (LUNG) HEMORRHAGE OR CONGESTION—Very hot application to spine between shoulders, Ice to chest, ice to hands, Hot Leg Pack; keep the extremities warm; elevate the chest and shoulders.

FEVER—Neutral Pack for 15-20 minutes. Free water drinking. Rest in the horizontal position until the daily evening temperature becomes nearly normal.

NIGHT SWEATS—Very Hot Sponging at bedtime.

HYPOPEPSIA, ATONIC DYSPEPSIA—Daily, general cold applications; Ice Bag over stomach for half an hour before meals.

DIARRHEA—Enema at 95^0 F., after each bowel movement, followed by Cold Abdominal Compress at 60^0 F., changing every half hour. Rest in bed till checked.

CONTRAINDICATIONS—Avoid general cold baths when hemorrhage is threatened. This includes Cold Full Baths, Cold Pail Pours, Cold Sitz Baths. It also includes Steam Baths.

GENERAL METHOD—The great object to be kept in mind, in the hydrotherapy treatment of this disease, is to build up his vital resistance by carefully graduated cold applications (the various Tonic Frictions), repeated 2-3 times a day. The intensity of the application should be steadily increased from day to day in order to secure good results. No one is too feeble to receive water therapy of some sort; and, by careful graduation, persons of feeble physique, but in whom the disease is not yet far advanced, may be trained to receive very vigorous cold applications with excellent effects. In making the cold applications, care must be taken to avoid chilling him; for this would immediately aggravate his cough.

EMPHYSEMA

SYMPTOMS—It is only with great effort that the person can exhale air from his lungs. There is continual breathlessness. Most any exertion brings coughing. It is hard to breathe in, but worse to breathe out. The neck veins often stand out from the effort, and he breathes through the mouth in order to try to get enough air in and out. Breathing is usually rapid and short. He may breathe 25-30 times a minute, and still not get enough air.

Eventually his chest becomes barrel-shaped, his face ruddy, and he speaks with short, broken phrases.

CAUSES—The word, "emphysema," comes from a Greek word meaning "to puff up with air." The walls of the lungs lose their elasticity, so air cannot be easily pushed in and out, as should normally happen. So there is air in the lungs, but it is not moving in and out. As emphysema progresses and there is more obstruction to airflow, the lungs enlarge with trapped air.

The most frequent cause is smoking, but air pollution also receives some of the blame. Live in the country and do not have tobacco in your home, and you should be able to avoid this problem.

Emphysema has become the most common modern lung infection in the Western world. Needing a continual exchange of air to survive, we use about a thousand cubic feet of air each day. It passes over lung surfaces which, if laid flat, would be as large as a tennis court. In emphysema, a large portion of the alveoli (the grape-like sacs where the air exchange occurs) are destroyed, and the blood is not properly aerated.

TREATMENT: LIVING WITH THE PROBLEM—

• The person absolutely must stop smoking. Tobacco smoke should be banished from the home, car, and place of work. Also avoid hair spray and other sprays.

• Avoid allergens that you know of.

• Maintain a program of regular exercise. Walking out-of-doors is always the best. Try using 1- or 2-pound hand weights and work the muscles in the neck, upper shoulders, and chest. Those with chronic emphysema need strong muscles there more than others do.

• Eat less and a little more often. Prolonged digestion requires more oxygen and blood to the stomach, and away from other parts of the body which also need them.

• Avoid gas-forming foods, such as legumes and cabbage. These cause abdominal distention which can interfere with breathing.

• Sip warm, clear liquids in the morning (such as herb teas), to help clear mucous from the airways.

• Excessively hot or cold foods may induce coughing.

• Avoid hard-to-chew foods and maintain a low- salt diet.

• Do not eat when emotionally upset or angry.

• Drink enough water. The fluid intake is needed to keep the mucous, in the lungs, thin.

• Maintain your ideal body weight. Some of those with this problem tend to put on weight and retain fluid. The closer you are to your ideal weight, the better for your lungs. Stay on a low-calorie diet. The thinner you are, the less flesh your lungs have to supply oxygen to.

• Obesity and constipation decrease the patient's resistance to respiratory infection.

• Keep your clothing loose; this helps you breathe better.

• Learn to breathe correctly. The tendency is to breathe short and fast. But make yourself breathe steadily, from the diaphragm. Strengthen your respiration muscles by blowing out slowly through pursed lips for 30 minutes a day. Try to exhale twice as long as it took you to breathe in.

• Learn to cough properly. Inhale slowly and deeply, exhale through pursed lips, and cough in short huffing bursts rather than vigorously.

• Pace yourself in your work. Work steadily; it is not necessary to work fast.

• When working, lift while you exhale through pursed lips; inhale while you rest. When climbing steps, climb while exhaling; inhale when you stop to rest.

• Go through the day relaxed, not with a sense of alarm over your air problems.

• Avoid contact with anyone with a respiratory infection.

• Avoid drugs which suppress coughs. They dry up secretions, which you do not want.

• Use only essential and unscented soaps. Avoid perfumes, gas stoves, carpeting, curtains and draperies which cannot easily be cleaned. Avoid hot, humid climates. Avoid furry, feathered animals in your home.

• Get plenty of fresh air. Use a warm scarf or mask over the mouth and nose when outdoors in cold weather. Keep the body warm at all times.

• Place 3, 4, or 5-inch blocks under the foot of the bed. This will help prevent mucous from accumulating in the lower part of the lungs during the night. (But not too steep, for that would be hard on the heart.)

TREATMENT: SOLVING THE PROBLEM—

The suggestions above are typical of what you will find in most books. It is difficult to find remedial solutions, but here is one:

Several years ago, a Christian mother visited her neighbors, and met a woman with emphysema. It was a small, stuffy house and the lady smoked. So the mother went back home and eventually found a treatment; it was a wet heating pack from Kneipp's book, written nearly two centuries ago. She gave the treatment to the woman, who got well within several weeks. This was the treatment:

• Place a plastic sheet on the bed, both above the bottom sheet and beneath the top sheet and covers. Dip another sheet in very cold water, and wring it out somewhat—quickly, to keep in the cold.

• Work quickly: Wrap the sheet about the person, who is standing unclothed. The sheet covers everything but the head and perhaps part of the neck. Than wrap a dry blanket around him. The person immediately gets into the bed, and is covered well with the top sheet and blankets. This is essentially something like a heating pack, but done only with a wet sheet. The effect is immediate freezing cold, which the body gradually warms. The person can remain like this all night.

In the years that followed, the mother mentioned the incident to a number of medical people and doctors, who were astounded; for everyone says there is no cure for emphysema.

LEGIONNAIRE'S DISEASE

SYMPTOMS—It initially appears to be the flu. There is headache, fatigue, achiness, and moderate fever. But then it develops into what seems more like pneumonia: a high fever (105^{o} F.) with coughing, diarrhea, chills, disorientation, slow heart rate, dry cough, infection of the pleura, vomiting, severe chest pain, and shortness of breath. From lack of oxygen, the skin becomes bluish and sputum that is coughed up, eventually, is gray or blood-streaked.

CAUSES—This is the strange disease which was first identified at the American Legion convention in 1976, which affected 182 partying in a hotel.

Those who smoke, drink, have diabetes, emphysema, or kidney problems are more likely to contract the disease. Younger people quickly recover, but the elderly can die from respiratory failure.

The *Legionella pneumophila* bacteria can be in heating and cooling systems. That is how the Legionnaires got it in that hotel. The disease is not directly transmitted from person to person, but through cool water droplets.

TREATMENT—

• See your health care provider. The present rate is that 80% of those contracting the disease die, so this disease is a very serious matter. Immunosuppressed patients (such as chemotherapy-treated cancer patients), transplant patients, and AIDS patients are the most susceptible in contracting it.

Q FEVER

SYMPTOMS—Some of the symptoms are like those of typhus and some are like those of broncho-pneumonia There is a sudden onset of fever, headache, weakness, and a pneumonia-like infection.

CAUSES—Q fever is quite rare in the Western world. It is caused by a rickettsial organism *(Coxiella burnetii)* and is worldwide in its coverage. First discovered in Australia, it is now known to even occur in the United States.

It is endemic in domestic animals. Sheep, goats, and cattle are the primary reservoirs for transference to humans. The disease is spread to humans by bites from an infected tick (*Dermacentor andersoni*) and from drinking raw milk.

PLEURISY—1

SYMPTOMS—The pleural membranes become swollen and inflamed, and at first rub together with each breath, causing severe pain and sound that can be heard by a physician using his stethoscope. The pain becomes suddenly more severe if the person attempts to take a quick deep breath, to cough, or sneeze.

Fluid may form in the space between the lung and the chest wall. When that happens, the rubbing sound disappears, as well as most, or all, of the pain. There may only be a little fluid or it may fill half the chest cavity, compressing the lung.

Pleurisy can also appear on the surface of the diaphragm. In this case, the pain is in the abdomen, at the pit of the stomach, or can even be referred pain to the shoulder.

In children, pleurisy pain and the pain of pneumonia are frequently located in the abdomen, and cause others to think there is acute indigestion or appendicitis.

CAUSES—The lungs are enclosed within a sack-like covering. Since the lungs are constantly in motion, they must be able to slip against this covering without harming themselves or the pleura. Pleurisy occurs when this sack becomes inflamed. The cause is generally the tubercle bacillus (the cause of tuberculosis), pneumococcus, or streptococcus; the two later germs are present in pneumonia.

But the underlying cause is not taking care of oneself: not eating right, not getting enough sleep, or not avoiding stress and overwork.

TREATMENT—

• Put him to bed and keep him warm. Give a high enema, and apply fomentations to the chest and upper back. Continue this for 1-2 hours; let the patient rest, and then repeat. Keep doing this until the pain has ceased. Maintain hot fomentations; they will disperse the water in the lungs and keep the pain from returning.

• The fomentations should be large, thick, and hot, and changed frequently. Do about 5 changes, and do not follow with any cold treatment; this is important. Use a hot water bottle on the chest following the fomentations. It may be kept there nearly all the time. If his chest is allowed to become chilled, the pleurisy will be come worse!

• Give hot herb teas of pleurisy root, yarrow, valerian, and buckthorn bark. Add skullcap if the pain is severe.

• An excellent herb tea is a tbsp. each of pleurisy root and yarrow, and a pinch of cayenne. Put it in water brought to a boil. Let it steep, and then drink a large swallow of the warm tea every hour.

• Only give fruits, oatmeal water, vegetables, and grains. Allow no meat, milk, alcohol, or junk food.

• Do not jar the patient. Move him carefully, gently. Jars and quick motions make the pleurisy worse and greatly increase the pain.

• He, of course, needs fluids, but do not give him too much during the crisis.

PLEURISY—2 (J.H. Kellogg, M.D., Formulas)

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(1) ACUTE FORM —

GENERAL—Improve general resistance by cold applications, 2-3 times daily; Hot Leg Bath, if extremities are cold; water drinking; aseptic diet.

PAIN—Very hot Fomentation for 10 minutes over affected side. Revulsive Compress; limit movement of lung by tight bandage to the chest. Repeat every 2 hours. During interval, apply either Cold compress or Heating Compress as best suits the case.

AFTER CONVALESCENCE—Alternate Chest Douche or Alternate Compress, if necessary to absorb exudation. Apply, 3 times a day, a continuous Heating Compress with plastic covering during the interval between.

EXUDATION—Alternate Compress or Alternate spray Douche 3 times a day; graduated general tonic applications; Prolonged Neutral Bath, half an hour to an hour daily.

(2) CHRONIC FORM *—*

GENERAL TREATMENT—Neutral Bath at night, 3 times a week, of 20-30 minutes duration. Graduated cold applications daily. Fomentation to chest, 3 times a day, or Revulsive spray Douche; well-protected Heating Compress during the interval between.

TUBERCULAR PLEURISY—Short Revulsive Compress for 5 minutes for relief of pain, 3-4 times a day or as often as necessary; flannel Heating Compress during the intervals between; graduated Tonic Frictions.

CHAPTER TWELVE

SURGERY

It may seem strange to some readers to include in a book on home treatments this chapter on surgical conditions. Nevertheless, there is a great need in underdeveloped nations for laymen trained in surgical skills. And because of the necessity for a deeper understanding of the indications and basic methods of surgery, I am writing this section. It is also presented with the hope that individuals actually needing a surgical operation may better prepare themselves for it emotionally, as well as physically, and choose wisely their surgeon. You must properly understand the role of various services and know more about proper nutrition, postoperative care, and other factors pertaining to recovery. This can result in considerable savings, not only in the cost of this expensive type of care, but also that which is even more important, the speedy return of health, essential to survival and quality of living.

Antisepsis

One of the outstanding advances that medical science has made in the past hundred years is the establishment of antiseptic principles in the practice of surgery. Milestone discoveries were the germ theory by **Pasteur** and **Koch,** the emphasis on hand washing by **Semmelweis**, and the principles of antisepsis by Lister. To understand the relationship between infective agents and disease has allowed the art and science of surgery to develop many new techniques, as well as life-saving procedures.

Fundamentally, the principles of antisepsis deal not only with the presence or absence of germs, but also with the resistance of the person (host) to their invasion. We have already suggested in Chapter Three concerning infectious

diseases that a healthy individual rarely gets an infection. The *acid mantle* of the skin and our body's resident normal flora constitute an important barrier to the growth of disease-producing germs. Enzymatic protection by *lysozyme* in the nasal secretions, tears, saliva, and other mucous membranes affords a defense of marvelous significance and complexity.

From simple wound care to most complicated surgery, every individual should know how to avoid contamination by harmful germs. During the 19th century in Austria, Doctor Semmelweis began to encourage hand washing, requiring this of his residents after each post-mortem examination and before contact with maternity patients. The death rate from infection dropped precipitously. Although this brilliant physician was persecuted by his own profession for these "strange" doctrines, decades later he was acclaimed a medical trailblazer. Without doubt, the washing of hands is as important to safe surgery, as the use of water internally is to fighting fever.

It is especially important to know how to wash the hands and prepare them to handle diseased or injured tissues. Usually before surgery, a soft disinfected bristle brush is used to scrub the hands starting first around each finger, the ends and sides of the fingernails, the palm and backside of the

hand, the wrist, and then the forearm. To prepare for a delicate operation, ten minutes of this type of scrubbing is required, typically with an antibacterial soap. Sterile rubber or latex gloves should then be worn. Disinfectants such as organic iodine *(Betadine),* hexachlorophene *(Phisohex),* or other antibacterial soaps are used to prepare the patient's skin for the incision. Where this is not available, soap and water are employed, however the scrubbing must be prolonged. It is well to remember, moreover, that the mere washing of the hands with any substance does not **guarantee** a totally germ-free skin. Sweating is especially common under rubber or latex gloves, with the natural bacteria present in hair follicles and around the nails. Thus the bacterial count is only transiently suppressed, while our real line of defense is our body' s resistance. Several routines and techniques of skin preparation will be described in the accompanying table.

In the treatment of skin wounds, copious irrigation with water is essential, With some force, the stream of water is directed at the contaminated areas. The wound is thereby cleansed, allowing germs, foreign debris, and blood clots to be washed away, making the area clean for closure or suturing. Preparation of the skin with appropriate antiseptics is also helpful. Proper nutrition to the injured area includes abundant oxygen and vitamin C to aid wound healing. Elimination of refined sugar assists in fighting infection. These measures, together with the avoidance of tobacco and other harmful substances that impair oxygen supply, will enable healing to occur rapidly.

Wound Care

There are three basic methods by which a wound heals itself. **Primary Intention** is the usual type of healing when an incision or laceration is closed immediately to allow close adherence of the opposing skin edges and subcutaneous layers. This permits healing from side to side with the least amount of scarring and pain. The rate of healing of our skin depends on its blood supply and the presence or absence of pressure, tension, and infection. The facial skin, with its rich blood supply, can heal in 3-5 days, while a thickened area of skin with less nutritive potential, such as the back or feet, may require two weeks or more. If sutures are placed, it is important to know how long healing will require to avoid too early removal and wound separation.

Secondary healing of a wound occurs when the laceration is too large to be closed or is infected and must be left open. A general principle of laceration treatment is this. A wound that has been open more than 8-12 hours is never sutured, since infection may already have developed. In such case, *granulation* occurs with the formation of a specialized tissue across the wound, and later coverage with new skin. Some deformity and scarring usually occurs. Nevertheless, with the exception of very large ulcers, the skin healing is usually complete. Understandably, this takes longer. Proper care of the wound to prevent or treat infection will serve to hasten the healing process.

The **third** method involves the initial formation of granulation tissue, then a secondary closure of the wound with sutures. This accelerates the healing in large open lesions and is usually used when a surgical wound, for some reason, separates and must be closed again. Even more scarring takes place as a rule, but the healing is usually complete.

Some essential factors in wound healing are the presence of adequate

protein, vitamins, oxygen, and the prevention of infection. It is generally recognized that the *normal* rate of healing in a perfectly healthy patient is the *optimum* rate that can be obtained. Wounds do not heal as well in anemic patients. With a normal complement of white blood cells the healing of a sterile wound is not impaired. However, when infection is present delayed healing does occur. Swelling *(edema),* whether local or general, appears to interfere with the healing process. Older individuals take longer to heal than the young. Endocrine factors, such as the possible deficiency of thyroid or growth hormone, or adrenal dysfunction, may retard or interfere with the healing process.

Local factors are important. According to Van't Hoff's law, reactions occur more rapidly when the temperature is increased. Conversely, hypothermia will delay wound healing in most areas, although cold is sometimes used for pain control. The areas of the skin which have the best

blood supply, such as the face and neck, normally heal the fastest. Fat persons tend to heal more slowly, and their wounds tend to separate more often than in people of normal weight. Skin sutures are usually left in longer. Cleanly incised wounds will heal more rapidly than irregular jagged lacerations. The presence of a blood clot or hematoma may interfere with proper wound healing by preventing close contact of the walls of the wound, and thus there forms a pocket, called "dead space." Infected fluids, pus, and foreign bodies will all retard the healing of these wounds.

It is critical to cleanse the wound of all foreign debris, irrigating it thoroughly before any suturing is attempted. Suture material is also important in the care of wounds. Although stainless steel is the least reactive, it is difficult to handle and remove. The absorption of foreign material, such as gut, silk, cotton, and nylon will occur slowly, in the order that they are here mentioned. Newer sutures of nylon, Dacron, and Teflon last longer and cause less reaction, but are not suitable everywhere. A suture use manual may be consulted to aid in selecting appropriate materials. The suture manufacturer's suggestion of needle size, type, and techniques should also be consulted.

Suturing

Considerable practice is required to suture incisions and lacerations quickly and accurately. Yet these skills are not beyond the reach of the average layman gifted with manual dexterity or an interest in mastering the art. If possible, practice your suturing techniques on a piece of sponge rubber, upholstery, or even a pillow. Some surgeons become skilled in knot tying, practicing on door handles or in the automobile while traveling. The accompanying diagrams, located on pages 178 to 189, help demonstrate the principles of the three basic methods of surgical knot tying. The one described as an "instrument tie" utilizes a hemostat or needle holder, while the others require only skillful fingers for proper use. I would suggest that a novice begin with the two-handed tie and instrument tie, adding more complex forms as skill is gained.

Avoid tying the sutures so tightly that insufficient blood flow to the skin edges results. This would cause delayed and incomplete healing of the wound. "Approximate, don't strangulate" is the watch word for closure of lacerations with sutures. As described in the following chapter, there are certain injuries that are never sutured. Human bites, animal bites, and lacerations opened

longer than 12 hours, or those grossly contaminated are not sutured, but allowed to granulate and heal by secondary intention.
The placement of sutures and selection of suture material will be described in the following sections, as the various types of lacerations and their special care are considered. In a home-like setting it is possible to make
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the appropriate needles, like bending a sewing needle, sharpening the point in a chisel fashion to better penetrate the skin. Silk or cotton can be boiled along with the needle, thus sterilizing it for use in suturing. Prepared packages, that come already sterile, are available from suture manufacturing companies and can be obtained in various sizes and needle styles. Remember to consult the suture use manual for aid in selecting the appropriate sutures.

Anesthesia

One of the oldest forms of medical treatment is described in Genesis 2:18, 21-23, where the **Creator Himself** *"caused a deep sleep"* to come upon Adam while He took out the rib, closed up the incision, and made a "help meet for him." Relief of pain is intimately associated with the rendering of needful medical care. This is one of the physician's cardinal responsibilities. For certain patients, some forms of severe pain may be life threatening. However, in the case of most effective pain relieving medications, addiction can occur, with distortion of mental imagery to the point of serious impairment. Thus, it is wise to look for the simplest methods of relieving pain when attempting to perform surgery.
Probably the oldest form of pain relief is **refrigeration anesthesia.** Extremities can be rendered pain free with ice packs. This is particularly valuable in the case of vascular disease where cardiac and circulatory impairment makes general anesthesia risky. During the World War II, army medics discovered that troops suffering from frostbite might save their limbs if the extremity remained frozen until medical care could be secured. This observation influenced all currently accepted first aid for frostbite used in our country.
In order to properly administer refrigeration anesthesia, the extremity needs to be cooled to the point of numbness, while keeping the remainder of the body warm to avoid a general drop in temperature, chilling, or agitation. Ice packs or snow can be used to progressively cool an extremity, either a hand or foot. If the surgery is to be localized to the arm or leg, place the pack just above the site of amputation. This reduces blood loss and allows for a careful, meticulous dissection of the tissue. Broken bones can be set with refrigeration. In the case of a simple fracture of the hand or wrist, immerse the extremity in ice water for one-half hour or more. This will allow manipulation and bone setting to be done quite painlessly.
Refrigeration can also be used topically in the removal of warts, moles, and other skin lesions. Dry ice or liquid nitrogen can be applied with a cotton applicator to freeze a small area and render it numb to pin prick.
A second method of anesthesia is the application of gradual **pressure** on a nerve. The ulnar nerve at the elbow (funny bone) is quite amenable to
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pressure. Quite often in certain positions a foot or a hand has been known to "go to sleep" due to stretching or pressure on an affected nerve. Knowledge of neuroanatomy can utilize this principle favorably for surgery to an

extremity.

Counterirritation can also be applied with electric stimulation near the point of incision. This can utilize DC current, but it is more effective with a pulsed generator, such as rehabilitation centers employ in treatment of chronic pain. **Desensitization** can be obtained with liniments and ointments, mustard packs or plasters. Even animal surgery has been performed using counterirritation, e.g., the "twitch" on the nose of horses.

Finally, it is helpful to understand some of the common injectable anesthetics that are used locally for the relief of pain. These are used both in dental and surgical care. But they have some side effects and potential allergic reactions. Injectable narcotics should *always* be avoided, as they leave behind serious effects on the brain. They are not only difficult to metabolize, but because of their tendency to produce euphoria can become rapidly addicting. On rare occasions for major procedures, general anesthesia may be necessary. The gaseous agent used in these cases should be that which is most rapidly metabolized and least toxic to the system. Nitrous oxide and oxygen are commonly employed together to relieve mild pain. Although *ether* is quite flammable, it still remains the safest form of general anesthesia, due to its rapid clearing from the blood by the way of the lungs and relatively low toxicity to the liver and other organs. Open drop techniques in a well ventilated area can be used, but for safety reasons general anesthesia ideally should be performed in a hospital. Newer anesthetic agents (Halothane, Ethrane, etc.), although more likely to cause toxicity, are less dangerous to the heart and usually nonflammable. Regional blocks, local nerve blocks, and spinal anesthesia have their places in hospital settings but it is beyond the scope of this book to detail their applications.

Biopsies

The removal of a tissue for accurate pathologic diagnosis is called **biopsy.** If the lesion is large and only a small part is to be removed, the surgery is called an *incisional* biopsy. Usually a small portion of normal adjacent skin is excised with the lump under question. When it is possible to completely remove the growth and obtain a margin of normal tissue around it, the procedure is termed an *excisional* biopsy. These are very useful procedures, not only for the diagnosis and treatment of blemishes and abnormal growths of the skin, but also for lumps beneath the skin in accessible organs, such as the breast.

A breast biopsy can often be performed without general anesthesia or hospitalization when the surgical skills are present and the necessity for tissue diagnosis exists. More commonly, skin biopsies are used to determine the presence or absence of cancer and to excise unsightly or irritating growths that have developed in areas amenable to their removal.

On certain parts of the face, such as the alar portion of the nose, the lips, and ears it may be necessary to cover the removed skin with a **graft.** "Split thickness" skin grafts can utilize a very thin membrane of excised skin that matches in color and texture the area requiring the covering. Specialized plastic surgery procedures under local anesthesia can at times be used to enhance the cosmetic results of these operations.

The technique of a skin biopsy utilizes an elliptical incision with the ends pointed to permit easier closure. The incision is made perpendicular to the

plane of the skin to avoid bevel edges that will increase scarring of produce puckering when the wound is closed. “Undermining” the edges with blunt dissection will enable the skin areas to come together without undue tension and permit suturing with the least likelihood of wound separation. When malignancy is suspected, the margins should be wide enough to prevent possible early penetration of them with abnormal cells, and thus prevent the necessity of a second operation. Appropriate spacing of sutures and their removal in as short a time as wound healing will allow will minimize scarring and improve the cosmetic result of these surgical procedures.

NURSING THE POSTOPERATIVE PATIENT

Because most operations today are performed in hospitals, it is well for family members to know how best to aid the recovery of their convalescing relatives. Undue visiting should be discouraged. The frequent recital of a person’ s own operation and details of hospitalization can help to depress and confuse the individual recovering from surgery. Visiting just to “chit chat” in the hospital should be kept to a minimum. Well wishers should either send cards or reserve their condolences for later. A devoted family member or trained nurse, however, can be of incalculable value to the convalescing surgical patient.

Immediately after major surgery the incision should be cooled with an ice pack applied over the dressing. This will reduce swelling (edema fluid), lessen the likelihood of bleeding, and modify impressively the pain responses. Avoid excessive movement of the involved area, while maintaining activity in remote portions of the body. And especially encourage deep breathing. This will aid the rapid emergence from anesthesia, while minimizing the sensation of severe pain.

After the initial recovery phase is ended, moist warm compresses can be applied over most incisions, except in areas where the blood supply is compromised or at the distal extremities. In the latter case cold packs may be used. Over the chest and abdomen, however, frequent applications of moist warm packs, such as fomentations or electric heating devices will significantly reduce the pain, while promoting rapid healing of the involved area.

At this stage the healing processes will occur more rapidly in the presence of warmth, since all enzyme reactions as well as the growth of new cells are speeded up by mild heat. Usually the moist hot pack can be applied every three to four hours, enabling the convalescing patient to relax in between, gaining the necessary rest that promotes recovery. From the very first, the incision should be protected from undue moisture and kept clean and dry. Daily changes of the sterile gauze dressing are helpful in allowing air to reach the incision and dry the sutured area.

Adequate fluid intake is important. After abdominal surgery intravenous feedings are often used until the intestinal tone returns. This manifests itself by the passage of gas, and a sensation of hunger. One can hear “bowel sounds” when listening to the abdomen with a stethoscope. At this stage, the patient may be given sips of water or ice chips. If these create no problem, clear liquids such as herb teas, apple juice, vegetable jello, grape juice, and vegetable broth may be added.

After a meal or two in which these clear liquids are well tolerated, the diet can be enriched with the addition of creamed soups, diluted cereals, other

fruit juices, milk, or pudding. As rapidly as possible, the diet should be advanced to foods that can be thoroughly masticated, always prepared as attractively as possible. This variety of natural foods can promote tissue healing and emotional satisfaction in the most positive way.

If the patient is in the average community hospital, it is advisable to supplement his diet with some form of whole grain cereal, such as homemade crackers, as well as extra amounts of fresh fruits, dry fruits, or nuts. These should be kept, of course, in plastic containers to avoid attracting roaches, rodents or flies. Nevertheless, the addition of some whole grains and fresh fruit to the average hospital dietary will help provide the extra vitamins and minerals that are essential to a prompt recovery.

Consultation with a dietitian and permission from a physician may be necessary. The natural foods will help to accelerate the healing process and improve the nutritional value of the highly refined “popular” diet usually served in public medical institutions. An individual who requires prolonged feedings with intravenous fluids should ask his physician about the addition of vitamins, as this often neglected measure can be helpful in meeting nutritional needs during a critical illness.

Simple hygienic measures which will aid in convalescence from surgery are adequate water drinking, exposure to sunlight daily, and availability of fresh air in the sick room. All of these are hard to find in large hospitals. It may demand the selection of a facility for major surgery that recognizes these essentials and provides them.

It is very important to obtain adequate rest at night, and this should be insisted upon. Not uncommonly, hospitals perform at night many routine tasks that do nothing but disturb a patient. An atmosphere of tranquility should be insisted upon. Bedside telephones and the frequent taking of unnecessary vital signs may be intrusions into your peaceful rest that promotes a rapid recovery. It is wise to avoid much television viewing. This distraction puts the mind in “neutral” (or reverse), and stifles creative thought patterns and positive emotions that aid in recovery. Windows with an outdoor view and a stream of fresh air that can enter without hindrance will make convalescence pleasant. Where hospitals do not provide these essentials, early discharge should be advocated, securing the appropriate nursing care in a more home-like setting.

Finally, it must be recognized that exercise is not detrimental to the convalescing surgical patient. Early ambulation will help prevent such complications as pneumonia and clots in the veins. It also aids the general circulation. Activity establishes a feeling of well being that promotes recovery in the most unequivocal way. A short walk within the room, down the corridor, or even, with appropriate clothing, in the out-of-doors, will aid healing for surgical patients in record time. I have seen in my institution patients recovering from surgery of the gallbladder, female organs, or orthopedic procedures taking deep breathing exercises, stretching the limbs, and ambulating considerable distances in the first few days. Complications are almost nonexistent in these patients. Cheerful mental attitudes, good nutrition, and fresh air combined with physical exercise support a rapid recovery. The gastrointestinal and digestive tone in such cases usually returns earlier, too.

COMMON SURGICAL CONDITIONS

Hernia

There are several types of **hernias**, sometimes called ruptures, which arise from weaknesses in the abdominal wall. These out-pouchings of the abdominal *(peritoneal)* lining occur primarily in the groin, but are also found on the front wall of the abdomen and in the area of the diaphragm. The typical groin hernia occurs from a congenital weakness in the structures comprising the *inguinal ring.*

That is the connecting opening between the abdomen and the groin canal. The hernia first presents itself with a bulge in the groin. They frequently occur

in infancy or early childhood. Although some hernias may disappear, it is critical to have infant hernias evaluated. Usually they need prompt surgery to avoid complications.

When an intestinal loop enters the hernia sac a bulging occurs, often associated with pain. If it is impossible to replace this protrusion within the abdominal cavity, the bowel is said to be *incarcerated* or trapped. Prolonging this hazard may lead to *strangulation,* in which the blood supply is compromised. Unless prompt surgery is done, rupture or abdominal *(peritoneal)* infection may ensue.

Hernias also occur in association with pregnancy, due to the increased abdominal pressure. Adult men may get hernias when they lift heavy objects, while subjecting the abdominal wall to sudden unusual strain. With continued pressure, the hernia tends to enlarge. Mechanical support for a groin hernia with the **truss** may prevent further enlargement, but usually a surgical repair is indicated. Newer techniques involving one day in the hospital and the use of local anesthesia permit much more rapid convalescence. They are the safer methods of surgery, being especially for the more stoical.

Hernias that occur in previous incisions are called *incisional* or *ventral* hernias. Sometimes these result from infection, complicating previous surgery, where the wound has healed with residual weakness. **Umbilical hernias** are present in the navel. They are frequently seen in newborns. The newborn or young child with an umbilical hernia needs so special care. Applying pressure or taping a quarter over the defect does no good at all. Unless the hernia is extremely large, however, it will gradually close, usually within one to two years. Should it exist beyond the early period of infancy, surgical repair is indicated, primarily to avoid undue awareness to the area when your child enters school.

Diaphragmatic hernias may occur congenitally, but are usually acquired during adult life. The most common is called a *hiatus hernia.* It occurs when excessive food intake, obesity, tight-fitting garments, or undue straining produces a weakness in the diaphragm—the opening where the esophagus leaves the chest to connect with the stomach. Nearly half the cases treated surgically are unsuccessful, so medical therapy is usually advised. This consists of a special diet, taking very little fluid intake with meals, and thoroughly chewing solid food. Lying down, bending over, or stooping after a meal is unwise. Supper should be a light meal, eaten several hours before going to bed. Tight-fitting belts and girdles are avoided. If one experience nighttime heartburn, the head of the bed can be elevated on six inch blocks, allowing gravity to aid in preventing regurgitation of gastric contents during sleep. Persistence of symptoms such as pain or indigestion should be

evaluated by a physician to determine the diagnosis. If necessary he can perform x-rays of the gastrointestinal tract.

Hemorrhoids

The veins of the rectum frequently become enlarged or tender, with sudden onset of brisk red bleeding. Called hemorrhoids, these annoyances are due primarily to our sedentary lifestyle, with the modern emphasis on refined foods containing little fiber. Sitting for prolonged periods or straining with bowel movements increases the venous pressure in the rectal area with the consequent development of these protruding veins.

External hemorrhoids are clusters of veins at the opening to the rectum *(anus).* They may develop a clot or *thrombosis.* These become excruciatingly painful and usually show an area of purplish or dark discoloration. Although gradual resolution will occur in 2-3 weeks with sitz baths, the most prompt relief is obtained by the incision of the thrombosed hemorrhoid, removing the offending clots. This can be done with local anesthesia. Recurrence is uncommon.

Treatment of the **internal** hemorrhoid, which more commonly bleeds and ulcerates, is usually conservative. Hot and cold sitz baths are given, described in the chapter on **Hydrotherapy**. In combination with a high fiber diet, they will usually allow the condition to subside. At least two tablespoons of bran, with an abundance of fresh fruits and vegetables, are advisable to keep the stool soft. Aim at producing one or more substantial soft bowel movements daily.

Surgical treatment of refractory hemorrhoid disease was formerly a very painful and costly procedure. The development of the **band ligation** has changed this. A small rubber band is placed around the hemorrhoid high above the area of sensation, completely obliterating the hemorrhoid *(varicosity).* Two or three treatments in the office are necessary to complete this treatment. They are spaced at least three weeks apart to avoid excessive scarring. Rectal suppositories provide some relief from the pain of hemorrhoid disease, and may be purchased over-the-counter at most pharmacies. However, complications such as prolapse of the rectum or malignancy may present. The final decision on hemorrhoids is best handled by a physician.

Appendicitis

As in many above conditions, **appendicitis** has been linked to the consumption of refined foods. Quite rare in rural Africans, this acute situation is seen most commonly in individuals obtaining little dietary roughage. The pain of appendicitis usually comes on suddenly, and is associated with nausea

and vomiting. A low grade fever develops, with rapid loss of appetite. The pain may at first be localized to the region of the stomach. It then migrates to the umbilicus, and finally localizes in the right lower quadrant of the abdomen. Deep pressure over the area will reveal a point of maximum tenderness. Stand the person on his or her toes, and ask the person to drop suddenly on the heels. This usually aggravates the pain if the appendix or a related internal organ is inflamed. Usually there is no bleeding or diarrhea.

Although some appendicitis cases can heal with simple measures, it is wise to obtain the counsel of a physician who can order the appropriate blood

tests. If his pain does not subside promptly, surgery is necessary. **Rupture** of the appendix is a serious complication. Intestinal contents laden with germs may then contaminate the abdominal cavity, raising fever, increasing the pain, and becoming life threatening unless surgical drainage is accomplished promptly. Mortality is much lower for appendicitis than it was in previous years, but prompt diagnosis and treatment are still necessary to save lives.

Gallstones

The high fat diet of this 'junk food" age has rapidly increased the incidence of stone formation in the **gallbladder.** Designed to be a reservoir of bile, the gallbladder has the capability of concentrating this liquid into a thick syrup. A diet rich in fats and cholesterol tends to overcharge the bile with bile salts and cholesterol, which readily crystallizes to form stones. Large single stones or many small stones may lie dormant for years, then produce a sudden crisis. In the area of the gallbladder, located just beneath the liver, pain develops, associated with vomiting, fever, or chills.

When a gallstone passes into the common bile duct, obstruction occurs, with jaundice, and even more excruciating pain. In such conditions surgery is mandatory to remove both the stones and diseased gallbladder. Nonsurgical treatment includes a low fat diet and strict avoidance of grease, oils, and other fatty foods. They may help the body to dissolve these stones. Contrast x-rays and **ultrasound** tests can easily be done to evaluate the gallbladder's progress. Check first to see if the patient is allergic to the iodine of the gallbladder dye. For best prevention I recommend steadfast control of obesity, and a lifetime adherence to natural foods. This will prevent most gallstones.

Peptic Ulcers

Usually ulcers involve the stomach or small intestine *(duodenum)* and can heal without surgery. The only conditions warranting surgery are severe gastrointestinal **hemorrhage,** or **perforation** of the ulcer with the spillage of stomach contents into the abdominal cavity. Also, the prolonged scarring of

chronic ulcer disease can produce obstruction in the region of the stomach outlet *(pylorus)* or duodenum. When this occurs and prolonged vomiting ensues, the only recourse is to surgically bypass the obstruction and again provide a basis for adequate nutrition.

A fourth indication listed in many textbooks is **intractability,** meaning that the ulcer just won't heal and therefore surgery is necessary. In my opinion, this usually implies that the patient is "intractable." Often a refusal to quit smoking, eliminate coffee or alcohol, or change behavior patterns to a more peaceful, low stress mode lies at the root of the nonhealing ulcer.

In my medical and surgical experience, the best results in most types of ulcers are seen when the minimal amount of surgery is performed. Usually this means a *selective vagotomy,* in which the small nerves that influence only the acid forming portion of the stomach are cut. When necessary, an operation to enlarge the pylorus or to bypass scarring is done. As all surgeons know, tampering with normal stomach physiology in this manner is not without hazard. Iron deficiency anemia, the *dumping syndrome* (in which the ingestion of simple carbohydrates results in immediate diarrhea), abdominal cramps, and various types of malabsorption can occur.

For the typical ulcer patient whose pain occurs shortly after eating or is

aggravated by stress or harmful beverages, the remedy is logical. Eliminate the offending substances—including spices, vinegar, tea, coffee, tobacco, alcohol, and fried foods. The recommended diet, although not entirely "bland," allows considerable variety of food intake. If these foods are thoroughly masticated good results can be seen.

Avocado is an excellent source of dietary fat to inhibit gastric secretion. With adequate intake of soft fruits, olives, or creamed foods, prompt relief of pain, as well as neutralization of the acid can occur. The intake of baking soda and use of aluminum containing antacids is discouraged, not only because of the cost, but also side effects elsewhere in the body. Hot packs over the abdomen and an abundance of cool water or diluted vegetable juices (carrot, cabbage, etc.) are also helpful in healing these common peptic conditions.

Varicose Veins

Tortuous dilation of surface veins in the lower extremities are also caused by our lifestyle. Prolonged standing and sitting allow an increase of venous pressure to develop in the lower extremities. Tight-fitting garments— such as girdles, belts and garters—will predispose to this degenerative condition. The increased venous pressure of late pregnancy often aggravates the situation. Elastic stockings are very helpful to prevent throbbing and progressive dilation of these large leg veins. Surgical treatment may be necessary, with the ligation and stripping of the veins, but this should be evaluated by an

experienced surgeon competent to assess the indications—one who is inclined to avoid surgery whenever possible. Proper posture, daily exercise, deep breathing, and a diet that maintains good bowel action will all assist to keep the pressure low in the veins and thereby prevent unsightly legs, throbbing calves, or the ulcers that occasionally follow.

Tonsillectomy

Formerly the most common operation in the United States, **tonsillectomy** has fortunately declined in popularity. It is now known that our tonsils play a useful role in the formation of antibodies to respiratory infections. The incidence of poliomyelitis and cancer have been less in those fortunate individuals who were able to keep their tonsils. Infections in these organs will usually respond to prompt administration of simple remedies. Some of these will be discussed in Chapter Fifteen.

Indications for surgical removal of the tonsils are primarily limited to chronic recurring infections where the deep pockets *(crypts)* prevent adequate self-cleansing, and debris and infected material reside there. Recurring ear infections sometimes require the related lymph tissues in the nasal pharynx, called **adenoids**, to be removed. Both of these operations should be highly selective.

Coronary Bypass

Although the complexities of **coronary bypass surgery** are beyond the scope of this book, a few comments are in order. Briefly stated, this recent surgical advance is a procedure involving the removal of one or both of the major veins *(saphenous vein)* in the leg and its careful transplantation in the chest. After appropriate **cardiac catheterization** to determine the adequacy of the coronary circulation, the vein is placed between a hole made in the aorta as it leaves the heart and the more distant part of the coronary artery. With its 5-10% risk to life, the exorbitant cost ($30-50 thousand), and the

lack of long-term statistics as to its effectiveness (at best 2 years), this operation should be regarded as a last resort.

Reconditioning programs are springing up around the country and offering a superior alternative to many bypass candidates. The combination of a low fat diet free of cholesterol and progressive exercise in a center with preventive capabilities will often minimize the necessity for cardiac drugs, while relieving chest pain and similar cardiac symptoms. Nevertheless, a *few* individuals with disease of all three coronary vessels or underlying impairment of the heart valves may need and profit from this operation. In such cases, it is my recommendation that a medical center experienced in heart surgery be selected with much prayer and care.

Following the bypass operation, cardiac rehabilitation should begin in a lifestyle conditioning center where both diet and lectures are calculated to prevent recurrence. As rapidly as possible this will recondition the patient for a return to normal living. Otherwise, the temporary relief obtained by a revascularization procedure may be short-lived as the new vessels plug themselves with cholesterol once again. One can easily see how every aspect of coronary heart disease from the cradle to the rocking chair will benefit from preventive measures.

CHAPTER THIRTEEN

ACCIDENTS AND INJURIES

Unforeseen events occur in the lives of individuals every day. When these affect our health and cause bodily harm or injury, we usually call them **accidents**. Cases of extreme urgency, constituting a threat to life or limb, we term **emergencies**. Most hospitals are equipped with special facilities ranging from first aid stations to comprehensive trauma units. These *emergency rooms* are deluged with people having minor problems that have assumed the sense of urgency. However, many of these could well be taken care of at home. Some of the more common health hazards and problems will be outlined in this chapter.

It is well to remember the Boy Scout motto **"be prepared"** in obtaining necessary knowledge before the crisis. A calm, cool head combined with a knowledge of what to do in an emergency may prove the difference between life and death as crises erupt in the home. The words of Rudyard Kipling expressed it well, "If you can keep your head when all about you are losing theirs and blaming it on you... then you will be a man, my son." These poetic expressions apply to every nurse, homemaker, and lifesaver who can render first aid in an emergency, and do *the right thing, at the right time, in the right place, in the right way.* Such individuals are at a premium in our turbulent society.

Cuts and Bruises

Bruising results when the skin or underlying tissue has been traumatized. A kick, a blow, or a fall may not break the skin, yet result in trauma to the underlying blood vessels. When one of these vessels, small or large, is injured, bleeding occurs beneath the skin. The black and blue discoloration that often results from such injuries are called a bruise *(ecchymosis).* Applying ice packs

immediately after such injury is helpful to reduce the bleeding, as well as relieve pain. Under NO circumstances should heat be applied to a bruise in the acute stage. Even in the healing phase, one should use heating measures with considerable caution.

Deep bruises in a muscle may produce swelling and considerable pain, but are located beneath the fascial planes and therefore show no visible discoloration. These also should be treated with ice. In the acute injury, some pressure is advisable to reduce the amount of bleeding.

When the skin surface is broken, several other reactions take place. First, there is a loss of blood, with the amount and rate of flow depending on the vessels that have been severed. Since the face and scalp are extremely rich in blood vessels, bleeding is often brisk. Yet because of its visible location, prompt pressure can reduce the blood loss.

A knowledge of appropriate *pressure points,* where arteries to the extremities come close to the surface, can prepare one to reduce blood flow in a very severe arterial injury. Pressure under the armpit, in the groin, or behind the knee may be life saving when a large artery has been ruptured. More commonly, however, the application of *direct* pressure over the wound

will reduce the amount of blood flow. With the normal clotting mechanism inherent in body tissues, the bleeding will then stop, allowing coagulation or clot formation to secure the area.

The second problem that results when the skin is broken is that germs find entrance. Depending upon the amount of contamination, the wound may require thorough **cleansing** before any closure or bandaging is attempted. Thorough irrigation with water is the most effective, provided that the water is clean. Done early after an acute injury this constitutes the most important aspect of care, since infection is easier to prevent than to treat.

Contaminated wounds from the animal barn or farmyard should be exceptionally thoroughly washed. Unless the person has been adequately immunized against tetanus, a booster is recommended. In cases where no immunity exists the administration of *human tetanus antitoxin* will provide an additional safeguard. These injections would, of course, need to be obtained from a physician or emergency room.

Once the bleeding is controlled and the cut thoroughly cleansed or irrigated, appropriate closure can be attempted. Sometimes we use a *butterfly* bandage or adhesive tape to bring the opposing edges together. Often that is all that is necessary to close the wound. Moreover, this simple closure, when free from infection, will produce the most rapid healing.

Sutures are necessary on occasion to close larger wounds, particularly those involving such delicate structures as the eyelid, lip, face, or hand. Deep wounds involving the hand must be carefully evaluated for possible injury to nerves or tendons. They should be repaired by a surgeon, whenever possible. For the best results in both healing time and preventing complication, lacerations should be repaired within a very few hours after their occurrence, the sooner the better. Cuts left open for longer than 8-12 hours nearly always have been contaminated with so many germs that suturing or other tight closure will increase the risk of infection. In such cases, open treatment and appropriate dressings are preferable.

Before proceeding with a description of suturing techniques, note two other types of wounds and their simple treatments. **Abrasions** are injuries made by rubbing or scraping. Some of these, called “floor burns” or “scuff burns,” are very superficial injuries. They usually bleed briskly, and often can be very painful. Careful cleansing of these wounds is important to remove all sand, dirt, glass, or other foreign material that may have been ground into the skin. Porous dressings are advisable to allow the air-skin contact to form a crust or scab. Less commonly the extensive nature of an abrasion makes it advisable to apply an ointment, such as petroleum jelly with fine mesh gauze to prevent sticking.

Puncture wounds may also occur. Although these do not usually bleed as extensively, the risk of infection is high. A nail or tack may puncture or impale the skin. The most common place is the foot. Wear shoes or sandals and avoid playing in locations where rusty nails and broken glass abound. This will help to prevent most kinds of puncture injuries. Extreme care in the use of knives, scissors, power mowers, chain saws, razor blades, and firearms is likewise important to prevent penetrating wounds, particularly where small children live.

Techniques of Suturing

It is difficult to give a brief description of proper suturing technique to enable a person to acquire this art quickly. Several generalizations, however, will be discussed to help, remembering that practice makes perfect. As mentioned already, wounds that are over eight to twelve hours old are grossly contaminated and should **never** be sutured. Only when ligatures are necessary to control bleeding would sutures be indicated, or after careful surgical debridement and irrigation in an operating room. The placement of sutures to close a wound must take into consideration the location of the injury, the types of suture material available, the nature of the blood supply, the general body health, and the skill of the medic. Suturing around the more delicate parts of the body, such as the face, eyelids, genitalia, and hand should be reserved for surgeons who have proven skills.

To begin, let us consider the suturing of a simple laceration or incision on a flat area of the body with normal skin thickness and adequate blood supply. Sutures are usually placed 3/8 to 1/2 inch apart on an extremity, the trunk, or back. The distance between each suture should be more or less equal to the *span* of the suture itself. **Simple** sutures are used for skin edges that are not likely to turn under (invert), and are applicable to thicker areas of the body' s surface. Around the face or in areas where unusual delicacy is required, very fine sutures of silk or nylon are placed 1/8 to 3/16 inches apart, and left in only three to five days. On larger areas of the body, the sutures are left in place approximately one week—for example, the upper extremities, chest, or abdomen. Leave sutures intact for ten days to two weeks in the lower extremities, back, or other areas where blood supply may be compromised. It is important not to tie the sutures too tight nor compress the skin edges so closely that free circulation is impaired. On the other hand, the suture should not be so loose to allow the skin edges to gape and thereby delay healing, as well as leaving open a route for infection.

During healing, sutures should be kept clean and dry. After three to four days showers are usually permitted, including shampooing of the hair after scalp injuries. Prolonged soaking, however, is inadvisable. Wet dressings should **never** be permitted to remain over sutures.

Silk and cotton sutures especially should be kept dry, as they may act as a "wick" to allow the entrance of germs resident on the skin surface. Nylon and *subcuticular* (buried) sutures are less likely to become infected. The latter type involves a special technique, comprising a back and forth sewing motion beneath the skin to "bury" the suture. This enables it to heal with scarring. Subcuticular sutures are particularly valuable in the perineum after childbirth, in the face to reduce scarring, and in children, where their removal several days later would be unduly traumatic.

Chromic, Dexon, or other absorbable material will provide a subcuticular closure with no necessity to remove sutures later. Properly done, this technique produces a very nice healed surface with minimal of scarring. Nylon is not as suitable for subcuticular closure. When it or other nonabsorbable material is used, the ends must be left exposed outside the skin, and the suture removed after appropriate cleansing and at the proper time.

Skin edges that are prone to invert should be repaired using a *vertical mattress* technique. This enables the suture to encircle the deeper layers of the wound, as well as bring together *(approximate)* the skin edges. This is the

usual method used to close abdominal incisions. Less often used in acute trauma, it is nevertheless appropriate in locations where careful attention to cosmetic results are indicated.

Removing the sutures is another skill that can easily be learned. It is often done at home. The dry, clean, healed incision is first disinfected with alcohol, merthiolate, povidone iodine *(Betadine)*, or another suitable nontoxic germicide. These can all be secured at any pharmacy. When this cleansing is accomplished, one end of the suture is grasped with a hemostat or tissue forceps, while the end next to the skin is cut with **sterile** scissors. These instruments, if used at home, should first be boiled to sterilize them, before removing the sutures. Frequently, every other suture is removed as an incision has nearly healed. The alternate remaining sutures are removed when healing is complete.

When sterilized adhesive strips *(Steri-strips)* are employed to close the skin, they are removed after the same length of time as sutures. Lift the ends carefully, then pull them up on each side toward the center, avoiding undue traction at the laceration edge. After the incision has healed and sutures are removed, no further care should be required.

Care must be taken to avoid inadvertently leaving a segment of suture within the wound. This could form what we call a *sterile abscess.* A small area of the skin separates and the suture is seen in a small cyst-like area that drains fluid for a few days. Usually these pockets of fluid do not lead to further infection. Careful cleansing with *Merthiolate* or other household disinfectant will allow for complete healing in a few days.

Sprains

In contrast to pulled muscles *(strains)*, **sprains** involve the tearing or traumatic injury of *ligaments.* These are strong, fibrous structures surrounding the many joints. Common areas where sprains occur are the knees, ankles, and wrists, though almost any joint can be affected. The typical “whiplash” injury of a rear-end automobile collision is also a ligamentous sprain. In reality, the entire spine is vulnerable to this type of injury.

The general characteristics of a sprain are as follows: there is acute pain, localized in the involved joint. Swelling follows, particularly if further ambulation or joint motion is continued, and the area is often held in a dependent position. When blood vessels are torn, bruising becomes apparent within hours, frequently turning the affected joint “black and blue.”

There are several important first aid measures to be used in suspected sprains. These include the immediate **immobilization** of the extremity, its **elevation**, and the application of **ice packs**. All of these remedies reduce the amount of swelling and pain. They also help to control bleeding within the joint.

Pain in any joint is a message from “nature” to rest the injured member. For sprained ankles, wrists, or knees, elastic bandages, crutches, and occasionally plaster casting is used for immobilization during the healing phase. Hot and cold contrast treatments, used after the first 12 to 24 hours, aid in the resolution of these inflammatory changes. They also accelerate healing and reduce pain. Unusual persistence of pain in the involved area should alert one to the possibility of fracture, which is best diagnosed with an x-ray.

Simple Fractures

You may wonder why I would seem so bold to even suggest fracture treatment in a home-like setting. The reasons are twofold. First, many are completely unable to afford the expenses of emergency room care or the services of an orthopedist today. Second, many fractures occur in a remote rural setting in countries where medical services are not available. Therefore, it is advisable to know some of the basic principles of diagnosis and management, not only to alleviate acute suffering, but also to prevent residual deformity as the fractured bone heals.

Fractures of the bones may be classified in several ways. The **greenstick fracture** is one in which only a portion of the bone is broken, leaving the major segment intact. This is more typically seen in children, since their bones are soft and still growing. Perfect diagnosis can only be obtained with x-ray. The **closed fracture,** formerly called *simple* fracture, is one in which the skin is not broken, and the bone is fractured in only one place. No other fragments

are seen, and displacement is usually slight. A **comminuted fracture,** on the other hand, is one in which multiple fragments of the bone are present. It is usually caused by a more severe, shattering type of injury**. Open** *(compound)* **fractures** are those in which a sharp fragment of bone actually penetrates the skin, allowing contamination and a high risk of severe infection. **Osteomyelitis** of the bone is a common sequel of these extensive injuries.

Reducing a dislocated jaw. With gauze or cloth to pad the thumbs, The thumbs are placed on the lower molars. The fingers underneath the jaw are used to elevate while the back of the jaw is depressed. With a rotational motion to depress the joint surface (condyle) the jaw can then be slipped sown and back to relocate the joint and permit the mouth to close.

The degree *of displacement* as well as the *kind of* fracture helps determine the appropriate treatment. Many traumatic injuries crack the bone either as a simple or greenstick fracture and leave no deformity at all. This can be seen particularly at the elbow with an *impacted* fracture of the radial head, or in the shoulder where fractures are caused by falling on an outstretched arm impacting the shoulder while fracturing the humerus.

The most common fracture seen in children involves the collarbone *or* clavicle. Usually some “overriding” (overlapping of fracture ends) is present. Prolonged fixation of the shoulders in a “figure of eight” splint is recommended, with manual evaluation or X-ray pictures determining the degree of shoulder stretching required to keep the bones fairly well aligned.

Fractures of the **wrist** are the second most common type. They may be seen at any age. Often the deformity produced appears as a “silver fork.” In order to avoid limitation of wrist motion afterward, with residual arthritis, careful setting of the bone is required. The easiest way to evaluate an injured extremity for a suspected fracture is to feel with one finger along the involved bones. A fractured bone will usually be exquisitely tender right over the area of fracture. If the patient is seen before undue swelling has set in, the diagnosis can often be pinpointed.

The *sling.* To immobilize the arm in suspected fracture or dislocation, a triangular cloth can be fashioned to cradle the arm. Tie the hack corners behind the neck, support the wrist, and use a safety pin at the elbow.

Fractures about the **ankle** are also fairly common. However, X-rays are necessary to evaluate the extent of injury. Some can be treated with a compression type cast for 6-8 weeks, while others require the placement of pins or screws for accurate reduction. The goal is to restore complete weight bearing on the affected leg.

Unless obvious deformity exists, it is difficult to distinguish **skull fractures** from contusions or **concussions**. The presence or absence of unconsciousness is not always reliable in distinguishing skull fractures. Any fractures that cause slow bleeding into the space beneath the skull *(subdural)* are particularly dangerous. They may develop a symptomatic clot *(hematoma)* over a period of days to weeks, putting pressure on the brain.

Any prolonged impairment of consciousness or nerve function after a head injury should be evaluated by a physician, with the appropriate x-rays taken. Asymmetry of the eyes, double vision, an altered appearance of the facial bones, bleeding or clear discharge from the nose or ears should always alert one to the possibility of facial *(orbital)* fracture. Pain on biting or chewing, or altered position of the teeth may indicate a possibly fractured jaw. That also should be evaluated radiologically and appropriately stabilized.

Initial first-aid treatment of fractures is familiar to most emergency medical technicians and nursing instructors. The injured extremity should be put at rest, with appropriate splints. Boards, pillows, rolled newspaper, or the modern inflatable plastic splints should be used to immobilize completely the affected part. Ice packs should be applied to reduce pain and swelling during transportation. Ice may even permit appropriate manipulations for setting the bone, if the area has been rendered cold enough. No weight bearing should be put on an ankle, leg, or hip suspected of fracture, until appropriate examination and X-rays have established the *absence* of such injury.

When a fracture is well-aligned and stabilization is indicated, casts or splints can be manufactured. Bone setting, or the reduction of displaced fractures, is beyond my scope to teach here. Aluminum splints may be trimmed or cut, and shaped to conform to the injured part, making a suitable stabilizer to use with appropriate padding and an elastic bandage. **Cast materials** are available with plaster-impregnated gauze available in rolls or strips for the preparation of a cast. Usually a stockinette-type material or cotton padding about 1/8” thick is used to protect the skin, while the plaster on the outside provides stabilization. When the usual plaster rolls are used, wrinkles and excessive pressure over bony prominences must be avoided. Plaster casts are quite durable. Newer light cured epoxy materials and fiberglass casts are lightweight, but considerably more expensive.

Naturally, all plaster casts must be kept dry and free from weight bearing or pressure that exceeds the strength and thickness of the cast. When prepared plaster rolls are not available, an acceptable substitute may be prepared from roller gauze soaked in moist plaster of Paris. This is applied in the usual manner. Gauze strips may be laid **in** plaster and applied, gradually developing the cast. Be careful to avoid pressure over bony prominences. A general rule of fractured long bones is to immobilize the joints above and below the involved bone. Thus, a fractured forearm frequently requires casting above the elbow and down to the fingers. Exceptions to this are the ankle and wrist, both of which can frequently be stabilized with a shorter arm or leg cast.

The healing time of broken bones varies considerably, with babies' bones healing the fastest, children next, and adults more slowly. The aged take the longest. As a rule, a forearm in a child might heal well in 3—4 weeks, an adolescent or young adult in 6 weeks, and an elderly person 2—3 months. Nonunion is more common in the elderly, particularly in fractures of the leg bone *(tibia),* due to its less abundant blood supply.

The **removal of a cast** is quite easy. Without the usual equipment, such as cast saws and special scissors, a cast can be removed by soaking it in water until it softens. Another way of removal is with a knife or file. More commonly in a doctor' s office, an oscillating *cast saw* is used, cutting the cast lengthwise on two sides, then taking it off in halves. After a cast is removed, begin using the extremity gradually. Hot and cold contrast baths or whirlpool baths are often helpful to improve circulation. Dependent areas, such as the leg and ankle, need to be wrapped for several weeks with an elastic bandage. Gradual weight bearing and ambulation will once again restore the normal venous and lymphatic return, preventing fluid collection or *edema* formation. With few exceptions, bones begin to heal from the time they are broken. After appropriate stabilization and care, a healed fracture can be as good as new within a short time.

Burns

Many thermal injuries can damage the skin. **Burns** include injuries caused by scalding, fire, radiation, caustic chemicals, and electricity. Although each type of burn requires individualized treatment, some generalizations are appropriate. **Classification** of burns is important to determine their severity, as well as to gauge the response to treatment. Traditionally, the extent is described by degrees. A **first-degree** burn involves the superficial layers of the skin only, and manifests itself in reddening. The most common type is sunburn. Prolonged use of heating pads or split-second exposure to a fire may also produce this self-limited, but occasionally painful type of burn.

Second degree or "partial thickness" burns also involve the skin surface or *epidermis.* This burn, however, transfers sufficient heat to the skin to produce blistering. These deeper types are more painful. Second degree burns of babies or small children are especially likely to become infected. If extensive, they may result in dehydration or shock.

The deepest burn, called **third degree** or "full thickness" involves both layers of skin, epidermis, and dermis. These may extend into the subcutaneous fat and muscle, destroying both blood vessels and nerves that supply the skin. Small full thickness burns may be produced by electricity, although more commonly they are caused by fire or chemicals. Remember that a deep *partial* thickness burn may become badly infected, with extension of the burn to involve all the skin layers. In contrast to first and second-degree burns that heal rapidly, the deeper full thickness variety is very slow to heal. The skin forms granulation tissue, with gradual progression to skin renewal, or grafting may be necessary.

Immediate first aid in the case of burns requires the application of *cold.* Often a potential third degree burn can be converted to a second degree or a second degree to a first-degree burn by the immediate use of ice or other application of cold to counteract the thermal injury. This should be prolonged for thirty to sixty minutes, unless the burn is extensive enough to necessitate immediate emergency medical care.

A second way to classify burns is according to the **extent** of skin involvement. The “rule of nines” has commonly been used to approximate the burn area. The accompanying diagram helps illustrate how these burned areas can be calculated. Because of the ever-present danger of contracture or scarring, burns involving the face or hands are especially serious.

Unless superficial, most burns can be treated like abrasions, with appropriate cleansing and protection against infection. Sterile dressings can be used to relieve pain and prevent the entrance of germs. Small burns are more amenable to the “open technique” than are extensive injuries. In this approach, the burn is cleansed and left open to the air to dry. Rapid formation of a **crust** seals off the burn, functioning like a scab to prevent infection while healing occurs beneath.

Many preparations have been advocated for the relief of pain from burns. And they may be used in a home setting. The mucilaginous gel from the *aloe vera* plant is immediately applied to burns in many countries. A portion of the plant is broken and the juice squeezed onto the affected skin. Pain is relieved, and the gel forms a soothing protective coating. **Vitamin E** oils may also be used. These seem to reduce the likelihood of scarring. The oil can be used directly over the burn and applied several times daily until the skin is healed.

Petroleum jelly *(Vaseline)* and fine mesh gauze can also be beneficial.

They are quite easily applied to larger burned areas. A fluffy gauze dressing is used to cover the tine mesh. If no infection or drainage is present, this bandage can be left on several days until the burn is healed, at which time it will be dry and peeling. Daily dressing changes provide an opportunity to see the burn in the healing state. Whirlpool baths with disinfectants can be used when necessary for *debridement.* This term describes the peeling of dead skin or removal of crusts, thus allowing more freedom of motion around affected joints. The entrance of air exerts a drying effect. Treatment should always be continued until healing is complete.

Frostbite and Hypothermia

Two common cold injuries are **frostbite** and **hypothermia**. Taking precautions during winter weather can help you avoid them. First, never push yourself to exhaustion when exercising or working in cold weather. When you are worn out, you’re more likely to fall or suffer injury. Take hourly breaks during long treks, skiing expeditions, or work that takes you outdoors for several hours.

Second, drink plenty of water when exercising in the cold, just as you would in warm weather. You can become dehydrated if you neglect to replace fluids, especially when sweating. This reduced blood flow to the skin, which could lead to cold injury.

. When exercising outside, head into

the wind first, when you are fresh and dry. If you exercise awhile and become sweaty, the dampness will magnify the windchill factor. Rain, even a cool drizzle, causes greater heat loss when you skin stays wet. Snow, even though

it has a special charm and beauty, can making walking or running hazardous. During a snowstorm your ability to see is limited. Driving visibility is reduced. Wear reflective clothing when walking.

Wear appropriate **clothing** for winter, but not too much. Exercise generates a lot of body heat. However, be sure your extremities are well

covered. Heat can be rapidly lost via exposed skin. The smartest dress code is the layered look. Layers of clothing trap air to increase insulation and keep you warm. The inner layer should insulate and draw moisture to the outer layers where it can evaporate. Wool is good for the middle layer because it serves as a good insulator even when wet. The outer layer of clothing should be windproof, breathable, and water-repellent. Especially, cover your extremities, including fingers, toes, nose, and ears. These are the parts most vulnerable to frostbite. Because you can lose up to 40% body heat through your head, it's important to cover it. Wear a wool or fabric hat that covers your ears. Even a mask or scarf may be helpful in very cold weather.

Your body needs extra fuel when exercising in the cold. So eat **highcalorie foods** when on the trail. And, *NEVER drink alcohol.* It contributes to dehydration and widens *(dilates)* the blood vessels. This means more heat loss. Alcohol, moreover, impairs judgment and reduces sensitivity to cold.

If **frostbite** nips you or a friend, get indoors as soon as possible. Warm the affected area, using towels soaked in warm water. You may feel pain during rewarming. Never rub the affected area. Frostbite occurs when skin temperature (normally about 93° F.) drops below freezing. In very cold or windy weather, flesh can freeze in under a minute. Pay close attention to how your skin feels. Watch for burning sensations and whitening of skin. If you ignore these signs, you may get full-blown frostbite. Frostbitten areas may turn red, then blue, and blisters may form. Digits, both fingers and toes, have been lost through this type of thermal injury.

Exposure to cold also increases the risk of **hypothermia**. When your core body temperature drops to 95° F. from the usual 98.6° F., your life is in danger. If this loss of body temperature is not reversed, you may simply stop breathing and die. Furthermore, it may be difficult to tell that your body temperature is dropping. Heed symptoms like intense shivering, slurred speech, and disorientation.

Emergency treatment focuses on elevating body temperature. Provide warm (not hot) drinks, remove wet clothing, and warm your friends body as soon as possible. You can do this with blankets, your own body, or any other means possible. Get medical help as soon as possible. However, continue the warming efforts meanwhile. You may save a life.

Bites

Proper handling of injuries from animal or human bites requires experience and judgment. As a general rule, all bites that break the skin should be considered infected wounds. For this reason they should all be protected against tetanus with the appropriate **tetanus toxoid** booster inoculation. If previous vaccination has not been completed within the recommended period of time (usually 10 years), **human tetanus antitoxin** is also administered.

As soon as possible after an injury occurs, the wound should be washed thoroughly with water using the best available antiseptic soap. Careful irrigation and cleansing of the bite will remove most of the foreign substances that would otherwise produce complications or infection. When the laceration is severe or hemorrhage is present, ligatures to close the wound may be necessary. Smaller bites are best treated with the open technique, permitting them to heal by second intention (see section on wound care in Chapter 12). Human bites are among the most likely to become infected, because of the

abundant flora of germs resident in the mouth. The lysozyme content of a dog's saliva makes it less likely to contain virulent bacteria. But all animals, including cats, horses, dogs, and wild pets are likely to cause damage if they bite. Obviously, many of these injuries can be prevented by appropriate care in handling animals.

The bite of an animal infected with **rabies virus** is particularly serious. The animal usually exhibits strange behavior, and may be unsteady, foaming at the mouth, salivating, and unusually vicious. Rabies or *hydrophobia*, as it is sometimes called, is a viral infection of the central nervous system. Untreated, all known cases result in death. Proper rabies control requires vaccination of all pets, such as dogs and cats, with careful avoidance of untamed animals.

Never pet or attempt to fondle any strange animal!

If an animal suspected of having rabies has bitten someone, the animal should be quarantined with the local health department or humane society. Within two weeks it usually becomes apparent whether rabies is present or not. If the bite is extensive or near the face, immediate inoculation of the patient with antirabies vaccine is begun. This therapy involves a series of daily injections for about two weeks. Although painful, they may be life saving. Most emergency rooms and health departments have information as to how the antirabies vaccine can be procured and administered. It is imperative to follow through with a full course of adequate protection to save the lives of such unfortunate victims.

Poisoning

Many die every year from accidental or intentional ingestion of toxic substances. Most cases of poisoning, however, are innocent and often occur in small children. Since infants are so prone to put unfamiliar substances in their mouth, careful surveillance by parents is necessary to prevent these incidents. The home should be inspected to be sure that cleaning fluids, medicines, insect poisons, and solvents are carefully secured beyond the reach of children. **Never put toxic substances into soft drink bottles or other containers that are normally used for food.** Particularly harmful preparations should be kept in a locked cabinet. As children are able, they should be instructed carefully concerning the danger of many household chemicals.

When accidental ingestion of a poisonous substance occurs, usually the first procedure is to **induce vomiting.** The sooner this is done after the ingestion of the poison, the better the results will be. Many substances are absorbed rapidly. If syrup of Ipecac is not available, give some lukewarm water or other liquid to dilute the poison. Then prepare at once to visit an emergency room.

Sticking the finger in the throat to induce gagging may be helpful when pills have been ingested, but should never be used in the case of swallowed lye, strong acids, gasoline, kerosene, or other hydrocarbons. Aspiration may result, producing a serious pneumonia. The caustic properties of lye make further corrosive burning of the esophagus a possibility. Even perforation may result if vomiting is instituted.

The most helpful remedy for poisoning is the early administration of **activated charcoal.** Every home should have a box of powdered charcoal on hand, as well as the "activated" capsules. Charcoal has phenomenal powers to adsorb poisonous chemicals. The usual dose of charcoal is thirty to sixty

grams (2 to 4 tablespoons of the powder). It is mixed with water to make a "slurry." One must drink this water suspension as quickly as possible. The charcoal, administered early, can adsorb most drugs. Because of its insolubility, it is not absorbed into the bloodstream.

Many poisonous plant substances and mushrooms may be ingested. Botanical field guides are helpful to identify these substances. Some of the more common ones will be mentioned here. Every adult, especially every parent, should know how to identify the most common plants around their locality, and particularly be able to recognize the toxic species. Mushrooms are a most interesting class of plants. Some of them are nutritious and quite tasty, while others may be deadly when swallowed. The *Amanita* species are among the most toxic substances known to affect man. The recognition of this extremely poisonous mushroom should be thoroughly understood, so that no accidents will occur. Consult a field guide or first aid manual for any questions in identifying such toxic plants. The **poison control center** can be reached by telephone from most cities. Check your phone directory for the number.

Many *suicides* take place each year through the ingestion of harmful drugs. Overdoses of sedatives or tranquilizers are common. Most cases can be salvaged by early recognition and gastric lavage. All emergency rooms should be equipped with materials to wash out *(lavage)* an individual' s stomach. However, the early induction of vomiting may make this unpleasant procedure unnecessary. **Activated charcoal** is usually administered *to adsorb* the drug and prevent its effect on the system. REMEMBER to take suicide notes, hints, and actual attempts *very* seriously!

Often the best response is a willingness to listen and sincerely attempt to understand the plight of the distressed individual. Tragic deaths or deliberate overdoses could be prevented by the exercise of love and mutual understanding when disturbances arise in the family. As in many other aspects of emergency medicine, your loving attention may reduce the toll that accidents are now taking in our turbulent society.

CHAPTER FOURTEEN

BIRTH DEFECTS

Centuries ago in the land of Judea the disciples asked a question, *"Who did sin, this* [blind] *man, or his parents, that he was born blind?"* A prevailing idea at that time was that some transgression lay at the foundation of all congenital disease. It is true that conditions classed as birth defects may be related to parental transgression. Evidence implicating drugs (cocaine, crack, LSD, etc.) as the cause of many chromosome defects and genetically transmitted disease accumulates every year.

Some pharmaceutical drugs affect the growing embryo during key developmental phases. They may result in deformities of the cranium, limbs, heart, kidneys, or sense organs. Infectious diseases, such as syphilis, toxoplasmosis, and the cytomegalovirus can all produce serious damage to the unborn child. In order to understand genetic diseases let us now consider some methods by which information is passed to our offspring.

In the *nucleus* of every cell lie specialized strands of nucleic acids called *chromosomes.* In human cells there are twenty-three pairs of these. Men and women differ only in the presence or absence of a Y chromosome (male — XY) or a pair of X chromosomes (female — *XX).* During the division of nonreproductive cells *(mitosis)* the chromosomes divide and duplicate themselves, forming identical nuclei in the "daughter" cells. When a reproductive cell divides, however, its chromosomes split and each resulting spermatozoa or ovum receives only one-half of each of the original twentythree pairs, or **half** the complement of the fertilized ovum. This process *(meiosis),* then, results in cell division without duplication of original chromosome pairs and prepares the mature sex cell for fertilization.

In the chromosome lie a vast number of possible combinations *(genes),* each of which has the capability of governing growth, determining protein structure, and individuality. These **genes** make up the chromosomes. They are able to start or stop protein synthesis, according to the need of the developing organism.

It is a marvel of genetic engineering to consider the possibilities. To produce a human being, while preserving perfect individuality and the near infinite variety of possibilities for facial appearance, height, bone structure, hair color, eye color, fingerprints is just amazing to our finite mind. In this chapter, however, I wish to consider some of the inherited tendencies and birth defects that cause great stress to parents and influence so profoundly the subsequent generation.

Behavior Problems

A whole new science of medical investigation has developed studying the influence of drugs and birth trauma on behavior. Many terms have been coined to describe these disorders of childhood, among them *minimal brain dysfunction and hyperactivity.* It is known that birth trauma—a difficult delivery, the traumatic use of forceps, or other conditions which result in oxygen deprivation—may produce long-term effects on behavior. Maternal

use of drugs such as tranquilizers, cocaine, LSD, marijuana, and particularly alcohol (also numerous other substances) can induce changes that affect a person's learning ability for his lifetime. Many children of school age are unable to concentrate, sit still, or adhere to the discipline of a schoolroom. Multitudes develop patterns of truancy, then in adolescence become social problems or delinquents. The habits picked up tend to perpetuate the maladjustments. If pregnancy ensues, this antisocial pattern of behavior is reproduced. The science dealing with these problems is called **behavioral teratology**. Research in the field constitutes one of the most fascinating, yet ominous perspectives of medical investigation today.

Deformities

Many defects in the external physical appearance are related to chromosomal defects. The **Down's syndrome**, discussed below, is one of these in which characteristic facial appearance and retardation are evident. Many years ago a tranquilizer called *thalidomide* was administered to mothers during pregnancy. Complete or partial failure of development *(phocomelia)* of the hands, arms, or lower extremities resulted, creating thousands of permanently deformed babies from the simple taking of a nerve pill. Many drugs today have cautions against their use during pregnancy. But more drugs than we suspect may actually affect the unborn child. Pregnancy in women who are addicted to narcotics or the heavy use of alcohol runs a very high risk of developmental birth defects.

Infections in the early part or pregnancy, particularly the first trimester, may also produce deformities in the offspring. German measles or *rubella* may cause a wide range of birth defects, depending on when the infection occurred. Cleft palate, harelip, congenital heart disease, cataracts, and deafness are some of the afflictions that may stem from prenatal viral illnesses. A pregnant mother harboring *syphilis* germs may also cause deformities in her offspring with bowing of the legs, saddle nose, or characteristic chisel-like teeth. Nutritional deficiencies during pregnancy may result in congenital problems. Certain developing nations, because of their cultural taboos, prevent a mother from obtaining adequate sunlight, calcium, or milk. Congenital *rickets* can then develop, with failure to produce normal bones. Fractures, with life-long changes in the ribs, legs, or other growing bones are common. Conditions such as these are largely preventable.

Congenital Heart Disease

Many babies are born with defects of the heart, traced to chromosome defects, maternal infections, or the use of toxic agents. Two types of heart disease are seen. One is called *cyanotic*, because of the characteristic "blue baby" who has a dusky color to the lips, hands, or a general cyanosis. The most common of these is called *the Tetralogy of Fallot,* and includes four basic cardiac defects requiring specialized study for diagnosis. A number of surgical procedures have been devised to correct the congenital defects of the heart, reducing the mortality and extending the life of otherwise doomed children,

Noncyanotic heart disease such as ventricular or atrial *septal defects* and *stenosis* of the pulmonary valves describe defects in other parts of the heart. These conditions create an extra burden for the heart and if severe, may result in heart failure. *Patent ductus arteriosis* is another condition in which a normal shunting mechanism present in fetal life fails to close after birth.

Surgical operations are being refined to deal with these problems and correct them early, to permit normal growth and activity in the young child.

Visual Defects

A number of eye problems are seen in the newborn. The most serious is **congenital blindness**, usually caused by *cataracts.* This is most frequently an aftermath of **German measles** in early (the first trimester) pregnancy. Avoiding exposure to this condition during the first three months of pregnancy or the inoculation of women who have not had *Rubella* prior to the childbearing years is preventive.

Less common today is blindness stemming from the use of high doses of oxygen for the newborn. **Retrolental fibroplasia** is a problem that was associated with the high concentration of oxygen used in treating an infant suffering from *hyaline membrane disease.* Modern pediatric care in a neonatal intensive care unit has greatly reduced the incidence of this serious, but usually preventable condition.

More commonly seen are a number of eye muscle imbalances present from birth. Some of the eye muscle shortening, called **strabismus** or "squint" may correct itself during the childhood years, as the eyes are alternately patched or treated with special glasses. The imbalance, which results in double vision, would eventually destroy the sight in one eye. It should be treated as early as possible with corrective surgery. This can be done successfully by most ophthalmologists and will preserve good binocular vision.

Hearing Impairment

Congenital deafness is very difficult to recognize in the newborn. A variety of causes are known, including heredity, drugs, and maternal infections. Deafness is a serious handicap that requires early recognition. Usually a mother notices that her child does not startle with the loud noises that arouse others. Vocal sounds fail to elicit appropriate smiles, and the child does not turn to face the sound of singing or other normal stimuli. Special hearing tests must be given to determine the type of deafness. Treatment may require hearing aids and special education. Early instruction in sign language, lip reading, and enrollment in special schools for the handicapped enable these children to compensate well for their lack of the marvelous gift of hearing.

Mental Retardation

Some of the most unfortunate types of congenital afflictions are those which affect the intellect. Untreated **hypothyroidism** (called *cretinism)* will inevitably result in retarded mental development, unless recognized early and treated with replacement doses of thyroid. A simple test using blood from the umbilical cord can detect this condition, which may be difficult to recognize clinically.

High levels of jaundice in the newborn period may produce a condition known as *kernicterus.* This may provoke seizures and retardation. However, if recognized early the appropriate use of light therapy or exchange transfusion may avert any brain damage and minimize the risk. **Anoxia** at birth may also trigger changes in the brain that result in retarded mental productivity. Safe obstetrical practices and the prompt treatment of newborn asphyxia can minimize these hazards.

Chromosome defects may cause retardation. The most common is called **Down's syndrome** or *Mongolism,* In such cases, a chromosome (number

21), is produced in a set of three instead of one pair. This is termed *Trisomy 21,* Other varieties occur where the chromosomes are broken or *translocated.* Changes in the palmar creases, a characteristic facial appearance with squinting eyes, an unusually round face, and a peculiar smile are all associated with mental retardation. Less commonly, cardiac or other internal organ defects are seen. Special education and an unusual degree of parental care are needed to train these handicapped children. Fortunately, most of them have very pleasant dispositions and can bring joy in unusual ways to parents who are willing to change their aspirations and accept the handicap of their offspring.

Cerebral Palsy

Also called *spastic diplegia,* **cerebral** palsy is a condition that usually results from oxygen deficiency during birth. The affected individual often has associated seizures and moderate to mild retardation. There may be a profound impairment in coordination, with inability to walk without "scissoring" in the lower extremities. Lack of hand coordination also may be evident, In the most severe cases normal development is completely impossible. "Patterning," the alternate repetitive movement of extremities in "crossed extensor" pattern (straightening out of one arm and the opposite leg) has been tried by devoted friends and family members to enable an affected individual to learn what otherwise would have come naturally. Some cases of cardiac arrest during childhood have resulted in cerebral palsy. With adjustment for the milder handicaps, many children can be educated to enjoy life with some useful skill.

Convulsive Disorders

Seizures can likewise stem from the lack of oxygen during birth. Infections in the newborn period or congenital *toxoplasmosis* can also produce convulsions. Usually in the newborn period, the seizures are of the *grand mal* type. The epileptic attack consists of characteristic violent jerking *(tonic* and *clonic)* convulsions, loss of sphincter control, and an aftermath of somnolence. During the seizure there is a tendency to bite the tongue or quit breathing for a brief period Fever may aggravate the tendency toward seizures. These should be distinguished from a true convulsive disorder. The *electroencephalogram* (EEG) can be very helpful in diagnosing the type of seizure and instituting a proper treatment. The next chapter will describe some of these problems, with a few suggestions for home management.

Fetal Alcohol Syndrome

Suspicion that **alcohol** could damage the unborn child has been in medical literature for many decades. Recently, however, convincing evidence has finally linked a mother' s drinking of alcoholic beverages during pregnancy with a special set of problems visible in the newborn. A characteristic facial appearance with unusual-appearing eyes and nose is associated with the retardation of mental development and altered growth patterns. This has now been called the **fetal alcohol syndrome**. Some mothers have even been prosecuted for giving such a sad "birthright" to their babies.

The severity of this syndrome seems to be proportional to the consumption of alcohol by the mother. Reminiscent of the warning to Manoah's wife prior to the birth of Samson (read it in *Judges 13:13, 14),* this caution against alcohol drinking should strongly motivate modern mothers to take a nondrinking stand. When a baby has been born with the characteristic syndrome,

it is destined to be handicapped, often for **life**. Although the mechanism of alcohol' s toxic action on a developing fetus is not completely clear, the effects are nonetheless sure. Thus in considering the offspring from all angles—looks, intelligence (I.Q.), and general health, nondrinkers clearly have the advantage.

When Danger Threatens

With so many possible congenital deformities, many parents approach pregnancy with much worry and fear. Particularly when a mother has been exposed to **German** measles *(rubella)* in the early part of pregnancy or has a background of previous deformities, the thought of possibly terminating her pregnancy looms in her mind. Many of the abortions being done today are performed solely for convenience, relieving the unwed, the busy, and the unprepared from the stress of childbearing. A modern trend in genetic counseling, associated with the testing now available of chromosomes prior to birth *(amniocentesis),* advocates abortion in an attempt to prevent these possible deformities. Against the backdrop of the time-honored standards of medical ethics and the moral law given on Sinai, I wish to discuss some of the issues.

The currently accepted definition of abortion is a termination of pregnancy. Sometimes this occurs suddenly and spontaneously and may either be *complete* or *incomplete.* Most of the latter cases are treated with an emergency surgery called a *dilatation and curettage* **(**D & C) to prevent the risk of hemorrhage in a pregnancy that is already inevitably lost. **Therapeutic abortions**, however, are being performed in both the first and second trimesters of pregnancy only for the purpose of terminating the life of the unborn child. The major ethical consideration, in actuality, is just when does life begin? There is no reason to conclude other than this: **LIFE BEGINS WITH CONCEPTION.** Therefore, I believe that abortion at any stage involves the taking of life. The question then is, how can you sustain a life that will be obviously deformed?

It is well known that nearly two-thirds of pregnancies occurring in women who were infected with *Rubella* during their pregnancy will turn out **normal.** The other smaller group may have deformities ranging from cardiac defects to deafness. Most of these can be helped with remedial educational efforts or surgery. Certainly the handicapped person is difficult to raise. However, does the mere chance of having a deaf or blind child justify the sacrifice of his life before birth?

Because of documented experiences from other countries (Germany before World War II, China today) we need not await another generation to learn the long-term effects of this most unfortunate assault on the finer sensitivities and moral fiber of our people. Modern abortion practice notwithstanding, a truly dedicated physician or midwife must be true to his or her medical pledge and ethical traditions, kindly but firmly refusing abortion, while counseling toward alternatives,

An exceedingly rare case *may* exist where some mother's **life** could be so jeopardized by the continuation of pregnancy that therapeutic abortion might be considered necessary. Nevertheless, under such unlikely circumstances the multitude of counselors—including clergymen, physicians, and especially the Great Physician—should be able to provide wisdom. Most likely this instance would be so infrequent that many physicians could practice a lifetime without

encountering it. Lives are so precious. Even the possibility of handicaps should not cause a mother, father, or medical advisor to compromise, thereby adding guilt to grief, regret to reality.

Coping With The Handicapped Child

The birth of a baby with congenital deformities adds a new challenge for devoted parents. The possibility of intellectual handicap is probably the most difficult to accept. Medical problems that can be managed or cured with appropriate surgery are not so hard to cope with. The possibility of having a disturbed child showing unusual behavior or a learning handicap tests the faith of a new mother or father to the utmost. Fortunately, there are many agencies prepared to assist with this adjustment.

Many physicians are versed in the medical needs of these children, and can give direction to agencies that provide learning skills, orthopedic evaluations, and special classes for the handicapped, deaf, or blind child. Although public health services, voluntary health agencies, and other governmental programs are usually available to give aid, the influence and assistance that a **church** may render should never be overlooked. Parents will need guidance and support, but should determine to accept the child as an *individual,* despite his or her limitations. This will not only set an excellent example for others in the community, but can also serve to bring out lasting desirable qualities in the siblings, if they are assured of their share of the parent's time and attention and interest.

Although institutional care is sponsored by most states to provide for the seriously involved child, home care wherever possible is without question the most beneficial. Especially during infancy and early childhood, a devoted mother or father can enable the handicapped child to develop maximally at every stage. Even severely disabled children can profit from tender loving care at home. *Mongoloid* (Down' s syndrome) children, in particular, have a much greater potential if given good care in the average home than when placed in an institution from birth. With guidance, most families **can** handle their children's needs. The rewards to such parents are lasting, with character imprints that make it well worth every sacrifice.

Risk of Down's Syndrome Based on Age

Maternal age Risk of Down's in Liveborn
At birth second trimester
25 1:1887 1:1250
32 1:563 1:794
35 1:274 1:386
39 1:100 1:141
45 1:20 1:39
49 NA 1:11

(from Creasy, RK, Resnik R: Maternal-Fetal Medicine: Principles and Practice, 2nd ed., Philadelphia, PA: W.B. Saunders, 1989.)

CHAPTER FIFTEEN
CHILDHOOD AND DEVELOPMENT

A home with small children is an exciting place to live. The activities of growing youngsters bring a never-ending series of delights. Yet life for these offspring is fraught with many perils. Although many of the infectious diseases that took the lives of babies and young children a generation ago have come under control with better public health and hygienic measures, certain infectious diseases and risks of accidents, are always threatening. The newborn period is especially a time when vigilance is needed.

EXAMINING THE BABY

From the time a new baby takes his first breath through the first few weeks of life, great care is needed to provide a protected environment of health. Assuming that anatomic development has taken place normally, that first vital breath is encouraged as mucus gets cleared from the nose, mouth, and throat, The rubber *suction bulb* is an indispensable device in the delivery suite, as well as the newborn nursery. Every parent should also have one of these suction devices in the home. It can be used to clear mucus, and is of considerable help during colds to maintain an unobstructed airway.

The newborn baby should usually **sleep** on his or her abdomen or be propped on one side, since for several weeks your baby is unable to turn him or herself. Aspiration of regurgitated milk or other stomach contents can occur when he or she is on his or her back. **Temperature** stability is also important. A newborn entering the world is damp, and will immediately begin to lose heat. Therefore he or she must be dried, wrapped in a warm blanket, and either held close to the mother or in a special warming device.

In modern hospitals most nurses put a stocking cap over the baby' s head to prevent rapid heat loss that otherwise occurs through a moist scalp, particularly those who have lots of hair. Avoid giving the newborn baby a bath too early, for this washes away the valuable cheese-like *vernix caseosa* that acts as a cosmetic cream to prevent drying and cracking of the baby's skin. Moreover, the greater necessity of warmth than cleanliness makes it advisable to delay the bath for several hours.

As one looks at the newborn baby, several **features** become apparent. In contrast to adults, whose head is about one-eighth the size of the body, a newborn baby is divided more equally with a larger proportionate head size. Charts are available to tell whether the circumference of the head is within normal limits. The height (about 20 inches) and the weight, which is usually 5.5 to 8 pounds (2500 to 4000 grams) also give a good estimate of the baby's maturity.

The newborn's **skin** is usually ruddy in complexion, particularly if the child has been left attached to the umbilical cord until pulsations cease. This extra blood that is "transfused" from the placenta can keep the baby' s hemoglobin higher for several months, in spite of low iron intake. After his or her initial cry the infant may either continue with the same loud sounds or sleep quietly for an hour. A low level of excitement in the birth room and the absence of trauma during delivery will influence this reaction considerably. Usually the eyes are closed, but if they are open a light can be shined in to determine the presence of pupils with their "red reflex" off the retina. The

ears are normally formed with well-developed cartilage, except in the premature, and the ear canals should be open *(patent).* The nose must be unobstructed to permit adequate breathing, as a newborn baby cannot breathe solely through its mouth. Obstruction in this area should call for urgent medical evaluation to save the child from asphyxia.

The **sucking reflex** is usually present from birth, as is the rooting reflex. To demonstrate the latter, the child turns his or her mouth and face toward the side of the cheek that is gently stroked. This sort of nuzzling prepares the way for breast feeding.

Small white dots on the nose *(milia)* and white "pearls" on the roof of the mouth *(hard palate)* are normal in a newborn. The neck turns from side to side, and the collarbone can be felt. Unusual lumps or masses in the head, neck, or large discolorations of the skin should be evaluated for associated birth defects.

The **heart** rate is still rapid in the newborn period, usually over 120 per minute. Gradually it slows to the childhood level within several days. Listening to the heart with a stethoscope, the examiner should detect normal first and second heart sounds with no unusual murmurs or rhythm irregularities. The lungs should expand equally without retractions between the ribs or any crowing, labored respiration.

The **abdomen** is usually protuberant. Although sometimes the edge of the liver or spleen can be felt on careful palpation, there should be no masses or hard tumors in the abdomen. The umbilical cord has three blood vessels—two arteries and a vein. These are best seen when the cord is clamped and cut before drying has occurred.

Careful examination of the genitalia to determine sex and, in case of males the presence of descended testes, is important. Usually there is no difficulty in urination. This spontaneously occurs within minutes to hours after birth. The need for **circumcision** in male babies remains a subject of controversy among pediatricians. However some decided benefits have been recently demonstrated, especially the lowered risk of urinary infection. Many parents still prefer this minor surgical procedure for hygienic reasons or for continuity of appearance among the male offspring. If so, this should be deferred for several days to allow the newborn to equilibrate from his birth experience and establish the pattern of breast feeding. The Biblical recommendation of circumcising a baby on the *eighth* day has value from a medical standpoint, in that the clotting ability of blood is usually restored to normal by that day, with the synthesis of **Vitamin K** in the intestinal tract. Most newborns by the eighth day will have little difficulty with hemorrhage. Aseptic surgical precautions are needed if a circumcision is performed, to prevent infection,

The examination of the extremities includes more than counting the fingers and toes. Creases in the thighs should be symmetrical, and leg length should be equal. The hips should be able to rotate outward and inward equally, without a "clicking" sound or obvious asymmetry. Some inward turning of the ankles may be seen, because of the intrauterine position. But any unusual clubfoot deformity should be brought to the attention of a physician.

When the infant is dropped or jostled suddenly a *Moro's reflex* occurs. This involves a trembling of the hands with an outward grasping fashion. It is normal in newborns. The *Babinski reflex* is triggered by stroking the sole

from the heel to the toe. It also is normal up to one year of age. It is positive when the great toe extends itself and the little toes flair. Unusual lethargy, a jittery appearance, the presence of seizures, or any failure to take liquids and suck normally should call for medical attention promptly.

FEEDING THE BABY

Nourishing the newborn is a precious privilege for a devoted mother. Modern scientific research has underscored the ancient belief that mother's milk is unquestionably the best food for the baby. It's perfect balance of phosphorus, calcium, vitamins, and protein, as well as its ready availability in a prewarmed, sterile package makes it ideal for travel, as well as home. For the first few days suckling brings forth a watery secretion called *colostrum.* This fluid contains valuable antibodies that will protect the infant for months against common infections and household germs. By the second or third day after delivery, the mother begins to notice engorgement in her breasts.

As her milk "comes in" a regular feeding pattern is started. Hospital routines of every four hours are not at all ideal for nourishing the newborn. Usually a system can be established with slightly more frequent feedings during the day and more sleep at night, awakening only once or twice to breast feed. The opposite policy of "demand" feedings should be discouraged, and the infant established on a regular pattern, according to his needs, as soon as possible. The nursing mother should be free from unusual physical strain, worry, or excessive work. Her fluid intake should be adequate to maintain a good milk supply, but she need not drink large amounts of milk in order to do this. Just as during pregnancy, a nursing mother should avoid taking drugs, many of which pass directly through to the milk and adversely affect the little one.

Many advantages can be listed for breast feeding the newborn. One of the most powerful reasons is the **bonding** that this develops between the mother and her new child. From the time of delivery on through the weaning process the physical contact between a mother and her nursing infant is an intimate one. The prophet Isaiah asked, "Can a woman forget her sucking child?" The obvious answer arises every few hours as engorgement of the breasts, as well as a hungry cry reminds the mother that feeding time is here.

The child will have less colic, and be more quiet and peaceful. With the natural limitation on work that nursing requires, breast feeding wins twice, for mother and child. A most ideal food is received through mother's milk, All attempts to develop formulas are merely fragmentary duplicates of the special product nature has designed in the mother' s breast. Many dollars as well as hours are saved. The natural, prepackaged, prewarmed, sterilized, and readily available nutrients travel wherever mother goes.

There is another advantage, the physiologic spacing of pregnancy. Moreover, some degree of birth control is provided by breast feeding. During the first four months up to a year the full-time nursing mother may have no return of periods. Although exceptions exist, this physiologic "contraception" works well for many parents. Long-term benefits for the mother are also seen. There is a lowered risk of breast cancer. A breast fed baby has fewer gastrointestinal infections. Food allergies are more common with the early introduction of solid foods. Breast feeding affords impressive safeguard against allergic manifestations. The nutrients are so complete that solid foods are unnecessary.

When a baby' s first teeth begin to erupt, at five to six months of age, it is time to contemplate introducing solid foods. Early feeding of table food should be discouraged for several reasons mentioned above. Ripe, mashed banana is an excellent food to commence with. Many others can be substituted, such as applesauce, peaches, and similar fruits low in sugar. Under normal circumstances, one new food should be introduced each week. Most children, when allowed to develop new tastes, one food at a time, will eventually have a wide variety of pleasurable eating experiences. This prevents the finicky food preferences of the traditionally "spoiled" youngster. Cereal based foods should be introduced next, preferably those of whole grain composition. They can be "whizzed" in a blender or cooked for a very soft consistency, then ground through a food mill. Oatmeal, whole wheat, brown rice, and barley all form excellent cereals, always introduced one at a time. Use salt very sparingly, always less than mother's taste requires. The rest of the family should join in those well-planned breakfasts. Then the introduction of cereal foods can be a source of delight to parents and baby. Moreover, a little cereal will often quiet the fussy baby so he or she sleeps for several hours.

Gradually, after a variety of fruits and cereals have been introduced, the vegetables can be initiated. Soft foods like green beans, squash, creamed corn, and mashed peas are given. At first they should be pureed or strained. Later, as more teeth erupt and the child's chewing ability is established, firmer, chewy foods can be served.

Zwieback (twice-baked bread) and crackers constitute excellent foods for the child who has learned to grasp and chew. They are aids in teething, but should not be given as snacks. In fact, the more regular the child's feeding patterns are the better his or her disposition and health will be. Three meals a day of solid foods are quite adequate for infants, while older children and adults often fare even better with two substantial meals, breakfast and dinner.

DEVELOPMENTAL PATTERNS

It is fascinating for new parents to watch their child grow. The first smile of recognition is always reflected in the face of mother and dad. The infant's ability to grasp and mimic movements brings equal delight. Within the first few weeks after birth, most children learn to follow the mother's motion with their eyes. Particularly, if early bonding has taken place in a rooming-in experience, the child will feel more comfortable with the mother, and usually prefers being in the same room. Although the **grasp reflex** is present at birth, a child by two to three months of age will be strong enough to hold his head up and reach for objects that he or she can grasp and hold in his or her hand. It is important to take caution that objects within reach are safe, for most of them get sampled in the mouth.

Although most children are surprised when they roll over for the first time, this natural exploration of muscle power is seen by about three months. By five to six months of age the child usually crawls. Then the first one or two teeth erupt. By nine to ten months of age most children are able to pull themselves up, supporting their weight on both legs. Thus they develop the normal curvatures in the lower spine that an erect posture produces. By one year of age, we see the little one toddling around, taking his first steps. Parents should not become concerned if this is delayed a few months or be too elated when it comes early, for there is wide variation in normal

development. During the second year of life excited parents hear their child' s first words and phrases, then whole sentences. The child also develops increased coordination for running. These deeper emotional and physical expressions bring a never ending sequence of surprises and pleasures to the proud parents.

Discipline of the young child should never be neglected. Many parents have awakened with the realization that, unknown to them, their child has taken control of the home. Unless restrained, even a young child can manipulate each family member according to his whims, by temper tantrums, prolonged crying, and other demonstrations. Wise denial of food at improper eating times and firm insistence of obedience is essential to the development of a future adult, who will benefit society, bringing honor to the family name. Parents need divine wisdom to guide their children properly. Never administer discipline in a harsh manner or when the parent is angry, exasperated, or upset. If something should be denied the child, firmness and consistency are needed. The mind soon learns to adapt to situations it is

powerless to change. Yet, parents should be reasonable, mixing law with love and administering restraint with patience, praying for deeper understanding.

VACCINATIONS

If we lived in an ideal world where perfect heredity, perfect nutrition, and excellent health habits all combined to prevent disease, we would probably never need **vaccinations**. Nonetheless, it is a very real fact that germs exist and infections abound. Many illnesses are especially serious if contracted by a baby or young child. Others remain a threat throughout our life on planet earth. Some infections are more hazardous in tropical countries, while others inhabit specific areas, such as Asia or Africa. Here are a few guidelines to help parents select the program best suitable for their child.

In brief, vaccinations are inoculations of substances (antigenic proteins) which have been derived from an offending germ. There are two basic types of vaccines, one prepared from bacteria and the other from viruses. The viral vaccines are developed for human use by their repeated laboratory culture in cells of a fertilized egg. This *attenuation* of the virus makes it unable to produce disease, while retaining its surface proteins or antigens, which are necessary to stimulate antibody formation. This explains the basis for immunization to such diseases as polio and the common childhood illnesses, measles and mumps.

Smallpox germs, on the other hand, although a viral disease, were not used as the virus for vaccination. Instead the cowpox virus (vaccinia) was used as the agent. This produces only a mild illness in most people. Thankfully, the smallpox infection has been eradicated. For many years no infections have occurred, and the vaccination program has been discontinued worldwide.

The bacterial vaccines are prepared from the cell wall of killed bacteria. Many methods are used to prepare them. A commonly accepted vaccination program for babies and young children is as follows:

Oral **polio** vaccine (4 months, *5* months, 6 month, 18 months, 6 years).

Trivalent vaccine for **diphtheria**, **tetanus**, **and whooping cough** (DPT) (4 months, 5 months, 6 months, 18 months 6

years). Recent concern about the Pertussis (whooping cough) component has led to developing **DT** vaccine—diphtheria and tetanus. In that case, the same schedule is followed. However, we are seeing more cases of Pertussis. Public health concerns of possible future epidemics are understandable. It is better to be safe than sorry.

Viral vaccines—**measles** *(Rubeola), German* **measles** *(Rubella),* and **mumps** *(infectious parotitis)* are given at 12 to 16 months of age in one injection.

It is my belief that complete vaccinations against diverse infectious diseases is NOT complusory or needed.For more references please consult my book "Vacinations:The Whole truth". Whooping cough is much less common in this country now, but it is still dangerous in areas where hygiene and sanitation are less assured. Measles, mumps, and German measles are usually mild infections, although some children have developed encephalitis as a complication. It is especially important that a young woman who has not contracted German measles during childhood be vaccinated as a protection against the development of birth defects in her baby, should she later become pregnant.

Vaccination against **tuberculosis**, called the **BCG** *(Bacillus Calmette Guerin)* vaccine, has been used in many countries to protect against tuberculosis. TB experts in the United States believe that the risk of BCG does not justify its use, especially since the skin test converts to positive and becomes invalid for diagnosis or screening after the vaccination has been given. Other vaccinations for travelers to specific tropical countries are recommended just before departure, such as shots for typhoid, paratyphoid, yellow fever, or the temporary passive protection against infectious hepatitis afforded by gamma globulin.

COMMON CHILDHOOD ILLNESSES

Colds

Upper respiratory infections in the baby and young child are very common. Although few of these are caused by bacteria, such as the *Streptococcus* or *diphtheria* organisms, most sore throats are viral infections, More than one hundred different viruses can cause the same syndrome, so there is little likelihood that vaccinations will be developed as preventives. The principal measures that parents can use to prevent troublesome runny noses, sore throats, and similar congestion in their youngsters are the following:

1. A diet low in refined sugar allows the body to defend itself better against invading germs. The white blood cells are better able to ingest bacteria (called *phagocytosis)* on a low sugar diet and recovery time will be hastened.

2. A second factor is adequate clothing. In damp or rainy weather, the extremities should be clothes and the feet kept dry. The use of overshoes, raincoats, and umbrellas, although not fashionable with the younger set can definitely help to protect their health and prevent lost days from school for minor illness.
3. Adequate fluid intake, plenty of rest at night, and some

outdoor exercise on a daily basis will help to keep young bodies healthy and prevent colds.
4. Baths should be terminated with a brief rub down. To improve circulation in the skin use the **cold mitten friction** (Chapter 17) for a minute or so in a cold shower, especially as the child gets older.
5. A happy disposition also goes a long way toward improving the body' s resistance to viral respiratory disease.

If one does take cold, the above measures will still prove healthful. A spare diet for a day with increased bed rest and an abundant supply of fluids aids the body toward a quick recovery. The use of a **vaporizer** by the bedside, usually of the hot steam variety, will increase the flow of mucus and relieve congestion. When bronchitis sets in and a hoarse, raspy cough develops, the vaporizer may make the difference between sleep and a fitful night of coughing with chest pain. Simple **COUGH SYRUPS** can be made at home with **honey**. To one cup of honey add 6 to 8 drops of **eucalyptus oil,** available at most pharmacies. Mix in a tablespoon or two of **lemon juice** for palatability. When this mixture is thoroughly stirred, the *honey-eucalyptus* cough syrup may be taken one teaspoonful at a time every four hours to relieve the discomfort.

A simple remedy for sore throat is the **heating compress** described in Chapter 17. Bacterial **cultures** of the throat should be taken if the fever is high or the soreness unduly prolonged. This is to be sure a *Strep.* Infection or I*nfectious Mononucleosis* has not developed. Most viral illnesses are selflimited and quickly cured by alert parents trained in the basics of home nursing.

Earaches

Many emergency room visits are caused by pain in the ear. Sometimes the only sign is a baby's persistent crying, associated with a fever, or the pulling of the ear, indicating that as a source of pain. **Earaches** are usually triggered by the buildup of pressure behind the eardrum. When the *Eustachian tube,* that connects the nose to the middle ear, becomes blocked with mucus, pressure builds up, producing pain, occasionally quite severe. Use a hot water bottle over the ear and the inhalation of steam to open the nasal passages. This can bring relief in the early stages. Several warmed drops of olive oil may be instilled into the ear canal carefully, and retained in place with a small tuft of cotton. Replace the ear drops every few hours. This also assists in relieving this uncomfortable symptom. Most earaches subside within hours to days. It is rare that a complicating bacterial infection or rupture of the drum makes surgical treatment necessary. Persistent high fever or increasing pains after several hours of intensive treatment should prompt a visit to the doctor.

Nosebleeds

At certain seasons of the year, children seem to be particularly prone to nosebleeds. This may occur after picking the nose or introducing a foreign body into one nostril. More commonly it is associated with allergies, in which the prolonged sneezing and irritated mucous membranes provoke one of the small veins to break. Pressure on the nostril, with the use of an ice pack will control most nosebleeds. If there is a bleeding disease, such as hemophilia, leukemia, or the blood pressure is abnormally high, sudden nosebleeds may be difficult to control.

If rest, pressure, and ice do not suffice to control the bleeding, the patient should be seen by a physician. An examination with improved lighting and suction available may be necessary to determine the source of the bleeding and allow the offending vessel to be cauterized. Local anesthetics and antibacterial precautions are valuable. It may even be necessary to pack the nose to control the more severe hemorrhages.

Swimmer's Ear

Infection of the outer ear canal typically results from participation in water sports. Although it may occur under other conditions, the main predisposing factor *to otitis externa* is residual moisture in the ear canal. In such case, pain is localized to the outer ear, and aggravated by pulling on the external portion. A watery or mucus-like drainage is seen in the canal, while the drum is seldom inflamed. Fortunately, hearing is unimpaired. The exudate material should be cleaned out thoroughly to allow the ear canal to dry. The use of **Burroughs' solution** *(sodium aluminum acetate,* available at any pharmacy) and specially made ear drops helps to kill or control any bacteria or fungi that are present.

Alternating hot and cold compresses are most helpful in reducing the swelling and pain associated with this condition. If it is necessary to visit a physician, he will usually take a culture and insert a cotton yarn "wick" with special medication to aid in the relief of pain. This procedure helps accelerate the healing process. To prevent swimmer's ear, after bathing in a public pool or lake, instill a few drops of *hydrogen peroxide* in each ear canal. If this is unavailable, a small quantity of warmed rubbing alcohol may be used. This aids in drying the ears that otherwise tend to retain moisture and thus prevent frequently recurring infections.

Bronchitis

A deep cough persisting in the chest may herald the onset of bronchitis. Inflammation of the bronchial tubes, if left untreated, may develop into **pneumonia,** a more serious pulmonary infection. Early treatment of bronchitis is important, with bed rest and the frequent application of fomentations to the chest. Chapter 17 describes the routine I have used successfully to alleviate the chest pain of bronchial irritation and quell the cough as quickly as possible. The *honey—eucalyptus cough* syrup, mentioned earlier in this chapter, may be helpful in reducing bronchial irritation. Try to avoid drying agents, such as antihistamines or decongestants. These drugs will make it difficult for the mucus to rise and be expectorated. A warm steam vaporizer by the bedside helps aid expectoration of the mucus. It should be kept going at all times until the cough has improved and the symptoms of fever or headache are alleviated.

Gastroenteritis

Nearly all viruses and bacterial toxins that cause intestinal upset are selflimited infections. However, in certain underdeveloped nations there are people who have a high infant mortality even yet from diarrhea infections of infancy. Two important principles must be remembered when a baby starts vomiting. First, provide an adequate fluid intake. Dehydration may develop quickly in a baby, unless fluid replacement is promptly administered. Many babies who develop diarrhea can still breast feed without difficulty. Some who are vomiting may be able to tolerate breast milk or an electrolyte mixture, while ordinary formula and solid foods are rejected. A simple **electrolyte**

mixture in the home can be made with the following formula: Three tablespoons of *sugar,* 1/2 teaspoon of *salt,* 1/2 teaspoon of *potassium bicarbonate* (obtained from your pharmacy) and 1 quart of pure *water.* This or similar commercial electrolyte mixtures *(Pedialyte)* should be given as often as thirst requires to maintain hydration, while the stomach and intestinal upset gradually subsides,

Second, **Fever** always increases the fluid requirement, as does profound sweating. When diarrhea becomes more serious, as in *cholera* or *bacillary dysentery,* the drastic fluid needs may require the addition of intravenous fluids. Prolonged vomiting with dehydration or *diabetic ketoacidosis* may represent conditions where oral fluids cannot be tolerated. In such case a short hospital stay for intravenous therapy becomes necessary.

Later, it is frequently possible to add antidiarrheal mixtures, such as Kaopectate or the use of capsules of powdered **activated charcoal,** prepared in a *"slurry"* solution. This is accomplished by mixing about 2 tablespoons of charcoal powder in a glass of water and sipping the suspension or drinking it through a straw. The charcoal, in these diarrheas, *adsorbs* most toxins and reduces the inflammation along the mucous lining of the bowel. This is an excellent remedy for *tourista,* the diarrhea of international travelers. Muscle cramps in the abdomen can be relieved by applying hot moist compresses, a heating pad, or hot water bottle. Bed rest should be continued until the symptoms subside and recovery is complete.

Specific problems related to infectious bacteria and their unique clinical features are described in Chapter 3. The convalescence from diarrhea of an infectious nature, can be hastened by a wise, gradual transition to normal foods. Use diluted cereals, such as cream of wheat, oatmeal, rice water. Vegetable broth, applesauce, milk toast, and other bland foods may also hasten the recovery and avoid irritating the intestinal tract until it is healed. Sometimes temporary *lactose intolerance* results from the gastrointestinal infection, making it advisable to avoid any cow' s milk except yogurt for a time. Fried or greasy foods and spices, carbonated or caffeine beverages, and concentrated sweets should be eliminated for the most rapid healing to occur.

Worms

Children typically put their fingers in the mouth. Close contact in schoolrooms and families, as well as sharing dishes and towels, also encourage the development of parasitic infections. In the United States the commonest type of infestation is *pinworms.* This causes itching around the anus, and may lead to considerable irritation and scratching, even during sleep. In actuality, the female pinworm customarily migrates through the intestinal tract to irritate the anal opening during sleep.

Pinworm eggs can be obtained with a piece of *Scotch tape* applied to the anus (sticky side down) early in the morning, before defecation or bathing has occurred. The tape is then placed on a glass slide, which is examined through the microscope, revealing the characteristic appearance of the pinworm eggs. Most other parasitic infestations either produce no symptoms at all in the early stages or exhibit vague ache and pains, failure to grow, anemia, or general lassitude, headache, and weight loss.

An **examination** of the stool under the microscope can detect each type of parasite eggs. Their recognition provides specific guidelines for proper therapy. Specific infestations and their treatment are described in Chapter 3.

There are obvious preventive measures such as hygienic food preparation, hand washing, the wearing of shoes, and purification of drinking water. Many parasites respond to purgatives that completely cleanse the intestinal tract, associated with deworming medication. Garlic in high doses, such as six capsules or three cloves a day, may work well. However, resistant cases should be evaluated by a physician and appropriately treated to prevent family spread and chronic illness.

Urinary Infections

Usually it is little girls who develop infections of the urinary tract. The closeness of the urethra to the anus is the principal reason for this. Mothers should early teach their little daughters how to cleanse themselves after going to the toilet. Wiping the perineum should be done from front to back, in order to avoid contaminating the urethra and vagina with germs present from the stool. Careful hygiene may require special washing with soap and water after a movement. Drink an abundance of fresh soft water. It also helps to keep the kidneys cleansed. If a relaxed atmosphere surrounds the **toilet training** process and copious water drinking is encouraged, your child will have a healthful preventive to infections which otherwise could damage the kidneys for life.

The usual symptoms of urinary tract infection are burning or irritation with urination. These may be associated with vaginal discharge, fever, or back pain over the kidneys. You can find in most pharmacies a urine testing dipstick to analyze the specimen for infection. Urine examinations with the microscope can demonstrate the presence of bacteria and pus. The urine culture provides further guide to appropriate treatment. Make the urine acidic with *cranberry juice* or supplemental *Vitamin C* (500 mg. four times a day). This will help to eliminate bladder germs by inhibiting their multiplication in the bladder. The *hippuric acid* in **cranberries** also helps to decrease bacterial adhesiveness to the bladder wall. Hot and cold sitz baths, hot half baths or moist heating packs (as described in Chapter 17) over the kidney areas help to increase urine flow and white blood cell defenses in the area.

Constipation

Occasionally, the pediatrician will see a child who simply refuses to move his or her bowels. Usually this is a psychological problem. **Obstipation**, as it is called, could accompany a difficult toilet training process, in which punitive measures or ridicule were used to reinforce the parent's desires. A carefully performed rectal exam with the little finger will help to rule out the presence of a congenital obstruction. Further examination with *a sigmoidoscope* or a *barium enema* x-ray may be needed to exclude a congenital deformity or acute disease. Proper **toilet training** may then begin in a relaxed way. Rarely, stool softeners are necessary to increase the ease of elimination. Psyllium seed, flax seed, and bran, all provide a natural lubrication and softening. Most of these items are available at a pharmacy or supermarket.

Regularity of bowel function is very important. After a meal, such as breakfast or dinner, the urge is often present and should be responded to promptly. The toilet training atmosphere must be relaxed and private, with punitive measures studiously avoided. Difficult cases may require medical counsel. The earlier this problem can be solved the healthier teen and later years will be, for the bowel habits of childhood tend to perpetuate themselves into adult life.

Miscellaneous Conditions

The reader is referred to Chapter 9 for discussion of common skin rashes present in babies and children. The **Appendix** contains several formulas for treating common skin conditions. It should be helpful to every parent dealing with these problems. Allergic diseases of children are discussed in Chapter 10. Sections there include the common childhood problems of asthma, food allergies, and various types of eczema.

Headache is a symptom common to school-age children. Although not a disease itself, this symptom warrants investigation and, when possible, removing all known causes. Most headache in childhood are related to tension, often reflecting pressures at school, interpersonal conflicts at home, or deep inner security and its need for expression. A warm sympathetic attitude on the part of parents is important to win the confidence of children. When security is lacking in the home, youth usually turn to their peer groups, whose advice is often unreliable.

De-emphasize the "miracle drug" approach to pain relief before your children. Parents themselves can set the example, analyzing rationally and treating physiologically their own health annoyances as they occur. Extra water intake, hot tub baths, and "early to bed and early to rise" are habits that can quickly remove the headache. The pain is then soon forgotten. The *hot foot bath* is helpful. More importantly, a firm trust in God through a personal experience in prayer can prepare the child for the "vicissitudes of life," developing in him or her a headache-resistant personality.

Since vision is critical for normal learning in the child, any pain in the eyes demands immediate attention. **Eyestrain** is a common cause for headache. It has been increasingly associated with the early exposure of a child to reading when his constitution is not yet ready for the challenge. Many children who wear glasses can trace their nearsightedness back to the early reading classes that should have been postponed until age 8 or 10. Contemporary urgency to send *Johnny* off to school at age 4 or *5* for a "head start" program, followed by kindergarten, then the competition of the first grades only invite problems of emotional adjustment, premature eyestrain, and physical symptoms. Most can be avoided by delayed entrance into school.

Infections of the eye are not uncommon in childhood. Some newborns have a discharge from their eyes. It is traced to injury or rubbing of the eyes, and the introduction of antibiotics or silver nitrate drops required by the public health departments to prevent newborn *gonorrhea.* This material can be removed from the eyes with a warm soft washcloth. If excessive, hot saline compresses several times a day will clear the condition quickly. Make them using one half teaspoon of table salt in an eight ounce glass of hot water. Zinc sulfate (0.2%) drops, although innocuous to the baby' s eyes, will help to clear *this conjunctivitis* when it is resistant to the above measures.

Pink eye in childhood is quite contagious. It is usually caused by a *Hemophilus* organism (See Chapter 3). The childhood conjunctivitis can be spread from one eye to the other, and to other children by rubbing the irritated part with the hands. careful hand washing, combined with frequent hot saline compresses, or the use of a *charcoal poultice* placed over the eyes (See Chapter 17) will clear the infection in its early stages without requiring antibiotics. Avoid undue irritation in order for these simple remedies to do their best job.

Finally, let us consider the **foot problems** of children. Many infants are born with a tendency for the toes to point in or out. Sometimes this appears as an inward curving of the foot itself (called *metatarsus valgus).* This usually requires corrective shoes. Some infant' s feet can straighten with normal growth, while the parents reverse the left and right shoes on the feet, doing this each day for several months.

The *night splint,* which maintains the child' s feet in shoes at a prescribed angle, can be used to correct unusual **outward** pointing of the feet. This must be worn for several months in order to be effective. Pigeon-toed children are usually treated with a *Thomas heel,* which provides a slight inner wedge to direct the foot outward, placed on the shoe when walking begins. From one to two years of age, this special orthopedic heel can help to straighten the gait and enable running to develop smoothly later on, "Bow legs" and "knock knees" in children are usually self-correcting and only rarely require orthopedic evaluation.

The most serious foot deformity is the **clubfoot** (called *talipes equinovarus).* It usually requires a series of corrective casts or surgical procedures to straighten the feet and enable gait training to proceed normally. An orthopedist should be consulted.

THE CHILD IN THE HOSPITAL

A baby in the hospital feels keenly the mother' s absence. The unfamiliar surroundings, combined with procedures that may be painful, create constant fear and apprehension. The taking of blood samples, preparation for surgery, dressing changes, or confinement in cribs or mist tents all elicit emotional responses hard to define. It is not unusual for a child, hospitalized the first time, to regress in his or her toilet habits, eating preferences, and dependencies. If possible, it is best for a parent, usually the mother, to stay with her child during the period of hospitalization. When a rooming-in arrangement can be secured, the hospital stay can be made as pleasant as possible with stories, puzzles, games, and most important, the presence of someone who loves him or her most.

Surgery presents another challenge to the child. Lacking complete understanding of the exact reasons for and techniques of the contemplated procedure, a child often develops fantasies and fears that are difficult to understand. Drawings or dolls can be used to illustrate the anticipated surgery, providing support and understanding to lessen the child' s fear. Spiritual resources available to parents and children at times like this help also to allay any fear of disfigurement, pain, or death that often accompanies entrance into the hospital. A frank discussion by the physician or surgeon, as well as the nursing team, is of great significance to inspire trust and confidence.

Postoperative convalescence can be hastened with the presence of parents and familiar objects from home. Stuffed animals, favorite toys, or pictures can be brought to make the hospital room seem as much as possible like the child's household domain. Unless contraindicated by the nature of the illness, some catering in regard to favorite foods will assist the rapid return of appetite. Do everything possible to facilitate the cheerful adjustment to the strangeness of hospital routine. As much as possible rest at night should be undisturbed. Too many visitors and flowers should be discouraged. As soon as feasible, resume normal activities with return to school. It will likely bring

the transient emotional changes to an end, as health is restored.
Any child with a terminal illness presents the greatest challenge. Youngsters with leukemia, malignant cancers, or advanced cardiac disease often "understand" better than the parents do. Many become willing to discuss the approach of a fatal outcome. At such times, it is exceptionally important to discuss the future in a candid, yet sympathetic way. Spiritual support and a strong trust in God, with continued presence of devoted parents, will ease the approaching pain of separation, while clasping to a hope of future reunion should final "farewells" be required.

CHILDHOOD HABITS

It is well said that **"thoughts lead to actions; actions repeated form habits; and habits determine character."** Many actions are repeated during childhood, some good, others detrimental, Some of the more common habits creating concern in parents will be discussed here.

Thumb sucking is one of the commonest habits of early infancy. It is thought to be normal by some psychologists. This habit often indicates a need for oral gratification and contact with something human. The early months of life does no harm, if the hands are clean. Thumb sucking prolonged into later childhood and school years is a source of embarrassment, as the peer group makes fun of any child so habituated. Dental development is additionally affected, with the tendency toward protrusion of the incisors *(buck teeth).* Security gained in other ways, with a gentle education away from the habit is generally able to "wean" the reasonable child.

Bed wetting or *enuresis* is another distressing problem, particularly to school-age children. When this habit is prolonged after age three it deserves gentle but corrective measures. Usually there is no anatomic problem in the urinary tract. Stress factors and psychic tensions appear to be the commonest underlying cause, Inner security combined with an avoidance of undue attention will bring help to most of those affected. The use of antidepressant drugs or stimulants should be positively avoided.

Restrict fluids at bedtime, with rewards such as stars on a calendar for dry nights, may provide the motivation for mild cases. Avoid shaming the child or drawing undue attention to his or her failures by corporal punishment. Electrical devices are available for some difficult cases, but are not universally successful. Usually the problem subsides spontaneously. Some children have found that sleeping on a very hard bed or even on the floor aids in the bedwetting situation when excessively deep sleep is a factor. If persevering efforts are unsuccessful by age six to eight, a physician should be consulted to thoroughly test for anatomic disease.

Stammering or **stuttering** is very common in the school-age child. Occasionally this results from starting the child to school too early. It may be eliminated by keeping the youngster at home another year or two. The pressure and tensions of the schoolroom may be an inciting factor. Usually thought to be a nervous habit, stuttering is amenable to speech correction when the therapist is a calm, supportive, understanding person. Patience on the part of parents and gentle nonpunitive correction of the speech disorder will usually succeed in retrained speech.

Genital exploration is not uncommon among small children. The attempt to understand their anatomy should be of no concern to parents when it is seen casually in very young children. Boys and girls early in life notice the

difference between themselves. Sexual identity should be established at an early age. The wearing of different clothes for boys and girls—such as, pants vs. dresses, helps to establish this identity and aids the development of male or female personality in a healthful direction.

Persistence in the manipulation of the genital organs or habitual stimulation is defined as *masturbation.* Sometimes called *self abuse,* this habit has been linked by many health writers to long-term health problems. Just as all violations of natural law have their penalties, the unnatural habit of masturbation will affect greatly the developing personality. Promoting sexual desire, including in some the tendency toward homosexuality, the effects of this practice are pernicious. Those who continue the practice during adolescence often develop a habit pattern, which is almost impossible to break.

The most current explanation of these health hazards involves **zinc** metabolism. Of all body fluids, semen is the richest in zinc. The prostate gland secretes a fluid that is high in this trace mineral. With frequent sexual stimulation, whether masturbation or another sensual activity, there is rapid loss of body zinc stores, approximately what can be absorbed from the intestines in one day! When the dietary zinc is marginal, and true zinc deficiency results, many health problems develop, including impotence. Dr. Carl C. Pfeiffer Ph.D., M.D. went even farther to state in his book *Zinc and Other Micro -Nutrients,* "We hate to say it, but in a zinc-deficient adolescent, sexual excitement and excessive masturbation might precipitate insanity."

It is this author's clinical impression that adolescents, who have continued with frequent habitual self abuse, may set the stage for diseases later in life. The immune system is especially impaired. Infections of the liver and lungs, neuralgia, rheumatism, diseased kidneys, and even cancerous conditions can possibly be traced back to the unconquered habit of masturbation. Mental depression and complete breakdowns are not uncommonly seen in these patients.

For the child caught in the grip of this self indulgence there is still a ray of hope. Hard physical labor and closer contact with parents is a substantial aid to the child struggling to conquer the habit of self abuse. A nonstimulating diet, avoiding spices, caffeinated beverages, a high intake of sugar, and even meat and eggs will aid the child in recovery. He must shun all fantasy on lustful themes portrayed in popular magazines, television, and theater to help in developing a pure mind that is invaluable to health of the body. Cold sitz baths and the avoidance of much time in the hot showers may also help. Perineal hygiene is essential. Spiritual counseling should not be neglected.

ADOLESCENCE AND PUBERTY

The teenage years are often turbulent ones. Changes that begin in the preteen find full-blown expression in the adolescent. Girls develop earlier than boys. They begin at age 11 or 12 with *budding* of the breasts. The development of hair growth in the pubic and axillary region is next. This is followed by other secondary sex characteristics. The growth in height, as well as a developing feminine body is precursory to the actual time of **menarche.** This date marks the beginning of menstruation. It has been arriving earlier in girls in Western cultures. In comparison with many Orientals, who begin menstruating at age 15 or 16, the average American girl menstruates at 12 years. I believe this to be related to the increased protein (especially meat,

containing steroid hormones) in the Western diet, as well as the general acceleration of maturity that popular education and entertainment seems to foster.

Associated with these changes, a growing preoccupation with “the boys” often transpires. Wise parents will seek as long as possible to preserve the simple loyalties of childhood in their young teenagers and foster family activities, parental togetherness, and close supervision of sports and recreation. Interest in studies and home duties are a great safeguard against the moral depravity and unhealthful practices creeping into high schools, colleges, and universities—even Christian ones.

Young men mature a year or two later than their feminine counterparts. The growth spurt usually begins around 13 to 15 years of age, but occasionally comes even later. Sometimes a young boy will grow 2 to 4 inches in one year! The voice changes with a humorous (to others) break of pitch *(called falsetto)* right during mid sentence. It becomes quite embarrassing to the awkward earliteen.

Muscular development, strength and athletic ability, as well as other secondary sexual characteristics (whiskers and beard) are a frequent source of pride, tempting many youth to “show off.” Tendencies to hazardous driving practices, risky athletics, daredevil stunts, and excessive play should be discouraged by serious parents, who really want their bright star to shine some day. A part-time job, household chores, and encouragement in study and spiritual growth can be fostered in a close-knit family setting.

If it becomes necessary for young boys or girls to leave home and live in a school dormitory, their roommates and close associates should be chosen with care. With drug abuse and sexual permissiveness becoming increasingly common, any serious devoted parents should spare no pains to bring their young people up in the *“nurture and admonition of the Lord.”* The rewards to youth, as well as to society are compelling indeed.

BIRTH DEFECTS

SYMPTOMS—A variety of partially, or wholly, incapacitating physical or mental defects which are present at birth.

CAUSES—More than 90% of birth defects are the result of preconception and early pregnancy malnutrition of the mother. Such defects include cleft palates, cleft lips, heart defects, limb defects, spina bifida, cystic fibrosis, muscular dystrophy, heart defects, brain defect, fetal hernia.

All of the above diseases have been eliminated from valuable livestock by the veterinary profession. They have done this by giving the animals excellent nutrition.

It is well-known that bearing a child after the age of 40 can cause problems. But teenagers have a greater percentage of children with birth defects than do women over 40, because of their general poor eating habits and lack of vitamin/mineral supplementation. Many young people today live on junk food and have damaged offspring as a result.

It is classified as the "most common genetic defect"; yet, in reality, cystic fibrosis is a selenium and fatty acid deficiency in the fetus and/or newborn breast-fed infant. If the mother has celiac disease, this can impede her absorption of essential nutrients, especially selenium, even more.

In 1958, Dr. Kaus Schwartz reported in the NIH publication, *Federal Proceedings*, that selenium was an essential nutrient. The deficiency symptoms he reported all fit cystic fibrosis. But no one paid attention.

In 1972, Cornell University found that chicks hatched from selenium deficient hens developed all the classical symptoms of cystic fibrosis of the pancreas. But they too did not connect the finding to selenium.

But they also discovered that, if selenium was given to the chicks within 30 days after hatching, they were totally cured within 21 days.

In 1978, J.D. Wallach, a veterinarian researcher, identified this problem in animals and birds as being "cystic fibrosis." But, when other researchers agreed with his findings, Wallach was fired within 24 hours from his government research laboratory.

Since that date, Wallach has treated over 450 CF patients with excellent results. He has cured three-month-old infants of the disorder. Wallach later did joint research with the Chinese Government in their hospitals, and helped thousands of their people.

Yet, in America, the people are told CF is a "genetic defect" and nothing can be done, except expensive and time-consuming rehabilitation programs.

Dr. Arthur F. Coco, inventor of the pulse test, made this statement:

"I am a realist. As long as the profit is in the treatment of symptoms rather than a search for causes, that's where the medical profession will go for its harvest."

It is true that radiation is another cause of birth defects, yet only .1% of birth defects result from X rays, etc. Most pregnant women realize that they should avoid them.

What is the solution to the problem? *It is to give women a good nourishing diet. But it must begin a couple years before conception!*

Prevention of birth defects requires more than "prenatal" vitamins after the second month of pregnancy, when the physician gives his pronouncement, "You are pregnant." By that time, the embryo has formed all organs and tissues—for better or worse! Proper supplementation of vitamins and minerals, nourishing food, and avoidance of tobacco, alcohol, caffeine, drugs, and junk food must have had its effect on the mother's body—before conception took place!

Do a home pregnancy test as soon as you suspicion the possibility, and immediately begin eating nourishing food and taking supplements. .

CEREBRAL PALSY

SYMPTOMS—A form of paralysis caused by a prenatal brain defect, characterized by involuntary motions and difficulty in control of the voluntary muscles.

CAUSES—The cause of this disorder, which affects the fine motor coordination of the body, is a deficiency of zinc and B_6 in the mother's diet prior to, and during, the formation of the brain of the fetus. It is possible that celiac disease was a factor in inducing this deficiency.

There is, at this time, no known treatment.

DOWN SYNDROME **(Mongolism)**

SYMPTOMS—Slow physical development, moderate to severe mental retardation, and facial features which are somewhat flattened. Ears are set low, tongue is large and furrowed, hands are broad and short—and have a single (simian) crease across the palm.

CAUSES—Also called *trisomy 21,* Down syndrome occurs during fetal development, but is not inherited. The problem is an extra 21st chromosome. It occurs in 1 out of 700 live births. People with Down syndrome can, with care, live to old age, but they are prone to pneumonia and other lung diseases.

DIAPER RASH **(Ammoniacal Dermatitis)**

SYMPTOMS—A reddish rash affecting the diaper region, with or without secondary infection by fungus or bacteria. Redness, tenderness, thickening of skin, inflammation. If secondary yeast infection appears, the skin will be bright red with well-defined borders, frequently with distinct red papules.

CAUSES—About 50% go away within a day. The rest can last 10 days or longer.

Breast-fed babies have less diaper rash, and this resistance continues long after the baby has been weaned.

When diaper rash is more prominent later, a food allergy may be the cause.

TREATMENT—

• Give air to that region. Take the diaper off and lay him chest down, with his face turned to one side, on towels underlaid with a waterproof sheet. Keeping an eye on him, leave him that way for as long as practicable. But if you do not watch him, you will regret the results.

• Keep the child bare and exposed to air and sunlight as much as the climate will permit.

• Change the diaper frequently; wash the area with cool water and gently dab dry, using a soft cotton diaper.

• (Use corn starch as a drying agent; never use talcum powder! It is a powdered rock dust, and can cause cancer in anyone (infant or adult) that uses it.)

• Expose the infant to small daily doses of sunlight or ultraviolet light. Be careful not to burn him. No ocean bathing until the rash is gone. But fresh pool water or rainwater is okay.

• The new super-absorbent diapers greatly help solve the problem. They reduce skin wetness.

• Try blow-drying the baby before rediapering him.

• Adding vinegar to the final rinse when washing diapers will help reduce the pH of the cloth. Add 1 ounce of vinegar to 1 gallon of water during the final rinse.

• Giving 2-3 ounces of cranberry juice to older infants will make urine pH slightly more acid. This helps reduce irritation.

CRADLE CAP (Infantile Seborrheic Dermatitis)

SYMPTOMS—Thin, whitish, flaky scales. Or thick, yellow, greasy crusts. Sometimes it spreads to the eyelids, external ear canal, and nose.

CAUSES—Cradle cap is the most common scalp disorder of infants. About 50% have it at some time. There is an overproduction of sebum, a waxy oil substance that may plug the sebaceous glands, leading to inflammation and acne formation. The entire scalp can become covered with a thick mat of sebum and dead skin cells.

Possible causes include food allergies. Of 187 infants which had it, in later years 67% later had an allergy (whereas 20% have allergies in the general population).

The problem most frequently develops within the first 3 months and usually 3-4 weeks after introduction of a new food. When that food was withdrawn, cradle cap cleared up. Most likely to cause problems: milk, wheat, eggs, oranges, beans, peas, and sometimes oatmeal.

A deficiency of vitamin B_6 and zinc may be involved.

TREATMENT—

• Gently remove the crusts. Shampoo 2-4 times a week with a mild soap. Massage the scalp gently, but firmly enough to remove the flakes. Do not break the inflamed skin underneath.

• Massage vegetable oil into still-adhering flake areas; let set for a few minutes, then shampoo it off.

• Repeat 1-3 times a week until the condition is gone.

• Include vitamin B_6 (10-25 mg daily) and zinc (15-25 mg daily) in the infant's diet. Check for food allergies

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COLIC IN INFANTS **(Infant Colic)**

SYMPTOMS—Stomach or intestinal pain in an infant. There is abdominal pain, distension, insomnia, extreme fretfulness, or hysteria. The child cries out, pulls the knees up to the stomach, and has a distended stomach.

CAUSES AND TREATMENT—

• Abnormal amounts of gas are passing upward or downward, and this is causing pain.

• You can immediately give the infant warm catnip tea in a bottle. A catnip tea enema will also help. Crying spells occur at regular intervals; so, if a very warm bath is given an hour before an expected attack, it may be prevented. Have catnip tea on hand to use in an emergency.

• In addition, a hot footbath or hot fomentation over the abdomen will relieve the baby.

• If the baby is totally breast-fed, the cause is in the mother's diet. Any food the mother may eat may, through her milk, causes the baby to suffer infant colic; onions, cabbage, garlic, wheat, yeast, broccoli, and Brussels sprouts are common offenders. Another major cause is fried food, junk food, refined food, and all types of confused food combinations. Both the mother and the child need a good diet.

• Colic in a formula-fed infant points to the food given to the child. It may be the milk, wheat, soy, or sugar in the formula. If possible, substitute vitamin-enriched goat's milk. Also try to have the mother begin breast-feeding the baby. Even if she did not begin doing it after delivery, she can, with some effort, get the flow started later. This is done by frequent attempts to feed the baby over several months.

• If the infant is bottle-fed, for added nourishment at this time you might pour boiling water over wheat flakes, to dissolve them; put them through a sieve; and add soybean milk, to bring it to a desired consistency. Potassium broth and oatmeal gruel are also helpful.

• If colic develops after weaning has begun, the new food is the problem. The infant must be given proper foods and only one new food should be added at a time, so the infant can be carefully monitored for colic, rashes, or other reactions.

• Wheat and dairy products are especially suspect. When in doubt, eliminate them first. Wheat and other grains are often introduced far too early. But this can cause the child to later develop celiac disease, which will affect him throughout life The infant does not have the digestive enzymes to handle grains until 5-6 months. Let grains be one of the last foods introduced, and do not give yeast bread until after a year old.

• Give fresh, boiled, goat's milk; it is far less of a problem.

• Keep diet diaries and do pulse testing, to ascertain offending foods

• It may help to give pancreatic enzymes (75-200 mg three times a day) before meals (enzymes may be constipating), flaxseed oil (1-2 drops) after each meal, and vitamin B_6 (10 mg twice a day).

DIARRHEA IN INFANTS

SYMPTOMS—The infant has diarrhea.

CAUSES—You will want to try to find possible causes. Each time it happens, take note of what happened that was special or different. Was a new food added? Was the daily scheduling different? Was there stress?

TREATMENT—

• Diarrhea in infants can be checked by the use of thin rice or barley water. For an.

CRIES OFTEN, INFANT

SYMPTOMS—The infant cries often.

CAUSES AND TREATMENT—

• This is often due to a deficiency of B complex vitamins. But he could also be lacking other important nutrients, including vitamins and minerals.

• Undue stress in the home could be another problem.

• Lack of sleep, fatigue, or constipation may be involved.

• Helpful herbs include hops and skullcap.

ENCOURAGEMENT—In the heart of Jesus there was perfect peace. Trusting in Him, you can have that peace also.

TEETHING

SYMPTOMS—The baby's gums become swollen and tender, and he becomes irritable and restless. Teething has begun!

CAUSES—An infant's teeth begin developing months before birth. In fact, the buds begin appearing in the fetus by the fifth or sixth week of pregnancy!

All 20 teeth will begin coming through over two and a half years following birth, beginning about 4-8 months of age.

TREATMENT—

• Massage the baby's gums, beginning before the teeth appear. Wrap a piece of clean gauze around your finger, and rub the gums gently. This removes bacteria and gets him used to having your finger in his mouth.

• Place teething rings in the refrigerator and then, when cold, give them to him to mouth. This feels good on the gums. If the baby is 6 months or more old, a clean, cold, washcloth does well.

• Wrap a piece of cold apple in a wet child-size washcloth, and let the infant mash on it to help his gums.

NEONATAL JAUNDICE

SYMPTOMS—A yellowing of the skin is seen in the infant, appearing first in the upper body and progressing downward toward the toes. In the full-term normal baby, it is first seen about the third day; and, by the fifth day, it is disappearing. In a pre-term infant, jaundice may appear later, but last longer.

CAUSES—Jaundice is probably the most common disorder in newborn babies. Old blood is broken down, by the liver, into bilirubin, a yellowish pigment. But when too much is made, the excess is dumped into the bloodstream and is deposited in tissues for temporary storage. About a fifth of infants have this, to one extent or another.

"Breast milk jaundice" occurs in about 3% of infants. Peak levels of bilirubin do not occur until the tenth or fifteenth day, and may not return to normal for 12 weeks. But do not stop breast-feeding during this time.

Certain drugs given to the mother during pregnancy, labor, delivery, and breast-feeding can lead to neonatal jaundice. This includes sulfonamides, hydrocortisone, Valium, Orinase, Gentamicin, thiazide diuretics, and oral contraceptives.

TREATMENT—

• If the baby is breast-fed more frequently, the bowel movements will carry bilirubin out of the body faster. One research team found that the 3-4 hour feedings, recommended by many hospitals, is incorrect; the feedings should be every 2 hours, in order to reduce bilirubin levels.

• Activated charcoal is very helpful in lowering bilirubin levels. Stir 2-3 teaspoons powdered charcoal into a little water, and give with a nipple. Beginning at 4 hours of age, give it every two hours, for 120 hours in normal newborns, 168 hours in premature infants or until bilirubin levels fall.

• Exposure to sunlight helps reduce bilirubin levels. It can fall on the infant a little through the window or he can be taken outside. Do not let direct sunlight enter his eyes, but let it fall on as much bare skin as possible. Of course, be careful and do not sunburn him.

INFANTILE CONVULSIONS **(J.H. Kellogg, M.D., Formulas)**

BASIC ASPECTS—Regulate diet, withholding meats and all indigestibles. Avoid cow’s milk if curds are present in the stools. Daily Cold Bath, Wet Hand Rub, or Cold Towel Rub.

GENERAL CARE—When due to autointoxication from intestinal irritation, give a large Hot Enema. For immediate relief, Hot Blanket Pack; Warm Bath, at 95^0-98^0 F., for 1-2 minutes. If not quickly relieved, remove from bath and employ Cold Pail Pour to head and spine. Alternate Hot and Cold Pail Pour, if necessary. Apply Hot Abdominal Pack, changing every 4 hours.

CHOLERA INFANTUM **(Gastro-intestinal Catarrh in Children) (J.H. Kellogg, M.D., Formulas)**

GASTRO-INTESTINAL CATARRH IN CHILDREN (ACUTE), CHOLERA INFANTUM BASIC FACTORS—Withdraw all food; Hot Blanket Pack till skin is reddened, follow by Cold Mitten Friction or Cold Wet Hand Rub. If his temperature is high, apply a Heating Wet Sheet Pack. Repeat if necessary. Rest in bed.

PERSISTENT VOMITING—Ice Bag to stomach.

FREQUENT BOWEL MOVEMENTS—Hot Enema at 105^0- 110^0 F. after every movement; Fomentation to abdomen every 3 hours, followed by Heating Compress, changing every 20 minutes.

PAIN IN ABDOMEN—Revulsive Compress over abdomen for 15-20 minutes every hour or two.

COLLAPSE—Hot Blanket Pack until warm, followed by Prolonged Neutral Bath at 92^0-95^0 F.; Hot water drinking; large Warm Enema.

SUDDEN INFANT DEATH SYNDROME **(SIDS)**

SYMPTOMS—The infant suddenly dies.

CAUSES—There is no advance warning or symptom. That is what it is called "sudden infant death syndrome." The central nervous system is affected, which in turn suppresses the involuntary act of breathing.

Each year, in the United States, there are 10,000 deaths from this problem. SIDS primarily occurs in the winter, primarily to underweight babies from poor families, and the mothers are generally under 20.

Several possible causes have been traced:

There may be high blood levels of the toxic mineral, lead. It has been reported that there are high levels of lead in infants who die of SIDS.

Suffocation may be the cause. It has been found that infants who were laid on their stomachs, to go to sleep, are much more likely to suddenly die than infants who are laid on their backs.

Breast-fed babies are less susceptible to SIDS. In addition, they have less allergies, respiratory diseases, hypoglycemia, obesity, and gastroenteritis.

It is now known that SIDS can be caused by the pertussis vaccine, which is given to infants at 2, 4, and 6 months of age.

TREATMENT—

• Give careful attention to each of the above factors.

• Both the mother and child should receive nourishing food. If the infant is breast-fed, the mother's diet should be excellent; if the baby is bottle-fed, then, if possible, fresh boiled goat's milk should be used. Mothers should nurse their babies, if at all possible.

• Locate allergenic foods and eliminate them.

• The mother should avoid chemicals, drugs, and junk food during and after pregnancy. Even aspirin is not good (it interferes with blood clotting, and could damage the fetus).

• Do not use caffeine, alcohol, or tobacco; they harm the unborn child, so it does not develop properly.

BED-WETTING—1 (Enuresis)

SYMPTOMS—A child continues to wet the bed.

CAUSES—Bed wetters tend to have a small bladder capacity; this makes it difficult for them to go through the night without voiding. They also tend to urinate more frequently during the day.

Here are the frequency statistics: 50% wet by the age of 2; 10-15% by 4; 4% at 12. Boys do it more frequently than girls, but girls can develop urinary tract infections from it.

A primary cause of bed-wetting is allergy. Their parents are more likely to have hives, hay fever, urinary tract infection, food allergies, or drug allergies.

Food allergies in the children are responsible for many cases. The most frequent problem foods were cow's milk (60% of the time), chocolate, eggs, citrus fruits, wheat, grains, corn, chicken, meat, peanuts, and fish. You would need to do pulse tests, to determine the problem food

Hyperactive children tend to be bed wetters.

Constipation may at times be involved, by pressing on the bladder.

Some children, especially older ones, continue to wet the bed because of tensions they live under in the home or at school.

Removing milk from the diet reduced bed wetting in 50% of a group being studied.

Anemia, pinworms, upper respiratory tract infections, or any toxic condition can be contributing factors.

TREATMENT—

• Consider all the above factors.

• A common method is to have the child stop and start the flow of urine each time he urinates. This causes him to acquire better mental control of the function. This may solve the problem in as little as six weeks.

• Spanking the child is not the solution! Do not praise and do not punish. The child does not do it on purpose, and he is sorry. Just change the bed and do not say a word. —But keep working on possible solutions listed here. No child wants to do it.

• The child should be encouraged to have vigorous outdoor exercise. (It is known that bed wetters wet less during the summer months, and some who have stopped may return to it in the winter.)

• In children over 10, limit the amount of fluid intake after 5 p.m. at night, until several months after bed-wetting ceases.

• Bed-wetting alarms can be purchased. They often wake up everyone at night, but are often supposed to accomplish the task within 60 days.

• Victory is said to come with 21 days of consecutive dry nights.

BED-WETTING—2 (J.H. Kellogg, M.D., Formulas)

IMPROVE GENERAL AND LOCAL NERVE TONE—Cold Pail Pour at 75^0 F. at bedtime, followed by Neutral Pail Pour to spine, 2 minutes, 96^0 F. Sea bathing and

swimming, if this is available. Avoid water drinking for 2 hours before retiring. Aseptic dietary. Meats and salts especially to be avoided.

RELIEVE CONSTIPATION—and flatulence when present by Hot Abdominal Pack; Graduated Enema; if necessary, carefully Graduated Cold Baths; Cool Enema; and proper diet.

DIMINISH ACIDITY OF URINE—by free use of fruit and water drinking in the forenoon.

COLIC IN CHILDREN

SYMPTOMS—The child cries out, pulls the knees up to the stomach, and has a distended stomach. His stomach and/or intestines hurt.

CAUSES—Pressure from gas moving upward or downward causes pain. The cause is usually improper food or constipation. Indigestion is the most frequent cause.

TREATMENT—

• Put into bed, and give warm catnip tea in a bottle.

— Also see "Colic in Infants."

ENCOURAGEMENT—True happiness is found in learning of Christ and living for Him. Those who take Christ at His Word and surrender their soul to His keeping will find peace and quietude.

RINGWORM

SYMPTOMS—Small, flat, red, slightly elevated ring or oval-shaped sores, which may be crusted, dry, scaly, or moist. The centers of the sores heal as the sores spread outward. The result is an infected ring. Itching, burning, or pain may be present. The lesions appear to be circular. The area is often covered with small blisters.

When the scalp is affected, the hair falls out in circular patches. The fingers can also be affected.

CAUSES—Ringworm is a very contagious disease, caused by a parasitic fungus. It can infect children or adults, and is caused by unsanitary conditions. Keep the hands clean! Pet the dog and then rub your face, and you may regret it.

Ringworm of the beard (face) is more persistent than ringworm of the scalp. Ringworm of the body is the easiest to eliminate.

Dogs, cats, rabbits, children, and contaminated clothing are generally the carriers of the disease.

There are several different types of ringworm, all of which are of fungal origin:

Ringworm of the scalp - This can be on the scalp, face, and on the nails, is the most noticeable kind. It is highly contagious, and often found on school-children. It frequently induces baldness, which may become permanent if hair shafts are destroyed by the fungus.

Ringworm of the trunk - This includes “jockey itch,” and is spread by contact with people or their clothing. Dogs and cats can also spread it.

Ringworm of the nails - This consists of a fungus growing under the nails. It produces thickened, misshapen, brittle, discolored, chalky, pitted, or grooved nails. The nails can either be on the hands or the feet. This type of ringworm is quite difficult to eliminate.

Ringworm of the feet - This is also known as athlete’s foot

TREATMENT—

• Vitamins A, E, and zinc are important.

• Put plantain and castor oil on the affected area.

• Place ultraviolet light on the area for at least 6 minutes a day. This can be sunlight, or a sunlamp. Never place a sunlamp closer than 18 inches from the skin.

• Apply apple cider vinegar to the area several times a day.

• Equally useful is castor oil, goldenseal tea, and borax. Rub the area with borax and with castor oil.

• A 3-day citrus fast is very helpful, cleansing the bowels daily. Follow this with a nutritious diet.

• Eat plenty of garlic. Put raw garlic over the ringworm and cover. You can also use black walnut extract. Wash the area with garlic juice or wormwood.

• Place freshly cut garlic 3 times a day on the area. This is a very good remedy. Blend the garlic with a little water and apply as a soak, compress, or poultice. But this remedy is too powerful to apply to raw flesh between the toes; it can burn lower layers of skin.

• Take 2 chaparral or wormwood capsules daily.

• The scalp can be shampooed with tar soap and borax. Moisten the area every morning and evening with goldenseal (1 teaspoon) and myrrh (½ teaspoon), which has been steeped in a pint of boiling water.

• An herb tea can also be taken internally: goldenseal or plantain, twice a day.

• Make a salve from equal parts of burdock root, chaparral, wormwood, and chickweed; apply to the area. Some of it can also be made into a tea to drink in order to fight the fungus internally.

• Keep the skin clean and dry. Ringworm likes damp skin. Take frequent baths, but dry thoroughly each time. Rub briskly with a towel, to remove the outer dead layers of skin that the ringworm initially attacks.

• Do not scratch. Keep fingernails cut short, to lessen accidental scratching and spreading of the infection.

• To remove crusts, soak the area in a saline solution. An alternate method is to apply moist cloths for 10-15 minutes, 3 times a day.

• *To treat nails:* Pare and scrape the infected area, and try to remove as much of the loose material beneath the nails. Apply vinegar with a Q-tip twice a day. Keep at it, even though it may require months to eliminate. Fungus of the nails is the slowest to conquer.

CHILDHOOD DISEASES

SYMPTOMS—Fevers, rashes, coughs, sore throat, weakness, etc.

CAUSES—

Most of these common childhood diseases are contracted by nearly all children. Some experience only mild cough or cold while others have serious cases. A few receive permanent damage.

If the child is receiving excellent nutrition— exercise, rest, sunshine, fresh air, etc.— he is unlikely to experience serious difficulty with these diseases. Louis Pasteur, developer of the germ theory of disease, said, "The germ is nothing; it is the soil that matters." If the person is living a good life, the germ has a hard time obtaining a foothold.

Avoid excess milk and carbohydrates, especially refined ones. Avoid sugar, fried food, and junk food.

Include vitamin and mineral supplements in a diet of fresh fruits and vegetables, whole grains, and similar natural foods.

A well-fed child will usually be strong enough to resist the onslaught of childhood diseases. He may contract them; but the case will not be serious, usually brief, and often mild.

TREATMENT—

• Give a liquid diet in the acute stages, followed by fruits and vegetables later. Do not suppress the fever with drugs. Use water therapy treatments, to help the body fight the infection. The bowels must be kept open by means of herbal enemas and, if needed, herbal laxatives.

• Treat the kidneys and bowels, so they can keep discharging toxins. Sweating therapy can be used, to bring waste products out through the skin.

• Garlic is helpful, along with the fruit and vegetable juices, and herb teas.

• Vitamins A and C, with bioflavonoids, in abundant amounts is needed.

• Never, never, give aspirin to a child or youth who has a fever!

• This is what happens: The child has a fever, and aspirin is given. There is improvement for a day or two,—then a sudden turn for the worst, and coma or death follows. .

TONSILLITIS—1, ADENITIS, STREP THROAT, AND QUINSY

SYMPTOMS—Inflammation and possible infection of the tonsils and the adenoids. If streptococcal bacteria have caused the infection, it is called strep throat. There is a sore throat with fever, lack of appetite, chills, headache, muscle pain, nausea, vomiting, nasal obstruction and discharge. The lymph glands may become swollen. Symptoms continue for 24-72 hours, and then gradually subside over 7-10 days. The tonsils may look red and enlarged, and pus may be observed.

CAUSES—The tonsils and adenoids are glands containing lymphatic tissue, located in the upper throat. Both are part of the immune system; they protect the body, at the top of the gastrointestinal tract, against infection. Each tonsil contains 200 million lymphocytes. We will here primarily deal with tonsillitis; treatment for adenitis is essentially the same. Strep throat also has the same treatment.

When the body's resistance is lowered, viruses or bacteria (usually streptococcal) set to work. And a diet of processed and junk food, that is high in carbohydrates and low in protein, can also bring on this condition.

If streptococcal infection (strep throat) is not present, then the throat condition is eliminated much quicker.

If not cared for properly, strep throat can be potentially dangerous and can lead to rheumatic fever or meningitis.

Food allergies weaken the body: usually cow's milk, chocolate, or too much white-flour or sugar products. Cow's milk or wheat are the two primary allergens to beware of.

Antibiotics weaken the body more.

The more frequently this infection occurs, the more difficult it is to eliminate. The tonsils become scarred from previous inflammations.

Quinsy is peritonsillar abscess. It is an infection of the tonsil, between the tonsil and the pharyngeal constrictor muscle. The solution is not a tonsillectomy, but the care specified below.

TREATMENT—

• Cold applications to the throat may bring relief and shorten the high point of the infection. This could be an ice collar or flannel wrung out of cold water and changed frequently.

• Hot salt-water gargles will help. To increase blood circulation in the throat, do alternate hot and cold gargling.

• Gargle with goldenseal tea, drinking it as you do this (1 cup 3-4 times a day).

• Place a heating compress on the throat at other times. Put a strip of cotton sheet, dipped and wrung out of cold water, in a strip of dry wool on his throat.

• Give a hot footbath, along with hot (5 minutes) and cold (5 minutes) cloths to the throat (2-3 times daily). Finish with a cold mitten friction to the whole body. Then immediately put into a warm bed and let him rest.

• Drink plenty of liquids. Fresh juices are the best. Drink fruit and vegetable juices, green drink, and lots of water. Avoid sugar, processed and junk food. A cleansing juice fast, alternated with vegetable broths, for 3 days is helpful. Lemon or lime juice in warm water with honey and ginger will help the cleansing process. Peppermint tea will help settle the stomach.

• Maintain a high intake of vitamin C. It powerfully fights the infection and also produces interferon which does the same. With the light meals, include vitamin A, selenium, and zinc.

• Let him dissolve a charcoal tablet several times a day. It will both soothe the throat and combine with toxins.

• Catnip tea enemas are good for fevers.

• Golden seal, echinacea, and garlic act as antibiotics. Tee tree oil helps heal the throat infection. Fenugreek and comfrey loosens the mucous and carries it out of the body.

• A ¼ teaspoon of lobelia extract, swallowed every 2 hours, will help alleviate fever, pain, and swelling.

• Avoid people who smoke. Children whose parents are smokers have very high rates of tonsil infections.

TONSILLITIS—2 (J.H. Kellogg, M.D., Formulas)

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(1) ACUTE FORM —

DIETARY FACTORS—Rest in bed, keep room a uniform temperature, spare diet consisting chiefly of fruits, avoid meats of all sorts, copious water drinking.

GENERAL CARE—Hot Blanket Pack; sweating Wet Sheet Pack; Steam Bath; Radiant Heat Bath; Hot Full Bath, followed by Dry Pack or other sweating procedures once daily, followed by Cold Mitten Friction, Cold Wet Sheet Rub, or Cold Douche. Fomentation to the throat 3 times daily; Cold Compress between, changed every 15-30 minutes. Enema if bowels are inactive. Hot gargle every few minutes if throat is very sensitive. Ice Bag to throat if inflammation is intense. Inhalation of soothing vapors; use of steam inhaler 10-14 minutes hourly or almost continuously. If tonsil suppurates (pusses), it should be lanced. See your doctor.

(2) CHRONIC FORM —

CLERGYMAN'S SORE THROAT DIETARY AND LIFESTYLE—Aseptic dietary, out-of-door life, open air gymnastics, swimming.

GENERAL CARE—Fomentations to throat at bedtime, followed by throat pack (Cold Compress) during the night; hot gargle 3 times a day. Radiant Heat Bath; sweating Wet Sheet Pack; Steam Bath or other sweating bath, 3 times weekly, followed by suitable cold application. Daily Cold Bath on rising. Moist Abdominal Bandage to be worn during the night. If necessary, remove tonsils and vegetations in throat or postnasal region.

ADENOIDS (Adenoid Hypertrophy)

SYMPTOMS—It hurts at the back of the child's throat. When he opens his mouth, the area of the tonsils appears red and swollen.

CAUSES—What is commonly called adenoids is enlargement of the pharyngeal tonsil, which is a tissue close to the tonsils. This infection frequently occurs in children.

TREATMENT—

• Do a 3-5 day fast on diluted citrus juices. Follow this with a careful diet.

• Three times a day, give herb teas such as red clover, sassafras, and burdock root.

• Gargle several times a day with goldenseal tea. Echinacea and myrrh are very good for all glandular swellings.

CHICKENPOX (Varicella Zoster, Pox)

SYMPTOMS—Small, round pimples on the face and body, filled with fluid and appearing like water blisters. As the fluid leaks, it forms a crust.

CAUSES—Chickenpox is a viral disease, which first manifests itself as a fever and headache, 7-21 days after exposure. The eruptions continue in cycles from 3-7 days, and the disease generally runs its course in 14 days. It is communicable 1-2 days before the rash develops, until all the blister-like lesions have crusted (averaging 5-6 days).

Chickenpox mainly occurs between 2 and 8 years of age, and is much more severe if not contracted until one is an adult. If a pregnant mother has it in the first four months of pregnancy, birth defects are possible in the infant. Once you have had it, you generally have lifetime immunity. This is why chickenpox vaccines are dangerous. It is better to get the disease as a child when it is relatively harmless than to wait till adulthood to contract it.

Chickenpox is transmitted by contact and by airborne droplets. Epidemics tend to occur in the winter and spring.

TREATMENT—

• Drink freshly made juices, with added protein powder and brewer's yeast. Drink vegetable broth.

• When the fever drops and appetite returns, give mashed bananas and fresh raw applesauce. Use a light fat-free, sugar-free, diet. You can give vitamin C to bowel tolerance.

• Catnip tea, with a little molasses, is good during the fever. If the child is over two, catnip tea enemas will help reduce the fever.

• The only real concern with childhood chickenpox is pock scarring. This may be minimized by several simple baths and applications. And, of course, do not scratch.

• To avoid scratching the pocks, keep the child's nails short, to minimize spreading of the infection. Have the child wear mittens or gloves, to avoid scratching—especially at night. Instead of scratching, apply pressure to the area. Bathe him often.

• Relieve itching with calamine lotion, moist baking soda, or starch baths. Vitamin E oil can be applied directly to each papule.

• A deep, warm, 15-minute bath at the onset of the disease will help the pox develop more rapidly. Keep the head cool. Do not let him become chilled.

• Each day, give a tepid bath, followed by a change of clothes and linens. Protect against chilling while bathing and other times. Chickenpox pneumonia can develop!

• Oatmeal baths are soothing, because they are alkaline. Put 1 pound of uncooked oatmeal (or 1 heaping cup of uncooked rolled oats, ground fine, in a blender) in a bag made of 2 thicknesses of old sheeting. Soften it with hot water and then float it in the bathtub or hang it, so the faucet will flow through it. You can use the bag to gently sponge the body. Pat dry when finished; do not rub.

• If needed, mix 1 level teaspoon of salt with 1 pint (2 cups) of water, and gargle with it.

• Avoid constipation.

• If you contract chickenpox as an adult, go on a fasting program of fruit and vegetable juices, interspersed with light meals.

• Keep the infected child away from newborn infants, elderly people, and pregnant women. They may not have had chickenpox before.

• Do not send the child back to school until all lesions have finished being crusted.

• Antibiotics and corticosteroids do not help in any way, and should not be given.

• Do not give aspirin!.

MUMPS—1

SYMPTOMS—Swelling of one or both salivary glands, fever (up to 104^{o} F.), chills, headache, sore throat, and pain when swallowing or chewing. Swelling often occurs in one gland first, and then begins in the other as swelling in the first subsides. But it may occur on only one side.

CAUSES—Mumps is an infection of the salivary (parotid) glands, located in front of, and below, each ear. It rarely occurs before 3 years of age or after 40. Either direct contact or droplets spread the disease.

Mumps is not as contagious as chickenpox or measles. But a person with the disease is still contagious from 48 hours, before symptoms develop, to 6 days afterward. Incubation is 14 to 21 days.

One bout and lifetime immunity generally follows.

If it is acquired after puberty, the ovaries or testes may become involved and sterility may result. Other complications can also occur, which affect the heart, kidneys, and brain.

If no complications occur, complete recovery generally occurs within about 10 days.

TREATMENT—

• Keep the diet simple, fat-free, and sugar-free. Avoid foods that require chewing or might be irritating. Eat mostly raw fruits and vegetables that are juiced or softened.

• Drink plenty of pure water and fresh juices. This will keep the body working well, help flush toxins, and render it less likely that complications may occur.

• Do not eat junk food of any type. Avoid caffeine, tobacco, alcohol, soft drinks, etc. Avoid acidic foods, such as pickles or citrus fruits.

• To relieve pain, cold or warm compresses (whichever feels best) may be placed on the neck and over the glands. But avoid hot or icy cold applications.

• If nausea and/or pain on swallowing becomes so severe that the person becomes unable to eat, intravenous administration of dextrose and fluids may be needed.

• Do not give aspirin to a child or youth with a fever; it may result in death!

ENCOURAGEMENT—"What doth the Lord thy God require of thee, but to fear the Lord thy God, to walk in all His ways, and to love Him, and to serve the Lord thy God with all thy heart and with all thy soul." Deuteronomy 10:12.

MUMPS—2 (J.H. Kellogg, M.D., Formulas)

GENERAL—Cold Mitten Friction or Cold Towel Rub 24 times a day. Neutral Bath for one hour, daily; copious water drinking.

TO COMBAT LOCAL INFLAMMATION—Hot Blanket Pack followed by Heating or Sweating Wet Sheet Pack, continued 1-2 hours. Repeat the application twice a day. Fomentation over the affected parts every 2 hours for 15 minutes, followed by Heating Compress at 60^0F., to be changed every 10 minutes or as soon as warm; Ice Bag over swollen glands until active inflammation is subdued. Remove ice every half hour and apply Fomentation for 5 minutes.

HEADACHE—Cool Compress.

NOSE BLEED—Ice to back of neck; Hot Compress over face; ice to hands; elevate hands to vertical position, if necessary; Hot Footbath or Hot Leg Pack; very Hot Nasal Douche.

DIARRHEA—Enema at 95^0 F. after each bowel movement. Abdominal Bandage at 60^0 F., renewed every 15-30 minutes. If pain is present, Fomentation to abdomen for 15 minutes or until it is relieved, every 2 hours; large Hot Enema to empty colon if due to fecal accumulation.

VOMITING—Ice over stomach or spine opposite the stomach or Hot and Cold Compress over stomach; ice pills; sipping very hot water.

EARACHE—Ice Bag to neck of the same side; Fomentation over ear; Hot Ear Douche, if necessary. Protect the ear with warm cotton, to prevent chilling by evaporation after treatment.

CONVULSIONS—Hot Blanket Pack or Hot Immersion at 105^0-108^0 F., with cold to the head (Cold Compress, Ice Bag, Ice Cap, etc.).

INFLAMMATION OF THE BREAST—Fomentation over the breast for 15 minutes every 3 hours. During interval between, apply a Heating Compress at 60^0 F., that is renewed every 15-30 minutes. Hot Pack to arm of the same side. Hot Hip and Leg Pack for derivative effect if pain is severe.

INFLAMMATION OF TESTICLE—Ice Compress covering entire genitals and inner surfaces of thighs with simultaneous Hot Hip and Leg Pack for 30 minutes. Repeat every 4 hours. During interval between, apply Heating Compress at 60^0 F. in place of the Ice Compress, renewed every 15 minutes.

MEASLES—1 (Rubeola)

SYMPTOMS—First symptoms are fever, coughing, sneezing, runny nose, and inflammation of the eyes. The eyes may become red and sensitive to light. Within 24-48 hours, small red spots with white centers appear on the insides of the cheeks. A rash appears 3-5 days later on the sides of the neck, forehead, and ears; then it spreads over 5-7 days to the rest of the body. As it spreads, the fever subsides.

CAUSES—There are two types of measles: common measles . Common measles is highly contagious, and spread by droplets from the nose, throat, and mouth. At the present time, adolescents and young adults are affected more often than children. If the person was previously healthy, the disease will pass within 10 days.

But it can be followed by one of several serious complications, including pneumonia, bronchitis, croup, middle-ear infection, meningitis, encephalitis, or injury to the nervous system.

So be very careful, during the disease and for a time afterward. Eat right; live right. Get lots of rest for a time. Take it easy.

Approximately 98% of the population have had common measles. Lifelong immunity follows the infection.

TREATMENT—

• He should be isolated in a room which is well-ventilated. If he is sensitive to light, darken the room. He should not read or watch television. Keep the lights dim.

• Drink plenty of water and fruit and vegetable juices.

• Fevers increase the body's need for calories and vitamins A and C. He should be encouraged, but not forced, to eat. Frequent small meals of nourishing food may be best.

• Avoid processed foods.

• Rest until the rash and fever have disappeared.

• Garlic or catnip tea enemas help lower fever.

• If a cough is present, cool moisture from a vaporizer may help. But water given copiously is the best cough medicine.

• A hot bath may help reduce the fever. Place the child in a hot tub (105^{o}-108^{o} F.) for one minute for each year of his age. Keep the head cool. This may be repeated every 2 hours. Dress him warmly afterward, so chilling does not occur.

• Bronchitis may occur, and can be treated with hot fomentations to the chest. Apply them twice a day, along with a hot footbath. A heating compress can be applied at night.

• Helpful herbs include yarrow, pleurisy root, and marigold.

• Antibiotics are useless against measles and do not decrease the likelihood of complications. But it could be used, in an emergency, if complications occur.

• Complications can be serious, but are unlikely in the developed nations. Most such problems stem from secondary bacterial infection, primarily middle-ear infection or pneumonia. But special care and vigorous use of simple natural remedies can generally deal with them.

• Do not give aspirin to a child or youth with a fever; it may result in death!

MEASLES—2 (J.H. Kellogg, M.D., Formulas)

MAINTAIN GENERAL RESISTANCE—Wet Sheet Pack, Graduated Bath.

PREVENT LUNG COMPLICATIONS—Fomentation to chest twice a day, Chest Pack during interval between.

NASO-PHARYNGEAL IRRITATION—Apply light very Hot Compresses to the face. Inhale vapor of water and also aromatic oils and balsams. Fomentation to the throat every 2 hours; Heating Compress during the interval between, changing every 15 minutes at first, less frequently later.

INFLAMMATION OF MIDDLE EAR—Ice to throat of same side, Fomentation over ear.

HEMORRHAGIC FORM—Hot Blanket Pack or short Hot Full Bath, followed by Heating Wet Sheet Pack. Repeat every 3-4 Hours. Prolonged Neutral Bath at 95^0-93^0 F.

BRONCHIAL CATARRH—Fomentation to chest, Cold Towel Rub, or Cold Mitten Friction twice daily, Heating Chest Pack night and day.

LOBAR PNEUMONIA and BRONCHO-PNEUMONIA—Fomentation for pain and irritable cough, repeated every 2-3 hours; Cold Compress during interval, at 60^0 F., changing every 15-30 minutes; Hot Hip and Leg Pack, if the local inflammation is severe

MEASLES, GERMAN (Rubella)

SYMPTOMS—Fatigue, coughing, headache, mild fever, muscle aches, and stiffness in the neck. A pink rash often develops 1-5 days later. It generally first appears on the face and neck, and the spreads to the rest of the body.

CAUSES—As we mentioned earlier, there are two types of measles: (rubeola) and German measles (rubella). Which see. Common measles is highly contagious, can have serious complications if cautions are not taken, but usually passes within 10 days.

But German measles (rubella) is different in certain ways. It is usually a mild contagious illness with a rapid recovery period (5-7 days). But it is dangerous if a woman contracts it during the first trimester (first 3 months) of her pregnancy. Then she might give birth to a child with heart defects, deafness, mental retardation, or blindness.

Therefore a pregnant woman must guard against exposure to it.

TREATMENT—

• Follow treatment specified for common measles

What precautions should a woman take?

• A pregnant woman must avoid exposure to German measles. The disease should be considered contagious from 1 week before the rash appears until 1 week after the rash fades.

• If she thinks she has been exposed to the disease, she can immediately see a physician and request that she be given a gamma-globulin injection. If given soon after exposure, it may reduce the severity of the disease or possibly prevent it from occurring.

• Immunity to German measles can be determined by a special blood test. She may wish to be vaccinated. If this is done, pregnancy must be avoided for 3 months following immunization.

• Do not give aspirin to a child or youth with a fever; it may result in death!

SCARLET FEVER—1 (Scarlatina)

SYMPTOMS—Symptoms appear 2-7 days after exposure. Vomiting, along with sore throat and headache. Within a day, high fever develops. Throat membrane is inflamed, and soft palate may show a fine light-red rash.

The tongue is coated white, but on the second day reddened raised points show through, especially at the tip and sides.

The throat condition becomes more severe, with redness and enlargement of glands under lower jaw.

The rash usually begins on the chest within 1-2 days after the first symptoms, and later extends to other parts of the body and limbs. But infection can occur without a rash occurring.

CAUSES—Scarlet fever is an acute contagious disease and is caused by one of several different streptococci germs. Urine and discharges from nose, mouth, ears, and any abscesses are highly infectious. One attack generally brings lifelong immunity, and few contract it after the age of 15.

The fever usually does not remain high more than 4 days, and the rash fades within a week. The more intense the rash, the more scaling forms on the skin.

Inflammation of the ear is one of the most frequent complications of scarlet fever. The infection in the throat passes up the Eustachian tube into the middle ear. Children can become deaf as a result.

The infection may extend from the ear to the mastoid cells in the bone behind the ear, or to the membranes covering the brain, or to both, producing mastoiditis brain abscess, or menigitis These conditions are serious and often fatal.

Rheumatic fever frequently follows scarlet fever, and this sometimes results in inflammation of the lining membranes and valves of the heart.

Enlargement of the lymph glands of the neck can turn into an abscess of these glands, as late as 5-6 weeks after the disease began.

In a child well-advanced toward recovery (especially in the third week), nephritis can develop. So this is another danger to be warded off by proper treatment.

Scarlet fever is not a matter to be taken lightly.

You do well to call a physician, if possible. He may need to lance the middle ear if infection develops. He will probably examine the heart daily for indications of damage and do frequent urinalysis for signs of nephritis.

TREATMENT—

• Put him on a fruit and vegetable juice fast, followed by a simple diet of fruits, vegetables, and broths for a time.

• Inadequate care, improper food, and too early physical activity are the chief dangers.

• This is a contagious disease, so proper precautions must be taken.

• If the temperature goes above 103° F., reduce it by means of tepid sponges.

• If there is a sore throat, apply hot fomentation twice a day to the area, followed by continuous heating compresses.

• When the rash begins to appear, give a long-continued hot footbath, along with hot drinks, all the while keeping him covered with blankets. The objective is to get him to sweat. But, afterward, guard against chilling!

• To help prevent kidney damage, when he goes back on food, eliminate eggs, meat, meat broths, and legumes from the diet. Give him only milk, cereals, fruit juices, pureed vegetables, and all the water he will drink.

• To hasten the scaling of the skin, and get it over with, give a daily sponge bath with warm water and mild soap, followed by an olive oil rub.

• Keep him in bed at least 3 weeks, even though he feels well! Muscular activity too soon can result in kidney damage.

• Helpful herbs include black rose, twinleaf, and bloodroot.

SCARLET FEVER—2 (J.H. Kellogg, M.D., Formulas)

BUILD GENERAL RESISTANCE—Hot Blanket Pack, 3-8 minutes, followed by Cooling Wet Sheet Pack. (The cold sheet should be well-heated by him before removing it.) Or, the Hot Blanket Pack may be followed by Cold Towel Rub, Wet Sheet Rub in bed, or Tepid Pail Pour at 85°-80° F. while he sits in a bathtub. Avoid giving him a Cold Mitten Friction.

ELIMINATE TOXINS—Copious water drinking: water, fruit juices, fruit purees, etc.

REDUCE FEVER—Cooling Wet Sheet Pack; Hot Blanket Pack, followed by Cold towel Rub or Wet Sheet Rub; Graduated Bath; copious water drinking, Cooling Enema.

IF ERUPTION IS DELAYED—Wet Sheet Pack, prolonged to heating stage.

DlARRHEA—75°-80° F. Enema after each bowel movement. Fomentation for 15 minutes over the abdomen every 2 hours, followed by Heating Compress, changed every half hour. If most of his skin surface is cold, the Hot Full Bath for 5 minutes, followed by short Cold Towel Rubbing.

VOMITING—Hot and Cold Trunk Pack, Ice Bag over the stomach or spine opposite stomach.

CONVULSIONS—Hot Blanket Pack for 10 minutes, followed by Cold Wet Sheet Pack with ice to the head. Hot Bath for 5 minutes followed by Neutral Bath at 92^0-95^0 F. Water drinking; large Enema.

PHARYNGITIS—Fomentation to throat 10 minutes every hour with Ice Compress during interval between. Steam Inhalation 5-10 minutes every half hour; Gargle throat with very hot water hourly. Throat Compress at 60^0 F., changed every 15 minutes. It should be protected by a Heating Compress changed once in 3 hours.

DELIRIUM WITH INSOMNIA AND NERVOUS AGITATION OR CHOREA—Ice Bag to head, Hot Fomentations to spine, followed by Prolonged Wet Sheet Pack.

SCALING OF THE SKIN—Neutral (92°-95° F.) Alkaline Bath daily for 15 minutes to 1 hour.

NEPHRITIS, OR SUPPRESSION OF THE URINE—Hot Blanket Pack for 20-30 minutes, followed by Heating Compress to the loins; Copious water drinking; Enema at 80^0-90^0 F. twice daily.

PLEURISY—Fomentation to the chest for 15 minutes every 2 hours with Heating Compress during the interval. Tight muslin bandage about chest, if pain is intense.

RHEUMATISM—Sweating Wet Sheet Pack; copious water drinking; Fomentation to joints every 3 hours with Heating Compress during interval between.

PERICARDITIS OR ENDOCARDITIS—Ice Ball or Cold Compress over heart, to be removed for 5 minutes, every 15-20 minutes.

ENTERITIS—Hot Trunk Heating Pack, with Hot Footbath or Hot Leg Pack for 20 minutes, followed by Cold Abdominal Compress at 60^0, to be changed every 30 minutes. Enema after each stool, at 95^0 F.

PNEUMONIA—Fomentation for 15 minutes every 2-3 hours, Cold Compress at 60^0 during interval, changing every 10-20 minutes. Hot Hip and Leg Pack once or twice daily to relieve congestion. Keep skin warm and active. Hot Blanket Pack if he is chilly, followed by heating Wet Sheet Pack.

ENLARGED SPLEEN OR LlVER—Fomentation over the afflicted body part for 10-20 minutes twice daily. Follow by Ice Water Compress, to be changed every 2 hours during the interval.

CONTRAINDICATIONS—Avoid short Cold Baths, prolonged Hot Baths, and all other measures which diminish heat elimination or increase heat production.

GENERAL METHOD—At the beginning, encourage eruption by hot-water drinking, very Hot Baths, Heating Pack. After eruption is fully developed, give Cooling Wet Sheet Pack, Graduated Bath, Cool Enema, and other fever-reducing measures. Copious water drinking is especially important. Give attention to the throat, to prevent infection of the ears. Steam Inhalation; Irrigation of the throat (gargling); Heating Compress. If albumin appears, the blood must be kept in the skin by Hot Packs and warm wrappings (covered well with blankets); and the cold applications must be "partial," such as Wet Hand Rub, Cold Mitten Friction, Cold Towel Rub. Prolonged chilling of the skin must be carefully avoided.

DIPHTHERIA—1

SYMPTOMS—It begins with sore throat and fever. Frequently a dirty, white or grayish, membrane forms in the throat or nose, or both. There are slight chills, possible vomiting and diarrhea, always fetid breath, difficulty in swallowing, and hoarseness.

Children first complain of feeling tired and sleepy. The tonsils appear inflamed, dark red, and unevenly swollen. White, parchment-like patches appear on them. The glands in the neck usually swell.

CAUSES—Diphtheria is an acute contagious disease. It begins 3-8 days after exposure and primarily occurs between 1 and 10 years of age.

Part of the danger is the obstruction to breathing, due to the above-mentioned false membrane and is partly due to the toxins carried by the diphtheria germs which, carried throughout the body, especially harm the heart muscles, nerves, and kidneys.

This is a serious disease. Diphtheria is transmitted by clothing, contact, domestic animals, and sometimes by raw milk. Anything (dish, garment, etc.) coming in contact with the person must be disinfected.

Individuals can carry the germs on them for several years and transmit them to still others. A carrier should be isolated until the germs can no longer be found in his throat, nose, or catarrhal discharge.

If there are no white patches or developing membrane, it is not diphtheria.

The membrane is tenacious and dangerous. If not checked, it will cover the air tube and the child will suffocate. It is generally whitish, but may appear yellowish or greenish. When the child breathes harder and then has a frightened look, his air flow is narrowing.

When someone develops diphtheria, there must be no delay. Give him vigorous treatment. You will want to call a physician.

TREATMENT—

• Give the child all the water he can drink, and keep him in bed, in a well-ventilated room. Avoid chilling him. Too early exercise may overstrain the heart. The diet should be liquid. Fast on carrot juice or fresh citrus juices.

• If the child insists on eating something, give him bananas, raisins, figs, and oranges—and no other food. It is best to give him only liquids (water and fresh juices) until he is cleaned out, the throat is clean, and the phlegm and false membrane are totally gone.

• After the disease appears to be ended, give him no meat for quite some time (better not to give it to him at all).

• Give him warm baths.

• An emetic is usually needed, to empty the stomach of putrefying matter; otherwise high fevers will result. Lobelia in water can be given, but combined with bayberry bark is better. The vomiting must be repeated until the stomach and throat are entirely clean.

• As the disease progresses, lobelia and bayberry bark tea can be given at any time, to clean out the mucous membranes of the mouth and throat. Bayberry cleans the membrane and eliminates the odor. It is also healing and antiseptic. A very small amount of cayenne or ginger can be added as stimulants.

• Problems can develop while the child is sleeping—serious ones. Therefore, always give him the emetic before he goes to sleep each time. Otherwise he might suffocate in his sleep.

• Give him an enema every morning and evening. This helps clean out toxins from the diphtheria germs. An herb tea can be added to detoxify the colon: bayberry, white oak bark, or red raspberry. There should be at least 3-4 movements a day.

• Bayberry is excellent in all throat or stomach mucous conditions.

• If the heart rate is rapid, apply an ice bag over the heart.

• In case of headaches, place cold compresses or ice bags to the head and neck.

• A gargle can be made of goldenseal and myrrh, with a pinch of cayenne. Use this every half hour. It will clean the mucous and germs out of the throat.

• Apply hot and cold fomentations over the liver, stomach, kidneys, and spine to keep the circulation normal. This stimulates the lymphatic system, to help clean out toxins.

• If there is any danger of paralysis, give hot and cold applications to the spine, stomach, and liver.

• Give 2 high enemas daily.

• If symptoms of heart failure appear, give a half teaspoon of cayenne in hot water. Have him drink it all down immediately. Repeat if necessary.

• Each day, clean all clothing and bed linens by boiling them.

• As he begins to recuperate, he can be given baked apples, potato peeling broth, fresh fruits, cooked vegetables, and soy milk.

• If properly cared for, the disease will end within 7-10 days.

• Do not give aspirin to a child or youth with a fever; it may result in death!

DIPHTHERIA—2 (J.H. Kellogg, M.D., Formulas)

INCREASE AND MAINTAIN VITAL RESISTANCE—Hot Fomentation to the spine or short Hot Bath, followed by Cold Mitten Friction or Cold Towel Rub 2-3 times a day.

TO COMBAT LOCAL INFLAMMATION—Fomentation to throat every 2 hours for 15 minutes; Ice Compress to throat during interval between. If inflammation becomes intense, and suppuration (pus flowing) or sloughing (separation of dead tissue from living tissue) is threatened, use the Heating Compress at 60^0 F., changing every hour. Steam Inhalation; antiseptic lotions to throat; hot-water gargle.

COMBAT GENERAL TOXEMIA, RESULTING DEGENERATIONS AND LOCALIZED INFLAMMATIONS—Copious enemas twice daily. Copious water drinking 3-6 pints daily. The free use of fruit juices. Hot Fomentations to the spine or short Hot Full Bath, followed by Cold Mitten Friction or Cold Towel Rub 2-3 times a day.

TO COMBAT LOCAL INFLAMMATION—Hot Blanket Pack, followed by Sweating Wet Sheet Pack; repeat every 3-4 hours if necessary. Fomentation to throat every 2-3 hours, for 15 minutes; Ice Compress to throat during interval; ice pills; if inflammation becomes intense and sloughing is threatened, the Heating Compress at 60^0 F., changing every hour; steam Inhalation; antiseptic lotions.

FEVER—Hot Blanket Pack, followed by Wet Sheet Pack; Prolonged Neutral Bath when rectal temperature rises above 101^0 F.; Fomentation followed by Cold Towel Rub; Cold Enema with Simultaneous Fomentation to the back; Hot Enema followed by Cold Towel Rub or Cold Mitten Friction.

COMA OR COLLAPSE—Hot Blanket Pack; Colonic at 80^0 F.; Alternate Compress or Sponging to spine; Cold Mitten Friction; Hot and Cold Head Compress; in case of collapse, short Hot Full Bath followed by Dry Blanket Pack; Hot Enema followed by Dry Blanket Pack.

PARALYSIS—Fomentation to spine with Cold Mitten Friction or short Hot Blanket Pack, followed by Cold Mitten Friction; Hot and Cold Friction over the affected part; gymnastics; massage; and appropriate exercise.

NEURITIS—Fomentation over the course of the affected nerve for 15 minutes every 2-4 hours; during the interval between, apply a well-protected Heating Compress; Colonic daily; water drinking, 2-4 pints daily; Aseptic diet; rest to the affected part.

CROUP—Steam Inhalation; Fomentation to throat 15 minutes, every 2 hours; Cold (or very cold) Compress, changed every 15 minutes during the interval; Hot Blanket Pack; keep skin warm.

THREATENED SUFFOCATION—Put him in a Neutral Full Bath at 102^0-105^0 F. and pour cold water over the chest and spine. Cold Mitten Friction.

WHOOPING COUGH—1 (Pertussis)

SYMPTOMS—A week or two after exposure, the catarrhal stage begins. The eyes may be red, and the child seems to have a cold in the head. There is sneezing and watering of the eyes. Then a persistent cough develops, especially bad at night. This coughing continues a week, and keeps getting worse—and is the most significant indication that the problem may be whooping cough.

In about 2 weeks, the typical whoop begins. At first, only 1-2 times a day, it degrades to every time there is coughing. It is a deep breath at the end of a series of deep coughs. The child's face may be reddish or bluish from the effort and lack of air. Vomiting may also occur.

This whooping stage lasts 3-6 weeks, and the cough may not entirely disappear for several months.

CAUSES—Whooping cough is a contagious bacterial disease, which usually attacks children between 6 months and 5 years of age. But infants and adults can also be affected. A person rarely has a second attack of this disease.

The disease is not highly contagious after the first few weeks. The most contagious phase is before a definite diagnosis is possible.

Whooping cough occurs more frequently, and seriously, in overcrowded and unhygienic quarters and cold weather. In very young, delicate, or undernourished

children, it is more likely to develop into broncho-pneumonia—the principle cause of death in cases of whooping cough.

Complications include convulsions, bleeding from the nose, into brain, or area around eyes. Broncho-pneumonia can also occur; death only rarely.

You may choose to have the child vaccinated at an early age (2 months is recommended for the series). You should weigh the fact that pertussis vaccine is one of the most dangerous of the shots in its occasional side effects.

TREATMENT—

• Treat the cough—When a cough first develops, treat that cough! If you do so, the whooping cough phase can be entirely prevented!

• Wild cherry bark tea is excellent. Here are other herbs useful for coughs; select from those you have on hand or can most easily obtain. They can be mixed: black cohosh, flaxseed, rosemary, comfrey, horehound, hyssop, myrrh, white pine, bloodroot, red sage, blue violet, ginseng, coltsfoot. Prepare a tea and give a teaspoonful every hour until the cough is better.

• Be sure and include other worthwhile practices, such as partial or complete fasting on fruit and vegetable juices until the cough is past. In all kinds of coughs, first cleanse the system with high herb enemas and a herbal laxative.

• When the cough is severe, as in whooping cough, have him drink warm water, one cup after another, then stick your finger down his throat and have him vomit.

• A light diet is essential. Overfeeding during the whooping cough prolongs the disease and leads to complications. In case it is a breast-fed infant, do not overfeed either. The child is thirsty, not hungry.

• As soon as it is perceived that the problem is whooping cough, place him on a full fruit juice fast. First, give citrus juices. This can be followed by other fruit juices; then carrot and other vegetable juices, and clear vegetable broth soup. Later still, fruit can be added.

• Give vitamins A and C in large doses.

• It is good to soak the feet in hot water, with a little mustard and salt added to it.

• Steam inhalations are often very helpful. They can be given every 2-4 hours, according to the severity of the case.

• Thick slippery elm tea is very good in whooping cough; mix in a little lemon juice and drink it freely.

• A light diet is essential.

• Keep him isolated from other children.

• If the weather is warm, sunny, and not too damp or dusty, keep him out of doors most of the day. But he should not exert himself in play.

• Air and sun his bedding every day, if there is sunshine.

• Do not give aspirin to a child or youth with a fever; it may result in death!

WHOOPING COUGH—2 (J.H. Kellogg, M.D., Formulas)

INCREASE VITAL RESISTANCE—Cold Mitten Friction or Cold Wet hand Rub 3 times a day.

TO RELIEVE COUGH—Chest and neck Heating Pack, changing every 4 hours; copious drinking of hot water, especially just before coughing paroxysm. He should drink 3-8 pints of water daily.

HELP KIDNEY ACTION—Neutral Bath daily for a half hour, followed by Cold Mitten Friction to promote activity of skin and kidneys.

GENERAL METHOD—The disease can not be greatly shortened, but the strength may be maintained, suffering mitigated, convalescence facilitated, and grave effects prevented by the faithful employment of the above measures, which should be continued, not only during the active stage of the disease, but for several weeks after the beginning of convalescence.

RHEUMATIC FEVER

SYMPTOMS—Pain, inflammation, and stiffness in a large joint, such as the knee. These initial symptoms are accompanied by pain.

The pain and swelling can travel from one joint to another. A skin rash may also appear.

CAUSES—Rheumatic fever is a streptococcal disease (Streptococcus Group A), and occurs between the ages of 4 and 18.

After the disease appears ended, it may recur again later.

The residual heart valve damage is the most dangerous aspect of untreated rheumatic fever. Treatment early in the course of the disease will generally prevent the heart

damage. But this treatment may require the help of a physician and a stay in the hospital. Here is supplementary information:

TREATMENT—

• Give a nourishing diet, restricting all salt. Put on a water and fresh fruit and vegetable juice diet. Eat no solid food until the fever subsides and joint pain is reduced. Then maintain a light diet, including fresh fruits and vegetables, fruit juices, etc.

• Avoid caffeine, fried foods, soft drinks, processed or refined foods, sugar, or salt.

• Bioflavonoids are especially valuable in preventing and treating rheumatic fever.

• Bed rest is very important.

• While in bed, massage and mild exercise is helpful. A planned exercise program should be undertaken later.

• Useful herbs include bayberry bark, goldenseal, yellow dock, pau d'arco, and burdock root. Echinacea and dandelion are also good.

REYE'S SYNDROME

SYMPTOMS—A fever and vomiting suddenly occur. A rapid change in mental status to a deep depression, nausea, amnesia; and then pneumonia, coma, convulsions, fixed and dilated pupils, and death.

There can be confusion, drowsiness, memory lapses, lethargy, irritability or unusual belligerence.

There may be weakness or paralysis in the limbs, speech impairment, hearing loss, double vision, etc.

CAUSES—Reye's Syndrome is a disaster worth avoiding. This disease affects many internal organs, especially the brain and liver.

It primarily strikes children between the ages of 4 and 15 (but most frequently young teens), in the fall or winter.

Not long ago, the death rate stood at 42%-80%, but more recently it has dropped to below 10%.

Most cases occur after a viral infection, such as the flu or chickenpox. Influenza B, Epstein-Barr virus, and viruses which primarily affect the gastrointestinal tract (enteroviruses) can also occur prior to its onset.

It is known that giving aspirin to a child or youth who has a fever can lead to Reye's disease and the likely possibility of death. In the early 1980s, it was discovered that a viral infection, plus the taking of aspirin, dramatically increases the risk of developing Reye's syndrome.

The cause of the disease may be consumption of aflatoxin, which is an exotoxin of the grain mold, *aspergillus flavus.*

A biopsy generally shows liver necrosis (the liver is dying). Yet, if the person survives, there is a full recovery of the liver within 12 weeks.

If you see the above symptoms, just after your child has come out of a viral illness—do something quickly! Here are the key symptoms again:

(1) Agitation, disorientation, and delirium.

(2) Fatigue, lethargy, and lapses in memory.

(3) Prolonged and heavy vomiting, followed by drowsiness.

Call a physician! Phone 911, and send the child to a hospital!

TREATMENT—

• It would be well for the child to be given vitamin C (5-10 gms per day), intravenously; vitamins B-complex and B_{12}, and selenium (250-500 mcg per day) intramuscularly.

• If, in the hospital, the child receives an IV solution of glucose and electrolytes (mineral salts) within 12-24 hours after the heavy vomiting begins, his chances of recovery are very good.

• Never give a child or youth aspirin after a fever. The pattern of events is this: The child has a fever, and aspirin is given. There is improvement for a day or two,—then a sudden turn for the worst occurs, and coma or death follows. A Centers for Disease Control (CDC) study revealed that 96% of the children contracting Reye's syndrome had been given aspirin while they had a viral infection. It was also found that there was a direct correlation between the amount of aspirin given and the severity of the illness.

• In this emergency, if you have to give him a pain reliever, give him acetaminophen (Tylenol, Datril, and others) or ibuprofen (Advil, Nuprin, and others) instead.

• Children's aspirins are banned in Britain because of this problem.

• The drug, Tigan, used in suppository form, to control vomiting and nausea, may also be a cause of Reye's.

GROWING PAINS

SYMPTOMS—Pains in the joints, twitches in the legs, etc.

CAUSES—No, it is not a disease. Growing pains are a part of life in many homes, as the children grow toward adulthood.

But growing pains are not necessary. If good food and proper vitamin/mineral supplementation are provided, along with proper rest and an active exercise program, there is no need for "growing pains" to occur.

TREATMENT—

• Prevention of growing pains includes a solid nutritional program—rich in calcium, magnesium, selenium, vitamins A, B-complex, E, and C.

ENCOURAGEMENT—Rejoice in the Lord always, and He will give you the courage you need. The more you praise Him, the more you will have to praise Him for.

GROWTH PROBLEMS

SYMPTOMS—The child fails to grow properly in height.

CAUSES—The key to growth is the pituitary, the master gland, which is located in the center of the skull. When it does not function properly, normal growth does not occur.

The pituitary gland produces the growth hormone, *somatotropin*, and sends it throughout the body, to stimulate normal enlargement of bones and muscles in children.

Too little production of this hormone will produce dwarfism; too much results in abnormally enlarged hands, feet, jaw, and possible gigantism.

The pituitary may not be functioning properly because of a tumor growing in, or near, it. But the thymus gland may not be working properly, and that will affect a child's growth and increase the likelihood of infection.

TREATMENT—

• Be sure and eat a well-balanced nourishing diet. Omit junk foods.

• Adequate amounts of protein are important, especially the amino acid, arginine. Arginine is used to synthesize ornithine, an amino acid which prompts the pituitary to release its growth hormone.

• Sources of arginine include coconut, oats, soybeans, walnuts, wheat, wheat germ, carob, and dairy products.

• Growth hormone therapy can be prescribed by a physician, but it is marvelously expensive.

• If a child's protein intake is reduced severely, he develops a protein-deficiency disease. This condition can occur in any nation, not just India.

• Malabsorption disorders, can also reduce growth somewhat.

• Excess amounts of lead, a toxic metal, can produce growth problems.

VACCINATION PROBLEMS

SYMPTOMS—Physical problems resulting from a vaccination.

DISCUSSION—This is a wide-ranging subject, too large to discuss in detail here.

The underlying problem is simple enough: We normally take substances into our body through our stomach, where harmful bacteria are generally destroyed.

But a vaccine is injected into a muscle or directly into the bloodstream, thus bypassing the normal protections. This is highly dangerous!

The problem is that it is impossible to purify the vaccines properly. It would require too much time and expense to try to examine every microscopic portion, identify every toxin, poison, and microbe, and eliminate the bad ones. It simply cannot be done.

So monkey pus and horse urine is "purified" somewhat, and then injected into your child.

The solution is to live right, eat right, and avoid vaccinations. See the author's book (or a similar publication) for further information on vaccinations

CHAPTER SIXTEEN
DISEASES OF DIGESTION

The system of the body dealing with digestion of foods includes all of the related structures in the mouth, such as the **teeth**, **salivary glands**, and **taste buds**. It extends down through the **esophagus**, the **stomach**, the small and large **intestines,** and includes three *accessory* but equally essential organs, the **pancreas,** the **liver,** and the **gallbladder.** A great many infectious, degenerative, and malignant disorders can develop in these highly specialized, yet diversified organs.

Congenital problems involving the intestinal tract or trauma may affect the digestive system. The more common problems, however, are related to our lifestyle, particularly the diet. In some people, the digestive system constitutes the target organ for stress, reacting to built-up tension with pain, vomiting, or diarrhea. Most of the proprietary medications available at any pharmacy are marketed for disorders of digestion, including antacids, laxatives, and dental aids. I plan to look at some of the problems that afflict this most interesting body system, in a way that can be both preventive and therapeutic.

Dental Caries

The **teeth** are valuable for nutrition as well as appearance, normally absent only in newborn babies. Heralding the interest and need for solid foods, tooth eruption begins at five to six months of age. This continues until the "baby teeth" or *decidual* set, with a complement of twenty, are all in place. Five or six years later the incisors begin to loosen and are gradually replaced over the next six years with the *permanent* set of teeth. A complete dental set in the adult would have thirty—two teeth, paired "uppers and lowers" as follows: four incisors, two canine teeth, four premolars, and six molars. The third molars, which come in last are sometimes called "wisdom teeth." In many modern Americans the crowded jaw conditions which resulted from poor nutrition require their removal. Because 30% of Americans "outlive" their teeth, the cost of dental care is tremendous. Tooth decay is a problem to be studied by everyone concerned with the prevention of disease.

The tooth is not dead, as many think, but is actually a live structure requiring a constant blood supply. It has many delicately sensitive nerves. In fact, you can easily detect a small grain of sand between your teeth. Sad to say, **dental decay** (called *caries)* often begins in childhood. Drinking cola beverages and other soft drinks, with the free use of candy and between-meal snacks sets the stage for the development of dental decay, beginning in the preschool years.

Bacteria present in the mouth normally cause little damage, unless there is a high intake of sugar. *Bacterial fermentation* of sugar produces an acid which erodes the sensitive enamel of the tooth surface. As a pocket or **cavity** is formed, bacterial action further destroys the tooth until invasion of the pulp produces acute pain, and an abscess develops. Research in the past two decades has also shown the protective benefit of *fluoride* in the diet as well as drinking water. As little as one part per million in the water supply, will enhance the resistance to dental caries, even when the diet is not good. Over

three parts per million of fluoride, however, causes *mottling* of the enamel. So the tolerances are small. Although I commend the efforts of public health authorities to improve the dental situation, there is no question that diet is the major factor in a promotion of dental health.

Proper **brushing and flossing** of the teeth is also valuable to remove food particles and prevent the build-up of *plaque.* At least every twenty-four hours the teeth should be brushed, preferably with soft bristles, in order to remove a small film that forms after eating. If it is not removed, the base of each tooth will gradually harden and calcify (forming what we call *plaque).* Plaque formation is one of the major causes of **pyorrhea** (or *periodontitis)* that eventually, if untreated, will loosen the tooth and infect the surrounding tissues.

Flossing the teeth involves cleaning between them with a special type of string or tape. If done properly, this will remove small particles of food that lodge there and aid in the fight against decay. A regular checkup by a dentist and prompt treatment of cavities is important to prevent tooth loss. When dental destruction is complete, it requires the more expensive and troublesome *dentures.* So for dollar savings, looks, and especially function, it is well worth preserving our permanent teeth.

Swallowing Problems

Difficulty in swallowing is not common but is very troublesome. At all ages this may occur. A newborn baby who experiences difficulty in swallowing should be carefully evaluated for a possible **congenital** deformity. An abnormal connection called a *tracheoesophageal fistula,* between the esophagus and the windpipe may lead to *aspiration pneumonia* or even death. Congenital *webs* in the esophagus may obstruct swallowing. Some babies are even born with failure of esophageal development *(atresia).* Correction of this disorder requires surgery.

Children who accidentally or intentionally swallow *caustic* materials, such as hydrocarbons, lye, or strong acids may develop **stricture** of the esophagus. This narrowing and scarring usually occurs where the esophagus joins the stomach, but may produce symptoms higher in the chest or neck, including a feeling of fullness or frequent regurgitation. Fluoroscopic observation of a *barium swallow* is essential to establish the diagnosis. It is necessary to dilate a strictured esophagus with the passage of mercury-filled tubes *(bougies)* for several weeks to prevent further scarring or complete obstruction.

Swallowing difficulties in middle to later years of life may be caused by a problem in muscular peristalsis *(motility).* This may produce the characteristic painful spasm in the chest that occurs when a large chunk of food is accidentally swallowed. At all ages it is extremely important to **masticate** the food well to aid digestion, especially the smooth passage of food from mouth to stomach. Large amounts of liquids should not be taken with the meals. Rather, thorough chewing mingles saliva with the food, allowing it to slide smoothly down the esophagus. Food should not be washed down. Moreover, it is important to avoid “greasing the chute” with overuse of fats or margarine.

Excessive gastric acid and its stimulation caused by caffeine drinks tend to relax the sphincter muscle at the lower end of the esophagus, allowing regurgitation of stomach contents to occur. Symptoms of **heartburn** are then noted. If hydrochloric acid is allowed to remain within the lower esophagus, it

sets up an irritation *(esophagitis)* that may even lead to permanent scarring. In an older individual any persistent difficulty in swallowing, especially associated with weight loss, should prompt a careful search to discover the cause. **Cancer** may develop in the lower esophagus, which all too often is inoperable, almost 95% fatal by the time it is discovered. The avoidance of tobacco, alcohol, and irritating foods is preventive for this serious malignancy.

Gastritis

Inflammation of the stomach, or **gastritis**, is quite common. Symptoms of acute gastritis, especially nausea and vomiting, may appear suddenly. They are usually caused by toxins produced by infectious organisms.

Staphylococcal food poisoning is one type that runs its course within a few hours. Chronic forms of gastritis are seen in alcohol users, where the toxic effect of beverage alcohol produces a gradual thinning and drying of the gastric mucus membrane. Associated with this, not infrequently, is the high level of acid secretion indicative of **peptic ulcer.** Certain *atrophic* forms of gastritis may produce the opposite effect, namely the absence of gastric acid and *intrinsic factor.* It is responsible for the absorption of **Vitamin B12** by the small intestine. *Pernicious anemia* will develop, with its characteristic blood picture and neurologic signs.

Treatment usually requires the lifelong administration of monthly vitamin B_{12} in to replace this essential vitamin. Although some doctors advocate a *bland* diet for the treatment of gastritis, it is really only necessary to avoid irritating substances. Tobacco, alcohol, coffee, cola drinks, spices, condiments, and corrosive drugs should be eliminated, giving the stomach an optimum chance to heal itself and restore normal levels of enzymes essential for the digestion of protein. Moist heat applications over the stomach area can relieve pain and spasm. Avoiding extremely hot or cold drinks will allow the stomach, with its marvelous regenerating powers, to heal, often within days.

Hiatus Hernia

Discussed already in Chapter 12, **hiatus hernia** is an increasing problem in western civilization. A widespread American habit is the consumption of very large quantities of food, especially near bedtime, and drinking several cups of liquid with each meal. This chronic over-distention of the stomach weakens the sphincter at its upper end and tends toward *acid reflux.* Regurgitation of this sour and slightly irritating material is aggravated by obesity, tight belts, girdles, and stooping, bending or lying down immediately after a full meal. X-rays of the upper intestinal tract help to confirm the diagnosis. Corrective dietary measures must avoid the above “causes.” Occasionally the use of elevating blocks at the head of the bed will control nighttime heartburn for most people.

Peptic Ulcer

Ulcers in the stomach and duodenum are quite common in alcoholics, slow to heal in smokers, and occasionally are caused by aspirin and similar irritating drugs. However, it is my belief that most cases of peptic ulcer have their root in the stress mechanism. It is generally established that ulcers do not form in the absence of gastric acid. On the other hand, even spicy stimulating diets may not be associated with ulcer formation. Profiles of the so-called “ulcer prone personality” characterizes him or her as intense, competitive, easily upset, and one who internalizes many pent—up emotions. Gastric

analysis often shows high levels of acid secretion.
Factors that damage the protective mucous membrane that safeguards the stomach lining are spices, such as *eugenol* in cloves, *cinnamic aldehyde* in cinnamon, and *piperadine,* the primary irritant in black pepper. Repeatedly coupled with borderline vitamin deficiency, an irritating highly spiced diet will frequently produce an irritable person. Thus, the stage is set for peptic ulcer.
In evaluating the cause of this unhappy problem, you should never overlook the influence of drugs. Some of the most common medications that produce ulcers are aspirin, cortisone and its synthetic derivatives (methylprednisolone, prednisone, Medrol, etc.); indomethacin (Indocin), phenylbutazone (Butazolidine); and related classes of non-steroidal anti-inflammatory—NSAID—preparations (ibuprofen, Advil, Motrin, Voltarin, etc.), all used in the treatment of arthritis. Nearly any drug, however, can irritate the stomach, and these should be suspected whenever there is pain.
Ulcers of the *duodenum* and *stomach.*
Cancer in the upper edge(*fundus*) of the stomach.
The **symptoms** of peptic ulcer can be confusing. Usually the burning pain is located over the stomach, slightly to the right of the midline. Pressure in this area aggravates the pain, Symptoms are relieved by food, and usually by antacid preparations. After coating the ulcer, and providing temporary relief, the pain returns. Large ulcers may be painful, persistent, and disabling. Complications, such as obstruction, perforation, and hemorrhage are infrequent, but normally require surgery as described in Chapter 12. Most cases, however, can be handled by strict attention to dietary wisdom and more effective stress coping mechanisms.
Many physicians refuse to treat a person with peptic ulcer who continues to use cigarettes. It is essential to abstain from all tobacco and alcohol. Alcohol stimulates acid secretion, while tobacco interferes with acid neutralization. Coffee and other forms of caffeine also increase acid production, aggravating the tendency to ulcer disease. Spices and condiments gradually erode the mucous protective lining of the stomach and increase the susceptibility to damage by the acid and pepsin present in the gastric glands. Emotional tension must be relieved with periods of meditation, exercise, adequate rest, and the cultivation of a tranquil, accepting personality. Spiritual renewal and prayer are all essentials in achieving this state of peaceful digestion essential to health.
Antacids, although popularly used, do not possess curative powers. Neutralization of the acid can be done in alternate more physiologic ways. Small amounts of food, particularly those high in fat content, such as avocados and olives, are helpful to the digestion. They retard acid production, as well as gastric emptying. High protein diets and acid fruits are usually avoided in the acute stages. Vegetable juices are preferable. Liquids on the cool side tend to reduce gastric secretions more than do hot drinks. On the other hand, because of reflex connection to the autonomic nervous system, moist hot packs over the stomach can reduce acid secretion, as well as give a splendid pain relief. These should not be prolonged, but may be used frequently through the day. Within a few weeks, in all but the complicated cases, symptoms will subside. Healing is usually complete.
Malabsorption

Selectivity in absorbing nutrients is one of the most important characteristics of the human intestine. A newborn baby has the ability to absorb many large protein molecules. This is one of the reasons why antibody protection is secured from the mother's *colostrum,* the early form of milk. For this reason, the early introduction of solid foods should be discouraged. Absorption of too many complex proteins can set the stage for food allergies that last a lifetime.

Once digestive integrity has been established in infancy the intestinal absorption is quite specific. Proteins must be broken down to amino acids, fats to fatty acids, and carbohydrates to the simple six-carbon sugars—glucose, fructose, and galactose. Absorption of these end-products of digestion requires adequate amounts of specific enzymes. Please refer to Chapter 23 for a review of this digestive physiology, essential to understanding the problems that may result in malabsorption.

One common defect in the absorption of carbohydrate is a deficiency in the enzyme *lactase.* Other *disaccharides,* less commonly, acquire deficiencies of their final splitting enzyme. In typical **disaccharidase deficiency** there is a failure to split lactose into its simpler sugars, galactose and glucose. Lactic acid accumulates, and bacterial fermentation rapidly follows. This produces cramps, bloating, or diarrhea. It is reported, in fact, that 60 to 90% of the Black and Oriental races have *lactase* deficiency. This is likewise present in Caucasians, but to a lesser extent. For this reason many people avoid milk in adult life and get along very well. Others follow popular customs or childhood patterns and do not realize that their increased flatulence and diarrhea are due to a hereditary problem. An accurate diagnosis, followed by elimination of milk from the diet relieves symptoms completely.

Sprue is another type of malabsorption. The *nontropical* variety, in recent years, has been identified as a hypersensitivity to wheat, hence is called *gluten enteropathy.* It is characterized by foul smelling stools, nutritional deficiencies, and diarrhea. Fortunately, the condition entirely clears when wheat is eliminated from the diet. Intestinal biopsies are sometimes used to confirm the diagnosis, but diet therapy is "curative."

Temporary malabsorptive states are seen after bouts with gastrointestinal infection. Certain antibiotics, most notably *Clindamycin* have been associated with the development of malabsorption. The *fish tapeworm* can induce malabsorption, with the development of B_{12} deficiency. Certain similar states may occur after partial removal of the stomach, and some other intestinal operations. Less common causes of malabsorption must be diagnosed with *intestinal biopsies,* with special diets prescribed to improve the patient' s nutrition.

Regional Enteritis

Crohn's disease, or *regional enteritis,* affects primarily young adults. Characterized clinically by episodes of diarrhea, cramps, and occasional intestinal bleeding, this problem resists most attempts with natural therapy. The cause is unknown. A granuloma formation gradually develops in the small intestine, occasionally producing obstruction. Numerous operations may be required to relieve the obstruction and remove involved portions of the small intestine. A relationship to stress and emotional tension has been seen in many of these patients.

I have observed beneficial results on numerous occasions with the

prolonged use of hydrotherapy treatments, using hot and cold contrast over the abdomen. Careful elimination diets select out any foods to which the individual is sensitive. Persistence in adhering to a strict pattern of eating, eliminating allergenic foods, spices, and undesirable foreign chemicals may arrest the progress, or at least control the symptoms.

Colitis

A more common inflammation of the bowel is **ulcerative colitis.** Affecting children, as well as adults, this inflammatory change involves the colon, with gradual development of shallow ulcers and episodes of cramping pain, diarrhea, and rectal bleeding. As in gastric ulcer, association with stress has been prominent, and the disease termed a *psychosomatic* one. We do not know whether use of antibiotics or other drugs and chemicals are involved in the production of colitis, though this is often suggested. The disease tends to run a chronic recurring course with diarrhea predominating. A change of occupation may become necessary. Modern drug therapy for this condition is rarely curative. Cortisone steroids in particular tend to borrow upon the body's reserves elsewhere to control the symptoms. Specific causative factors should always be investigated and dietary measures strictly followed to control this disease.

Treatment requires a tranquil, peaceful lifestyle in order to effectuate a complete cure. Adequate dietary fiber should be encouraged, with the avoidance of irritating foods such as spices and seeds which might be sharp or erosive. Avoid any food to which the individual shows sensitivity. Thoroughly chew the food, and use fruits at one meal and vegetables at the next. Cultivate a tendency toward simplicity in the diet. It will usually prove most rewarding. Hydrotherapeutic measures are indispensable to control the pain. Prolonging the colitis beyond eight or ten years has been shown to increase the risk of cancer in the colon. Preventive care may rarely require a *colectomy.* For this and other reasons, medical consultation should be periodically sought during the chronic bout with colitis.

Irritated Colon Syndrome

A much more common and often confused condition is the **irritable colon syndrome** or *spastic colitis.* I prefer the term "irritated" colon for reasons described below. The symptoms usually occur in episodes. Watery diarrhea alternates with periods of painful constipation. There is extreme spasm in the colon, most often on the left side. The colon may become tender, but fever and inflammation are not striking. Excessive mucous production may produce an alteration in the color of the stool. Most typically the irritated colon syndrome is seen in individuals who are always "on the go," tense, anxious, and often too hurried to regularly move their bowels. The diet in such patients is frequently refined, with inadequate fiber to give good intestinal tone.

One most important measure in treating the irritated colon is reassurance concerning its benign nature. *Sigmoidoscopic* examination and a *barium enema* x-ray are needed to be sure that there is no cancer or other disease. Negative diagnostic findings and a typical history makes the diagnosis likely. The diet should be high in fiber, with the addition of one or two tablespoons of bran daily. An abundant use of fruit and vegetables will improve the bowel habits and normalize the transit time, reducing the frequency of both diarrhea and constipation. Adequate fluid intake and a more relaxed attitude toward

life are quite beneficial. Hot packs over the abdomen should be used to relieve spasm. Stimulants and condiments should be avoided. Drugs that alter the intestinal tone, tranquilizers, and laxatives should also be eliminated, as they tend to perpetuate the situation. Usually, with appropriate remedial measures, this condition can be stabilized, It is compatible with a normal life span.

Hemorrhoids

Although I discussed the treatment of hemorrhoids in Chapter 12, additional comments are appropriate here. This painful condition is common in our "constipated" Western culture. Millions of dollars spent on laxatives hardly substitute for a natural diet that could nearly eliminate the problem. The total vegetarian diet has plenty of *fiber.* It is likewise helpful in reducing irritation from hemorrhoids. Your intestinal transit times move more quickly, keeping the entire body in better health.

Regular bowel habits are important. Thorough cleansing of the anal area using warm soapy water after each bowel movement aids in the elimination of offending bacteria. This extra hygienic measure is important to allow the rectal area to heal. Various over-the counter *suppositories* can be used to relieve itching, but are not routinely needed.

The most helpful simple treatment for hemorrhoids is the hot and cold contrast **sitz bath** (see Chapter 17). Take the treatment three times daily. It will both improve the circulation and bring relief of pain. Physical activity, with the avoidance of prolonged sitting, will improve the abdominal circulation, avoiding congestion in the sensitive region. Prolonged or more serious cases may need the rubber band ligation or surgical procedures described in Chapter 12.

Many people erroneously conclude that all bright red rectal bleeding is due to hemorrhoids. Every person with rectal bleeding should be investigated to exclude cancer or ulcerative conditions. Rectal pain can also be caused by disorders other than inflamed hemorrhoids. **Anal fissures** are particularly painful, usually aggravated by the passage of stool. Infections and abscesses may also develop in the anal region and should be excluded by a careful examination.

Cancer

Malignancies of the digestive tract have already been described in Chapter 6. **Stomach cancers,** common in Oriental nations, are fortunately decreasing in frequency in the United States. Difficult to diagnose and cure, this particular malignancy requires careful observation of the people at risk with periodic screening tests to detect early signs or risk factors. A diet free of extremely hot foods, spices, or fermented soy preparations (commonly used in Korea and Japan) will help to reduce the incidence of this dreaded condition.

Far more common in this country is **cancer of the colon.** Eighty percent of these lesions are within sight of the sigmoidoscope for early diagnosis. This simple procedure, *sigmoidoscopy,* is recommended for individuals above the age of 40, every other year or so, at the physical examination. Any rectal bleeding should be investigated with appropriate studies to exclude malignancy. Screening tests with the *stool guiac* or *Hemoccult* paper may detect trace amounts of occult bleeding. Keep in mind, however, that a meat diet can produce small amounts of blood in the stool, not related to any disorder in the body itself.

The presence of black tarry stools in the absence of charcoal or iron ingestion should alert one to the possibility of gastrointestinal hemorrhage. This may be caused by ulcers, diverticulitis, and other conditions, including cancer. In the event of severe hemorrhage prompt medical diagnosis is imperative to determine the cause.

The recognition of cancer in the colon in its early stages mandates prompt surgery. After appropriate preparation, the tumor should be completely removed, if possible. When this is done early the colon is usually reconnected (called *anastomosis),* permitting bowel function to restore normally. Extensive lesions or obstruction may require a temporary or permanent *colostomy.* This is an opening in the abdominal wall that permits the fecal waste to empty into a bag. After removal of the obstructing tumor, the bowel may be reunited. In cases of *abdominal-perineal resection* for cancers low in the rectum, the colostomy remains the permanent site for evacuation of feces. When this unfortunate procedure is necessary, a positive outlook is exceedingly important to recover the confidence to function normally, and care for the appliance at home. Descriptive brochures with instructions are available from most colostomy equipment manufacturers.

As we look at most of the gastrointestinal problems mentioned above, it becomes apparent that true preventive answers lie principally in proper diet. The lifestyle, including daily exercise, relaxation, adequate fiber, thorough mastication and regularity in elimination can prevent many troublesome conditions that affect the digestive system. Frank discussion with your family physician will help uncover symptoms previously unrecognized, while in unusual situations the medical practitioner can do additional tests, finally arriving at the proper diagnosis.

FIBER FACTS

Breads *serving size*	*grams of dietary fiber*
Bran muffin 1 medium	3
Whole wheat bread 1 slice	2
Pumpernickel bread 1 slice	1
Rye bread 1 slice	1
Raisin bread 1 slice	<1
White bread 1 slice	<1
Saltine crackers 4 squares	0

Cereals and Pasta *serving size*	*grams of dietary fiber*

General Mills Fiber One 1 ounce	13
Kellogg’s All-Bran 1 ounce	9
whole wheat pasta 1 cup	5
Kellogg’ s Complete Bran Flakes 1 ounce	5
Post Fruit & Fibre 1.25 ounces	5
Kellogg’s Raisin Bran 1.4 ounces	*5*
Nabisco Shredded Wheat 1 ounce	3
General Mills Total 1 ounce	2.5
General Mills Wheaties 1 ounce	3
General Mills Cheerios 1 ounce	2
Post Grape-Nuts 1 ounce	3

oatmeal 1 cup 2
popcorn 3 cups 2
Kellogg's Corn Flakes 1 ounce 1
Cooked Legumes *serving size grams of dietary fiber*
kidney beans 1/2 cup 10
baked beans 1/2 cup 7
navy beans 1/2 cup 10
pinto beans 1/2 cup 10
lentils 1/2 cup 2
Vegetables *serving size grams of dietary fiber*
cooked frozen peas 1/2 cup 5
baked potato (with skin) 1 medium 4
cooked broccoli tops 1/2 cup 3
cooked young carrots 1/2 cup 3
cooked corn 1/2 cup 3
fresh avocado 1/2 medium 3
cooked green beans 1/2 cup 1
Brussels sprouts 1/2 cup 3
cooked eggplant 1/2 cup 2
cooked sweet potato 1/2 medium 2
raw cabbage 1/2 cup 2
raw lettuce 1/2 cup 0
raw celery 1 stalk 0
Fruits and Nuts *serving size grams of dietary fiber*
almonds 1/4 cup 5
dried prunes 3 4

apple (with skin) 1 medium 3
banana 1 medium 3
blackberries 1/2 cup 3
dried dates 5 3
nectarine 1 medium 3
peach (with skin) 1 medium 3
roasted peanuts 1/4 cup 3
strawberries 1 cup 3
cantaloupe 1 quarter 1
olives 10 medium 2
orange 1 medium 2
creamy peanut butter 2 Tbsp. 2
tangerine 1 medium 2
walnuts 1/4 cup 2
CONDIMENTS
These herbs are currently considered SAFE TO USE:
Bay leaf Oregano
Caraway seed Paprika (Spanish type)
Cardamom Parsley
Celery seed Peppermint

Chives Saffron
Coriander Sage
Dill seed Savory
Fennel Spearmint
Garlic Sweet basil
Thyme Turmeric
Italian seasoning Wintergreen
Marjoram
Mint
Onion

These herbs are known to be HARMFUL:

Allspice Ginger
Cassia Horse-radish
Cayenne pepper Mace
Chili powder Mustard
Chicken seasoning (some) Nutmeg
Cinnamon Paprika (Hungarian)
Cloves Pepper (black and white)
Curry

Teeth and Gums

BRUXISM (Teeth Grinding)

SYMPTOMS—Unconscious grinding of the teeth together, often while asleep.

CAUSES—Bruxism can wear down the teeth, loosen them, and even contribute to receding gums; so it is a condition you want to stop.

The experts tell us it is caused by stress, anxiety, anger, sensitivity of the teeth to heat and cold, and fluctuations in blood sugar levels.

TREATMENT—

• You may find that the solution is simply to stop chewing during the day when you do not need to. Do not chew gum. Do not chew bits of food after the meal is ended. When you are not eating to swallow food, do not chew. This simple rule has totally eliminated the bruxism problem for many people. It can do it for you also.

If you will carefully think about it, you will find that chewing, as a leisure time activity, is *not relaxing;* it actually makes one nervous. Once you fix the habit of unnecessarily chewing during the day, it can easily be repeated at night.

• Throughout the day, keep your mouth relaxed. Do not clamp your teeth together; do not grind. If you control yourself during the day, you will soon automatically be doing it at night also.

• Hypoglycemia can be a factor. When a person has low blood sugar, he is more likely to clench and grind his teeth.

• Some people find it necessary to wear a splint while sleeping.

• Do not drink alcoholic beverages. They contribute to tooth grinding. .

CALCULUS (Tartar; Stained Teeth)

SYMPTOMS—The teeth are darker and more yellow than they should be.

CAUSES—The actual color of teeth is not white, but light yellow. But, as one ages, his teeth tend to become somewhat darker and more yellow.

Coffee and cigarettes are a primary cause of tooth staining. Stop using them both and you will look much prettier. You will feel better too.

TREATMENT—

• Brush with fresh strawberries. Place a strawberry on the toothbrush and brush as usual.

• Brush with charcoal powder.

• Clean your teeth after every meal.

• Polish them with baking soda. Many of the stains are acid in nature, and the soda neutralizes and removes them.

• Rinse the food from your mouth after each meal.

• An electric toothbrush removes more plaque than regular brushing.

• Keep in mind that hard brushing can scratch your tooth enamel. The super-whitening tooth abrasives take off even more. Be careful. You want white teeth, but you also want teeth.

• Since we are on the subject of ruining your teeth, an excellent way to melt your teeth is to drink cola drinks. They contain phosphoric acid, which has a double whammy effect on your poor teeth! The acid melts your alkaline teeth; and the phosphorous

immediately locks into the calcium melted off, and carries it away. Place a tooth in Coca Cola, and it will be gone in a short time.

ENCOURAGEMENT—We need to come into the audience chamber of the Most High, and ask forgiveness for our sins. He will hear, He will forgiven, and He will give us enabling strength to resist sin. It all depends on our choice. But we must not waver in our loyalty to Him.

TOOTH DECAY **(Dental Caries; Toothache)**

SYMPTOMS—A cavity or hole develops in a tooth, but may not be noticed until it begins to be painful.

CAUSES—The outer part of the tooth (the very hard enamel) erodes, and then the body of the tooth beneath it (the dentin) begins eroding also. This is called tooth decay.

It is thought that plaque buildup (a sticky mass on the surface of the tooth) provides a place for bacteria to grow and feed on sugars in the mouth. The acid they produce digs holes in the teeth. If not stopped, the erosion enters the lower, center part of the tooth, called the pulp, where the nerve is. Then the pain begins. We call it a toothache.

However, certain things help produce tooth decay. These include sugary foods, sticky foods, and acid foods.

Cola drinks do an excellent job of melting teeth. Coca Cola, and similar cola beverages, contain phosphoric acid and lots of sugar. Frankly, the fluid is so terribly acid that it would be intolerable without lots of sugar to mask the acidity. Acid, sugar, and phosphorous are very dangerous when combined. The powerful acid melts part of the teeth, and the phosphorous chemically locks with the melted calcium, and quickly carries it off. All that sugar does its part to ruin the teeth also. It helps the bacteria to jump in and start still more trouble. Drop a tooth into a glass of Coke; then time the number of hours before the tooth totally disappears.

TREATMENT—

• Do not drink cola drinks. Do not eat sticky foods. Do not eat white sugar products.

• Rinse out your mouth after eating or finish a fruit meal by eating an apple.

• Goldenseal extract, that is alcohol-free, can be used as a antibacterial mouthwash.

• To reduce infection in a tooth, put a few drops of goldenseal extract on a piece of cotton and apply it to the swollen area at night. For 3 consecutive nights, do this.

• Eat plenty of raw fruits and vegetables.

• Do not chew up vitamin C tablets! The acid in them will melt your teeth.

• Avoid all toothpastes and powders. Detergents in them are harmful to teeth and gums.

• It is vital that you take calcium supplement, in order to maintain good tooth and bone structure. As you get older, you need even more calcium.

• Massage gums with your finger once a day.

TO STOP A TOOTHACHE—*Until you can see a dentist, here are several suggestions:*

• Swish warm salt water in your mouth, and spit it out. Do this after every meal and before retiring at night. Stir 1 tsp. of salt into a glassful of water, at body temperature.

• Somewhat warm salt water, held in the mouth will bring relief.

• Apply 1-2 drops of oil of cloves to the affected tooth with a cotton swab. If the oil seems too strong, dilute it with olive oil.

• Rinse your mouth vigorously with a mouthful of lukewarm water. If the pain is from food caught between the teeth, this may flush it out.

• Try flossing gently between the teeth.

• Put a charcoal tablet in your mouth and, with your tongue or cheek, press it against the swollen gum at the base of the problem tooth.

• Drink 1-2 cups of mullein tea or chew catnip herb.

• Mash up the root of plantain and put it on the cheek near the tooth.

• With your fingers rub an ice cube until one side is shaped into a V-shape. Then press it gently against the tender place, and push it back and forth over the area for 5-7 minutes. The effect of rubbing tends to cancel out the pain signal, which must travel along the same nerve route.

• Keep heat away from the tooth and nearby cheek. If it is an infection, the heat will draw the infection to the outside of the jaw and make the situation worse.

• Put ice on the nearby cheek for 15 minutes, 3-4 times a day.

• Avoid biting on that area of the teeth.

• Some individuals have found that, when a toothache begins, they quickly skip a meal, rest, take vitamin C, and conduct themselves very carefully over the next several days—and the infection in the tooth is overcome by the body.

DENTAL FILLINGS—Many books have been written on this subject in recent years. When you go to the dentist, he drills out the decayed part, and then fills the cavity with something hard which, hopefully, will last awhile.

The most common substance used for this filling is amalgam. This is a mixture of several metals, of which about 50% is always an extremely toxic chemical, called mercury. Mercury tends to evaporate slowly over a period of time. This influx of mercury, swallowed with your food day after day, is not the best for your health.

Alternatives are ceramic-based materials, gold, or platinum-type metals. They are more expensive, but less harmful. They do not gradually melt away, as does mercury in amalgam.

FLUORIDE TREATMENTS—Even more books have been written about fluoride! This deadly poison should be avoided at all costs. If it is added to your public drinking water supply, then you should buy bottled water (or buy a home distiller, to process your faucet water). If your dentist offers to give you fluoride treatments, you would do well to politely decline the opportunity.

AIR ABRASION TECHNOLOGY—Air abrasion dental work is the latest hi-tech method of drilling teeth. It is said to painlessly remove tooth decay without drilling; it permits dentists to make smaller fillings and save a large percentage of the tooth. In addition, it does not require pain-killing anesthetics.

GINGIVITIS **(Receding Gums, Bleeding Gums)**

SYMPTOMS—The gums swell and get red. Cleaning the teeth makes them bleed.

CAUSES—The gums pull away from the teeth. This is an early sign of periondotal disease).

TREATMENT—

• Begin taking more calcium. Get more sunshine or take supplemental vitamin D. Building the bones from within is the best way. If your teeth are having trouble, the other bones in your body, although hidden, probably are also. You do not want a fractured hip later.

• Eat a nourishing diet. Include raw fruit and vegetables. They help exercise your teeth and gums. They also help clean your teeth.

• Stop using nicotine and alcohol. They remove vitamins and minerals from your body.

• Fill an ear syringe (a rubber bulb with a long nose) with water and hose out your mouth.

Massage the gums at least once a day; better yet, massage after every meal when you brush your teeth.

• Massage the gumline with a little baking soda on your finger, dipped in water.

• Brush the teeth carefully after each meal. Use a soft toothbrush and do it gently. Otherwise you will make scratches on the enamel.

Alternate between two toothbrushes, so each one can dry out before it is used again.

• Soak the toothbrushes in hydrogen peroxide once a week. This kills bacteria buildup.

• Brush carefully at the gumline.

• An electric toothbrush is said to eliminate 98% of the plaque; whereas a regular toothbrush is said to remove only 48%.

• Floss your teeth faithfully as needed.

ENCOURAGEMENT—Thousands have drawn from the well of life, yet there is no diminishing supply. In the Bible will be found the help you need, day by day.

PYORRHEA **(Periodontal Disease, Gum Disease)**

SYMPTOMS—The gums become inflamed, extend to the ligaments and bones that hold the teeth in place, and eventually the teeth loosen and fall out.

CAUSES—Periodontal means "located around a tooth," and refers to any problems in the gums or other supporting structures of the teeth. It is also called pyorrhea, or gum disease.

The explanation given by many medical-dental professionals for periodontal disease is that plaque (sticky deposits of mucous, food particles, and bacteria) adheres to the teeth and gradually accumulates. This plaque causes the gums to become infected and swollen. That infection (called gingivitis), leads to pyorrhea (also called periodontitis) in which the bone underlying the teeth is eroded away by the infection.

The other explanation is that much of what is known as pyorrhea is primarily caused by an inadequate intake of calcium, copper, vitamins D and C; by the eating of processed, and junk, food; and by erosion of acids, placed in the mouth. Smoking, stress, and wrong diet are other crucial factors.

TREATMENT—

• It is known that inadequate nutrition, wrong foods, consumption of sugar, high phosphorous foods, smoking, drugs, excessive alcohol, chronic illness, and hormonal disorders make an individual more susceptible to periodontal disease. Smokers have twice the risk of gum disease. Laboratory animals given high sugar diets revealed a decrease in bone volume. These problems should, if possible, be corrected.

• Calcium, copper, and vitamins D and C are needed for good strong teeth. Folic acid, niacin, bioflavonoids are also needed. As a rule, take care of the teeth, and the gums will take care of themselves. Nourish the teeth with calcium and vitamin D.

• Emotional stress is known to decrease the body's ability to resist gum disease. Exercise neutralizes stress and encourages healthy gums.

• Open a capsule of vitamin E and rub the oil on inflamed gums, to aid in healing.

• A powerful aid in stopping gum infection is to brush the teeth twice a day with powdered charcoal.

• If gum inflammation is present, run very hot water over the toothbrush, to soften it up before using it.

• Put goldenseal powder in the mouth to help eliminate the infection. But do not take goldenseal internally for more than a week at a time. (Too much can harm lactobacillus in the bowel.) Do not use it during pregnancy.

• Diabetes and certain blood disorders put a person at greater risk of developing periodontal disease.

• Warm chamomile tea may be used as a soothing mouthwash after each brushing. Do not add sugar or milk to the tea.

Note: Sores under the tongue can be an early sign of mouth cancer. But if you do not smoke or chew tobacco, you are unlikely to ever have that problem.

DENTURE TROUBLES

SYMPTOMS—Loose-fitting dentures; dentures which may hurt the gums when chewing; dentures which cause difficulty in speaking properly.

CAUSES—Dentures are false teeth. The professional explanation for the problem is that the wearers do not take proper care of them, and that the gums periodically change shape, etc.

There is another, less-known, reason: When the decision is made to extract teeth and fit an individual for dentures, the teeth are pulled out and the molds prepared for the false teeth. The entire process is done as quickly as possible, so teeth will appear to be in the mouth again as soon as possible. In addition, it is a convenience to the dentist to take the molds the same day that the extractions were done.

But when the extractions are made, the gums understandably swell! A number of sizeable wounds have been made in the mouth, and the gums are swollen and inflamed. That is not the time to take the molds.

Instead, the person should wait at least one week for the gums to heal and readjust into their normal post-dental sizes and shapes. Then those molds should be made.

If your dentist tells you that you need all your teeth pulled out, discuss the matter with him and perhaps check with another dentist or two. Very often only certain teeth need be removed and a bridge can be installed, which locks onto the teeth which remain. This is far better than wearing dentures. Do all you can to keep your teeth.

LIVING WITH DENTURES—

• Practice speaking. By yourself, read aloud from books and learn how to articulate vowels, consonants, and various combinations.

• Temporary denture adhesives may be necessary when you are first getting used to your new dentures. But you should not need to rely on adhesives all the time. The dentures should fit properly. Do not let the dentist take molds too soon.

• When you can, take out the dentures so the gums can rest.

• Begin by eating soft foods, and gradually get used to chewing with dentures.

• After each meal, scrub the dentures with soap and lukewarm water. Wash your gums gently with a soft toothbrush, to remove the plaque.

• Massage your gums every day. Place your index finger over the outside of the gums, another finger over the inside portion, and rub back and forth.

• Rinse your mouth each day with warm water mixed with a tsp. of salt.

Mouth

SALIVA PROBLEMS

SYMPTOMS—Not enough saliva, causing a dry-mouth condition. Or too much saliva.

SOLUTIONS—

• Without proper saliva, you cannot absorb your food properly, for digestion begins in the mouth. Always chew carbohydrate ("starchy") foods especially well. This includes such things as bread and all grain products, potatoes, etc.

• The chewing gum habit is not good. It overworks your salivary glands when they should be resting.

• If you have a dry mouth, take a little lemon juice or honey before the meal to stimulate the flow of saliva. If you are not obtaining enough vitamin A, your saliva flow may be inadequate.

• If you seem to have too much saliva, drink a tea of one of the following: white oak bark, goldenseal root, or bayberry.

HALITOSIS (Bad Breath)

SYMPTOMS—The breath has an unpleasant odor.

CAUSES—Touch the back of your hand with your tongue, and then smell it. This is a simple test which may tell you something you need to know.

Not caring for your teeth properly, brushing them can be a primary cause. But tooth decay, indigestion, improper diet, gum disease, constipation, inadequate digestion of proteins, infection in the nose or throat, poorly functioning liver, stress, or heavy metal buildup can also be major problems.

TREATMENT—

• Brush your teeth after each meal. Use dental floss.

• Brush the tongue carefully. It often has food particles and bacteria, and needs cleaning.

• Drink more water. Dehydration often causes bad breath, especially first thing in the morning. Saliva does not flow during sleep, so no mouth cleaning occurs at night.

• Eat parsley. Other chlorophyll-containing foods are also good for your breath.

• Take charcoal by mouth. Let them dissolve slowly in the mouth.

• Go on a five-day raw food diet, during which 50% of what you eat is raw. This will help clean out your system.

• Apples, carrots, celery, etc., are excellent for cleaning out your mouth at the close of a meal. They remove odor-causing bacteria from the mouth.

• Outdoor exercise will bring more oxygen into the lungs and help clean out the system, reducing bad breath.

• In the lives of many, gum disease is a major cause of bad breath.Place goldenseal over the infected gums or mouth sores. Do this for 3 days, to help heal the gums.

• Far less likely, mouth breathing may cause bad breath. Yet, for many, the advantages of mouth breathing (obtaining more oxygen than otherwise could be done) outweighs the possible disadvantages.

• Sinus infection produces a discharge with a bad odor. If you have sinus trouble, this may be the cause of your bad breath.

• Do not eat spicy foods.

• Meat eating can produce bad breath, both because of the particles left in the mouth and because of later indigestion.

• Cheese and fish both cause bad breath.

• Yes, there is garlic, but it is such a powerful germ killer that you may need to take it anyway.

• Drinking coffee, beer, wine, or whiskey are excellent ways to have bad breath. Water is the best liquid for your body.

• Use myrrh, rosemary, or peppermint to brush your teeth and rinse your mouth.

• Avoid foods that get stuck between the teeth too easily.

• Avoid foods that are too likely to cause tooth decay, such as meat, candies, and sticky sweets.

• Instances have been reported of food allergies having caused bad breath. Search out the foods you are allergic to, and avoid them.

• Avoid constipation.

• In cases of bad breath caused by stomach problems, thyme tea can be helpful.

• Boil your toothbrush each month or buy a new one. Bacteria grow on the toothbrush. Rinse it with hydrogen peroxide occasionally during the month.

• Chew fennel or anise seeds after eating an odorous meal.

• Do not use commercial mouthwashes. They irritate the mouth more than they solve any problems. All they have is alcohol, dye, and flavoring.

Bad breath may be a sign of an underlying health problem.

CHEILOSIS (Angular Stomatitis; Geographic Tongue)

SYMPTOMS—Cracks appear in the corners of the mouth and in the (nasolabial) corners of the nose.

On the top and sides of the tongue are irregular, denuded areas that appear very smooth. Geographic tongue is not painful, and the sense of taste may, or may not, be affected.

CAUSES AND TREATMENT—This is a nutritional problem.

• The cracks are caused by a vitamin B_2 (riboflavin) deficiency.

• The geographic tongue means you are not absorbing B_3, B_6, B_5, B_{12}, folic acid, or zinc properly. The cause is frequently malabsorption from celiac disease-like changes in the small intestine.

• Determine the foods you may be allergic to. Avoid those allergens; take supplementary vitamins and minerals, especially B_2; the entire B complex; and zinc. Also take betaine HCL before each meal.

HICCUP (Hiccough)

SYMPTOMS—Hiccups that you want to have stopped.

CAUSES—Charles Osborne of Anthon, Iowa, started hiccuping in 1922 and hiccuped for the next 65 years. After 430 million hiccups, he passed away.

Almost all hiccups are one-sided; that is, only one side of the diaphragm contracts. Overeating or excessive drinking is the most common cause. It causes the stomach to extend downward and press against the diaphragm—which then starts its hiccuppy motions.

A hiccup is a repeated involuntary spasmodic contraction of the diaphragm, immediately followed by a sudden closure of the glottis.

But that information does not help solve the problem. Here is advice that may. All of these methods really work for some people. See what is best for you. (You will notice that these techniques are frequently based on diverting attention, changing the ongoing physical hiccup pattern, and getting the body to do something different for a few moments.)

TREATMENT—

• A high blood carbon-dioxide level is known to stifle hiccups. A well-known procedure is to breathe into a paper bag. Blow in and out exactly 10 times, and do it very hard until you are red in the face. You must do it fast, and you must form a good seal around the bag so no air gets in.

Hold your breath as long as you can, and then swallow when you think a hiccup is coming. Do that 2-3 times. Then take a deep breath and begin again.

• Hold your breath in for as long as possible, then exhale and hold that as long as possible.

• Blow air out in a slow, steady stream.

• Hold your breath, while extending your head as far backward as you can.

• Swallow a teaspoonful of sugar, dry. It often stops the hiccups in minutes. The sugar in the mouth probably sends different signals along the nerve routes, interfering with the hiccups.

• Close your mouth, hold your nose and ears closed with your fingers and thumbs, and swallow 3 times before you let go. This creates a slight vacuum and changes the rhythm of the diaphragm enough to bring relief.

• Chew and swallow ice for 10-15 minutes.

• Stand behind the person as he sits on a chair. Grasp the neck gently with your fingers and, with the thumbs, slowly massage down each side of the spinous process.

• Fill a glass of water, bend over forward, and drink the water upside down.

• Apply pressure with the flat of the hand, just below the breastbone.

• Take a deep breath and drink 10 swallows of water while not breathing.

• Put ice on the neck.

• Drink catnip tea.

• Place light fingertip pressure on each side of the neck, for about a minute.

• When you are eating, just be quiet and eat, and you are not likely to get hiccups.

• Take exactly 10 sips of water in rapid succession.

• A sneeze sometimes stops the hiccups.

• Have someone pull on your tongue.

• Lie on the left side for 10-15 minutes.

• Stand on your head.

• Swallow crushed ice.

• Deep breathing.

• Have someone massage your feet.

• Drink a half glassful of fresh orange juice.

• Take a hot bath for 15 minutes.

• Place an ice bag to the pit of the stomach.

• Bend at the waist, to touch the toes, and hold this position for about 60 seconds. This method is useful for both adults and children.

• When children run around and play, sometimes one ends up with the hiccups. When that happens, try tickling him while he holds his breath, and tell him to try real hard not to laugh. He will forget about the hiccups.

• In case you have hiccups which will not stop, go on a 3 day complete fast.

ENCOURAGEMENT—The work of conquering evil is to be done through faith. Those who go into the battlefield will find that they must put on the whole armor of God. The shield of faith must be their defense. God will give them the victory over temptation and sin.

BELCHING (Eructation)

SYMPTOMS—Burping up air from the stomach.

CAUSES—Belching is most frequently caused by bringing up air that was swallowed with the food and drink taken in. This is called aerophagia.

We normally have about a cupful of air in our stomach all the time. Every day, we swallow air and make some in our stomach (about 10 cupfuls in 24 hours). Because this is 9 cupfuls too many, we belch occasionally.

TREATMENT—

• Make a habit of not gulping down air as you eat. Just thinking about being more careful will help a lot.

• Chew with your mouth closed, and do not talk while you are eating.

• Do not eat foods which produce gas, such as beans, carbonated drinks, and beer.

• Do not drink out of cans, bottles, or through a straw.

• Avoid foods with high air content. This includes ice cream, beer, omelets, and whipped cream.

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BLOATING (Flatulence; Gas)

SYMPTOMS—There is an excess of gas in the stomach. The stomach (or intestines) seems to be too full.

CAUSES—Bloating is the accumulation of gas in the stomach, intestines, or bowels. Normally the stomach is sterile because of the acid environment. But when it does not contain enough hydrochloric acid, bacteria from the small intestine migrates up into the stomach. Arriving there, it ferments the carbohydrates and sugars which are there. This produces gas or, what is called, bloat.

TREATMENT—

• You may wish to take 1 oz of oral hydrogen peroxide (20 drops/oz) twice a day, along with colloidal minerals, betaine HCl (hydrochloride), and pancreatic enzymes, 75-200 mg, three times a day. Take this 15 minutes before mealtime.

• Instead of that, you can take lemon juice and water before each meal. In your stomach, the lemon juice will act similarly to that of HCl.

• At the time of the bloating, this can be done: If the bloating is in the stomach, seat the person upright, apply heat over the stomach. Have him sip hot water.

• If the bloating is in the intestines, have him lie down for a half hour before, and after, meals. Give no fluids with meals, but hot water may be sipped afterward. If needed, give an enema.

• Avoid gas-producing foods, such as beans, cabbage, other members of the cabbage family, and whole wheat flour products.

• To reduce gas-causing sulfur compounds in beans (garbanzo, pinto, navy, etc.), use the following cooking method: Place 1 cup of beans in 5 cups of water and bring to a boil. Boil for one minute. Then drain the beans and add 5 cups of fresh water. Bring the water to a boil and continue cooking the beans according to directions.

• Avoid lactose. Eating dairy foods can produce gas in the large bowels.

• It is possible to eat too much fiber at a time. This can induce some bloating.

• Take charcoal, to help reduce the gas. The charcoal will adsorb it and carry it off. Activated charcoal is best.

• People who sigh often swallow air.

• Avoid tight belts and tight-fitting clothes. Those who do not wear belts and girdles have less indigestion.

• Do not postpone bowel movements.

• Avoid drinking at water fountains. You can hardly drink at one without gulping down air.

• A low-fat diet helps reduce carbon-dioxide production in the top (duodenal) area of the small intestines.

• Artificial sweeteners produce gas.

• Drink enough water. A dry mouth encourages swallowing.

• Avoid repetitive belching, for you tend to swallow more air than you release.

• Both chewing gum and smoking increase the swallowing of air.

• Carbonated drinks (beer, champagne, soft drinks) and foods with whipped air cause more food to be ingested.

• Avoid drinking with meals.

• To expel excess air, rock back and forth in the knee-chest position.

STOMACH DISTENSION, GASEOUS **(J.H. Kellogg, M.D., Formulas)**

COMBAT IT—Cold Compress over stomach without plastic covering, changed every 4 hours; Cold Fan Douche over stomach, twice daily.

INCREASE GENERAL VITAL RESISTANCE, COMBAT AUTOINTOXICATION—Short sweating baths, such as the Radiant Heat Bath; Sweating Wet Sheet Pack; Hot Full Bath, 4-6 minutes, at 105^0 F.; Hot Blanket Pack; Hot Enema. Follow each hot bath with a Tonic Friction application.

PYROSIS—Hot water drinking before retiring at night; Fomentation over stomach at bedtime, with Hot Abdominal Pack overnight; sipping half a glass of very hot water, when rising in the morning. A few ounces of orange juice or other natural, unsweetened fruit juice half an hour before eating.

CONSTIPATION—Graduated Cold Enema; Cold Douche to abdomen. Hot Abdominal Pack; Regularity of bowel habits.

PAIN—Fomentation over the abdomen, followed by Heating Compress, protected by flannel only.

HEARTBURN **(Acidosis, Overacid Stomach)**

SYMPTOMS—A burning sensation in the stomach or chest.

CAUSES—Heartburn is a sense of burning in the stomach. In most instances, some of the stomach digestive juices have backed up out of the stomach into the esophagus (the food tube between the mouth and the stomach). This backing-up action is called *reflux*. These juices include hydrochloric acid, which is a rather powerful acid. It is used in industry, to clean metal. When it comes in contact with the esophagus, it burns the wall. Normally, the esophageal sphincter muscle shuts and prevents stomach acids from pushing upward.

Heartburn can be caused by excessive consumption of fatty or fried foods, alcohol, coffee, spicy foods, chocolate, or just having too much food in the stomach. Citrus fruits or tomato-based foods cause it in a few people.

Other contributing factors are hiatal hernia, allergies, stress, gallbladder problems, and enzyme deficiencies.

TREATMENT—

• Immediately drink a large glass of water. This will help wash the HCl back down and dilute it as well.

• Drink some raw potato juice. Whiz up an unpeeled potato and drink it down.

• Do not lie down. Remain upright, so gravity can help push the HCl down and keep it down. Later, when you do lie down, elevate the bed at the head by 4 inches.

• Avoid bending over; if you must lift something, bend at the knees. You do not want to compress your stomach when you have heartburn.

• Eating mints relaxes the lower esophageal sphincter, so HCl can crowd up into the esophagus.

• Do not drink anything caffeinated, for it will irritate the esophagus even more. Caffeine relaxes the sphincter, so stomach contents can move on up. Tobacco smoke also relaxes the sphincter. Estrogens relax it also.

• Drinking milk may feel good going down, but it encourages the stomach to secrete more acid.

• Drinks with fizz in them expand the stomach and make it more likely that HCl will come up the food pipe.

• Greasy, fried, and fatty foods sit in the stomach for a long time and increase HCl production. Avoid meat and dairy products.

• Antidepressants and sedatives aggravate heartburn. Aspirin and ibuprofen cause heartburn.

• Antacids only mask the symptoms. They also contain aluminum.

• Avoid stress, for that increases HCl production also.

• Loosen your belt; better yet, wear suspenders.

• Do not eat within 2½ hours before bedtime. Doing so not only can cause heartburn, but bring on heart attacks also.

• Eat more raw vegetables, chew your food well, and eat slowly.

HIATAL HERNIA (Hiatus Hernia)

SYMPTOMS—Heartburn and belching. There may be difficulty in swallowing. Material from the stomach may suddenly return into the throat or mouth, causing a burning sensation. It may feel as if there is a lump in the throat, or that food is sticking at a point in the throat. Sometimes bloody mucous is coughed up.

CAUSES—The stomach pushes, or herniates, upward through an opening in the diaphragm into the chest cavity (the thorax). A weakness in the diaphragm as it leaves the esophagus may enlarge the opening, where the esophagus (food pipe) enters the stomach. This enables the stomach to slide up somewhat.

The weakness is often caused by increased pressure upward, from what is in or near the abdominal cavity: obesity, pregnancy, tumors, heavy lifting, overeating, straining at the stool, or tight clothing.

It is said that nearly half the people over 40, in the U.S., have hiatal hernias. But most are unaware of it, since these hernias are often quite small and are hardly noticed. They occur in women four times as often as in men, perhaps due to tight clothing. They generally first occur after the age of 40.

The acid material that comes up into the windpipe, from the larger hernias, frequently causes ulceration in the esophageal wall.

But ulcers can also occur in the duodenum, which is the top part of the small intestine, just below the stomach.

People with this condition have a tendency to have overacid stomachs.

Between the esophagus and stomach is the esophageal sphincter. This is a circular valve which can open and close. But its strength is damaged by drugs, tobacco (smoked or chewed), or certain foods. This weakening allows food and acid to go back up into the windpipe.

Those certain foods include coffee and chocolate (because of the methylxanthines in them), spicy foods, tomato, alcohol, peppermint, spearmint, and citrus juices. Tobacco

and coffee are especially bad. Whole milk can also be a problem. Weakening of the sphincter occurs within 30 minutes after drinking coffee. One puff of a cigarette can lower sphincter pressure to zero; the result is called "smoker's heartburn."

TREATMENT—

• As soon as you sense heartburn coming on, drink 1-2 large glasses of water. This tends to wash the acid back down into the stomach.

• Eat nourishing food, plus vitamin/mineral supplements. Several small meals are best. Avoid overeating; it only intensifies the problem. Supper, if eaten at all, should be light and 2-3 hours before bedtime. Food in the stomach, after you are in bed, is more likely to flow back up into the windpipe. Stop eating supper entirely, and you are more likely to have success in overcoming hiatal hernia.

• Include extra fiber; this helps soak up some of the acid.

• Avoid fried food and fats; they slow down the digestion process in the stomach. Do not take tea, coffee, colas, alcohol, or tobacco. Avoid refined foods, including white-flour products and sugar.

• Avoid coffee, chocolate, spicy foods, alcohol, tomatoes, mint foods, whole milk, and possibly citrus juices.

• Avoid constipation by including fiber in the diet.

• Eat your meals on a regular schedule, and do not eat between meals. Eating between meals causes the stomach to stop partway through, and start all over again—still with everything from the previous meal in it.

• Even when not thirsty, drink a large glass of water every so often throughout the day.

• Avoid heavy lifting, and do not bend over more than you have to. Wait till 2 hours after a meal before starting heavy exertion.

• Bend from the knees, not from the waist, to avoid upward pressure on the stomach.

• Daily outdoor exercise will strengthen the muscles.

• Avoid stress and stressful situations.

• Avoid tight clothing (corsets, girdles, belts, etc.)

• You may need to raise the head of the bed 4-8 inches to avoid reflux of food upward at night.

VOMITING (Emesis)

SYMPTOMS—The person vomits.

CAUSES—The cause is often overeating, eating the wrong food, poor combinations, or excessive alcohol consumption. But it can also be caused by food allergies, poisoning, food poisoning, or infection (flu, Epstein-Barr syndrome, candida, etc.) If the vomitus (that which comes up) looks like "coffee grounds," it includes large amounts of blood from a bleeding ulcer or stomach cancer. This is an emergency, for extensive internal bleeding can result in death. Take him to the emergency room.

If it occurs in infants, accompanied by fever and the child is unresponsive, it could indicate meningitis. Call a physician immediately.

But it might be that you need to induce vomiting, after someone eats a poisonous plant, rat poison, etc.

TO ASSIST VOMITING TO OCCUR—If you have eaten something poisonous or are having a gallbladder attack, an emetic will help. Drink an emetic herb tea. Lobelia is probably the best. Make an herb tea of lobelia or peach leaves, and take a teaspoonful every 15 minutes for 3-4 hours.

EMETIC HERBS—When giving lobelia tea, give the full dose all at once or you will not induce vomiting. Add 1 oz lobelia to a quart of boiling water; let it steep for 5-10 minutes if you are in a hurry (15-20 minutes is better). Then give a cup or two of the liquid (not hot), and let him vomit.

Other emetic herbs include bayberry bark, myrica, white willow, and ragwort.

TO STOP VOMITING—Give very small doses of lobelia; it will relax the person and the vomiting will cease. Use a teaspoon of boiling water, steep, take a teaspoonful of this every 15 minutes, until relief is obtained. A cup of hot peppermint or spearmint tea, taken after the stomach has been cleaned out, will also help settle it. Catnip or sweet balm are also useful. A hot fomentation over the stomach, or a hot water bottle with a moist towel under it, will help settle the stomach.

AFTER VOMITING—Do not eat for several hours, but carefully take fluids, as you are able.

You lose a lot of fluid when you vomit. Be sure and replace it. Drink water, do not become dehydrated. Those fluids should be clear: water, weak tea, or fruit juices. Milk and heavy soups may be too much for the stomach just then.

Drink small amounts of peppermint tea.

Vomiting also flushes out minerals. These need to be replaced with electrolyte drinks, clear soups, or apple or cranberry juice. If only water, add a couple pinches of sugar and salt to it. After vomiting, it is best to sip the fluids, then pause, then sip a little more; do not gulp them down. Do not drink cold fluids; it is a shock to the weakened stomach. Do not drink carbonated products at this time.

When you are ready to eat, start back with a small carbohydrate meal, such as rice soup. Avoid fatty substances, for they would remain in the tired stomach too long.

INDIGESTION (Dyspepsia)

SYMPTOMS—Gas, abdominal pain, a bloated feeling, belching, nausea, rumbling noises. Sometimes vomiting.

CAUSES—Dyspepsia is probably the most common "disease" in the Western world. Ongoing indigestion can lead to food allergies, osteoporosis, anemia, degenerative disease, and a debilitated immune system.

Dietary habits and stress are primary causes of this problem. Other causes include (1) overeating, eating too fast, not chewing food well, eating when fatigued; (2) too much cooked food and not enough fresh food, not enough fiber in the diet; (3) partaking of coffee, tea, soft drinks, alcohol, and using nicotine; (4) eating foods you are allergic to (5) eating when nervous, distressed, angry, fearful, etc.; (6) and a lack of hydrochloric acid.

TREATMENT—

• Correct everything, pertaining to the above paragraph, that you can.

• Get more rest at night, rest a little before the meal, and walk outside immediately afterward.

• Drink carrot and beet juice.

• A primary cause in older people is achlorhydria (low hydrochloric acid production). Take natural digestive aids, such as papain from papaya or bromelin from pineapple.

DYSPEPSIA (Poor Digestion; Indigestion)

SYMPTOMS—Gas, a bloated feeling, rumbling noises, belching, possibly a burning feeling, and vomiting.

CAUSES—The main causes are dietary habits and stress. Lack of hydrochloric acid (HCl) and enzymes are other major causes. Lack of enzymes keep vitamins and minerals from being used properly. Inadequate HCl means the protein food will not be digested correctly.

Other contributing factors include peptic ulcers. Intestinal obstruction can also lead to indigestion. If the liver, pancreas, or gallbladder are not function properly, it is more difficult for the body to digest food.

A key factor can be hydrochloric acid production

If food does not digest properly, it tends to ferment in the intestines. This produces hydrogen and carbon-dioxide gas, which causes bloating and pain.

TREATMENT—

• Do not eat when you are in a hurry or under stress. You should be able to relax when you eat. Do not eat when you are upset or excessively tired. Do not drink liquids with your meal, for this dilutes your stomach juices. Take time to chew your food thoroughly.

• Eat more live (raw) foods rather than primarily heavily cooked items. Fresh, raw foods are rich in enzymes that help digest and assimilate the nutrients. But those enzymes are destroyed when heated to more than 120^{o} F. All processed foods have been heated above 120^{o} F.

• Cut down on the meat or eliminate it entirely. It is very hard to digest, and frequently carries bacteria and parasites.

• Be sure and include enough fiber in your meal. Otherwise you are more likely to have constipation, with consequent absorption of toxins back into the system.

• Include trace minerals in the diet (in Norway kelp and Nova Scotia dulse), and obtain adequate vitamin and mineral supplementation. If you are having a difficult time absorbing your food, you need to maintain good supplementation all the more. Swallowing air (by chewing with the mouth open or talking while chewing) can cause indigestion.

• First thing in the morning, juice a lemon and and drink it in a cup of water. This will help prepare your stomach for its daily duties.

• Ginger is good, to lessen digestive nausea.

• Catnip, chamomile, fennel, and peppermint are all helpful in reducing indigestion. Mint tea calms the stomach.

• Papain, papaya (containing the digestive enzyme papain), and fresh pineapple (containing another digestive enzyme, bromelin) are also very helpful.

• Calcium, magnesium, and vitamin D are needed.

• English bitters are very helpful. Take them before each meal.

• Helpful herbs include balm, bitter orange, celandine, hops, fennel, and yarrow.

• Alcohol; vinegar; caffeine; and spicy, refined, or greasy foods promotes indigestion.

• Food allergies, such as lactose intolerance, can cause it also, so locate them.

• Do not eat too heavily of legumes, especially lentils, peanuts, and soybeans. They contain a substance which slows down certain digestive enzymes.

• Avoid these food combinations: milk and sugar, fruits and vegetables, sugar and protein.

• Take an out-of-door walk after breakfast. If you can, do it where the air is fresh, not by a highway.

• Keep in mind Kouchadoff's discovery. This Russian scientist experimented with cooked food and found that, when it was eaten, the white blood cells increased rapidly in the small intestine. As part of our immune system, they increase to fight hostile invaders. In other words, when your white blood cell count goes up, a threatened infection or disease is being prepared for.

• Eating raw foods protects the immune system, and does not cause an increase in white blood cell count.

• Dr. Bircher-Benner, of Switzerland, discovered that eating raw food at a meal before cooked food prevented the formation of white cells in the intestines. Therefore, he always served raw salads before cooked foods.

—Now, for the other side of the coin:

• There is a theory which some accept and others reject. Consider this:

• A major cause of indigestion is eating salads and other light food at the beginning of the meal, and waiting till partway through the meal to eat the protein foods. But protein foods need lots of HCl for proper digestion; the other foods do not. So begin your meal with your protein foods. You can eat salads with your protein food, but not before it.

• Which theory is correct? The truth may be in the middle: Those who have an abundance of HCl tend to do better eating some protein at the beginning of the meal, and those who do not have as much do better eating the raw foods, to begin with.

NERVOUS DYSPEPSIA **(J.H. Kellogg, M.D., Formulas)**

IRRITATION OF SOLAR PLEXUS AND ABDOMINAL SYMPATHETIC NERVE—Fomentation twice a day; during interval between, apply Heating Compress, changing every 4 hours, except during sleep. Abdominal Compress during

the night, dry bandage during the day, and abdominal supporter when enteroptosis exists.

GENERAL WEAKNESS—Graduated Cold Baths, twice daily; Cool or Cold percussion Douche to spine.

HEARTBURN—Dry aseptic dietary; gastric Fomentation, followed by Heating Compress.

ERUCTATIONS AND REGURGITATIONS OF FOOD—Fomentation over the stomach, twice daily; continuous Heating Compress during the interval between, but without impervious covering, renewing every 4 hours.

SPINAL IRRITATION—Fomentation in the evening followed by a Heating Compress over the spine, to be worn during the night; Hot Abdominal Pack.

COLD EXTREMITIES—Revulsive Douche, running Cold Foot Bath, Leg Pack, massage

HEADACHE—Hot and Cold Compress to the head; Alternate Sponging to the spine; Cool Compress, if congestion is present; and massage to the head and neck.

ANOREXIA—Ice Bag over stomach, half an hour before eating; Cold Douche over spine; cold-air bath; out-of-door life; small Cold Enema before breakfast, retained.

ABDOMINAL WEIGHT AND TENDERNESS—Abdominal supporter; Hot fan Douche to the abdomen; Hot Foot Bath; Revulsive Sitz Bath; Fomentation twice daily, followed by Heating Compress.

EXCESSIVE PERISTALSIS—Hot and Cold Compress to Abdomen; Fomentation over abdomen, twice daily, followed by Hot Abdominal Pack, protected by plastic covering.

ASTHMA—Nervous or reflex asthma is commonly associated with dilated or prolapsed stomach and irritable lumbar sympathetic ganglia. The most important palliative measures are the Hot and Cold Trunk Pack; Fomentation over the abdomen, twice daily, followed by Heating Compress, to be worn during the interval between; Hot Enema; Hot Full Bath; general set of Tonic Friction treatments; Revulsive Douche to legs.

GENERAL METHOD—The general method consists in improving the nerve tone, allaying general nervous irritability, lessening gastric irritation, and improving the general nutrition by the appropriate measures, as indicated above.

ENLARGED STOMACH (J.H. Kellogg, M.D., Formulas)

DIETARY FACTORS—Aseptic diet; avoid overeating, frequent eating, and gas-forming foods. Also drink large quantities at once. Give very simple dry dietary of well-cooked cereals or a liquid diet, such as buttermilk, purees, or gruels prepared from nut creams, etc.

ACHLORHYDRIA (Insufficient stomach acid)

SYMPTOMS—Burping, belching, and bloating.

CAUSES—The stomach begins losing its ability to produce hydrochloric acid (HCl) at the age of 35. Of people over the age of 50, 75% do not produce HCl. Yet, without it, they cannot properly digest protein foods.

When the stomach does not have enough HCl, intestinal bacteria and yeast (candida albicans) are able to enter it and ferment high carbohydrate foods (juice, fruit, breads, etc.).

Continued low HCl production results in B_{12}, calcium, and protein deficiencies. New food allergies can begin, because large fragments of food pass through the gastro-intestinal tract undigested.

TREATMENT—

• Take lemon juice, diluted with water (or totally undiluted) at the beginning of each meal.

• Take English bitters (gentiana lutea) before each meal. These are bitter herbs which have helped people's digestion for hundreds of years, in Europe and America.

• Take betaine HCl supplementation (75-250 mg) 15 minutes before each meal.

• Do not take antacids; they neutralize stomach acids and make the problem worse. In addition, many of them contain aluminum and other harmful ingredients. One of these is calcium carbonate, which will cause the stomach to produce even more HCl than before. Magnesium compounds lead to diarrhea, and sodium bicarbonate can result in gas and bloating.

HYDROCHLORIC ACID PROBLEMS

HYDROCHLORIC ACID, EXCESS —

DIETARY CONSIDERATIONS—Avoid irritating food sustenances—mustard, pepper, spices, condiments of all sorts, all kinds of flesh foods, excess of proteins, hot foods, mushes, farinaceous and sweet desserts, and frequent meals.

INCREASE GENERAL VITAL RESISTANCE—Graduated Tonic Frictions, twice daily.

COMBAT IRRITATION OF GASTRIC GLANDS, OR HYPERSECRETION— Revulsive Compress twice daily, an hour before meals; continuous Heating Compress without plastic covering during the interval between. Avoid Cold Douche over stomach and spine opposite the stomach, and also Prolonged Cold Baths. Hot Douche or Fomentation over stomach and spine opposite the stomach, 3-4 times daily. Hot immersion Bath, at 105^0 F., for 15 minutes or Radiant Heat Bath for 10 minutes, half an hour before dinner. Follow by Cold Mitten Friction. Sip half a glass of hot water, a half hour before eating.

COMBAT TOXEMIA—Sweating procedures, Radiant Heat Bath, Sweating Wet Sheet Pack, Steam Bath, Prolonged Neutral Bath. Follow hot baths by short cold applications, such as a Wet Sheet Rub, Cold Towel Rub, Cold Shower, Spray Douche; Water drinking; Enema daily for a week or two, at 70^0 F., and injecting a second portion to be retained.

FLATULENCE OF STOMACH AND BOWELS—Cold Compress over abdomen, changed every 4 hours; Cold Enema, following Fomentation for 15 minutes, twice a day.

PAINFUL DIGESTION—Hot Fomentation an hour after eating, for 15 minutes, followed by Heating Compress to be worn until next meal.

GASTRIC IRRITATION WITH VOMITING AFTER EATING—Hot and Cold Compress over stomach or hot and cold Trunk Pack applied half an hour before eating, and continued for 2 hours.

CONTRAINDICATIONS—Avoid Cold Douche over stomach, Cold Shower, and prolonged cold baths of all kinds.

HYDROCHLORIC ACID, INADEQUATE —

INCREASE GENERAL VITAL RESISTANCE—Graduated tonic hydrotherapy treatment (Tonic Frictions), twice daily; out-of-door life; swimming.

INCREASE ACTIVITY OF GASTRIC GLANDS—Cold fan Douche over Stomach, Cold percussion Douche to Dorsal spine, general Cold Douche or other cold procedure, Hot Abdominal Pack. Drink a third of a glass of cold water, half an hour before eating.

INCREASE MOTILITY—Cold Gastric Douche, 3 hours after meals; small Cold Enema, retained, 3-4 hours after eating; and abdominal massage.

INDIGESTION, BILIOUSNESS—Hydrochloric acid being absent, flesh foods must be withheld. Aseptic diet; avoid fried foods, rich gravies and animal fats, which lessen the secretion of HCl (hydrochloric acid). Also avoid cane sugar and concentrated sweets. Apply hot applications over the stomach, a hour after eating.

LOSS OF APPETITE—Ice Bag over the stomach, half an hour before each meal; Cold Mitten Friction before breakfast, repeat before dinner if necessary; small Cold Enema or Cold Colonic before breakfast.

STOMACH INFLAMMATION (Gastric Catarrh)

REST—Withhold food if necessary, giving food and water by enema for several days.

COMBAT LOCAL INFLAMMATION—Fomentation for 15 minutes over stomach and bowels, every 2 hours. During the intervals between, apply Heating Compress at 60^0 F., changing every 30 minutes. Hot Foot Bath; Hot Leg Pack.

VOMITING—Ice Bag to epigastrium; Hot and Cold Compress over stomach; Hot and Cold Trunk Pack; ice to spine opposite the stomach.

PAIN—Revulsive Compress to area of pain, 10 minutes every hour. Heating Compress during interval between.

FEVER—Hot Blanket Pack, 20 minutes, followed by Cold Half Pack; Prolonged Neutral Bath; Cooling Wet Sheet Pack, following a Fomentation over stomach.

CONTRAINDICATIONS—Avoid Cold Full Baths and general Cold Douche.

GASTROENTERITIS (Stomach Flu)

SYMPTOMS—Nausea, vomiting, fever, diarrhea, abdominal pain, and muscle aches. Acute symptoms generally last only 24-72 hours.

CAUSES—Gastroenteritis is an inflammation of the gastrointestinal tract. This includes both the stomach and intestines.

It is usually caused by viral (sometimes bacterial) infection, allergies, stress, chemical irritation, or medicinal drugs. Antibiotics are a frequent cause, and weaken the body so the virus can attack.

This disease is contagious, so be careful. Wash hands frequently, sterilize cloths, etc.

TREATMENT—

• Begin by giving the person activated charcoal: Each dose should be 4 capsules, 8 tablets, or 1-2 tbsp. of powder, stirred into a glass of water. Give a dose each time there is vomiting or diarrheal stools.

• Keep him in bed and give a clear liquid diet during the acute stage while there is nausea and vomiting. Throughout the day give small amounts of water, fruit juices, or ice chips, to help restore lost fluid.

• Do not give junk beverages (colas, black tea, coffee, or alcohol), for they will only irritate and intensify the symptoms.

• When vomiting and diarrhea cease, give small amounts of non-irritating food, such as cooked rice, plain cooked potatoes, cooked carrots, bananas, or apple sauce.

• Avoid processed and greasy foods; avoid milk and high-roughage foods.

• Do not be quick to let him up from bed, for the vomiting and loss of fluids may have weakened him.

• Especially in small children and infants, watch for signs of dehydration. These signs include drowsiness, rapid respiration, and dry skin and mucous membranes. This is important.

• Mix 1 tsp. of catnip tea leaves in a cup of water, steep for 15 minutes, and drink while warm. This is very soothing to the digestive system. If it is vomited up, give again immediately; it is more likely to be accepted and kept down the second time.

• If fluids cannot be kept down, then give small saline enemas, to replace lost body fluids. Using 1 level tsp. of salt per pint of water, inject 1-2 oz of the solution into the rectum (using a small rubber bulb syringe). Then hold the buttocks together for several minutes. Do this every 1-2 hours until improvement is seen, and he is able to take fluids by mouth.

CHRONIC GASTRITIS **(J.H. Kellogg, M.D., Formulas)**

AVOID CAUSES—such as mustard; pepper; vinegar, strong acids; even acid fruits; sugar; preserves; cheese; alcoholic beverages; tea and coffee; all indigestible and irritating substances; coarse vegetables; pickles; confectionery; and hasty eating.

PHYSIOLOGICAL REST—Avoid the use of fish, fowl, game, and all flesh foods which excite the secretion of HCl (hydrochloric acid) and remain long in the stomach. Coarse vegetables; fried foods; fats, except in a natural emulsified condition; large meals; tea; coffee; wines; and all liquors are to be avoided.

INCREASE GENERAL VITAL RESISTANCE—Graduated Cold Baths, twice daily.

COMBAT LOCAL CONGESTION—Fomentation over stomach area, 3 times daily, 15 minutes at a time. During intervals between, apply Heating Compress over it. Hot Leg Pack, followed by Heating Compress to the legs; Revulsive Douche to the legs; Hot Leg Bath, followed by Cold Friction to legs. In acute stages, withhold all food and rest in bed.

MUCOUS VOMITING IN THE MORNING—Omit the evening meal. Fomentation over stomach in evening, followed by Heating Compress, to be worn during the night.

VOMITING SOON AFTER EATING—Hot and Cold Compress over stomach or apply a Hot Trunk Pack half an hour before eating, to be retained for 2 hours; dry food in small quantities; rest in bed after eating; Ice Bag to spine after eating.

GASEOUS ERUCTATIONS—Dry diet of well-cooked grains; Cold Compress; Heating Compress over stomach at 60^0 F., changing every 4 hours. Massage for half an hour, 2 hours after eating, if local irritation or tenderness does not contraindicate. Drink a pint of hot water half an hour before eating. Avoid use of vegetables or of vegetables and fruits at same meal.

ABDOMINAL TYMPANITES—Heating Compress to Abdomen at 60^0 F., changed every 4 hours; Colonic 2-3 times a week, at 70^0 F.

CONSTIPATION—Graduated Cold Enema at 70^0 F., daily. Abdominal massage; Hot Abdominal Pack; Cold fan Douche to abdomen for 20 seconds; Cold Rubbing Sitz Bath.

LIVER CONGESTION—Fomentation over liver, twice daily; during the interval between, apply a continuous Heating Compress.

EMACIATION—Rest in bed; mild Tonic Frictions, carefully graduated. Ice Bag over stomach, half an hour before eating.

PAIN IN STOMACH—Revulsive Compress over stomach and intestines; repeat several times daily if necessary. Avoid acid fruits, very hot foods, very cold foods, and concentrated sweets, if they cause pain.

PEPTIC ULCER—1 (Gastric Ulcer, Stomach Ulcer; Duodenal Ulcer)

SYMPTOMS—Chronic burning or gnawing stomach pain, which often begins 45-60 minutes after finishing a meal or at night. Drinking a large glass of water or eating food relieves it. Vomiting or swallowing something quite alkaline also does. The pain sometimes awakens the person at 1 or 2 a.m.

Pain just beneath the breastbone is a frequent symptom of an ulcer. Sometimes it radiates to the back. The pain is often considered to be heartburn or an empty stomach.

Other symptoms may include headaches, a choking sensation, lower back pain, itching, and possible vomiting.

CAUSES—Gastric ulcers are peptic ulcers occurring in the stomach. Duodenal ulcers are peptic ulcers occurring in the top part of the small intestine. However causes and treatment are essentially the same.

These ulcers can be caused by wrong food or too much food. They can also be induced by severe nervous and mental stress.

The walls of the stomach pour a powerful acid into the stomach (hydrochloric acid, or HCl). This powerful fluid is needed to digest protein. Although the walls of the stomach are protein, they are not normally disturbed by the fluid. But when there are problems with people or with the food—then trouble can begin.

The stomach acids begin digesting the walls of the stomach, because too much HCl is being produced; protective mucous, in order to protect the walls, is not being produced; or both.

These ulcers can occur in the esophagus, but generally occur in the stomach or small intestine.

Gastric ulcers (peptic ulcers in the stomach) occur 2½ times more often in men than in women, most frequently in the 40-55 age group.

Duodenal ulcers (peptic ulcers in the small intestine) occur in the first 11 inches of the small intestine, and are caused by excess HCl from the stomach. These ulcers are found in men 4 times as often as in women, and most frequently between 25 and 40 years of age. Duodenal ulcers occur 10 times more often than gastric ulcers. As much as 15% of the U.S. population have ulcers, but only about half are diagnosed. Some are not discovered until the person begins vomiting blood. Ulcers especially occur during the spring and fall, and tend to run in families.

Many factors affect stomach-acid secretion. Stress and anxiety increase it. Aspirin, steroids, anti-inflammatory drugs, and smoking—all increase HCl production.

When you have stomach pain, drink some lemon juice. If the pain gets worse, you have too much acid in your stomach.

Hypoglycemics tend to produce too much HCl and are in danger of eventually having a peptic ulcer.

If you vomit blood or have "coffee-ground" stools, then the ulcer is bleeding. You are in danger of bleeding to death—go to a hospital immediately.

TREATMENT—

• For rapid pain relief, drink a large glass of water. It dilutes the stomach acids and flushes them out.

• Avoid all situations resulting in tension, stress, irritability, nervous strain, anger, or fear. Complete rest and relaxation from pressing problems and worries is needed.

• Do not eat fried foods, tea, caffeine products, salt, chocolate, animal fats, strong spices or soft drinks. Do not drink cow's milk. Do not smoke (if you do, do not expect the ulcer to heal properly).

• A diet high in sugar increases HCl production. White bread also causes more HCl to be made.

• In earlier years the recommended treatment included frequent feedings, milk intake, and a bland diet. But this approach is being discarded.

• It is now known that the calcium in milk only stimulates acid production rather than decreasing it, as was taught for years. (Milk does initially neutralize HCl, but the calcium triggers gastrin, which causes the walls to excrete more HCl.)

• In addition, it is now known that sipping milk and cream can lead to myocardial infarcts (heart attacks). The problem seems to be the butter fat in the sippy diet.

• The bland diet approach is also being discarded because those foods neither relieve pain nor speed healing. So, instead, eat whatever good food works best for you.

• Potatoes are very helpful. They are soothing and have an alkaline reaction.

• Vitamin U is the anti-ulcer vitamin. It is specifically for peptic ulcers. Raw cabbage juice and alfalfa have the most. Boiling destroys this anti-ulcer factor, and wilted cabbage contains less vitamin U. Drink fresh, raw cabbage juice immediately after juicing.

• Eat plenty of dark green leafy vegetables. If symptoms are severe, eat soft foods (potatoes, squash, bananas, yams, etc.) Put other vegetables through a blender.

• If you have a bleeding ulcer, add some psyllium seed to the food.

• Well-cooked white rice and millet are good.

• Eat several small meals.

• Do not eat between meals. Doing so slows emptying of the stomach, and thereby increases HCl amounts in the stomach.

• Chew food slowly and properly.

• Also helpful are flax, German chamomile, licorice, catnip, bayberry, goldenseal, hops, valerian, and myrrh.

• Exercise neutralizes stress. Maintain a daily program of out-of-door exercise.

• Make sure the bowels move daily or take cleansing enemas.

• Do not take antacids or painkillers, such as aspirin. That only increases the problem. The calcium carbonate in the antacids doubles the amount of HCl production. The aspirin causes the stomach to bleed!

• Do not use medicinal drugs.

• For peptic ulcer pain, apply an ice bag to the abdomen just above the navel. Or place it on the spine between the shoulder blades.

PEPTIC ULCER—2 (J.H. Kellogg, M.D., Formulas)

DIETETIC CONSIDERATIONS—Rest in bed; rectal feeding for 2 weeks if necessary, repeating after a few days if needed. Bland aseptic liquid diet; avoid solid food, condiments, flesh foods.

GENERAL CARE—Revulsive Compress, 3 times a day; Heating Compress during intervals between; hot Fomentation or Hot Douche to spine.

PAIN—Revulsive Compress, Fomentation over stomach; heat to spine, Hot Blanket Pack to hips and legs.

VOMITING—Ice pills, distilled water.

HEMORRHAGE—Rest in bed, Ice Bag over stomach, Hot Hip and Leg Pack. Withhold foods and drink from stomach by administering water and food by Enema.

PANCREATITIS

SYMPTOMS—*Acute cases:* A sudden attack of severe burning or stabbing pain in the upper abdomen, possibly accompanied by nausea and vomiting. The pain may spread to the back and is made worse by moving. Food, alcohol, and vomiting may worsen the pain.

Chronic cases: The pain is milder and pain attacks do not come on suddenly. There is excessive gas, muscle aches, and fever. Permanent damage to the pancreas can occur, because the constant inflammation can produce fibrosis in that organ. The chronic state results in irreversible changes in the gallbladder.

Other symptoms of pancreatitis include abdominal swelling and distension, hypertension, sweating, and abnormal fatty stools.

Diabetes, digestive problems, and cancer can also result, as well as hearing, respiratory, and kidney failure.

CAUSES—Pancreatitis is inflammation of the pancreas. Normal cells are replaced with scar tissue and calcium deposits. It frequently produces mild diabetes.

The most frequent causes of pancreatitis are drinking alcohol, viral infection, and diseases of the bile ducts or gallbladder. A diet rich in fats and meat lays a solid foundation for pancreatitis to occur. Other causes include surgical procedures, diagnostic procedures, and a considerable variety of prescribed medications. Oral contraceptives, steroids, estrogen, and ACTH can also do it.

To this list should be added abdominal injury, obesity, poor nutrition, and electric shock.

Certain diseases can also induce it: hepatitis, mumps, and possibly anorexia nervosa.

The pancreas produces two important hormones: insulin and glucagon; both of which regulate blood sugar levels and aid digestion. As a result, pancreatitis can produce glucose intolerance and diabetes.

TREATMENT—

• With only supportive care, the acute symptoms will fade. But some will continue to have chronic symptoms arising so often, for months or years. This is called chronic relapsing pancreatitis.

• It is wise to do everything possible to avoid the chronic condition or, if it is has begun, try to clear it up as much as possible.

• Fast and take only water until the acute symptoms subside. Food in the stomach triggers the pancreas to start working, and this you do not want just now.

• Give slippery elm enemas. Cut the slippery elm bark into very small pieces, and put a large handful in 4 quarts of water. Simmer for 1-15 minutes, stirring frequently. Then let it set, covered for 30 minutes. Strain and use it warm. Drink it and use in enemas.

• Place a heaping teaspoonful of lobelia in a cup of boiling water and let it steep for a half hour; then add a tablespoon of this lobelia tea to each cup of slippery elm tea, and drink. Also drink a cup a hour before each meal and before retiring. This will both relax and cleanse the digestive tract.

• After coming off the fast because the acute phase is over, eat a low calorie, low fat diet. In chronic pancreatitis, that organ often no longer produces lipase normally. Without it, fats cannot be properly handled by the body. So eat a low fat diet for the rest of your life.

• Go on a low sugar diet. A heavy diet of refined carbohydrates can cause pancreatitis.

• Say good-bye to all alcoholic beverages, and also to caffeine.

• Avoid overeating. This also overworks the pancreas.

• There are no medications which can solve this problem. Indeed, it was medications which may have led to it; continuing to take them may only intensify the disease.

• Even though total pancreatactomy may be recommended, avoid surgery. It will probably only worsen the condition.

• In case of a very serious acute crisis, give frequent hot steam pack fomentations to the abdomen. Give charcoal internally, and apply it as a poultice over the affected area. Place the person on a strict program of what he eats and drinks.

 # LIVER, NUTRITION OF

CARING FOR YOUR LIVER—There are few organs in your body as vital as the liver. It not only is the largest organ, it also performs more different functions than any other organ in your body.

Only God could make the liver. That relatively small structure (it only weighs four pounds) does literally thousands of different things; all of them are quite complicated, involving complex chemical changes. The liver is truly a special gift from God.

There are six fundamental things which tend to damage the liver:

1 - Overeating. This is an excellent way to ruin your liver. Just eat all you want, and you will wear it out.

2 - Eating and drinking the wrong things. Here are some of those items which your liver does not wish to face: refined white flour-products, processed foods, junk foods, white sugar products, imitation foods. Beware of potato chips and corn chips.

What is an imitation food? It is a food made to appear like the original, yet which has been stripped of vitamins, minerals, enzymes, and most everything else that might be worthwhile while carbohydrates, sugar, fats, protein, synthetic colors, flavors, and odors are there to give the appearance and taste of real food.

3 - A low protein, high carbohydrate and fat diet. To make it even worse, make sure it is full of saturated or hydrogenated fats. All kinds of snacks in the stores consist of this. Fried foods may be a devilish delight, but they only add to the eventual misery.

4 - Take the specialty food poisons: alcohol, tobacco, caffeine, theobromine, and hard drugs.

5 - Take medicinal drugs. Select from over-the-counter items or those which are prescribed. They will provide you with a real witch’s brew of physical horror, much of it not known and realized until later. With hardly an exception, medicinal drugs are poisons. The liver has to work overtime in order to try to excrete these dangerous chemicals.

Some substances which are called "drugs," such as charcoal, are not drugs. They are natural substances which help your body. It is true there are some poisonous herbs, but these will be readily found in the drugstore. The rest, found in the meadow and forest, are for the healing of the nations.

6 - Associate closely with insecticides, preservatives, and other cumulative poisons. Some poisons directly damage the liver (alcohol, oral contraceptives, caffeine, etc.); others damage organs which the liver relies on for help (the pancreas, kidneys, etc.).

Here are some dietary suggestions:

Do not use nicotine, alcohol, caffeine, fish, fowl, meat, salt, soft drinks, sugar foods, tea, or fried foods.

Avoid foods which tend to constipate. When there is a backup in the large colon, toxins are reabsorbed into the system, and the liver labors to eliminate them.

Make sure you obtain foods high in potassium. This includes rice, bananas, blackstrap molasses, wheat bran, almonds, seeds, kelp and dulse, brewer's yeast, prunes, and raisins.

Drink lots of water; and, if at all possible, drink only pure water. Drink a little every hour.

Emphasize raw foods in your diet.

Drink fresh vegetable juices, especially carrot and beet.

Only eat raw nuts and seeds. They must be fresh and not stale!

Use only cold-pressed vegetable oils,—and no other type of oils and no grease (margarine, butter, shortening, or meat fat).

Vitamin K is important, to help prevent cirrhosis of the liver.

Do not take too much vitamin A. For the same reason, do not eat fish more than twice a week. Avoid cod liver oil. Better yet, stop eating fish. Meat eating is also harmful to the liver. Anyone taking over 50,000 IU of vitamin A for over a year should either reduce intake or switch to natural beta-carotene, which is safe.

Do not drink milk or eat pastries, stimulants, white rice, black or white pepper, fried or fatty foods, cheese, and refined or processed foods.

Never eat raw or undercooked fish, meat, or poultry. There is a serious risk of infection from doing this. Meat eating is a major source of bacteria parasites, viruses, and various malignancies.

When taking supplements, either chew them up well or take them with a glassful of water.

Use celandine and silymarin (which is milk thistle extract) every day to help maintain good liver function. But do not use celandine during pregnancy.

The lemon and the liver are sweethearts. The lemon is one of the best friends that the liver has.

Coenzyme Q10 helps supply oxygen to the liver.

Lecithin helps prevent fatty buildup in the liver.

In addition to taking care of your liver, treat your kidneys well also. Poor kidney function results in damage to the liver. Drink water!

Do not use harsh laxatives. But do keep the colon clean.

Take no drugs if you want your future years to be happy ones.

Be good to your liver, and it will help you in years to come. It is a well-known fact, among natural healers, that, if the liver is all right, cancer can be eliminated. But if the liver is too far degenerated, the hoped-for solution may not be achieved.

HEPATITIS

SYMPTOMS—Weakness, nausea, headache, vomiting, fever, muscle aches, loss of appetite, drowsiness, dark urine, joint stiffness and pains, abdominal discomfort, diarrhea, constipation, light-colored stools, and often jaundice (a yellowing of the skin, which will first be noticed in the eyes and mucous membranes). Skin rashes and itching may also occur; the latter is caused by excess bile salts under the skin.

CAUSES—Hepatitis is an inflammation of the liver, and may be caused by a virus, bacterium, or toxic substance. But, in most instances, the cause is viral. There are actually several main types of hepatitis:

Hepatitis A (infectious hepatitis): Transmitted by contaminated water, milk, or food, it has an incubation period of 15-45 days. The contagion is highest just before illness begins, so food workers can transmit the disease. Hepatitis A is contagious from 2 weeks to 1 week before the illness starts. It is easily spread by person-to-person contact and through contact with food, clothing, linens, etc. It can be transmitted from animals. Eating shellfish is a good way to get it, even if the waters they live in pass national standards. Recovery generally occurs within 4 weeks. Chronic cases are less likely to occur.

Hepatitis B (serum hepatitis): Found throughout the world and spread as HIV is—through contact with infected blood (contaminated needles, syringes, blood transfusions) and sexual contact. Six cases have been traced to contaminated acupuncture needles. About 5% of all Americans and 85% of gay men have it. Hepatitis B is very serious. It has an incubation period of 28-160 days (2-6 months), and recovery may require 6 months. All during that time, it can be passed from one person to another. In increasing numbers, cases are reverting to chronic active hepatitis, which can result in liver cirrhosis and death. Hepatitis B is the ninth major killer in the United States.

Hepatitis C: Contracted in the same manner as HIV and hepatitis B, hepatitis C may take 6 months to produce symptoms, yet all that time it can be spread from one person to another. Between 20-40% of all hepatitis cases are of this type. It accounts for 90-95% of all hepatitis transmitted by blood donations.

Hepatitis E, hepatitis non-A, and hepatitis non-B also exist, but are of lesser significance in North America. Hepatitis E is found worldwide and is in epidemic proportions in Africa and Asia, and is becoming a serious problem in Mexico. It is generally contracted from drinking sewage-contaminated water. Such water should be boiled before using.

All of the above are primarily viral forms of hepatitis. But there is also one which is caused by toxic chemicals. It is called *toxic hepatitis.* The amount to which the liver was exposed to the poisonous chemicals, fumes, drug, etc., determines the amount of damage to that organ.

Overall, there are 40,000-70,000 reported, new cases of hepatitis each year in America. But the experts suspect that there are probably ten times that many which go unreported. It most often occurs in young adults, and is highest in teenage girls.

Hepatitis A is decreasing, and hepatitis B is rapidly increasing. It is fourth among the 30 leading communicable diseases.

TREATMENT—

• Give the patient the type of care for any infectious disease, except that one should keep in mind that some of these hepatitis cases can be highly contagious.

• Give hot fomentations over the liver area for 15 minutes, followed by a cold sponging, concluded by a shower. Do this 4 times each day.

• Most cases of hepatitis are self-limiting and will heal with rest and supportive care.

• Avoid sugar, fat, and alcohol.

• Vitamins B_{12} and C are important.

• He should have bed rest until the acute stage is past; also he should have initial liquid fasting, followed by a light diet. The patient often has a poor appetite and does not feel like eating, even though he should.

• Drink plenty of water, avoid constipation. He should bathe frequently, and wash his hands with soap after every bowel movement. The toilet seat should also be washed after each usage.

• He should not prepare food for others, and his own utensils should be sterilized after each of his meals.

• His linen and clothes should be washed separately.

• In China, 10% of the population have hepatitis at any one time. That is 100 million new cases each year. As one might expect, the rate of liver cancer is quite high there.

• A word to the wise: Gay men often take jobs working in restaurants; yet they have a high rate of hepatitis B and C infections, both of which do not reveal symptoms for weeks or months, during which they can, and do, transmit the infection to customers through food they handle. Something to think about the next time you want to eat in a restaurant or café.

JAUNDICE—1

SYMPTOMS—The whites of the eyes yellow, then the mucous membranes, and then the skin generally.

CAUSES—When, for various reasons, the liver cannot handle the load placed upon it, bilirubin builds up. This is a yellow-brown substance which results from the breakdown of old red blood cells. The liver must constantly remove bilirubin from the blood; and, if this is not done, bilirubin begins collecting in tissues all over the body, the urine is darker, and the stools are lighter because the bilirubin it usually contains is not present.

But red blood cell destruction can also cause it. Blood tests identify whether the problem is obstruction or RBC destruction.

Jaundice is not itself a disease, but rather a symptom of one. It can point to pernicious anemia, hepatitis, cirrhosis of the liver, and hemolysis (which is an abnormal destruction of red blood cells). Jaundice can also be caused by a blockage of the bile duct system in the liver, because of gallstones or a tumor. More rarely, it is caused by a parasitic infestation, such as tapeworm, hookworm, a flea, or mosquito carrying a viral infection.

TREATMENT—

• Eat only raw fruits and vegetables for a week. Then eat 75% raw foods for a month. Take fresh lemons daily during that time.

• Both alcohol and tobacco are very hard on the liver.

• Drink fresh vegetable juices.

• Treatment includes exposure to ultra violet light in order to speed up elimination; vitamin C, to bowel tolerance; and vitamins A, E, and selenium.

• Silymarin, extracted from the milk thistle, helps repair damage to the liver. It is well-worth taking.

• Go on a liver flush. This is done by drinking apple juice alone for 3 days, followed by drinking a cup of olive oil and a cup of lemon juice.

• Helpful herbs include burdock root, agrimony, celandine, red clover, licorice, dandelion, and chionanthus.

JAUNDICE—2 (J.H. Kellogg, M.D., Formulas)

GENERAL—Cold Mitten Friction, Cold Towel Rub, rest in bed, aseptic diet.

PAIN—Fomentation over stomach and liver for 15 minutes every 2-3 hours; during interval between, Heating Compress at 60^0 F., renewed every 30 minutes. Copious Hot Enema at 110^0 F., twice a day. After discharge of hot-water, an enema of one pint water, at 70^0 F.; Hot Trunk Pack; Hot Full Bath, at 104^0 F., for 10 minutes; Cold Towel Rub or Wet Sheet Rub.

FEVER—Sweating Wet Sheet Pack, Steam Bath, Radiant Heat Bath, copious water drinking.

HEADACHE—Hot and Cold Compress to head, evaporating Compress to head, Cold Compress to head, Hot Sponging of back of neck.

ITCHING—Neutral salt bath, Hot Sponging.

CHILL—Hot Water drinking, Dry Pack.

INFECTIOUS JAUNDICE (Weil's Disease, Leptospirosis, Spirochetal Jaundice)

SYMPTOMS—Sudden fever, chills, anemia, jaundice, sometimes abdominal pains, and occasionally aseptic meningitis.

Within a few hours, fever, extreme thirst, and severe aching of the limbs develop. Blood vessels in the eyeballs markedly enlarged. Jaundice appears in about half the cases. In locations where the disease is common, mortality is about 10-20%.

This disease can easily be diagnosed as something else. It is important to determine the true nature of the infection early.

CAUSES—This is an infectious disease caused by the *leptospira icterohaemorrhagiae,* a spirochete bacteria. Rats, dogs, and various wild animals

carry it. People are infected when urine-contaminated water (generally from rats) penetrates cuts on their fingers or during butchering and skinning of infected animals. The rats are not harmed by the disease.

Leptospire is a parasite which travels to the liver and greatly multiplies there, but can also be found in the blood (in the early stages) and in the urine (later). Blood tests or urine cultures are necessary for diagnosis.

TREATMENT—

• Give him bed rest, keep his bowels open, using daily enemas if necessary.

• If he can take food, give him a liquid diet. Plenty of water is also needed.

• Carefully dispose of all his discharges, so as not to contaminate anything.

• Do everything possible to exterminate rats.

• Avoid swimming in, or contact with, water that may be contaminated with animal waste.

CIRRHOSIS OF THE LIVER—1

SYMPTOMS—Upset stomach, fever, constipation or diarrhea, weakness, weight loss, poor appetite, vomiting, enlarged liver, and red palms. Fluid collects in the abdomen. Possible mild jaundice. Large veins often seen over the abdomen, especially about the navel and across the body near the diaphragm. Enlarged veins in the rectum, intestines, stomach, and esophagus.

In the later stages, anemia, edema, and easy bruising, due to bleeding beneath the skin.

CAUSES—Cirrhosis is a hardening of the liver, because of too much connective tissue and a degeneration of the active liver cells.

It can be caused by certain poisons, chief among which is alcohol. Certain infectious diseases can cause special types of liver cirrhosis, of which viral hepatitis is outstanding. This is especially true of *syphilis*, which produces nodes in the liver. Malnutrition, caused by lack of food or eating junk food, can also lead to cirrhosis.

The liver cells harden and scar, causing them to no longer function normally, due to the scarred tissue. This prevents the blood from passing properly through the liver.

TREATMENT—

• Eat a good nourishing diet and go off all meat, tea, coffee, or spices.

• Silymarin helps the liver.

• Helpful herbs include burdock, celandine, barberry, echinacea, goldenseal, fennel, red clover, and thyme.

CIRRHOSIS OF THE LIVER—2 (J.H. Kellogg, M.D., Formulas)

DIETARY CONSIDERATIONS—Avoid tea, coffee, tobacco, alcohol, condiments. Use an aseptic diet.

ORGANIC CHANGES IN LIVER—Local applications to liver: Alternate Douche; Alternate Compress; Revulsive Douche; flannel-covered Heating Compress. Follow these local applications by a general Douche or a Wet Sheet Rub.

PAIN—Fomentation; Revulsive Compress or Revulsive Douche, with Hot Leg Bath or Hot Leg Pack, followed by Compress over liver, twice daily.

JAUNDICE—Wet Sheet Pack, followed by Wet Sheet Rub; Radiant Heat Bath, followed by Graduated Shower or Wet Sheet Rub.

DROPSY—Revulsive Douche to legs and abdomen; Trunk Pack.

GENERAL WEAKNESS—Carefully graduated tonic baths (Tonic Frictions); Neutral Bath; Sunbaths; out-of-door life.

CONTRAINDICATIONS—Avoid Cold Full Baths and very cold general or prolonged Cold Douche.

 # LIVER FLUSH

WHAT IT IS—The liver filters the blood and excretes much of that waste through the bile, which it sends into the gallbladder. When some oil or fat is in a meal, its presence signals the gallbladder to contract and squeeze out some bile, which helps prepare those oils and fats to be properly absorbed by the body.

A liver flush occurs when much of the bile is flushed out of the gallbladder. However, there is the possibility that gallstones may be in the bladder. So phase one of the liver flush is to melt down those stones; and then, in the concluding phase, the bile and the stones are jolted out of the gallbladder into the small intestine.

HOW TO DO IT—There are several ways this can be done:

1 - This method is used for the purpose of flushing out gallstones, after first softening them:

Take 3 tbsp. of olive oil with the juice of a lemon before bed and upon awakening. Stones are often passed and eliminated in the stool with this method. Look for them. You can use grapefruit juice instead of lemon juice.

2 - Here is a more involved three-day pattern for more effectively flushing gallstones:

Go on a liver flush by drinking apple juice alone for 3 days. On the third day, the juice is followed by drinking a cup of olive oil and a cup of lemon juice.

3 - This method is used for cleaning out the liver and gallbladder rather than eliminating stones:

To cleanse the liver and gallbladder, drink as much pure apple juice as possible for 5 days. Add pear juice occasionally. Beet juice also cleanses the liver.

4 - Here is a more complicated formula for doing the same thing:

On two evenings, drink 1 cup of a mixture, composed of equal parts of fresh lemon juice and olive oil (2 oz of each). On the third evening, take a double dose (4 oz of each).

On the following morning, take an enema, then a second enema to which 1 cup freshly brewed coffee has been added. This coffee enema should be retained for as long as possible—up to 20 minutes. Repeat this coffee enema in the evening.

The above treatment tends to cleanse the liver of toxins and impurities. Coffee, although never suitable for drinking orally, has the peculiar quality of cleansing the liver when taken in enema form. As such, it is widely used to purify the liver so it can resist cancer and throw it off. It is well-known, among natural healers, that the body can eliminate cancer if the liver is in good condition.

In no other way is coffee ever useful inside the body; but, as medicine to cleanse the liver, it has been used with marked success.

5 - This is a still more involved regime for restoring the functioning capacity of the liver and gallbladder. Slightly different than #2, above, it should not be used on anyone below the age of 25 or who has large gallstones:

On Tuesday through Sunday noon, drink as much apple juice or apple cider as you are able, in addition to your regular meals.

At noon on Sunday, eat a normal lunch.

Three hours later, dissolve 2 tsp. of disodium phosphate in an ounce of hot water, and drink it. It may not taste good, so follow it with a little freshly squeezed grapefruit juice.

Two hours later, repeat the drinking of the disodium phosphate and the grapefruit juice.

That evening, only take citrus juice for supper.

At bedtime, either (1) drink a half cup of unrefined olive oil, followed by a small glass of grapefruit juice or (2) drink a half cup of warm, unrefined olive oil blended with a half cup of lemon juice.

Go immediately to bed and lie on your right side with your right knee pulled up close to your chest for 30 minutes.

The next morning, one hour before breakfast, drink 2 tsp. disodium phosphate, dissolved in 2 oz of hot water.

Eat your meals as usual. The cleansing regime of the liver and gallbladder is completed.

In case there is slight to moderate nausea when taking the olive oil and citrus juice, this should be gone by the time you go to sleep.

But if the oil induces vomiting (which only happens rarely), you need not repeat the procedure at this time. Drink a cup of strong peppermint tea, to help relieve the nausea.

You may find small gallstones in the stool the following day. They look light green to dark green, are very irregular in shape, are the size of grape seeds to cherry seeds, and feel like gelatin. If there are a large number of them, repeat the liver flush in two weeks.

GALLBLADDER INFLAMMATION (Cholecystitis)

SYMPTOMS—Severe pain in the upper right abdomen, accompanied by fever, nausea, and vomiting. The abdomen may be rigid and is usually tender to pressure at, or below, the lower edge of the ribs on the right side.

CAUSES—The gallbladder becomes inflamed. When it happens, it must be cared for immediately. If not, you could die.

An acute infection of the gallbladder may be only catarrhal in nature, and recovery will come in a few days. But, in more severe cases, the gallbladder fills with pus. Be very careful, and immediately treat this condition. In case of pus in the gallbladder, there may be (and may not be) chills and fever. Therefore be alert, if chills and fever occur.

The presence of gallstones tends to irritate the lining of the gallbladder. Then bacteria in the bile are able to invade the wall and cause inflammation.

Inflammation of the bile ducts (cholangitis) produces similar symptoms (plus jaundice) to inflammation of the gallbladder, but the treatment is the same.

TREATMENT—

• All eating must be stopped. Take nothing but water for 2-3 days until the acute condition is past. Drink only distilled water.

• Then go on juices for several more days. Pear juice and beet juice are very helpful. Apple is also good.

• Then add solid food, such as shredded raw beets with 2 tbsp. olive oil, fresh lemon juice, and freshly blended, uncooked applesauce. Pears should be eaten generously; they are very healing to the gallbladder. Oil is necessary in the diet, to stimulate the production and elimination of gall and the fat-digesting enzyme, lipase.

• Using only high quality vegetable oil helps keep gallstones from forming.

• Avoid all meat, grease, processed fats and oils (including margarine and butter).

• It is crucial that you not overeat! Only eat small meals.

GALLSTONES—1 (Cholelithiasis)

SYMPTOMS—Bloating, gas, and discomfort or indigestion after a heavy meal of rich, fatty food.

When a gallstone passes (a "gallbladder attack"), the pain can be very severe and last a few seconds or minutes, and recur frequently for hours or days. Chills and fever may accompany the attack. The symptoms often occur after the person has eaten fried or fatty foods.

CAUSES—Gallstones may form in the gallbladder or (more rarely) in the bile ducts of the liver. They may form in the gallbladder as a result of infection or inflammation of the gallbladder wall.

They occur more often in women than men, more often women who have given birth to children, especially several of them. They are more frequent in obese women, and occur more often after the age of 40. In the United States, about 10-20% of the population have gallstones.

Persons with diabetes, migraines, cancer of the gallbladder, cirrhosis, and pancreatitis are more likely to have gallstones.

Gallstones are formed from bile, a brown digestive fluid produced by the liver. Cholesterol (a blood protein) combines with the bile to form stones. But they do not look like regular "stones." Whereas kidney stones are sharp and crystalline, gallstones are smooth, soft, and gelatinous. They feel like dense fat. Often persons with them have no symptoms.

But, when they block the exits of the liver or gallbladder, they produce nausea, vomiting, and pain, as described above.

TREATMENT—

To relieve pain, give a 15 minutes hot fomentation over the gallbladder area, followed by an ice rub. Repeat the process 3 times. This will reduce the swelling, inflammation, and pain.

• If you can avoid doing so, do not have an operation on your gallbladder. What they do is take out your gallbladder, and you really need it.

• Recent studies at the University of Pittsburg found that removing the gallbladder (cholecystectomy) doubled the risk of colon cancer.

PREVENTING GALLSTONES—Here are several points to keep in mind:

It is an interesting fact that people who do not eat meat, dairy products, or eggs rarely have gallstone attacks. It is animal fat which tends to form gallstones.

Drinking water helps prevent gallstone formation. It has been discovered that those with gallstones drink little water.

Drinking a pint of water causes the gallbladder to empty about 10-20 minutes later. This is the ongoing way to keep the gallbladder cleaned out and in fairly good condition; that is, if you do not eat any fats of animal origin.

Lack of exercise increases the likelihood of gallstone formation. Cholesterol is excreted more rapidly by the liver and bladder with more exercise. The truth is that everything works better when you exercise regularly.

Do not overeat. This is very important.

Do not eat processed, fried, sugared, spicy, or junk foods.

Do not use alcohol, caffeine, or tobacco.

Keep your weight down. Overweight women over 40 who have had several children have the most gallstones.

Oral contraceptives (and other drugs containing estrogen) increase cholesterol saturation of bile.

Eating eggs greatly increases the likelihood of stone formation. A diet low in vitamin C also does.

Eating lots of refined carbohydrates increase stone formation. Not including enough fiber in the diet does also.

Taking 2 tbsp. of lecithin each day immediately results in increased phospholipid concentration in the bile. This directly lowers and disperses gallstones.

Animal protein in the diet increases stone formation; vegetable protein tends to reduce the size of the stones.

GALLSTONES—2 (Biliary Colic)

GENERAL—Fruit diet, water drinking, liquid aseptic dietary.

PAIN—Revulsive Compress, every 2 hours; continuous hot applications to area of liver; Hot Colonic or Hot Enema, every 2 hours; Hot Full bath.

FEVER—Prolonged Neutral Bath; Hot Blanket Pack, followed by Wet Sheet Pack; Cold Mitten Friction or Cold Towel Rub.

AFTERWARD—After acute attack subsides, give treatment for Gastro-intestinal Catarrh.

DUMPING SYNDROME

SYMPTOMS—The food entering the stomach is suddenly dumped into the small intestine instead of remaining in the stomach, to be initially digested.

CAUSES—The dumping syndrome is a common side effect of stomach surgery. It can continue for quite some time.

Because proteins are not properly digested, the small intestine becomes very acid—when it requires an alkaline environment to function properly. Anemia and osteoporosis are frequent secondary results of the dumping syndrome.

The solution is to not let them operate on your stomach.

TREATMENT—

• Take English bitters, along with folic acid, pectin, and eat as carefully as you can. Take full vitamin/mineral supplementation.

• Lie down for half an hour after each meal.

APPENDICITIS, ACUTE

SYMPTOMS—Pain and tenderness in the lower right area of the abdomen, vomiting, and low-grade fever. In children, the fever can be quite high.

The first symptom usually is pain. There may be tenderness with pressure. Quickly the pain becomes severe. But sometimes the pain is first felt all over the abdomen, and may be especially strong over the naval.

But pain and tenderness with pressure are not enough symptoms to determine appendicitis. There will also be rigidity and tenderness of the muscles of the abdominal wall, especially on the right side, a little below the level of the naval. Coughing and deep breathing make the pain worse.

The attack may, or may not, begin with a chill; but generally some, or much, fever is present from the beginning—along with constipation, vomiting, loss of appetite, nausea, and a tendency while lying in bed to draw up the right leg to relieve tension on the sore side.

CAUSES—The appendix is located on the right side of the abdomen, about halfway between the point of the hipbone and the naval.

Causes of appendicitis include constipation; overeating; eating rich, complicated foods and foods low in fiber. The resulting fermentation and digestive upset can produce appendicitis.

IF THE APPENDIX RUPTURES, the infection will spill into the abdominal cavity, causing peritonitis. Take him to a hospital immediately, so he does not die!

TREATMENT—

• Do not wait. Call a physician.

• The inflammation may subside if the person is put to bed and the infected tissues are kept quiet and not irritated.

• Do not give a cathartic; that is, do not swallow laxatives or laxative herbs, to flush out the gastro-intestinal tract !! This can cause the appendix to rupture!

• Undertake a water fast immediately. Drink small amounts every so often. Take 2 myrrh/goldenseal capsules every 2 hours. Take echinacea 4 times a day.

• Immediately give a colonic or high enema as follows:

• Give an enema of the lower bowel (the descending colon). As you do this, massage that part of the colon downward toward the rectum.

• Then, always gently, slowly, and carefully, go up higher into the ascending colon and massage it toward the rectum.

• Then slowly massage upward on the upper part of the ascending colon. Then very lightly, partway down the ascending colon, gently massage upward. Each time, continue the massage all the way across the transverse colon and down the descending colon.

• Constantly be on the alert for indications that the appendix may have burst !!! If there is a most terrible pain, rush the person to the hospital at once. If you wait beyond that point, he may die.

• When the attack phase of appendicitis is past, and all is better, break the water fast by going on a fruit diet for 2 days.

• Then go on a cleansing, building diet of nourishing food. Do not eat too much at a time. Include 1 tsp. psyllium in juice or water, 3 times a day, for 2 weeks after the appendicitis has ceased.

***HYDRO**:*

The objective here is to draw the inflammation away from the appendix. There are two ways to do this. Start it immediately when the appendix attacks occurs:

The first application is based on the reflex principle. Water applications, placed on certain areas of the body, will affect other areas *(p. 25).* The naval affects the appendix. So place an ice cap or ice bag (about one-half full of finely chopped ice) on the naval. This will draw inflammation away from the appendix *(p. 50).*

The second application is based on the derivation principle. You can draw blood away from one area, by placing hot packs on a distant area. A hot Hip-and-Leg Pack is applied, plus placing an ice bag on the appendicial area *(p. 97).*

Many cases of appendicitis heal without need for an operation to remove the appendix. But you must be very careful.

One of the false theories, dreamed up by evolutionists nearly a century ago, was the idea that many organs in the human body are useless and only relics given us by our ancestors. But, in recent decades, all of these "useless" organs (including the thyroid) have been found to have important functions. The tonsils protect the gastro-intestinal tract where it begins, and the appendicitis guards it where the small intestines end. The appendix is a lymphatic structure.

APPENDICITIS, CHRONIC

SYMPTOMS—Pain and tenderness in the lower right area of the abdomen, vomiting. This occurs every so often.

CAUSES—This is NOT acute appendicitis, but chronic appendicitis. Relatively few individuals have ongoing problems with their appendix, which do not come into the acute phase. But some do.

Chronic appendicitis is an on again, off again type of problem. For such individuals, it might be best to have the appendix removed rather than to suffer with it as the months pass.

TREATMENT—

If used at all, the following applications may be used only for ongoing chronic appendicitis, ***NOT*** *for the acute phase, when a person experiences a sudden attack!!*

The following method requires the placing of heat over the appendix area. This would not be done for acute appendicitis.

• Prepare a castor oil pack in this manner: Place a folded wool flannel in a Pyrex glass or enamel baking pan. Pour castor oil over the cloth until it is saturated. Heat it in the

oven to about 225° F., but get it no hotter than you can touch. It will be heated in 5-10 minutes.

• Or, instead of putting in in the oven, put the neutral pack on the appendix area and apply a heating pad over it. Next put a waterproof covering over the pack. Over this, place a hot-water bottle half filled with hot water. Wrap a bath towel around the body, to secure the water bottle and pack. Cover everything with a heavy blanket or sleeping bag, to hold in the warmth.

• Remove it 1-2 hours later. In order to avoid a rash, clean the oil off the skin with a solution of 2
tsps. of baking soda to 1 quart water. Do it gently. Do not try to wash the castor oil out of the pack or any cloth involved; castor oil cannot be washed out. You can use the same pack again later, by adding some more castor oil and reheating. It can be reused for 6 weeks.

• Use the pack for 3-4 nights and then not use it for 3 nights. Then begin again.

• Do not spill the castor oil on anything valuable.

Bowel

CONSTIPATION—1

SYMPTOMS—Stools are hard, dry, and infrequent. It is difficult to have a bowel movement.

Other symptoms may include abdominal discomfort, lack of energy, dull headache, poor appetite, and low back pain.

CAUSES—"Constipation" comes from the Latin, and means "crowded together."

The bowels should move daily, ideally, after each meal. When this does not happen, waste material moves too slowly through the large bowel. Elimination becomes painful, and toxins are reabsorbed by the system, placing an overload on the liver and kidneys. All waste in the body should be expelled within 18-24 hours.

A number of different physical problems are partially caused by constipation: bad breath, body odor, depression, appendicitis, fatigue, gas, headaches, hernia, indigestion, the malabsorption syndrome, varicose veins, obesity, insomnia, and the coated tongue.

Toxins, reabsorbed from a constipated bowel, can also result in migraines, chronic gas and bloating, thyroid problems, meningitis, and myasthenia gravis.

Constipation tends to be common during pregnancy.

Older people often have constipation because they are not drinking enough water.

Persons with spinal injuries may have problems with constipation, due to damage to certain nerves.

TREATMENT—

• Include enough fiber in your diet each day. Drink enough water. Get enough exercise, especially out-of-doors, so you get enough fresh air. Avoid poisonous substances and emotional tension. Relax, thank God for your blessings, and take time to be a blessing to others. Follow the advice in this paragraph, and many of your problems will vanish.

• As soon as you awake, start drinking warm water, a little at a time. By the time you are ready for breakfast, you should have at least taken a quart. Faithfully following this regime, you will tend to develop regularity in your morning bowel movement. This plan nicely starts the day off right.

• Then, after breakfast and every other meal, go outside and walk a little or a lot. Breathe deeply.

• The larger the amount of fiber in the diet, the larger and softer will the stools be.

• Eat smaller amounts of food at each meal.

Concentrated foods, such as meats, sugar, and cheese are excellent for producing constipation.

• Dairy foods, soft drinks, white flour, salt, coffee, alcohol, highly processed foods, and sugary foods should not be used, if you want to solve this problem.

• Iron supplements cause constipation. So do painkillers and antidepressants.

• All decongestants and antihistamines are drying agents, and may cause the stool to become dryer than it should.

• Eat prunes or figs. Flaxseed meal (best freshly ground) is helpful. Both will soften stools. Psyllium seed is also good, but take it quickly with a full glassful of water.

• When necessary, take cleansing enemas to relieve the load on the bowel. But the solution is better living, not reliance on enemas.

• A small, cold enema helps eliminate the enema habit.

• There is always the possibility that, if constipation occurs too frequently, that cancer, or some other obstruction of the bowel, may be involved. Other symptoms of colon cancer include severe cramping; blood in the stool; a tender, distended abdomen; and very narrowed feces. But cancer can be present without these symptoms occurring.

CONSTIPATION—2 (J.H. Kellogg, M.D., Formulas)

INCREASE PERISTALTIC ACTIVITY—Drink half a pint to a pint of cold water before breakfast, preferably distilled water. Increase the bulk of food, with free use of fruit, especially apples, oranges, and figs; also brand cakes, etc. (instead of so much smooth, non-fibrous food). Small Cold Enema; Graduated Enema; Fomentation over liver twice daily, followed by Heating Compress during interval between. Hot Abdominal pack at night; Abdominal massage; Cold Fan Douche to abdomen; Cold Percussion Douche to spine; Cold Planter Douche for 1-3 minutes; Cold Rubbing Sitz Bath at 70^0-75^0 F., 5-20 minutes. Avoid complete emptying of colon, using small Cold Enema instead of a large quantity of warm water, except when necessary, to relieve autointoxication or remove hardened, impacted feces. If necessary, introduce into rectum, as high as possible, at night or before breakfast, to be retained till the next bowel movement, a small pledget of cotton saturated with raw linseed oil or with glycerin.

INCREASE ACTIVITY OF INTESTINAL GLANDS—Half a pint to a pint of water at bedtime, to be retained overnight; abdominal message; Hot Abdominal Pack, without plastic covering.

REMOVE ACCUMULATED FECAL MATTER—Large Hot Enema or Hot Colonic; Neutral Enema; oil retention (oil enema to be retained throughout the night). Repeat the application till bowel is thoroughly emptied, then inject a pint of water at 75^0-70^0 F., to tone the bowel.

DILATION OF THE COLON—Graduated enema; Cold fan Douche to abdomen and spine opposite the stomach; running Cold Foot Bath; Cold Rubbing Sitz Bath; Hot Abdominal Pack, without plastic covering, changing every 4 hours.

INCREASE STRENGTH OF ABDOMINAL MUSCLES—Cold fan Douche; Cold Plantar Douche; Percussion Abdominal Douche; Cold Compress to abdomen, renewed every 4 hours without impervious covering; massage; special exercises, particularly head raising and leg raising while lying on one’s back.

ENTEROPTOSIS—Restore prolapsed bowels to position; strengthen abdominal muscles as indicated above; correct normal sitting position; abdominal supporter.

HEMORRHOIDS—Long Cold Sitz Bath; Cool Anal douche; Cold Compress to anal area; small Cold Enema; if inflamed, rest in bed; Fomentations over the nates, followed by cold compress. Repeat Fomentations every 3 hours.

PAIN—(1) If due to a fissure: hot applications, sitting over steam [hot vapor, not actual "steam"]. (2) If due to irritable rectum: hot colonic. (3) If due to pain in abdomen: Revulsive Compress; Revulsive Douche; Hot Enema at 110^0 F., followed by small cool Enema; Revulsive Sitz Bath.

RELIEVE SPASM OF SPHINCTER ANI MUSCLE—Prolonged Neutral or Hot Sitz Bath; Warm Colonic; Hot Colonic; Fomentations over the nates (the "nates" are the fleshy prominences formed by the gluteal muscles—the area where a child is spanked).

RESTORE SENSIBILITY OF RECTUM—Alternate Hot and Cold Colonic, Cold Douche to lower spine and nates. Shallow Cold Sitz, Cold Anal Douche, Alternate Anal Douche.

CONTRAINDICATIONS—Strictly avoid Sweating Baths that sometimes induce Constipation, also abuse of the Fomentation and the habitual use of the Warm Enema, which should be strictly avoided. If the Enema is used daily, the temperature, at least at the conclusion of the enema, should be 65^0-75^o F., so that a tonic effect may be secured.

GENERAL METHOD—Each case must be carefully studied, with reference to the leading cause or causes which are operative in the individual case. Most important of these are the following: aparalytic or atonic condition of the intestine through disturbed or defective innervation; diminished intestinal secretion or an abnormal absorption of intestinal secretion, resulting in unusually dry and solid fecal mass; dilatation of the colon, giving rise to accumulation; relaxation and weakness of the abdominal muscles with lowered intra-abdominal tension; hemorrhoids and other diseases of the rectum; prolapse of the colon and other abdominal viscera; loss of normal sensibility of the rectum; spasm of the anal sphincter muscle.

DIARRHEA AND DYSENTERY—1

SYMPTOMS—Frequent and loose watery bowel movements. This is often accompanied by cramping, abdominal pain, thirst, sudden need to eliminate, vomiting, and possible fever.

CAUSES—Severe diarrhea can produce a loss of essential electrolytes, such as potassium, and result in pale pallor, listlessness, and dark circles under the eyes.

Diarrhea in infants is serious. Something must be done right away. If the child has five or more watery stools a day, consider it diarrhea.

Possible causes include overeating, food poisoning, stress, incomplete digestion of food, taking certain drugs, flu, intestinal parasites, caffeine, contaminated water, infection (viral or bacterial), eating certain foods (such as unripe fruit, spoiled protein, or rancid fats), eating soap (from improperly rinsed dishes), ingesting certain chemicals, inflammatory bowel disease cancer, traveling to foreign countries, poor digestion, or lactose intolerance from milk products. Giardia lamblia, a microscopic parasite, is the most common form of water-borne infestation in the United States.

A rich meal of wine, lobster, creamy desserts and all the trimmings is a good start toward diarrhea. It is all too much for the body to handle. The body rejects the whole thing and sends it all out.

Dysentery is diarrhea which is caused either by a disease organism of some kind or overeating of rich food. The symptoms are the same as diarrhea, but may be longer lasting.

Prevention requires cleanly food sources, careful food storage and preparation, self-discipline, and cleanliness.

TREATMENT—

• Because of the ongoing diarrhea, people with IBS require as much as 30% more protein than normal, as well as an increased intake of minerals and trace elements.

• Avoid xanthine-containing foods such as chocolate, tea, coffee, and spicy foods. Also avoid drugs, cold liquids, and carbonated beverages. All these may produce diarrhea.

• Milk may also induce diarrhea. Lactose intolerance and virus are leading causes of diarrhea.

• In case of chronic diarrhea, electrolyte and trace mineral deficiencies are likely. Rice water, lime water, potato broth, and fruit will help restore lost electrolytes.

• It is recommended that no raw fruit juices be given until the acute stage is past.

• Garlic is helpful in helping purify the gastro-intestinal tract.

• Carob powder is high in protein and helps stop diarrhea.

• Keep liquid consumption high, in order to replace lost fluids.

• Antacids are the most common cause of drug-related diarrhea. Antibiotics and a number of other medicinal drugs cause it also.

• While you have diarrhea, do not prepare food for others, and wash your hands carefully.

• Some say to use bran and pectin foods, in order to tighten the bowels and stop the diarrhea; others say to let it run its course, in order to rid the problem foods, etc., out of the system. But, generally, it is considered best to use fiber foods to get the diarrhea stopped. When increasing fiber intake, also increase fluid intake.

• The deciding factor is whether the diarrhea was caused by a bacteria or virus. If so, you want the body to throw it off through the bowels, if (if) this will happen fairly rapidly.

• Helpful herbs include white oak bark, an astringent which stops diarrhea. Also useful are American blackberry, barley, clove root, whortleberry, black currant, burdock, and echinacea. .

CHRONIC DIARRHEA **(Chronic Intestinal Catarrh)**

TO LESSEN CONGESTION—Rest in bed. Enema, 95^0 F., after each bowel movement, followed by half a pint of cold water; Fomentation to abdomen twice daily, 15 minutes; during interval between, apply Heating Compress over abdomen, renewed every 2 hours. This heating compress should be covered with flannel only (not protected).

TO DISCOURAGE BACTERIAL GROWTH—Aseptic dietary, especially fruit juices, purees, well-cooked cereals. Cleanse colon by large Hot Enema daily.

TO COMBAT WEAKNESS AND AUTOINTOXICATION— Short Sweating Baths, 3-8 minutes, and Graduated Cold Baths.

PAIN IN ABDOMEN WITH TENDERNESS—Fomentation to abdomen every 2-3 hours; Hot Enema at 100^0 F., after each bowel movement; Heating Compress over abdomen after each hot application, to be changed once an hour until the next hot application is made.

MUCOUS STOOLS—Large Hot Enema at 95^0 F., followed by small Cold Enema; Cold Compress to abdomen, changed every hour; Revulsive Sitz Bath or Revulsive Compress to abdomen; Revulsive fan Douche to abdomen.

FREQUENT STOOLS—Abdominal compress as above; prolonged Cool Sitz Bath at 75^0 F., 15 minutes, followed by short Hot Pail Pour to spine and Wet Sheet Rub.

ALTERNATING CONSTIPATION AND DIARRHEA—Large Warm (98^0 F.) Enema or Colonic, once or twice a week; follow with a small Cold Enema and Hot Abdominal Pack.

CONTRAINDICATIONS—Avoid Cold Douche, protected Heating Compress, prolonged Fomentations.

GENERAL METHOD—Increase the general vital resistance and improve stomach conditions, regulating the diet so as to render the intestine an unfavorable place for bacteria which constitute the chief cause of this disease; remove bacteria and masses of mucous by Neutral Enemas.

DYSENTERY—2 (J.H. Kellogg, M.D., Formulas)

DYSENTERY (ACUTE), COLITIS —

DIETARY NEEDS—Free water drinking, a simple dietary with no animal broths or meat preparations. Brown rice, fresh buttermilk, fresh ripe fruit, and fruit juices, with well-cooked cereals.

TO COMBAT VISCERAL INFLAMMATION—Hot Blanket Pack, with Hot Hip and Leg Pack, followed by Heating Compress to abdomen at 60^0 F., changed every 20-40 minutes; ice suppositories if the inflammation extends into the rectum; Cold Sitz Bath at 75^0 F., 15-30 minutes, with Hot Foot Bath; Cold Colonic; Rest in bed.

TO RELIEVE PAIN—Very Hot Pack over pelvis, with Hot Foot Bath; very Hot Enema at 100^0F., followed by Cold Colonic. Repeat hourly if needed.

DYSENTERY (CHRONIC), COLITIS (CHRONIC) —

GENERAL CARE—Rest in bed; careful diet; Graduated Cold Baths, twice daily; Cold Rubbing Sitz Bath; Hot Revulsive Sitz Bath 6-10 minutes daily, immediately preceded by a Hot Enema.

PAIN—If much pain is present, give a Revulsive Sitz Bath once or twice a day. Moist Abdominal Bandage.

TURISTA

SYMPTOMS—Diarrhea when traveling in foreign countries, otherwise you may not feel sick.

CAUSES—Hygienic conditions and bacterial flora are different in other countries. The nationals are used to it; but, arriving in that strange land, it can be too much for you.

One problem is foreign versions of the *escherichia coli* bacteria. Foreign versions produce a toxin that prevents your intestines from absorbing the water you ingest in food and drink. The result is diarrhea.

Salmonella and shigella bacteria can also produce turista, and a smaller number of cases are caused by rotavirus or the giardia parasite.

Up to 50% of turista cases are unexplained, but suspicion is pointed to fatigue, changes in diet, jet lag, and altitude sickness.

Seasoned travelers say that there is a 50% chance you will get diarrhea if you visit overseas, even if you take the recommended precautions. But here they are anyway:

TREATMENT—

• American travelers are often given Entero-Vioform tablets, which they are instructed to take several times a day. But those medications are forbidden in Japan and Sweden, because they can cause severe nerve and eye damage.

• Instead, take betaine hydrochloride (betaine HCl) tablets with you when you travel, and swallow two tablets after each meal. The hydrochloric acid will kill bacteria in the stomach and help prevent infection.

• Straight lemon or lime juice, taken on an empty stomach, also has an sterilizing effect.

• To make the situation even better, eat some raw garlic with your meals.

• In cases of non-bacterial diarrhea, 3 tbsp. of raw, unprocessed wheat bran daily, taken in fruit juice, has been found to give relief.

Here are more ideas for preventing turista from happening to you:

• Drink acidic drinks, such as fruit juice or whatever else you can get overseas. If you cannot do better, drink carbonated beverages sealed in bottles or cans.

• Try to make sure the dishes and eating utensils have been cleaned in purified water, and, hopefully, rinsed in very hot water.

• Avoid uncooked vegetables. This includes salads, fruits you cannot peel, ice cubes, and anything that unpurified water is in.

• Boil water for 3-5 minutes to purify it. Iodine liquid or tablets purifies it also.

There is danger, when traveling overseas (or even if you remain at home) that the diarrhea may indicate something more serious:

• Abdominal bloating, vomiting, and pain can point to colitis, appendicitis, or an intestinal obstruction.

• Black or red stools can indicate bleeding or a parasitic infection.

• White or pale stools can signify disease of the liver.

• If fever occurs with the diarrhea, then a serious infection may be involved.

• Amoebic dysentery is a serious problem in Mexico, Central America, and a number of other places. If you contract it, garlic, goldenseal, colchicum, peppermint, and ginger have been used successfully against it. When in doubt, burn a wooden box, gather the charcoal together and swallow it in water.

Here are other homemade ways to eliminate diarrhea:

• Take dried blueberries with you. They tend to constipate and thus eliminate the diarrhea. Blackberry root is equally good. Make it into a tea and drink it.

• Plantain is strongly astringent, so is white oak bark.

• Cook down apple peels and drink it. The pectin in it helps eliminate diarrhea.

• Tannic acid is in acorns and oak bark. It is a powerful astringent, and will stop the muscular contractions of the intestines.

• Not only charcoal, but clay is also useful in stopping diarrhea. Many commercial antidiarrheal preparations contain clay.

IRRITABLE BOWEL SYNDROME **(Mucous Colitis, Spastic Colitis, Intestinal Neurosis)**

SYMPTOMS—There are three basic patterns:

(1) constipation and pain; (2) alternating constipation and diarrhea; (3) and painless diarrhea with mucous. Diarrhea frequently occurs upon arising, and again following breakfast. For the remainder of the day, he may be constipated. Diarrhea at night is rare. Instead of diarrhea, stools sometimes are pasty and very narrow.

Also present may be gas, nausea, bad breath, heartburn, severe headaches, bloating, lack of appetite, weakness, faintness, backache, and heart palpitations.

Pain is often triggered by eating, and may be relieved by a bowel movement.

A fifth of those with this problem also experience rectal bleeding.

CAUSES—Irritable bowel syndrome (IBS) is the most common digestive problem which patients see their doctor about. About one-fifth of Americans have the problem.

Primarily occurring between the age of 20 and 50, women have it twice as often as men. It is said that three-fourths of the population experience it at some time in their lives. Yet IBS is comparatively unknown in cultures where people eat simply, and not too much of it.

The fundamental problem is that the muscles of the small and large intestines contract in spasms rather than regularly. Something in the food bothers the gastro-intestinal (GI) tract,—probably the totality of the strange things Westerners eat: processed, greasy, fried, sugared, chemicaled, synthetic, drugged, and alcoholed food; and eaten hurriedly, at irregular times.

These spasms cause the food to pass through the GI tract either too fast or too slow. When too slowly, too much water is absorbed, causing hard, dry stools; when too fast, too little water is absorbed and the stools are watery.

Irritable bowel syndrome is a nuisance, but is not life-threatening. But be aware that symptoms of IBS may indicate more serious problems, which sometimes are related by IBS: arthritis, diabetes mellitus, gallbladder disease, malabsorption disorders, candidiasis, pancreatic insufficiency, skin disorders, ulcers, colon cancer, and parasitic infections, such as amoebiasis and giardiasis.

There are diseases which have similar symptoms, such as diverticulitis, Crohn's disease, ulcerative colitis, and lactose intolerance.

TREATMENT—

• To relieve GI pain and expel the gas, take an enema, use a heating pad, hot water bottle, hot fomentations to the abdomen, lukewarm enemas—given slowly. Moist heat will be more effective than dry heat, since it penetrates better. If the pain is severe, apply the heat for an hour, remove for an hour, and then apply again for an hour, until relief comes.

• Take charcoal tablets, to relieve gas and bloating. But do not use it daily or it will cause constipation.

• The pain may be sharply increased by drinking cold liquids and eating food. It is now known that the pain is generally associated with constipation.

• The person may think he has too much gas, but studies reveal only that the normal amount of gas in his intestines bothers him more. But it would still be wise to avoid gas-forming foods. Avoid swallowing air. Do not chew gum or smoke, drink enough water, and avoid carbonated beverages.

• Eat more bran (oat bran, etc.) and it will produce more normal bowel movements. Coarse bran works better than fine bran. A high fiber diet is particularly important in solving IBS.

• Add crushed psyllium seed to your diet.

• Avoid stress, strain, worry, and rush.

• Avoid tobacco, tea, coffee, soft drinks, alcohol, and drugs.

• Research shows that refined sugar needs to be avoided if you want to return to normal living.

• Do not use sugar substitutes (sorbitol, etc.).

• Do not take antacids or laxatives.

• Eat on a regular schedule. Do not skip meals or eat between meals. Let your digestive system rest before the next meal. Five hours between meals is a good rule.

• Do not eat before going to bed.

• Search for your food allergies. Keep written records and take the pulse test.

• Avoid animal fats, butter, fried foods, and dairy products.

• Because of the ongoing diarrhea, people with IBS require as much as 30% more protein than normal, as well as an increased intake of minerals and trace elements.

• Studies of patients revealed that 70% of those with IBS had a lactose-intolerance problem. They needed to stop drinking milk in order to partially, or wholly, solve the problem.

• Regular out-of-door exercise is needed in order to maintain good bowel health.

• If you want success, stay totally away from cigarette smoke.

• Do not use medicinal or street drugs if you want improvement.

• When your intestines upset you, temporarily go on a bland diet. Put vegetables and nonacidic fruits through a blender. But be sure and include fiber if you are on a soft diet, and some protein.

• Wear loose-fitting clothing.

COLITIS (Ulcerative Colitis)

SYMPTOMS—Bloody diarrhea, bloody mucous, gas, pain, bloating, incomplete elimination of the bowels, weakness, weight loss, indigestion, headaches, and sometimes hard stools. Diverticula are often produced.

CAUSES—Colitis is a disease of the large intestine. Ulcerative colitis is a more severe variation of it. The symptoms and treatment of both are about the same.

Colitis is a chronic infection of the lower bowel. The mucous membrane wall becomes irritated as a result of fecal matter which has accumulated, because of constipation. In other words, the person did not have regular bowel movements, and so the bowel wall became infected as a result.

Over-the-counter laxatives, cooking in aluminum utensils, overeating of refined carbohydrates, too much sugar in the diet, and food allergies are other causes.

Constipation causes the person to strain. This produces diverticula small pockets which fill with waste matter and toxins.

Low-fiber diets, wrong food combinations, and poor bowel habits—all work together to cause trouble. Toxic bacteria multiplies quickly when retained in the lower bowel too long.

Nervous tension and emotional stress intensifies the problem.

Antibiotics change the intestinal flora, and that can also produce colitis.

It is important that you try to find the underlying cause of the colitis, otherwise it will be difficult to eliminate it.

More rarely, the intestinal wall weakens, balloons out, and could possibly rupture. This is called toxic magacolon.

TREATMENT—

• High-fiber foods are very important, also drinking lots of water.

• To begin with, do not eat raw greens, carrots, or peanuts. Eat cooked or steamed green leafy vegetables, cooked white potatoes, multigrain bread, and well-cooked oat bran, brown rice, millet, sweet potatoes, bananas, cooked carrots, squash, and avocados.

• Drink fresh, raw cabbage, carrot, celery and parsley juices, to help heal the colitis.

• Do not eat fruit on an empty stomach, but at the end of the meal, until the colitis is gone.

• Avoid milk products, for they irritate the colon. Wheat products may do it also.

• Poorly digested roughage can be the problem. Chew your food well. Your intestines need fiber, but not chunks of food.

• Undigested cereals and carbohydrates are another cause. Take digestive enzymes and smaller, more frequent, meals.

• When no open peptic or intestinal ulcers are present, take 2-3 tablets of betaine hydrochloride (betaine HCl) after each meal with a glass of water. This will help the stomach digest proteins and carbohydrates.

• Slippery elm is very soothing and healing to the bowel. Mix one tsp. of powdered slippery elm with one pint of boiling water, blend well, add something for flavoring, and drink slowly.

• Alfalfa, garlic, and papaya are also useful.

• Helpful herbs include aloe vera, myrrh, and pau d'arco.

CROHN'S DISEASE (Regional Enteritis; Ulcerative Colitis)

SYMPTOMS—Loss of energy, appetite, and weight. Chronic diarrhea, fever, chronic rectal bleeding, malabsorption, pain in the entire abdomen, excess fat in the stool (resulting in pale, bulky stools that float). Malnutrition results.

CAUSES—Crohn's disease is also known as regional enteritis. Ulcerative colitis is a different disorder, but similar enough in symptoms and treatment that we will list them together.

The difference is that ulcerative colitis only involves the first two layers of the intestinal wall (the mucosa and submucosa); whereas Crohn's disease also affects the next two layers (the connective tissue and the wall muscles).

Crohn's disease is a chronic ulceration of one or more sections of the digestive tract. Three special facts are (1) the ulceration reaches into all layers of the gastro-intestinal (GI) wall, (2) the entire GI tract can be involved, from mouth to the anus, and (3) this is usually a long-lasting condition.

As the inflamed portions heal, scar tissue remains, which keeps narrowing the channel.

Many puzzles still surround this condition. The origin is not clearly understood, and certain racial groups contract it more than others (Jews have it more than anyone else).

But certain facts stand out:

Food food allergies may help it start, and identifying and avoiding them helps reduce it.

A lack of vitamins C and E in the diet aggravates the problem.

People in Europe and North America have it far more than those living elsewhere in the world.

Jews in America have it much more than Jews in Israel. Caucasians have it less often than Jews, but more often than other races.

Therefore it is likely that the modern, Western, diet is a significant factor. Eating simple, nourishing food is an important aspect of dealing with this problem.

Rarely does the disease strike once and go away. Most of the time it recurs for years. When this happens, the ongoing scarring keeps reducing bowel functions.

If ignored, eventually Crohn's disease can lead to cancer.

No definite cure is known, but certain things tend to alleviate the problem.

It is believed that Crohn's disease is an autoimmune problem; that is, the GI tract has become so toxic from years of mistreatment, that the immune system becomes confused and begins attacking the part of the body housing the toxic food.

TREATMENT—

• A fat-free diet helps. It is known that those with Crohn's disease cannot absorb fats well and do not tolerate high-fat diets.

• Do not use spices, such as mustard, vinegar, pepper, and horseradish.

• Drink plenty of liquids, such as distilled water and fresh juices.

• Cabbage juice contains vitamin U, the anti-ulcer vitamin, which is good for the walls of the GI tract.

• Of course, eat no junk food, tobacco, caffeine, alcohol, and useless things which only harm you.

• Eliminate all food additives. Do not use sugar or sugar foods. One study revealed that patients contracting Crohn's disease had previously been eating more sugar than the average population. Eat high-fiber, unrefined carbohydrates (whole grains). However, gradually increase the fiber content, all the while chewing well, so as not to irritate the GI tract. If you cannot chew well, then blend the food.

• Individuals who contracted Crohn's disease were found to have eaten few raw fruits and vegetables prior to developing the condition.

• Mainly eat nonacidic fresh or cooked vegetables, such as broccoli, cabbage, carrots, celery, kale, garlic, and Brussels sprouts. Never fry anything.

• Avoid overeating, in order to reduce the inflammation of the GI wall.

• Gluten tends to make the problem worse. So avoid gluten-containing grains (which are wheat, oats, rye, barley, and buckwheat). Remarkable results can be obtained, but the gluten-free diet must be strictly adhered to; not even tiny amounts in the diet may be permitted.

• Lactose intolerance is frequent. Avoid all milk products.

• Eliminate all possible food allergies and other allergies. Crohn's patients tend to have allergic conditions, such as hay fever and eczema.

• Regularly obtain sunshine and fresh air.

• Avoid stress, anxiety, and worry. Keep calm and relaxed. Avoid even exciting, competitive games.

• Charcoal will help control the diarrhea. Take 4-6 tablets, 2-3 times a day between meals. If the charcoal irritates the colon, stir the charcoal into water, let the charcoal settle to the bottom, and only drink the apparently clear top part.

• Make sure the bowels move daily.

• Surgary, antidiarrheal drugs, and corticosteroids should be avoided. They worsen the condition rather than improving it. A full 50% of those who undergo surgery report a rapid increase in symptoms afterward.

• Helpful herbs are black walnut, burdock, goldenseal, pau d'arco, psyllium, saffron, aloe vera, fenugreek, slippery elm, and white oak bark.

DIVERTICULITIS

SYMPTOMS—No symptoms until they become infected or inflamed, resulting in chills, fever, and pain. The pain may be localized in the left lower quadrant of the abdomen and may be constant. Sometimes there is a brief period of diarrhea.

CAUSES—Diverticula are small pouch-like sacs on the inside of the large bowel, generally in the descending colon. When a person is constipated, he tends to push too hard. The air pressure exerted by this muscular squeeze on the bowel muscles can force small pockets to form in the walls of the lower colon.

Once they form, diverticula never go away. Of themselves, they provide no symptoms. The problem is that fecal matter can collect in them and eventually attract bacteria. This results in infection or inflammation, which produces the fever, chills, and pain.

Diverticulosis is when you have diverticula. It is basically symptomless. Diverticulitis is when they are inflamed or infected; then the unfortunate symptoms reveal themselves.

This is another disease caused by "civilized" refined and junk foods. It is practically unknown in Third World nations, and was almost totally unknown before our century.

More than half of those over 60 in America have this problem.

TREATMENT—

• In order to avoid the formation of those little pouches, always avoid constipation.

This is done by including enough roughage in your diet (fresh fruit and vegetables, bran, and other sources of fiber), and by drinking enough water, etc. Psyllium seed and flaxseed also help soften the stools.

• Have a bowel movement when you sense you ought to. Do not wait.

• Obtain adequate exercise, especially out-of-doors.

• Prunes, pureed fruit juices, and herb teas are very helpful.

• Carrot, beet, celery, and green juices are excellent. Of the fruit juices, papaya, apple, pineapple, and lemon are outstanding for your purposes.

• Chew nuts, seeds, and popcorn well, so they will be less likely to enter the diverticula.

• Eat smaller meals.

• Rats placed on high-fat diets, for 90 weeks, all developed colon diverticula.

• Avoid caffeine products. They all tend to irritate the colon.

• Do not eat a lot of sugar.

• Smoking and stress make the symptoms worse.

• Girdles, belts, and tight bands around the waist tend to increase abdominal pressure on the colon.

• Helpful herbs include slippery elm, peppermint, chamomile, and aloe vera.

DURING AN ATTACK—As soon as an attack begins, give yourself a cleansing enema (2 quarts of water and the juice of a fresh lemon). Take 4 charcoal tablets with a large glass of water.

In case of pain or spasm in the colon, apply a heating pad over the abdomen.

During the acute phase of an attack, it may be best to eat a low-fiber diet for a short time. Then return to the high-fiber regime.

If the attack is severe, temporarily blend your food. Drink carrot, cabbage, and green juices.

To relieve pain, massage the abdomen on the left side. Stand up and stretch.

Try to have bowel movements on schedule. Take fiber first thing in the morning, and down a quart of water before breakfast.

Check your stools daily. If they are black, this means blood is present; take a sample to a physician.

 # ENEMA HABIT, TO OVERCOME

PROBLEM—Having taken enemas for a long time, you find you cannot have a bowel movement without taking another.

SOLUTION—A small, cold enema is especially useful in retraining the colon to evacuate normally by itself. Cold water has a bracing, strengthening, enlivening effect.

In hydrotherapy, the enema is considered cold if the temperature is 55-70^{o} F.; whereas it is only cool if it is 70-80^{o} F. The cold enema is a powerful stimulant to bowel movements and should be more generally used for this purpose instead of the warm enema. Use the cold enema to overcome both the enema habit and the cathartic habit (always needing a laxative).

Obtain an ear irrigation syringe from the drugstore, and inject one syringeful of cold water into the rectum. Hold it for one minute, and expel. A bowel movement will generally follow. Use this treatment at the same time every day, to establish a pattern of regularity.

LAXATIVE AGENTS—Laxatives are supposed to promote bowel movements, but some only hinder it.

Bran, psyllium, and raw fruits and vegetables are bulk-forming agents, and are not referred to as "laxatives." They are ideal ways to promote bowel movements, and are safe to use on a long-term basis.

Mineral oil and docusate sodium are stool softening agents. If used at all, they should only be used temporarily. The mineral oil can damage the lungs, if inhaled, and absorbs fat-soluble vitamins in the digestive tract. Docusate sodium increases toxicity of other drugs, and may cause liver damage.

Salts are osmotic agents, which draw water into the bowel for a flush. These are safe if used only occasionally, but otherwise can initiate dependency. In addition, some people dare not take extra salts into their body. Examples include milk of magnesia, Epsom salts, and table salt.

Stimulant agents cause a laxative effect by irritating the intestinal walls and induce peristalsis. But they can result in dependency and can damage the bowels. Examples

include various drugstore items; castor oil; senna; and laxative herbs, such as cascara sagrada.

Anus

HEMORRHOIDS—1 (Piles)

SYMPTOMS—Burning, pain, itching, inflammation, swelling, irritation, seepage, and bleeding.

CAUSES—Hemorrhoids are enlarged varicose veins, found in the anus and rectum.

Those occurring below the internal sphincter (a circular muscle which closes the rectum) are called external hemorrhoids. Those above that sphincter are called internal hemorrhoids.

Internal hemorrhoids are generally painless, but often bleed. When they do, the blood is bright red.

External hemorrhoids are also called piles. Sometimes they protrude from the anus. Because they enlarge and lose their elasticity, they often form little sacs which protrude into the anal canal. The skin above them turns blue or purple and can be extremely painful.

A prolapsed hemorrhoid is an internal one which is protruding outside the anus. Often there is a mucous discharge and heavy bleeding. They can be very painful.

When they bleed, a fair amount of blood can issue forth. But it does not indicate a serious disease.

Older people are more likely to have them. Pregnant women, and women who have had children, tend to have hemorrhoids more often than other younger people.

Circulatory weakness of the veins, along with constipation, are primary causes of hemorrhoids. Liver congestion can also be a factor.

Any condition which increases pressure on that area or reduces the flow of blood through those veins can induce hemorrhoids.

Hemorrhoids are common in folk who live on junk food diets, low-fiber diets, lack exercise, are sitting while working (especially sitting when tense and nervous), do heavy lifting, are obese, pregnant, straining at the stool, heavily coughing, frequently sneezing, have prolonged use of laxatives or enemas, have elevated pressure on the portal vein of the liver (as occurs in cirrhosis of the liver), and sit on something cold.

TREATMENT—

• To whatever degree you are able, take corrective actions as indicated in the above two paragraphs.

• Avoid spicy, highly seasoned foods, for they irritate the inflamed area.

• Avoid sitting or standing for longer periods of time.

• If you must lift something, bend your knees and not your back. Do not hold your breath as you lift. Instead, take a deep breath and exhale at the moment of lifting. Avoid heavy lifting as much as possible.

• Do not sit on anything which does not warm up (a rock, steel, the ground) for periods of time.

• Do not forget the high-fiber diet; it, and a proper diet, is crucial to success in avoiding or managing this problem.

• Use soft toilet paper, and only dab with it. Use only non-perfumed, white toilet paper.

• Do not scratch the area.

• Diarrhea intensifies the problem, so avoid this.

• Sitz (sitting) baths soothe inflamed tissues and relax spasms of the rectal and anal muscles.

• Apply cold witch hazel tea , to help shrink them.

• In severe cases, take an alternating hot and cold sitz (sitting) bath. Use two large galvanized wash tubs, propped up at one one end, to make sitting in them more comfortable. Fold a large towel and place it in the bottom and sides, for comfort. Fill one with hot water (100^{o} F.), the other with tap water. Sit in the hot, for 5 minutes, and in the cold, for 30 seconds. Spread the buttocks, as you do this, so the temperature changes will have the best effect on the desired area. Do this 3 times. You can come back later and do it again as needed.

• An alternate method, to use in less severe cases, is to sit in a bathtub of 10-12 inches of hot water. Do this 3-5 times a day.

• Cranberry poultices are helpful. Blend a handful, wrap a tablespoonful in cloth, and lay against the area. Change an hour later, and repeat when you wish.

• Dab lecithin on the area, as you would Vaseline.

• An ice pack to that area may also bring relief.

• Peel a garlic bulb and scrape it, to get the juice, to flow. Then insert it. It will be expelled the next day during elimination. Do this 3 times a week.

• Cut a piece of aloe vera, about 2½ inches in length, peel, and insert.

• Applications of white oak bark tea or witch hazel will, through astringent action, tend to shrink the hemorrhoids.

• Medicinal drugs generally contain local anesthetics, but these often irritate the area and delay healing.

• A 1976 report stated that there was no evidence that any of the ingredients in *Preparation H* could reduce inflammation or shrink hemorrhoids.

• Aspirin will intensify the bleeding.

• Prolapsed hemorrhoids can become *thrombosed*; that is, they can form clots inside them which prevent their receding. Severe, increased pain indicates this has happened. Go to a physician, to remove the clot. This is not the same as a hemorrhoidectomy, and is a simple, rapid treatment.

• In case of persistent, severe problems, some may choose to have hemorrhoidectomy done. Find a physician who has done this and adequately knows what to do.

HEMORRHOIDS—2 (J.H. Kellogg, M.D., Formulas)

PORTAL CONGESTION—Cold Foot Bath, in running water; Hot Foot Bath or Hot Foot and Leg Bath; Hot Leg Pack; Revulsive Douche to feet and legs; Hot Abdominal Pack.

IRREDUCIBLE PROLAPSE—Rest in bed; lying on the face; knee-chest position, if required. Ice Compress; bathing parts with ice water; daily small Cold Enema after stool. Relive bowels while lying in horizontal position; avoid straining; Need abdominal supporter. In many cases, surgical measures are necessary.

INFLAMED HEMORRHOIDS—Rest in bed with feet and hips elevated; knee-chest position, if necessary; Ice Cold Compress, pressed firmly against anus; ice suppositories (ice placed in rectum); very shallow Ice cold Sitz Bath.

PAIN—If due to inflammation, short hot Fomentation followed by cold compress applied to the anus and nates, with Hot Foot Bath at the same time; repeat

Fomentation hourly or every 2 hours; Prolonged tepid Sitz Bath, at 85^0-80^0 F.; Hot Hip and Leg Pack, followed by Cold Compress over nates, perineum, and lower back.

RECTAL FISSURES (Rectal Abscesses)

SYMPTOMS—After passing a larger-diameter bowel movement, there is burning, stinging, and possible bleeding on the rectum. Painful red swelling at, or near, the anal opening.

CAUSES—Hemorrhoids are swollen veins in the anus and rectum area. Fissures are ulcers or breaks in the skin which just happen to occur in the same area.

The margins where skin meets the mucous membrane can have small tears. This occurs sometimes at the corners of the mouth. Fissures on the rectum are somewhat similar.

A common cause is the passing of a large, hard stool.

TREATMENT—

• Avoid constipation. Be sure and include enough fiber in the diet and drink enough water each day. The two, combined, will produce soft stools. Eat more fruits and vegetables, and drink 6-8 glasses of water daily.

• Do not scratch the area. Wipe yourself gently.

• Avoid diarrhea. An ongoing case of it can soften rectal tissue, so it is more likely to tear.

• Sit on something soft. A special pillow can be purchased in the drugstore.

• Fairly hot water on the area will relax and sooth it.

• If needed, place corn starch on the area after each bath, to keep it dry. Do not use talcum powder for this—or anything else. It can cause cancer. Talcum powder is rock dust.

• These swellings may be opened with a blade or by soaking it in hot sitz baths of 3% boric acid. A poultice of echinacea may be applied directly to the abscess, to disinfect and help bring it to a pointed shape, so it can be opened. Flush the opened abscess with 3% hydrogen peroxide, to clean it out and disinfect the wound.

RECTAL ITCHING (Pruritis Ani, Anus Itch)

SYMPTOMS—Itching around the anus.

CAUSES—Causes include infection, parasites, poor hygiene, diabetes, estrogen deficiency, or liver disease. Skin diseases, such as psoriasis, seborrheic dermatitis, and eczema can also cause it. Another possible cause is contact dermatitis, due to perfumed or dyed toilet tissue, deodorants, soap, or underclothing. Food allergies are thought to be another cause.

Rectal itching is a symptom of a problem rather than a disease. Resolving the basic problem is essential to eliminating the itching.

Pinworms are frequently the cause in children, but rarely in adults.

TREATMENT—

• Take pulse tests to determine food allergies.

• Several foods have been found to cause allergies, leading to itching: beer, wine, hard liquor, coffee, milk, cola drinks, tea, citrus, chocolate, tomatoes, popcorn, nuts, and spicy food.

• Avoid gas-forming foods.

• Take vitamin A and flaxseed oil orally.

• Avoid stressful situations. High-strung individuals tend to have this problem more than others. Their nerves are on edge.

• Use wet tissue to clean the area after a bowel movement, but do not leave the area wet.

• Eliminating moisture from the area is a key factor. Moisture, leakage, and fecal soiling are frequently primary causes.

• Do not use anesthetic medications with "caine" in the name. They produce strong allergic reactions, making the condition worse. They also tend to keep moisture on the area.

• Avoid using soap in the area, for soap is highly alkaline.

• After a bowel movement, it will help to wash the area with a syringe of water. Dry thoroughly afterward.

• Take a hot sitz bath daily. After the bath, apply lemon juice to the area with a piece of cotton. Or rub wheat germ oil on all affected parts after washing and drying well.

• A warm (not hot) tea bag of goldenseal may be applied to the area for up to a half hour, to relieve itching.

• Avoid tight clothing of any type in the abdominal area.

• Avoid drugs; many irritate the colon, leading to pruritus

Digestive

ANOREXIA NERVOSA

SYMPTOMS—Thin people who try to keep losing more weight.

CAUSES—Both Anorexia nervosa and bulimia are obsessive eating disorders, but they are not the same.

Anorexia describes people who, although thin and often weak, are certain that they need to lose more weight. They fear food and weight gain, and will hardly eat.

Bulimia describes people who try to eat less, then go on eating binges because they feel starved. Each one is concluded by purging (induced vomiting) in order to bring up the food eaten.

Believing they are overweight, fearful of gaining more, these individuals rather consistently try to keep themselves starved. They tend to have low self-esteem, and often are depressed. Certain that they look terrible, and sure that eating still less might solve the problem, these folk have a thinking pattern which is difficult to change.

In some cases, drug and/or alcohol abuse is also involved.

Lack of proper nutrition tends to intensify the feelings and attitudes.

Almost all anorexics are women, typically between the ages of 12 to 18.

The word, "anorexia," means "appetite loss," and technically could apply to anyone who has an ongoing disinclination to eat food. This can be caused by stress, malnutrition, shock, or injury. But, today, the term is generally applied only to those who have anorexia nervosa. This article only applies to this latter definition.

Some consider anorexia nervosa to be a psychiatric illness. Others believe that reaction to a strong, underlying collection of allergenic foods is the problem. The often repeated phrase, "I always feel better when I don't eat, and feel bad when I do," can apply to both viewpoints.

About a third of those with this problem prematurely die from starvation, infections, heart disorders, or suicide.

The underlying cause must be dealt with. Love and understanding is needed. Help from someone outside the family may be needed. However, there is danger in consulting professional counselors or psychologists, since they have been trained in hypnotic procedures; a growing number of instances are occurring where so-called "repressed memories" are implanted in the counselee. —And that only adds to the problems!

TREATMENT—

• Pray with the person and help her find peace in God. We must accept ourselves, physically, as we are, and go on from there.

• Perk up the appetite. Give betaine hydrochloride and pancreatic enzymes.

• Give herbs which help stimulate the appetite: sweet flag, calamus, yellow gentian, buckbean, or marsh trefoil. Give herbs before meals.

• A good nutritional program, along with vitamin/mineral supplementation, is vitally needed. The delicate problem is getting the individual to eat enough food, so that normal balances can be regained.

BULIMIA

SYMPTOMS—The people appear normal, and the symptoms occur in secret.

CAUSES—Bulimia describes people who try to eat less to keep their weight down; then, every so often, they go on a eating binge. This is followed by purging (induced vomiting) or the taking of laxatives, so the food will be eliminated without being properly digested.

Bulimia can result in serious physical problems, including hypoglycemia, internal bleeding, ulcers, erratic heartbeat, kidney damage, menstrual cessation, low pulse rate and blood pressure, and glandular damage.

Some bulimiacs overdo on exercise, in order to better manage weight and somehow improve an already unbalanced situation.

Professions requiring a beautiful appearance are where we are most likely to find bulimiacs (models, actors, dancers, ballet dancers). By her own admission, Princess Diane is a bulimiac. Thinness is equated with beauty by many people.

Oddly enough, while anorexics tend to be overly thin, bulimiacs are generally just right; not too heavy or too thin.

But their way of life may produce hair loss, yellow skin, premature wrinkles, muscle fatigue, dizziness, and extreme weakness.

The primary physical signs are those which are caused by sessions of induced vomiting: swollen salivary glands, constant sore throat, hiatal hernia, esophageal inflammation, erosion of the enamel of the back teeth, swollen glands in the face and neck, and broken blood vessels in the face.

If laxative abuse is done, then rectal bleeding, bowel damage, and chronic diarrhea may result. Excessive laxative use removes an excess of potassium and sodium, leading to muscle spasms, dehydration, and eventual cardiac arrest.

Bulimiacs tend to have low levels of serotonin, which can lead to increased cravings for simple carbohydrates (sugars). Yet it is likely that the binges produced those chronically low levels.

TREATMENT—

• Do not eat any sugar or sugary foods. Avoid all junk food and white flour products. A simple, nourishing diet is urgently needed in order to restore the needed balance in life.

• The person should expect to experience temporary anxiety, depression, insomnia, and possible irritation, as he attempts to break with the old way of life. But the rewards are outstanding and well- worth the effort.

• CCK (cholecystokinin-pancreozymin) is a hormone, found in the small intestine and brain which signals a satisfied feeling and that it is time to stop eating. When a person gets into a pattern of overeating, that hormone is not properly produced. So the person only feels satisfied after heavily overeating a meal.

• The only solution is to rigorously eat just so much, even though it does not seem like enough. Eventually, the hormone will start being produced again in the proper amount at the proper time.

CELIAC DISEASE **(Celiac Sprue, Gluten Intolerance)**

SYMPTOMS—Diarrhea, weight loss, and nutritional deficiencies such as anemia. Other symptoms include frequently pale and/or light-yellow, foul-smelling stools that float; fatigue; depression; abdominal swelling; muscle cramps; wasting; and bone and/or joint pain. Diarrhea is the most commonly observed symptom.

Infants and children may show vomiting; stunted growth; intense burning sensation of the skin; and a red, itchy skin rash. Ulcers may develop in the mouth. The child may look anemic and undernourished.

Babies may lose weight or gain it more slowly, and do not seem to be thriving well. The disease can begin in the first few months of life.

CAUSES—Celiac disease affects the small intestine. There are abnormalities in the intestinal lining, due to a permanent intolerance to gluten. Gluten is in wheat, rye, barley, and oats. (Corn, rice, millet, soybeans, quinoa, and amaranth do not contain gluten. There seems to be a little uncertainty about buckwheat.) The protein, gliaden, is thought to be the toxic part of the gluten. It interacts with the lining of the intestines, causing the tiny absorptive fingers which jut from it (the villi) to flatten and atrophy. As a result, nutrients are not absorbed (including vitamins A, D, and K) and the disease symptoms appear.

Unfortunately, many physicians and the food industries recommend that grains be introduced into the diet of the infant when they are less than a year old. This can prompt celiac disease to first appear then or even decades later.

This is important! Tell every expectant mother not to feed her child grains until it is at least a year old.

Removing gluten from the diet of a celiac produces a marked change; whether an infant, child, or adult, the person starts feeling better again. But he must not return to gluten foods.

Some infants do not tolerate cow’s milk protein, and react to it with celiac symptoms, even before gluten is given to them. So remove that also from them.

Celiac disease is often misdiagnosed as spastic colon, irritable bowel syndrome, or something else which affects the intestines.

Yet, if left untreated, celiac disease can be quite serious. It can lead to pancreatic disease, infertility, miscarriages, internal hemorrhaging, bone disease, gynecological disorders, nervous system damage, intestinal lymphoma, and many more. For example, anemia is common, due to poor absorption of folic acid, iron, and vitamins B_{12} and K.

Scarring of the intestinal lining can progress so far that, by the age of 45 to 50, 90% of the intestine can be damaged, resulting in a significant reduction (as much as 70%) of the absorptive surfaces.

But there is evidence that partial repair to those walls can be made within several months, if you permanently part company with the offending foods.

TREATMENT—

• You will want to avoid the gluten foods, which are wheat, oats, rye, and barley.

• The follow grains do not have gluten: corn, millet, and rice. Soybeans, quince, and amaranth are also okay. Buckwheat is okay for some celiacs, but not for others.

• All grains fed to babies (and adults too) should be cooked for 2-3 hours, if the preparation is done by boiling at 212^{o} F.

• Do not eat products containing cow's milk. Breast-feed the child, to avoid using cow's milk.

• Do not overeat sugar or white-flour products.

• Eat a nourishing diet, including fresh fruit and vegetables, and vegetable juices. Fiber is important in the diet of celiacs.

• Allisatin, found in garlic, is said to help treat celiac disease.

• Ripe bananas are tolerated well, and help control the diarrhea.

• Avoid processed, fried, and junk food. Do not eat sugary foods, chocolate, and processed foods.

• Read the labels, and watch for "hidden" gluten or cow's milk ingredients in bottles and packages. Some of these are malt, modified food starch, some soy sauces, garin vinegars, binders, fillers, excipients, and "natural flavorings." Almost all commercial breads, bread mixes, crackers, etc., contain gluten. It is often found in commercially prepared puddings, candies, cookies, cakes, ice cream, salad dressings, luncheon meats, frankfurters, canned chili, macaroni, noodles, spaghetti, bread stuffings, and anything thickened with flour (soups, vegetables, bottled meat sauces, gravies, flavoring syrups, sauces, cocoa mixes.

• Only eat homemade desserts.

• Frozen, fresh, or canned vegetable and vegetable juices are all right.

• Breads and cereals made from rice, millet, soybean, corn, or potato starch are okay.

• Do not eat meat.

• Avoid tobacco, tea, coffee, and alcohol.

• Helpful herbs include aloe vera, burdock, pau d'arco, psyllium, saffron, slippery elm, and alfalfa.

LACTOSE INTOLERANCE

SYMPTOMS—Diarrhea, gas, and abdominal cramps. Symptoms generally begin 30 minutes to 2 hours after eating dairy products.

In infants, symptoms include foamy diarrhea with diaper rash, slow weight gain and development, as well as vomiting.

CAUSES—Lactose intolerance is inability to digest milk sugar. The intestinal wall is not able to make the digestive enzyme, lactase, which is needed to split lactose into glucose and galactose. When the lactose is not split, it remains undigested in the intestinal tract; retains fluid; and ferments in the colon, producing gas, diarrhea, and abdominal cramping.

Although it can cause digestive disruption and discomfort, lactose intolerance will not produce dangerous results, and can be easily controlled through careful diet.

Oddly enough, hardly any adults in the world can digest milk sugar after the age of 20. The exceptions are most Caucasians of northern European origin.

The following infections can result in lactose intolerance: irritable bowel syndrome, regional enteritis, and ulcerative colitis.

Although less common, in infants and children it can occur after a severe attack of gastroenteritis, which injures the intestinal wall.

If you are pregnant and there is lactose intolerance in your family, plan to breast-feed your child or give him a non-dairy formula (such as soy milk). But, if you do, give him added calcium gluconate powder, since soy milk does not contain enough calcium.

Lactose intolerance is different than milk allergy. A person with lactose intolerance cannot digest milk sugar; one with milk allergy can digest milk, but his immune system is antagonistic to one or more of its components.

TREATMENT—

• Avoid all milk and dairy products. This includes ice cream.

• Beware of products which contain small amounts of added milk ingredients, such as "milk solids." Lactose is added to many processed foods, including cookies, pancake mixes, breads, canned and powdered soups, flavored coffees, powdered drink mixes, and processed meats.

• Since you cannot drink milk, eat foods which are rich in calcium. This includes broccoli, dried figs, apricots, blackstrap molasses, and other vegetable greens.

• Do not eat spinach or rhubarb, for they contain a chemical which blocks absorption of calcium.

• Take supplemental calcium gluconate (or calcium lactate) powder. This is an excellent source of nutritional calcium.

• Many pharmaceutical drugs contain lactose as a filler.

• Do not eat any solid food during a lactose attack of diarrhea. Just drink lots of good water and replace lost minerals.

• Acidophilus milk would not help the person with lactose intolerance, for the acidophilus works to improve conditions in the colon, and the problems with lactose occur in the small intestine.

WILSON'S DISEASE

SYMPTOMS—The fissure sign is a pigmented ring (the Kayser-Fleischer ring) at the outer margin of the cornea of the eye.

Later symptoms include bloody vomit; drooling; an enlarged spleen; jaundice; difficulty in speaking, swallowing, and/or walking; loss of coordination; progressive fatigue, weakness, intellectual impairment; personality changes; bizarre behavior; spasms, tremors, rigidity of the muscles; fluid accumulation; swelling in the abdomen; and weight loss.

Although the disease begins at birth, symptoms generally do not appear until the age of six or more often in the teens or later.

CAUSES—Wilson's disease is rare and inherited. The body is not able to metabolize the trace mineral copper, although it is still absorbed by the small intestine into the blood stream.

The result is an excess of copper in the various organs (liver, kidneys, brain, and corneas of the eyes). If not cared for, Wilson's disease will result in serious damage to the liver and brain, and, ultimately, death.

Early detection and treatment can minimize the damage. If you have a family history of this disease, have diagnostic tests made of you and your children. Early detection is important. The following is a treatment for one with this disease; it should not be used by those who do not have Wilson's disease:

TREATMENT—

• A lifetime must be spent avoiding things which have copper and taking substances which remove it from the body.

• Check your drinking water, to make sure it has no copper. If it has more than 1 part per million of copper, drink bottled water.

• Make sure your vitamin/mineral supplements do not include copper.

• Onions and garlic contain sulfur, which helps rid the body of copper. But do not take flowers of sulfur (the chemical sulfur); they will give you boils.

• Eliminate from the diet those foods which are high in copper. This includes chocolate, molasses, nuts, organ meats, shellfish, broccoli, mushrooms, avocados, legumes, oats, egg yolks, soybeans, raisins, and whole grains.

• Maintain a high intake of vitamin C and zinc, since copper in the body tends to destroy both.

• Avoid exposure to metal.

Nutritional

EMACIATION **(J.H. Kellogg, M.D., Formulas)**

BASIC FACTORS—Rest in bed, fattening diet that will build tissue and blood. This should include dairy products, well-cooked cereals, malted or predigested cereals, a graduated program of tonic treatments (the Tonic Frictions). Fomentation over the stomach twice daily, followed by Hot Abdominal Pack.

GASTRIC ULCER—Withhold food by mouth; rectal feeding; Fomentation over stomach twice daily; well-protected Heating Compress during the interval between. Graduated Tonic Frictions.

CHRONIC GASTRITIS—Rest in bed; abdominal Fomentations 2-3 times daily; Protected Heating Compress during intervals.

INTESTINAL CATARRH—Enema at 95^0 F. after each bowel movement. During the interval between, apply a Heating Compress at 60^0 F., changing it every 30 minutes.

HYPOPEPSIA—Graduated tonic treatment (Tonic Frictions), Ice Bag over stomach half an hour before each meal.

CONTRAINDICATIONS—Avoid prolonged Hot Baths and Cold Full Baths.

GENERAL METHOD—The general plan of treatment must be such as to secure increased income of tissue-building material with a diminished outflow, hence the diet must be very simple, easily assimilable, and taken in as large a quantity as possible. Exercise must be diminished or, in grave cases, suspended altogether. Moderate exercise may be allowed, if necessary, to maintain the appetite. Special attention must be given to increase of the appetite and improvement of digestion by suitable hydrotherapy applications. Cold applications must be very short and intense, so as to produce strong nervous impressions upon the nerve centers without removing animal heat, to any considerable degree, or increasing oxidation.

PICA **(craves dirt)**

SYMPTOMS—The child keeps eating dirt.

CAUSES—Children eat dirt because they crave minerals which they are not obtaining enough of in the foods served them. Sometimes they eat paint chips from the walls. But paint often contains lead or cadmium, both of which are quite toxic. Lead can produce brain damage.

TREATMENT—Supplement the child’s diet with extra vitamins and minerals.

• Include Nova Scotia dulse or Norwegian kelp in his diet. This will supply trace minerals. If you live near the ocean, add a little ocean water to help salt the food. Do pulse tests to determine if a celiac type of disease exists

• Do a hair analysis test, to determine which minerals are needed.

MALABSORPTION SYNDROME

SYMPTOMS—Anemia, diarrhea, and weight loss are frequent. Sometimes there is weight gain instead of weight loss.

Other symptoms may include dry skin, fatigue, abdominal bloating, gas, constipation, diarrhea, PMS, thinning hair, tendency to bruise easily, depression, or inability to concentrate. There may also be vision problems (especially night vision; and bulky, pale, and fatty stools (known as steatorrhea).

CAUSES—This appears to be a wastebasket category. Whenever nutrients, in general, cannot be properly absorbed by the gastro-intestinal (GI) tract, the problem is dubbed "malabsorption syndrome."

Possible causes include an impoverished diet, primarily junk food. The body may not be producing enough digestive enzymes. Vitamin B complex may not be in the diet or is not being absorbed properly. Diseases of the gallbladder, liver and bile ducts, or pancreas may exist. There may be food allergies.

Other causes include damaged intestinal walls, caused by irritable bowel syndrome; lactose intolerance; Crohn's disease; diverticulitis; celiac disease; colitis; parasitic infestation; excessive consumption of antacids, alcohol, or laxatives. Chronic constipation or diarrhea can have a similar result.

Radiation therapy, sugary foods that shorten the intestinal tract, or digitalis treatment can reduce the absorptive area of the intestines. An overgrowth of candida in the digestive tract or obstructions in the lymphatic system can have a similar effect.

Too rapid intestinal transit time causes nutrients to pass out of the body as waste.

AIDS and cancer can produce many of these symptoms.

There are a number of other possible causes, including a variety of drug medications.

Premature aging can be caused by a decline in secretions of stomach acid and digestive enzymes.

TREATMENT—

• The great need is to cleanse the body, and then rebuild it with a good, healthy program.

• A good nourishing diet, as discussed elsewhere in this book; rest; exercise out-of-doors; fresh air; sunlight; freedom from worry and tension—all these are needed.

• Oregon grape and gentian are healing and improve digestion. Chamomile calms the nervous stomach. Peppermint and parsley are also healing.

• Make sure the bowels are kept open and working properly. This reduces toxins in the intestinal tract and digestive organs.

• Locate specific causes and problems and apply solutions, as given elsewhere in this book.

BERIBERI (B Vitamin Deficiency)

SYMPTOMS—In children: mental confusion, muscle wasting, impaired growth, convulsions, nausea, vomiting, stomach and intestinal problems, diarrhea, and constipation.

In adults: weight loss, diarrhea, edema, fatigue.

CAUSES—Beriberi is a nutritional disease, caused by a deficiency of thiamine (vitamin B_1), but also all the other B complex vitamins, as well.

Beriberi is not common in the West. In the East, where many subsist primarily on polished (hulled) rice, it is endemic. The rice bran contains the vitamins, and the polished kernel only contains starch and protein.

In America, beriberi occurs as a result of alcoholism, hypothyroidism, pregnancy, infections, or stress.

TREATMENT—

• Eat brown rice, raw fruits and vegetables, seeds, nuts, legumes, and whole grains.

• Take vitamin/mineral supplements.

• Do not drink liquids with your meals, for this washes away water-soluble vitamins.

PELLAGRA (B Vitamin Deficiency)

SYMPTOMS—Depression, anxiety, dizziness, headaches, diarrhea, loss of appetite, red tongue that is sore and inflamed, weakness, weight loss, dementia, and itchy skin on the hands and neck.

It is sometimes diagnosed as mental illness.

CAUSES—Pellagra is a deficiency disease, caused by a severe lack of several vitamins. It is rare in the United States at this time; but, when it does occur, it is caused by diseases which heavily deplete those vitamins.

The primary vitamins involved are niacin (vitamin B_3) and, secondarily, thiamine (B_1) and riboflavin (B_2). Also needed is folic acid and vitamin B_{12}.

TREATMENT—

• Eat plenty of foods high in the B vitamins and take nutritional supplements.

• Worthwhile foods would include potatoes, legumes, broccoli, collards, bananas, figs, nuts, seeds, peanut butter, tomatoes, prunes, and whole grain breads and cereals.

ENCOURAGEMENT—All power to do good is God-given. His grace is sufficient for all our trials. If we trust wholly in God, we can overcome every temptation and, through His grace, come off victorious.

SCURVY (Vitamin C Deficiency)

SYMPTOMS—Swelling and bleeding of the gums, tenderness of joints and muscles, poor healing of wounds, and increased susceptibility to bruising and infection. Rough, dry, discolored skin. Scurvy may occur concurrently with gingivitis.

An infant with scurvy is comfortable only when lying on his back with his knees partially bent and his thighs turned outward. His bones are less capable of retaining calcium and phosphorous, causing them to become weak and eventually brittle.

CAUSES—Scurvy is a malnutrition disease, caused by a diet that is deficient in vitamin C.

TREATMENT—

• Scurvy responds, in as little as 2-3 days, to a daily intake of 100-200 mg of vitamin C.

• Fresh fruits and green leafy vegetables are also full of vitamin C.

• In order to promote blood and bone repair, from damage caused by scurvy, a well-balanced diet, high in protein and iron, is also needed.

• Supply bioflavonoids (vitamin P), which work closely with vitamin C. These will be found in vitamin C-rich foods.

ENCOURAGEMENT—When temptations and trials rush in upon us, let us go to God and agonize with Him in prayer. He will not turn us away empty, but will give us grace and strength to overcome and break the power of the enemy.

KWASHIORKOR (Protein Starvation)

SYMPTOMS—Retarded growth, changes in skin and hair, diarrhea, loss of appetite, edema, and nervous irritability.

CAUSES—Kwashiorkor (kwash-uh-OR'-kor) is a serious nutritional disease. Adequate carbohydrates are provided, but not enough protein.

This condition generally occurs in children between the ages of one and five, who have been weaned from milk to a diet primarily of starches and sugars.

Low blood protein levels cannot hold water in the blood vessels so it goes into the cells, producing a distended, bloated belly and edema.

There are 22 amino acids which children need, and 20 which adults need. Complete protein meals should be the objective.

TREATMENT—

• Add protein to the diet. In underdeveloped countries, a skim milk formula is usually first given, because the child's fat-absorption ability has been damaged.

• Other foods are gradually added, until he can handle a balanced diet.

• Correct all vitamin/mineral deficiencies which may exist.

Weight

OVERWEIGHT—1 (Obesity)

SYMPTOMS—The person is heavier by about 20% than the average for his height and weight.

CAUSES—Obesity is an excess of body fat; too much is being stored. It is also consuming more calories than you can use. All it takes is for you to be 20% overweight in order to be classified as obese.

The average human body has 30-40 million fat cells. That is too many for some of us. It has been said that when a person makes an extra fat cell, in order to store some

extra fat, he keeps that cell for the rest of his life—even though he may remove the fat from it.

Poor diet, fatty foods, and a lack of exercise are common causes of overweight. Other factors include diabetes, hypoglycemia, endocrine glands which do not function properly, boredom, tension, and love of food. Another factor is inadequate intake or absorption of key nutrients, which causes fat to be stored instead of used.

Over $30 billion is spent each year, in America, on foods or equipment to help lose weight.

Obesity can be involved with hormonal imbalances in the hypothalamus, pituitary, pineal, thyroid, adrenals, or pancreas.

Obese people tend to store fat, not only in regular fat cells, but also in muscle tissue. Then, when they try to lose weight (via a weight loss diet), they lose both fat from the fat cells and protein from the muscles—before they lose fat from the muscles. The best solution is to keep fit, so you do not store fat in your muscle tissue.

To maintain weight loss (that is, an ongoing program of losing a little weight), calculate how many calories you need each day. Multiply your weight by 10. Then add 30% (about a third) to the total. Assuming that you are moderately active, eating anything less than that total amount should cause you to lose weight. This total is the amount of calories you can consume daily, without gaining the weight back which you have already lost.

It is said that 90% of obese people overeat and binge because their empty calorie diets do not supply enough minerals (especially trace minerals) and vitamins.

TREATMENT—People try to cut down on the calories, when they should make sure they steadily obtain good basic nutrition. Without adequate nourishment, they will generally binge or go off their special diets. It is now known that steady eating is better than losing weight, gaining it, losing it, and gaining it. The up and down program damages the body, and makes it more susceptible to disease. The 14-year Framingham Study established that repeated crash diets increases the risk of heart disease.

• Test for food allergies and eliminate them.

• Consistently eat a lighter, but more nourishing, diet. Do not eat food for fun; eat for health and to stay well.

• Avoid junk food, fatty food, fried food, processed food, caffeine, nicotine, and soft drinks,

• Drink at least 8-10 glasses of water each day.

• Do not skip meals. Make breakfast the largest, lunch a moderate meal, and supper the lightest.

• Include Nova Scotia dulse or Norwegian kelp in your diet, to supply trace minerals.

• When you end a meal, make it a habit to eat nothing more until your next meal.

• Include a good vitamin-mineral supplement and fiber.

• Go on a good basic diet and stay on it. Here is an example of one:

• Eat moderate amounts of raw citrus and subacid fruits, but no sweet fruits, such as grapes or dried fruits. No fruit juices, except diluted grape juice taken a half hour before the meal, to reduce appetite. No bananas.

• Eat as much raw vegetables as you want.

• The only cooked vegetables should be fresh and conservatively cooked ones. Do not use frozen, fried, or canned vegetables.

• Primarily eat vegetarian protein foods, and in some moderation: beans, sprouted beans, seeds, nuts, etc.

• All refined carbohydrates are forbidden. This includes sugar, alcohol, white-flour products, quick oats, most packaged cereals, and processed starch.

• Eat only well-cooked, unrefined brown rice, barley, rye, millet, buckwheat, wheat berries, bulgur, corn, and other whole grains. Do not grind them, but cook and eat them in their natural state.

• Use cold-pressed unsaturated oils, plus lemon juice, and possibly some herbs for flavoring.

• Do not overeat, ever. It is a very, very bad habit to get into; it is a habit which can be stopped.

• Do not eat between meals; that is another habit to quit.

• When eating, concentrate on quietly eating and thinking about when you should stop. Do not just relax, talk, socialize, and eat and eat. Do not listen to the radio, read a book, or watch television. Stick to your work of eating lightly of nourishing food, and quit when you should.

• You will not be harmed by finishing the meal a little hungry.

• A regular exercise program is needed.

Here are still more helpful ideas:

• Aerobic exercises are better than other kinds. This simply means exercise done out in the open air. It helps lose weight; build strength; strengthen the heart, arteries, and veins; and invigorate the vital organs and endocrine glands.

• Walking uses up to 120 calories per hour while actual jogging burns only 440 calories per hour. Walking is always the best exercise.

• Swimming is usually done in cold water, and this triggers the body to store extra fat as protection against the cold. So swimming does not help one lose weight.

• Children who are overweight by the age of 2 turn into fat adults more frequently than others. Do not overfeed them with an excess of starches and cow's milk.

• If you are only moderately overweight, do not worry about the comments of your thin friends; they probably wish they could gain a little.

OVERWEIGHT—2 (J.H. Kellogg, M.D., Formulas)

INCREASE OXIDATION OF HYDROCARBONS—Moderately prolonged cold baths, especially Wet Sheet Pack, Shallow Bath, Cold Shower; Dripping Sheet Rub; Shallow Bath; Plunge Bath; moderate exercise several times daily. The Cold Bath may be advantageously preceded by the Radiant Heat Bath or some other form of sweating bath that is not too prolonged. Exercise should always be preceded by a cold bath of sufficient duration to lower the temperature a few tenths of a degree.

CARDIAC WEAKNESS—Cold Compress over the heart (except in fatty degeneration of the heart) 15-30 minutes, 3 times daily; graduated exercises out-of-doors when possible.

CONTRAINDICATIONS—Avoid prolonged Hot Baths unless immediately followed by a cold bath.

GENERAL METHOD—The general plan of treatment must be prolonged cold baths and vigorous exercise while reducing the daily ration of food to the lowest point consistent with the maintenance of his strength. The treatment must never be conducted in such a way as to diminish his muscular or nervous energy. If he complains of feeling weak or debilitated, the vigor of the treatment must be diminished. There should be a steady gain in muscular strength accompanying the loss of flesh. His strength should be tested weekly. Do not use Hot Baths, for they are especially debilitating.

UNDERWEIGHT (Thinness)

SYMPTOMS—The person weighs 10% less than an average person of his height and weight.

Symptoms, when underweight, is a problem to be addressed. These symptoms include hunger, dizziness, fatigue, weakness, sensitivity to cold, and loss of ambition.

CAUSES—Underweight is a problem for some, but not for others. Actually, as one ages, underweight can be an advantage in a number of ways. If you are in good health, although underweight, there may be no need for concern to gain weight. Underweight people live longer and are in less danger from heart disease.

But underweight may be associated with health problems; it should especially be a cause for concern if unintended, sudden weight loss has occurred.

Try, if possible, to ascertain the cause of the weight loss or inability to gain weight. Here is a list of several possible causes:

Unplanned-for weight loss can be caused by an inability by the gastro-intestinal tract to digest and absorb food properly, resulting from ulcerative colitis, diverticulitis, etc.

It can be caused by intestinal parasites or liver and pancreas problems.

It can be caused by digestive enzyme deficiency, allergy, or food sensitivity.

It can be caused by endocrine imbalances, such as diabetes, hyperthyroidism, or (sometimes) hypothyroidism. If you are both underweight and feel cold all the time, you may be hypothyroid.Problems in the thyroid, pancreas, or adrenal glands can make weight gain impossible. Hypoglycemics and diabetics have an especially hard time maintaining proper weight.

It can be caused by a chronic illness, surgery, stress, or emotional trauma (such as the death of a loved one).

It can be caused by surgery, chemotherapy, radiation therapy, medicinal or street drugs, or AIDS.

In addition, there may be an eating disorder: The person eats too little (anorexia) or, in some cases, eats too much.

Zinc deficiency can reduce appetite, and so can some wasting diseases, such as cancer.

The consistency of the bowel movement and a check for undigested foods can be a valuable diagnostic aid.

The experts tell us that, for adults, weight should not be gained at the rate of more than a pound a week.

In infants and children, the cause may be not enough food; in old people, it may result from disinterest in eating or poverty.

You should especially be concerned about an infant or small child who suddenly seems to stop gaining weight normally.

TREATMENT—

Your body is having a hard time meeting the challenges of life, and needs help. The recommendations are simple enough:

• Eat a nourishing diet, such as is outlined repeatedly in this book. For some people, it should include more calories and protein than should normally be eaten. But for many who are habitually underweight, the solution is to continue eating moderate-sized meals, but eating only nourishing food (no junk or processed food). Adequate and complete proteins are essential.

• Be sure and correct vitamin and mineral deficiencies.

• You may need to take digestive enzymes and/or supplemental hydrochloric acid (betaine HCl).

• Obtain moderate out-of-door exercise each day. This will help your system digest the food.

• Obtain adequate rest at night, and try to lie down and rest 15, 30, or 60 minutes before each meal. This is important, and will strengthen your body for the challenge of coping successfully with another meal.

• Avoid stress of various kinds.

• Eat in relaxed surroundings. Do not eat when you are nervous or upset.

• Try to maintain regularity in all your habits and activities.

• For infants, mashed bananas are more easily digested than some other foods.

• There may be a food allergy, such as wheat, cow's milk, etc.

• It is vital that you not consume fried food, junk food, drink, and processed food. Avoid caffeine, tobacco, and alcohol. If you are able to do so, do not take medicinal drugs.

• Last but not least: If you are normally thin, but feel good, ignore the comments of others who say you need to gain weight. Some of them wish they could be thinner.

CELLULITE **(Lumpy Fat)**

SYMPTOMS—Lumpy pockets of fat on the thighs, insides of upper arms, and gluteus maximus.

CAUSES—With the passing of years, strands of fibrous tissue anchor to the skin. As they do this, they pull the skin inward. This causes fat cells to push upward. Women especially tend to have this problem in the buttocks, hips, and thighs.

There is no known cure, but there are suggestions you may wish to try:

TREATMENT—Lose weight. This will help reduce the protruding pockets of fat.

• Eat plenty of fresh fruits and vegetables. These are both nourishing and lower in calories. Improve your general pattern of diet and take vitamin/mineral supplements.

• Keep the channels of elimination open, so excess fluids and fat can be more easily eliminated. Only use a very small amount of salt, drink plenty of water, keep the bowels open, maintain regularity, and avoid constipation.

• Do not use caffeine or tobacco. Both constrict your blood vessels and make the cellulite more prominent.

• Do muscle-toning exercises.

• Make sure you are obtaining adequate rest.

• Exercise out-of-doors and breathe deeply. The oxygen helps burn fat; and the better ventilation helps empty carbon dioxide from body cells.

• To whatever degree you can, avoid stress, tension, and time schedules. Cellulite builds up when muscles become tense, and muscles tense when you are agitated.

CHAPTER SEVENTEEN
HYDROTHERAPY AT HOME

It was only natural that water became the mainstay for simple treatments of disease. It is absolutely essential for the survival of mankind, and consequently must be universally available wherever people live. Thus, water early found its place in the therapeutic approach to illness. Anciently, **hydrotherapy** came into common usage among the Egyptians, then the Jews, the Greeks, and the Romans. There is good reason why water' s therapeutic applications are so comprehensive. But I often wonder why modern hospitals have largely turned to other quicker and more remunerative measures. Considering all the divisions of physical therapy, hydrotherapy is most *versatile.* Water is abundant around the world, hence is almost always *available* for application in therapy. It is one of the most *economical* substances known. Taken internally, water is not irritating, and can also be used in contact with the skin freely, within the limits of body tolerance for certain temperatures. Water is a physiological *solvent,* dissolving most inorganic and many organic substances. It gives off and absorbs large quantities of heat and has a high *specific heat.* Its heat-absorbing capacity, for example, is thirty times that of mercury! In fact, the specific heat of water is higher than that of any other substance, making it the standard of comparison! At useful temperatures for therapeutic application water exists in three *states—solid,* liquid, and gas—making it extremely versatile.

Most people are acquainted with the **thermometer.** This device measures the *intensity* of heat. The *Fahrenheit* scale places the freezing of pure distilled water at sea level at 32° and the boiling point at 212°. A gradual tendency to utilize the *Celsius* (Centigrade) scale is developing. On the *Centigrade* thermometer the freezing point is 0 degrees and the boiling point 100 degrees.

Definitions that apply to hydrotherapy temperatures range as follows (using *Fahrenheit* scale):

Very hot over 104° F.
Hot l00° to l04°F.
Warm 92° to 100° F.
Neutral 94° to 97° F.
Tepid 80° to 92° F.
Cool 70° to 80° F.
Cold 55° to 70° F.
Very cold 32° to 55° F.

Another property of water that makes it excellent for hydrotherapy is its **latent heat** of freezing and vaporization. Latent heat is the quantity of heat necessary to convert a substance into another physical state without changing its temperature. It requires nearly eighty times as much heat for ice to melt without change of temperature, as it does to warm it one degree above freezing. The latent heat is usually defined in *calories.* This is the amount of heat a gram of water absorbs or gives off in changing its temperature 1 degree (Centigrade).

Thus, one gram of ice in melting absorbs enough heat to raise a gram of

water from zero degrees to 79.2° Centigrade. This is called the *latent heat of freezing* and for water it is 79.2 calories.

In converting 1 gram of boiling water to steam, a much greater amount of heat is released. The *latent heat of vaporization* for water has been found to be 537 calories. Thus, when steam condenses it gives off an immense amount of heat. This explains the intense heating effect of a Russian steam bath, also the value of steaming fomentations. Moreover, the intensity of burns produced by steam is easily understood, as well as the cooling and soothing effects of an evaporating wet sheet pack.

In order for water or any other substance to communicate heat to another body, it must remain some time in contact. The impression of heat or cold is perceived immediately when a substance comes in contact with our skin. This sensation transmits nerve impulses to the brain, which interpret the feeling. We sense heat when the substance is warmer than the body, or cold when it is cooler than the skin. Thus, the temperature of the skin is the starting point or zero of the temperature sensing mechanism. This awareness varies in different areas of the body. However, it explains why a neutral bath 94° to 97° F. produces the least thermic impression.

Since water stores so much heat and gives it off so readily, it often seems hotter or colder than other substances. For example, the temperature—conducting capacity of water is 27 times that of air! One may appreciate this fact more naturally by stepping from an atmosphere of 75° F. into a tub of water at the same temperature. The latter always feels cool. For these reasons a thermometer should usually be consulted when using water baths or treatments involving immersion to give with safety the desired reaction to the body.

Mechanical friction can be employed to enhance the effect of water treatments. The application of cold, combined with friction, can act cooperatively to produce a much greater influence than either alone. The same is true of water douches and sprays. The percussive effect of a water stream adds greatly to the reaction produced, partly because of the perfect fluidity of water as a solvent.

As a cleansing agent, water is used in shampoos, the enema, and the douche. The benefits from drinking *pure soft water* are partially due to dissolving and washing out poisons from the system, and the beneficial cleansing effect on kidneys and bowels. Some waste products in our bodies require a great deal of water to dissolve them. Furthermore, constant hydration of the tissues must always be maintained. For these and countless other reasons, water is a great blessing to mankind.

How The Skin Works

As indicated in Chapter 9, the largest organ of the body is the skin. Some writers have called it “keyboard of the hydrotherapist.” Through the numerous blood vessels and nerves of our skin, and their reflex connections with the internal organs, practically every organ of the body can be influenced by applications of heat or cold to the skin surface. Small muscle bundles are found in the *dermis,* connected with the hair follicles. Contraction of these *arrectores pilorum* muscles cause the hair to stand erect, producing a peculiar roughness of the skin known as “goose flesh.” Applications of cold or sensations of chilliness can bring this condition. With cold, the skin also becomes blanched, as blood squeezes out of the vessels by this muscular

contraction. An enormous network of lymphatic vessels, veins, and capillaries is present. These tiny tubes that constantly convey fluid back to the heart contain thousands of valves and nerve fibers. This gives them the ability to shift blood flow from one area to another.

Several times a minute, changes occur in the diameter of our blood vessels. As they *contract* and become smaller, blood is forced onward. During the relaxing or *dilating* phase, they fill with blood. This "pumping" action is another powerful factor in the circulation of these vital fluids. It is sometimes called the "peripheral heart." Circulation slows when the nerve control of these vessels is interfered with, and the extremity becomes dusky in color and cold. Paralysis succeeding a stroke, infectious diseases, and even emotional problems can alter the flow of blood in the skin. This adds to the burden on our heart, making it work under a disadvantage. Contrasting temperatures of hydrotherapy treatments produce powerful circulatory reactions, which enhance these rhythmic changes and alternating contractions in the blood vessels of the skin.

Massage also aids the return of lymph to the heart, and briefly empties the veins when it is done properly. Movement of a limb by active exercise likewise enhances the circulation. Since the body weight is 1/13 blood and about1/4 lymph *(interstitial fluid),* a large amount of fluid can be affected when hydrotherapy applications are given. Results are seen in the body as a whole.

Sweat glands are found throughout the entire skin, but are especially numerous in the underarms *(axillae),* the palms, and the soles. It is estimated that 1 square cm. of skin on the palm may have about 3,000 of these tiny "mouths." Estimating the total surface of their ducts at 11,000 square feet, it appears obvious that this secretory function is of considerable importance. Sweat is about 98% water, but contains small traces of impurities, which are thrown off from the skin. It also contains assorted salts, such as sodium chloride. About twice as much water is excreted by the skin as the lungs give off each day! When the excretory function of the kidneys is diseased, the sweat becomes loaded with toxins. Unfortunately, the sweat glands may also be diseased when kidney afflictions are of long duration. To encourage free perspiration during a hydrotherapy treatment, it is appropriate to drink water before and during the applications. Hot drinks are very helpful. An environment that is warm, comfortable, quiet, and free of stress is likewise beneficial.

Certain diseases produce such alteration in the ability of sweat glands to eliminate heat that extreme precautions must be made in giving these treatments. Extensive burns may destroy the skin nerves and abolish normal reflexes that occur in response to temperature. Alcohol intoxication may obliterate the response to heat, making heat stroke a distinct possibility if appropriate precautions are not taken. Reflex effects on distant organs are also influenced by damage to nerve endings in the skin. The perception of heat and cold, our control of circulation, and the beneficial effect derived from hydrotherapy treatments may be compromised in numerous diseases. Careful observation and study are essential, along with medical consultation where indicated.

Effects Of Heat and Cold

The application of heat to skin produces local **dilation** of the blood

vessels with an increase in the rapidity of flow. Localized hot applications additionally increase the capillary pressure, causing an increased flow of fluid into the lymph spaces, then back to the heart through those channels. Local heat also increases perspiration. When treatments are prolonged, the sweating becomes generalized. One outstanding effect of all forms of heat is the relief of pain. Relaxation of muscle spasm may account for some of this benefit. Inflammatory congestions are also relieved.

Prolonged applications of heat tend to produce greater **relaxation** or dilation, ending in a slowed circulation. Venous blood predominates in these relaxed vessels, making the skin appear more reddened and congested. Heat penetration is quite limited, since a healthy circulation distributes warmth rapidly to other parts of the body. Internal parts are still affected, however, by **reflex** effects discussed below.

When cold water contacts the skin for a short time, it becomes reddened with an increase of blood. This is especially evident when the cold stimulus is accompanied by friction. Nerves in the blood vessels are stimulated, and a type of "vascular gymnastics" follows. The blood vessels pump vigorously with alternating dilation and contraction. Extra amounts of oxygen are delivered to the skin during these maneuvers.

When intense cold is applied for a prolonged period, the vasoconstriction tends to be preserved. This "suppressed reaction" occurs whenever an ice bag, for example, is applied for 15 to 30 minutes. Immersion baths in cool salt water, particularly when it is charged with carbon dioxide gas (the European *Nauheim bath),* are powerful stimulants of the blood vessels. The heart rate decreases and high blood pressure goes down during these particular treatments.

When fomentation treatments with heat or cold are followed by mechanical stimulation, as in *a percussive shower,* the metabolic effects frequently double. This clarifies the stimulating effects of cold sprays to the spine, cold mitten frictions (Chapter 17), and the therapeutic spray, compared to more mild treatment using similar temperatures.

Blood pressure is affected by hydrotherapy. It increases after a hot bath over 104° F. Blood pressure usually oscillates during thermic applications above skin temperature. Prolonged heat overrides this reaction, and the blood pressure falls. Neutral baths relax blood vessels, and help lower the blood pressure. Frictions, massage, and additional mechanical stimuli are sometimes combined with cold treatments to raise blood pressure in asthenic or frail individuals.

Blood distribution is quite uneven in states of physical inactivity. The liver, spleen, and other solid internal organs tend to collect blood during bed rest or sedentary activity. Moderate exercise helps to equalize blood flow, so that more cells are found in the circulation. Cold water therapies, associated with mechanical stimulation, increase the number of red and white blood cells circulating vigorously in both arms and legs. Red blood cell counts increase slightly along with a transient surge in hemoglobin.

The principal advantage, however, comes from the **white blood cells**, which swarm into the blood stream after a hot and cold contrast treatment. They have defensive maneuvers to perform, fighting infection and safeguarding the body from germs. Contraction of the spleen after a treatment forces its millions of sequestered blood elements into the whole body. With

prolonged applications of heat, circulating blood volume increases. Both hot and cold baths, moreover, trigger an increase in the white blood cells. It is not known exactly how this occurs, but the benefits are wholesome.

Most people have experienced the **relief from muscular fatigue** that comes after a warm bath. Normal rest and restoring sleep is promoted by this relaxing and quieting influence. On the other hand, if a warm tub bath is followed by vigorous cold applications—such as a cold shower, ice water pour, or cold mitten friction—the body acquires new energy. The brain is more alert, the extremities are warm, and more work can be accomplished without the injurious after effects from drug poisons such as caffeine.

A very opposite effect is produced by hot baths. The muscles become more fatigued, and are able to do less work. Mechanically stimulating your muscles with a hot spray douche will give a transient increased working capacity, but this is slightly less than with cold treatment. Maximal stimulation occurs when the alternating hot and cold **percussion douche** is used. While the hot spray should be of a brief duration, it must be sufficiently prolonged to prepare the body for the cold.

Remember, however, these general treatments affect the entire body, including the nervous system, the liver, and the body chemistry, as well as the muscles. The conversion of lactic acid, from fatigued muscles, back into useful sources of energy is enhanced. Oxygen delivery is also improved, to enable the muscles once again to work effectively. In contrast to many chemical stimulants, hydrotherapy gives *no false* sense of energy. Treatments such as the warm baths are conducive to a perfect relaxation that normal rest and sleep require for recuperating powers of the body.

Prolonged contact with cold substances chills the body and depresses its vital functions. In contrast, the application of moderate heat stimulates the pulse and respiration, quickening the circulation. Digestion is enhanced, the muscles “come alive,” and sensation from the skin is more accurately perceived.

If, however, the body remains in contact with cold water for a brief time, its activities are heightened instead of slowed. These **“thermic impressions**” are not related to the transfer of heat, but react by way of the nerves.

The response of the body toward any disturbing agent, in this case cold, consists of several phases. The **thermic reaction** involves an increase of heat production within the body. As exposed skin becomes reddened with increased blood flow, a circulatory *reaction* takes place. The nerves tingle with new life and in this “nervous reaction” there is a feeling of renewed energy for work. Any therapist administering hydrotherapeutic procedures must be aware of this phenomenon.

Occasionally, there is an **incomplete reaction**, with duskiness of the skin, “goose flesh,” shivering, cold feet and hands, and a feeling of congestion in the head. In this complication, treatment has failed to produce adequately vigorous surface circulation. Measures must be taken immediately to warm up the patient. On occasion, it may be desirable to suppress the reaction. Usually, local cold, such as an ice bag is applied and prolonged. In other circumstances, a short application of heat is given immediately after the cold to suppress the thermic response. Repeated reactions, however, are usually beneficial to secure maximum results. They occur with all effective alternating hot and cold applications. However, the power to react is subject to fatigue.

So after two or three successive fomentation changes, each reaction is less complete. Percussion or cold mitten friction can be added to intensify this response.

The ability to *react* is limited in the extremes of life. Neither infants nor aged persons bear cold treatments well. Certain disease states also produce a profound weakness. Anemia and emaciation, as well as some nervous conditions require the modification of cold contrast. It may be better to apply heat alone, by means of sunshine, electric heating pads, or the light bath, to secure a mild stimulating effect.

Exercise warms the body sufficiently to promote reaction. It quickens the circulation and brings blood to the surface. Body heat is increased, so that surface blood vessels become dilated. This helps to increase heat reaction. In cases of extreme exhaustion, no cold treatment at all should be given, since the reactive powers have been taxed to their utmost.

When the patient is warm, reaction occurs promptly. The internal temperature of body organs may be ever so great, yet reaction is impossible if the skin is cold and clammy, pale, or manifests goose flesh. The skin should be warm, even ruddy, before cold applications are used. If it is not, some sort of hot treatment should first be used to draw blood to the skin. The room temperature where the patient is treated should be warm. A hot drink may be offered to warm the person. Warm feet are especially important. As a rule, if the feet are cold, they should be warmed with a hot foot bath before giving any other treatment. This may even be beneficial as preparation for an enema, to prevent chilling and weakness afterwards.

After finishing the treatment, a short period of rest with additional covers or blanket, will help secure a prompt and complete reaction. A little carelessness may undo much of the benefit which otherwise would occur from these hydrotherapeutic procedures.

Reflex Effects

The body is whole, and all its organs are interrelated. In addition to exquisite control exercised by the ductless *endocrine* glands and the vital nutrients supplied from food, nerves exercise a continual influence, regulating the activities of numerous internal organs and body structures. Reflex reactions can be accelerated, retarded, and changed in various ways by electrical impulses traveling through delicate nerves. This especially is true of the blood vessels, since change in their diameter affects blood flow so profoundly. An easy experiment to demonstrate this uses the hands. Apply ice to one hand, and the blood flow decreases in the opposite hand. The reverse is true with heat application. Thus, through nerve connections and reflexes in the spinal cord, a distant effect is the same as the local effect of heat, cold, as well as some other stimuli.

While strong stimulation of any nerve in the body changes flow rate in most blood vessels, these variations in size are most pronounced in certain parts that have a close nerve connection with the part stimulated. For example, an ice bag applied over the stomach may cause a brief change in the size of the blood vessels in the brain, but the most lasting changes are produced in blood vessels within the stomach. Actually, for each internal organ there is an area on the skin, which when stimulated, causes a profound shift in the circulation to that organ. In most instances this area of reflex nerve connection is the skin surface overlying that organ.

These interesting nerve impulses traverse definite pathways. The stimulus produced by heat, cold, electricity, or pressure travels to the spinal cord by sensory *(afferent)* nerves, In the spinal cord incoming impulses circulate to various levels upward or downward. Sensitive nerve endings start other impulses over outgoing *(efferent)* nerves. Impulses that are destined to influence internal organs pass to nerves in the **sympathetic nervous system**. These connect with blood vessels from internal organs, as well as muscles and glands. When an application to the skin interacts with another part of the body through some nerve pathway, it is said to produce a **"reflex effect."**
Let's now consider a few reflexes and their applications in home therapy. Reflex or *consensual* effects may be classified under three headings, (1) circulatory, (2) muscular, and (3) glandular. All of these effects are illustrated in the abdominal organs. A fomentation (as described in Chapter 17) applied to the skin of the abdomen causes diminished intestinal activity, decreased intestinal blood flow, and decreased gastric acid secretion. When an ice bag is applied over the heart, its rate is slowed, and the force of each contraction increases. Cold applied to the epigastric area over the stomach induces diminished tone in the stomach muscles, with complete quieting of the stomach' s outlet *(pylorus).* These are obvious reflex actions since the warming or cooling of the stomach directly by drinking a hot liquid or ice water will increase or decrease respectively the peristalsis and acid secretion. It is just the opposite of what would be expected from a direct temperature effect on the stomach.
We therefore find it possible to influence intestinal and internal organ function with applications of hot or cold to the skin area *reflexly related* to these organs. A few remote skin locations relate to some organs at a distance, and their nerve pathway is more difficult to trace. The accompanying outline will illustrate some distant reflex relationships, which have been documented with medical research.

Here are the more important reflex areas employed in water treatments.

(1) The skin areas of the face, scalp, and back of the neck are reflexly related to the brain.
(2) The back of the neck is reflexly related to the mucous membrane of the nose.
(3) The skin of the neck is reflexly related to the throat and larynx.
(4) The skin of the chest on front, back, and sides are reflexly related to the lungs.
(5) A close reflex relation exists between the area over the heart (called the *precordial region)* and the cardiac accelerator nerves.
(6) The skin over the lower right chest is related to the liver.
(7) The skin over the left chest is related to the spleen.
(8) The skin of the lower back and lumbar spine are reflexly related to the kidneys.
(9) The skin of the central abdomen is related to the kidneys and ureters.
(10) The skin of the lower lumbar and sacral spine is related to the pelvic organs.
(11) The skin over the epigastrium is related to the stomach.
(12) The skin of the entire abdomen is reflexly related to the intestines.
(13) The skin of the lower abdomen, including the groin and upper inner

surface of the thighs is reflexly related to the pelvic organs.
(14) The saddle shaped area covered by a sitz bath is in reflex relation to the prostate and seminal vesicles in men and to the pelvic organs in women.
(15) The skin of the feet and legs is related to the pelvic organs.
(16) The skin of the breasts is reflexly related to the pelvic organs.
Two general classes of effects are produced by thermal and mechanical applications, The first is **stimulating** and **tonic;** the second, depressant and sedative. A stimulating effect is greater than a tonic effect, but both increase the vital activity. The intensity of the effect will be proportionate to the intensity of the application. On the other hand, depressant and sedative effects are both due to a decrease of activity. They differ in the *extent* of the decrease.
Whatever the *degree* of reflex effect be, it is similar to the *direct effect* on the skin area treated. Four principal changes occur in the skin and the internal organs related to it. Try to remember them when treatments are given:
(1) The blood vessels are contracted and remain so, as long as the application is in place, sometimes longer.
(2) The nerve sensibility is decreased.
(3) Glandular activity is decreased.
(4) The muscles contract firmly.
In healthy organs the vascular changes may not be excessively marked, but in congested or inflamed organs, these changes are often profound.
Special reflex effects are seen with prolonged cold and differ from those caused by short applications of cold. Similarly, there are special effects from prolonged hot applications that differ somewhat from those of short duration. These are summarized in standard books on hydrotherapy. But before studying about the treatments and their indications, I will review some reflex principles involving generalized heat.
All applications produce reflex effects. But applications of heat to a very large area **dilate** so many surface blood vessels that blood is withdrawn from internal or distant parts. Therefore, the reflex dilation of the blood vessels in this distant part is overcome, wiped out by the mechanical or *hydrostatic* effect. This is called **derivation**.
Conversely, when cold is applied to a large area or the surface of the body is chilled, blood is driven from the outer parts. Then the internal blood vessels are filled and become dilated. Internal organ congestion results, called retrostasis. The above outline shows these different effects. Heat draws blood to the *surface—derivation.* Cold produces local vasoconstriction, driving blood to the *interior—retrostasis.* Then a secondary effect of cold draws blood to the surface *again—derivation.*
Furthermore, blood distribution is altered by other external heating and cooling measures. Normally, the human body maintains its temperature at a fairly constant level. The main factor in *thermostatic* regulation is the skin with its connections, especially the brain. About 78% of our body's heat loss is eliminated through the skin. At ordinary environmental temperatures, 73% is lost by **radiation** and 14% by **evaporation** of moisture from the skin surface. As the temperature rises, more and more heat loss occurs by evaporation, until this becomes more important than radiation, as a means of temperature control.

So efficient is this cooling mechanism that it is difficult to produce significant rises in body temperature by applying heat in a dry atmosphere. Both radiation and evaporation require dilation of skin blood vessels to eliminate the heat. These changes in vascular diameter, the caliber of the vessels, are under the control of heat-regulating centers in the central nervous system. These centers, in turn, are controlled by the autonomic nervous system.

When heat is applied to the body surface, our heat regulating mechanism goes into action, and the skin vessels dilate to eliminate heat. First, this occurs in the upper extremities. The lower ones follow shortly thereafter. Although maximum dilation occurs in the area heated, in actuality it is more or less a general cutaneous dilation.

In contrast, when the surface of our body is chilled, even in a small area, there is general constriction of the skin vessels. This is produced by the nervous system temperature control mechanism in an endeavor to prevent heat loss. If cold is applied for a short time only, *reaction* occurs within a few minutes, and the skin vessels dilate, provided the patient is able to react. If the cold application is prolonged, this vascular constriction is also prolonged. **Chilling** of the surface causes dilation internally in those areas, which are constricted by peripheral heat. This makes it clear that these so-called *hydrostatic* effects are closely bound up with temperature regulation. They are mediated through the "thermostat" center of the brain together with the autonomic nerve supply to the skin.

In health, a warm application to the skin surface draws blood almost equally from all parts of the body, chiefly from the interior, Where there are congested organs, a hot application will draw proportionately more blood from the congested organ than from other parts of the body. This decreasing of congestion is known as **depletion**. The means of producing it is called **derivation**. Internal organs having the most practical use for these hydrostatic effects are specifically the brain, the lungs, and the pelvic organs. With lung congestion—such as in colds, influenza, and the early stages of pneumonia—a hot foot bath with fomentations to the chest is most useful. It is also beneficial to take hot beverages, and use blanket coverings to produce sweating. Tonic treatments, such as the cold mitten friction should finish the therapy session to prevent recongestion. Congestive headaches find relief with the hot foot bath, applying cold compresses or ice bags to the head and neck. Acute inflammatory diseases in the pelvic organs requires most vigorous derivation. A hot hip and leg pack, combined with ice bags to the bladder *(suprapubic)* area is often effective. If preceded by a hot vaginal irrigation, the relief of pain usually comes within ten minutes. This treatment should likewise be finished with a cold mitten friction.

TECHNIQUES OF LOCAL HEATING PROCEDURES

Fomentations

A fomentation consists of local application using moist heat to the body' s surface. The fomentation cloth is typically made of blanket material— 50% wool to retain heat, and 50% cotton to retain moisture. The combination gives greater durability. A fomentation **tank** can be constructed to employ boiling water or steam. A kettle of boiling water, such as that used for home canning is quite sufficient. At least four fomentation cloths should be assembled, with a few Turkish (terry cloth) towels. A basin for ice water and

the foot tub completes the setup.

Preparation for Home Treatments

During the procedure, keep the room warm and free of drafts to prevent chilling. Avoid bright lights shining in the patient' s eyes. Protect the furniture, bedding, and carpets from moisture, especially when giving a room treatment. Do not be very talkative. Avoid discussing the patient' s ailment, and keep all conversation positive, uplifting, and cheerful. Make every move count for something, conserving energy and economizing on time.

First, start the water boiling. Fold a fomentation cloth in about three thicknesses. Grasp the ends and partially twist the cloth. Then submerge all but the ends in the boiling water until thoroughly soaked. Stretch or pull the fomentation to wring it as dry as possible. Untwist the "fomie" quickly and wrap it in a **dry** fomentation cloth.

Next, fold the fomentation double cross wise. Roll it together to hold the heat. Unfold this then at the bedside and place the inner side on a dry towel on the area to be treated. Cover the whole application with a towel.

If the fomentation is very hot, rub the skin underneath until the heat is tolerable. An additional towel may be placed under the fomentation to prevent burning and to absorb moisture.

Each fomentation should be left in place for *3-5* minutes. Three applications are usually used. When the last fomentation is removed, cool the area with a wash cloth wrung out from cold water. Finally, dry the skin thoroughly. All fomentation changes should be made quickly. The part treated should **never** be left exposed. During the treatment, it is usually advisable to apply a cold cloth to the forehead or neck in order to keep the head cool. This helps prevent headache. Preheating the patient with a hot foot bath aids in the derivative effect mentioned above.

Fomentations are very useful to relieve congestion from chest colds, coughs, bronchitis, and influenza. Fomentations can relieve pain in neuralgia, arthritis, and other inflammations. They may *stimulate*, when alternated with cold, or *sedate* in nervous conditions. For sedation, apply them to the spine, not too hot, but quite prolonged. Elimination of toxins is enhanced by sweating, especially when the fomentations are applied properly. Take great care to avoid burning the patient, particularly when there is paralysis, anesthesia, atherosclerosis, diabetes, edema, or recent surgery.

Protect the prominent bony areas specifically, lifting the fomentation frequently to allow steam to escape. You may also pad them with an additional wash cloth or towel. When fomentations are used in heart disease an ice **bag** should be placed over the heart. This can keep the pulse slow. It also helps avoid apprehension. Fomentations should *not* be used in cases of acute abdominal pain, heart failure, suspected heart attack, or gastrointestinal hemorrhages, such as from peptic ulcer. Nor should they be applied to the chest in pulmonary tuberculosis. Caution should be used in severely hypertensive patients also. Check the blood pressure frequently.

A special type of fomentation, called **revulsive compress** is used in infectious states. The fomentation is applied and allowed to remain a few minutes, then followed with a hand towel wrung lightly out from ice water. This contrast spreads out over the surface after the fomentation is removed. Then, after drying the skin, another fomentation is applied. Alternating hot **and cold** is similar, except that instead of the cold compress, the therapist

rubs a piece of ice back and forth over the skin between the fomentations.

Hot Foot Bath

As you would expect from the name, a **hot foot bath** involves the immersion of both feet and ankles in water at a temperature ranging from 100° to 115° F. This increases blood flow, locally and reflexly, through the feet and entire skin surface. As a *derivative effect,* the hot foot bath produces decongestion in the internal pelvic organs as well as the brain. For this reason, it is often applied to relieve congestion in the head and chest, and as a treatment for headache. Pelvic congestion frequently responds. Even a nosebleed can be stopped by this simple treatment, combined with ice packs over the face.

A second use for the hot foot bath is in conjunction with fomentations to warm up the body generally, preparing for the application of heat. **Tonic** procedures, such as the salt glow, cold mitten friction, and the percussion shower douche can likewise be enhanced when preceded by a hot foot bath. If prolonged, the hot foot bath will induce sweating. It often helps to prevent or abort a common cold. Relaxation and comfort are encouraged. Of course, any local inflammation of the feet receives relief with this simple measure.

Find a metal foot tub or plastic container, large and deep enough to contain the feet and ankles. Even a five gallon can or plastic wastebasket will do. If a thermometer is not available, test the water temperature with your elbow or hand. Protect the bed or floor from spilled water. Combine any prolonged treatment to the feet with a cold compress to the forehead to facilitate the derivative effect and avoid head congestion, producing headache. After testing accurately the water temperature, introduce both feet carefully to avoid burning. Vascular disease in the extremities and complications of diabetes, in which the sensation is reduced, are **contraindications** to this treatment or require moderation of the temperature. *Frostbite* may be treated in a warm footbath, but very hot applications should not be used. Except for some vascular diseases mentioned above, the water temperature is usually started at about 103° F. Add hot water from time to time, increasing the temperature to tolerance. The treatment is continued for 10 to 15 minutes, changing the cold head compress frequently. When finished, lift the feet out of the water, pour cold water over them, remove them from the tub, and dry them thoroughly. For general perspiration, give an alcohol rub or a cold mitten friction, then dry the skin thoroughly.

Cold Mitten Friction

One of the finest hydrotherapy measures for stimulating blood flow in the skin is the cold **mitten friction** (CMF). Enhanced circulation benefits the entire body. As a tonic, the skillfully performed CMF is better than anything found in a bottle. After fomentations, a CMF treatment is excellent to close the pores and tone up the skin. It heightens nerve and muscle tone, and skin sensibility. Heat production is increased, as well as tissue oxidation. Reflex effects in the internal organs induce stimulation of muscular, glandular, and metabolic activities. Helping to fight infections and fevers, the CMF increases antibody production and *phagocytosis* (where white blood cells destroy and "eat" harmful germs). Thus, it builds up general body resistance and is helpful for those suffering from frequent colds. For individuals sensing a lack of energy, particularly when the habits of coffee or tobacco are being eliminated, this treatment is invaluable.

A wash cloth can be used to deliver the cold mitten friction. However, it is more effective to sew a thick hand towel into the form of a mitten. This mitten is dipped into ice water, wrung out lightly, and rubbed briskly on the skin, up and down two or three times. The upper extremities are treated first, beginning with the fingers and rubbing alternately up to the shoulders. Each extremity is dried and covered before the next portion gets treated. The chest and abdomen are rubbed **briskly** with the friction mitts, then dried and covered. The lower extremities are treated similarly, finishing with the back. The friction is given as vigorously as the patient can tolerate it, repeated until the skin is nice and pink. This so-called "vascular gymnastics" is one of the finest physiologic tonics known. A CMF is so simple that one can do it to him or herself after the shower each morning for a quick "jump start."

Sitz Bath

One of the oldest hydrotherapy procedures is the sitz or sitting bath. Many abdominal and pelvic conditions were treated thus by the Austrian practitioner Priessnitz, who used water as a curative remedy.

The modern sitz tub is made of metal or porcelain and fashioned in such a size and shape that the patient may sit in it comfortably. The feet extend outside, positioned comfortably in a foot bath. A wash tub or plastic basin may serve the purpose at home, slightly tipped and made stationary with blocks of wood. A smaller tub or basin may be employed to give the foot bath. It should be considered part of the sitz treatment. An ordinary bathtub may also be used for a hot sitz bath. The patient sits in the tub, drawing up the knees so that only the feet and pelvic areas are submerged. Alternatively, one can take a **hot half bath** in which the water depth is deep enough to reach the navel.

Water temperature varies, depending upon the effect desired. As used in this text, the following Fahrenheit temperatures will correspond to these relative hydrotherapy terms:

cold: 55° to 75° F.
neutral: 92° to 97°F.
hot: 105° to 110° F.
very hot: 110° to 115° F.

Cold sitz baths are useful treatments for constipation and chronic pelvic inflammation. **Hot sitz baths** are used to treat pelvic pain during the menstrual cycle and in acute pelvic inflammatory conditions. They are also helpful to assist patients who are unable to urinate. Alternating hot and cold sitz baths are valuable for the treatment of hemorrhoids and prostate trouble, and after surgery of the perineum or rectum.

The patient should be protected from contact with the tub by placing towels behind his back and under his knees. Cover him or her with a blanket. Sufficient water should be used to cover the hips and reach the abdomen. The temperature of the foot bath should be several degrees hotter than the temperature in the sitz tub, Friction may be used with the cold sitz bath, if a person feels chilly, or when it is desirable to intensify the effects of the bath. Finish hot sitz baths by cooling the water to neutral for one or two minutes, or by pouring cold water over the hips and thighs. A cold sitz may be concluded by rubbing the hips and thighs with warm alcohol. Cold compresses to the head and neck should be used with some of the hot sitz baths. The patient should be observed closely for fainting.

If one avoids drafts or chilling the benefits will be great. After these and most other hydrotherapy treatments, the patient should rest for 20 to 30 minutes, As a reliever of pelvic pain and an improver of the circulation, the hot sitz bath or a contrasting one works well for treatment in the home.

Centripetal Peripheral Rub

The **centripetal peripheral rub,** usually called **CPR,** consists principally of stroking *(effleurage)* movements toward the center of the body. It is a type of light massage designed to expedite the circulation, particularly in the superficial veins. The CPR is a most relaxing treatment when used to finish a *general hydro* treatment, particularly one designed to relax spastic muscles and give a general feeling of well-being. Mild applications of CPR can hasten the absorption of edema fluid from either lower extremities or the hands.

The technique is as follows: Apply a lubricant such as body lotion or light oil to the extremities, one at a time. The first motion lubricates the extremity. In the arm, go from the fingers to the shoulder, returning with rotary sweeps. Stroking is done first to the back of the hand, the palm, the forearm, the elbow, then the upper arm and shoulder with free sweeping motions in each area. A knowledge of muscle configuration is helpful to make this most effective.

In the CPR, stroking is always done toward the heart, emptying the veins, and at the same time kneading the muscles lightly. Brief percussion is given the extremity with a “clapping” (palms cupped) up and down, then quick light “hacking” (using edge of hand), finally finishing with a very light stroking motion again. This percussion maneuver is avoided over the chest and abdomen, but it is very effective on the back and large muscles.

When rubbing the back, the first lubrication motion is followed by a stroking type of *effleurage* down the spine and out the lateral muscles. From the neck and shoulders down to the buttocks, the muscles are symmetrically massaged with firm pressure and gentle stroking. Kneading motions are typically alternated with the stroking. Finally after a brief percussion, called *tapotement,* a light effleurage completes the treatment. This most basic type of massage is very helpful to tone a sluggish circulation, relaxing the person for rest or sleep.

Contrast Baths

As the name implies, a **contrast bath** consists in the alternate application of hot and cold water to any part of the body. The alternate contraction and dilation of the blood vessels which results, improves the circulation and rapid removal of waste products from the area. By repeated changes this effect is heightened, resulting in a greatly increased blood flow through the area. Oxygen and nutrient elements, necessary for nature’ s healing processes are provided, as well as white blood cells, which help the body defend itself against infection.

To begin a contrast bath, secure two containers, large enough to allow the water to cover the extremities. Basins, plastic or metal garbage pails, or a double sink in the kitchen will work fine. Consult a thermometer for proper temperature, since it is important to have the heated water at the correct temperature.

The affected limbs are placed in hot water, at 105° to 110° F., for three or four minutes, then immersed in cold tap water or ice water for 30 to 60 seconds. Begin with the hot water and end with the cold water, changing

back and forth, from three to six times. After each treatment, the extremity is dried carefully and kept warm.

Contrast baths are useful in several conditions. Poor circulation caused by many blood vessel diseases can be improved, although in such situations temperatures above 105° are usually contraindicated. The cold water should be used for only about 30 seconds, and a treatment should be finished in neutral to hot water, instead of cold. **Arthritis** improves with contrast baths. Begin with temperatures of about 110° F., and change to tap water on a four and one minute cycle. After four to six changes, end with **hot** water. The treatment should be repeated at least twice daily.

Infections of the upper or lower extremities lend themselves well to these easy-to-perform contrast baths. The extremes of hot and cold temperature should be as great as can be comfortably tolerated. The more hardy person can start with ice water, changing five to six times, and finishing with the ice water. A powerful release of white blood cells into the circulation helps the body to combat infections such as cellulitis. Obvious improvement in the redness and relief of pain occurs after each treatment.

After initial *first—aid* application of ice packs (see Chapter 13) for sprained ankles or wrists, the hot and cold contrast bath is used to promote healing and take away pain. Swelling decreases more rapidly, and a return to full use of the injured joint is accelerated.

Heating Compresses

A heating compress is in actuality a cold compress, so covered as to prevent the circulation of air. This causes a rapid accumulation of body heat, warming the treated area for several hours. Most commonly these heating compresses are used around the throat. They are also effective over a joint, such as the knee or elbow. Using a larger cloth and wrapping, one can treat the chest or abdomen, giving great relief in certain conditions.

Use a strip of cotton cloth or muslin, long enough to encircle the area twice and wide enough to cover the area being treated. This cloth is immersed in cold tap water and wrung “dry.” After wrapping the moist cloth around the treatment area, a strip of wool flannel is then used to cover snugly. Pin the outer wrap in place with safety pins. Leave the compress on overnight, removing it in the morning. Finally, rub the skin briskly with cold water before drying.

The heating compress used on the throat measures about three inches wide and thirty inches long. The wool flannel covering is about four by thirtyfour inches, allowing it to completely encircle the other cloth. This remedy is effective in cases of sore throat, laryngitis, tonsillitis, and similar illnesses.

Heating compress to the neck. Put on at bedtime and remove in the morning.

A heating chest **pack** may be made in the same way. Apply it to the chest, rolling a broad cloth, about ten inches wide and seventy-two inches long, around the chest and over the shoulders diagonally, after first wringing it out in cold tap water. Secure it snugly at all points, but not so tight as to restrict respiration. After covering the moist cloth with a wool flannel one, secure the chest pack with safety pins. Leave it on overnight, then finish with a brief alcohol rub in the morning. A sweater or firm knit pajamas may be worn over this to aid in the heating effect. Chest packs are useful in treating pneumonia, bronchitis, pleurisy, and whooping cough. Materials for a heating compress

to the chest should be kept available in every home.
A similar cloth is used over the abdomen as a **moist abdominal binder** for the treatment of indigestion, constipation, and other digestive problems.
When a heating compress is applied to a joint, such as the knee, it is likewise left on overnight, followed in the morning by a brief massage.
Medications can be applied to the skin, such as diluted *oil of wintergreen* to

aid the heating effect and relief of joint pain. You can purchase it at a pharmacy of health food store. The acutely painful joints of rheumatic fever, as well as chronic inflammation responds to these simple measures.

Paraffin Bath

Water in its various forms is a versatile medium to convey or withdraw heat from the body. Water's high *heat conduction* property explains its value for this. **Paraffin,** however, has low heat conduction. It therefore can be used as a vehicle to apply heat to a local area for a longer period of time. Paraffin adheres to the skin and does not allow evaporation or heat elimination to take place. Therefore, local skin temperatures can be elevated more than would be tolerated by water alone.
The **paraffin bath** is used in arthritis cases involving joints of the hands or of the feet. Circulation to these joints is increased. Even the small blood vessels are dilated.
The paraffin (purchased from any super market) is prepared in a double boiler, using one pint of Mineral Oil to five pounds of paraffin. A thermometer capable of registering up to 150° F. should be employed. Usually a temperature of 120° to 130° is used for the immersion. To sterilize paraffin in a tank, heat the temperature to 180° to 200° F. When the paraffin cools and a film forms over the top, dip the hand or body part six to twelve times, allowing several seconds for cooling after each dip. After repeatedly dipping the hand (or foot) to form a wax glove, hold the extremity still to avoid cracking the paraffin. Then wrap it in plastic, and cover with a towel, preserving the heat for another 15—20 minutes. If both hands are to be treated, dip one hand first, then remove and wrap it in plastic while the other hand is being done.
After the treatment, remove your paraffin glove and place the wax in a basin. The "glove" may be used for finger exercise (squeezing and kneading), or it may be cleaned and replaced in the tank. **Remember that paraffin is flammable. DO NOT SPILL IT ON THE STOVE.**
Treated daily, arthritic hands and feet soften and joints improve their function when these simple baths are used. Never use paraffin, however, when there is an open lesion, an unhealed scar, or a skin infection. Also, use great care in treating old, weak, debilitated individuals. A peripheral vascular disease, where circulation is compromised, constitutes another contraindication for the use of paraffin.
For cases of sciatica or bursitis, spread the paraffin with a brush, using 10 to 12 coats. Then cover the part with oiled silk or wax paper. Apply a towel or flannel. A heat lamp will help to keep the paraffin warm for another 10 to 30 minutes. Consult a physician if questions arise regarding indications or if results seem unsatisfactory.

Medicated Steam Inhalation

Colds, coughs, and influenza are particularly common during the colder

seasons of each year. Significantly, a definite relationship has been found between a person's resistance to colds and the temperature of his skin, especially the upper chest and back. If your skin does not warm up rapidly after being chilled, the temperature of mucous membranes in the respiratory tract is also lowered. When this occurs, the resistance of these membranes to nose and throat infection is diminished. Congestion follows, and there is a feeling of stuffiness and excessive drainage. In cases of bronchitis or pneumonia, there follows a harsh cough, which becomes deep and raspy, as the sputum loosens.

The steam inhalation is an excellent agent to supply warm, moist air over the congested mucous membranes. A **vaporizer** which heats water electrically can generate steam most effectively. Care must be taken not to burn the sick person with such a device. However, it most effectively increases the humidity. Water may also be boiled in the kitchen, on a hot plate or a wood stove, to increase the ambient humidity. This is especially important in northern winters, when central heating dries out the air, drying out the skin and also the mucous membranes. When a vaporizer is used, *oil of eucalyptus* or *tincture of benzoin* (from a pharmacy) may be added to increase the potency of steam on mucous membranes.

A simple tent can be constructed, using an umbrella over the bed, with a sheet to cover it. Steam may be directed into this tent, increasing its effectiveness.

Precautions must be taken to avoid ALL risk of burning. Drafts in the sick room should also be avoided. Particular care must be given in treating children, so that accidents are prevented.

The steam inhalation or vaporizer effectively relieves cough and inflammation of the mucous membranes in the nose, throat, and larynx. It helps as well in throat irritation and draining sinuses.

People who suffer from acute asthma usually do better using a **cool mist humidifier.** This device delivers a fine spray into the room, thereby increasing the humidity. It is not used with medication, as a rule, but helps in cases of wheezing or severe allergies. Newer types employ *ultrasonic* principles (sound waves) to create a fine mist. They are helpful devices, but need careful adjustment to prevent such excessive humidity that will literally take off the wallpaper. Clean these appliances carefully between use to prevent mold or mildew accumulation. Many asthmatic patients are allergic to the spores.

Wet Sheet Packs

Fevers involving babies and small children respond particularly well to the **wet sheet pack.** Use it early in the course of an infection before high fever, chest congestion, or vomiting develops. This simple remedy may avoid the necessity for many emergency medical consultations and antibiotic prescriptions.

Before giving the wet sheet pack, however, it is often well to assure complete elimination with an enema. As a preheating measure, give a **full hot bath** to draw blood to the skin and lessen congestion. Immediately after the hot bath, your child may be placed in the wet sheet pack and wrapped up quickly. This is comfortable and well tolerated, even with a small child.

Several stages of response occur as time progresses. The first *stage* is one of cooling. To enhance this effect, before the sheet has been warmed to body temperature, the blanket may be folded back and cold water sprinkled on the

patient over the sheet. He or she may be fanned then to hasten evaporation and thereby lower the temperature.

The *second* or *neutral stage* begins when the temperature of the pack reaches or slightly exceeds that of the skin (about 94° F.). This stage may be prolonged by removing some of the dry coverings after the warming has well begun. The neutral stage has a marked sedative effect, inducing relaxation and sleep. It is especially helpful for those in danger of convulsions or excited and nervous patients.

The *third stage* of heating begins when the skin temperature rises slightly, and ends with the beginning of a general perspiration. Tonic and heating effects may be prolonged by applying cold water to the head and neck continuously. This helps to check excessive sweating. For a tonic effect, this stage should be continued about twenty minutes.

A *fourth stage,* of sweating, develops as the pores open and the body attempts to cool itself. Sweating may be increased by applying hot water bottles or fomentations within the folds of the dry blanket. Drinking hot sugar—free lemonade or hot water can promote your elimination of impurities through opening skin pores. Cold compresses on the forehead should **not** be very cold or renewed too frequently. This eliminating stage is salutary for delirious fevers, alcoholism, infantile convulsions, and many other common ailments. When the subject falls asleep, the pack gradually returns to a neutral stage, going through other stages as it cools.

In giving a **wet sheet pack** properly, it is important that the wet sheet come in close contact with the skin at all points. A dry blanket applied over the patient must prevent entrance of air or chilling may result. Warming up begins immediately. During the entire treatment the feet should be kept warm. Administer only water—or clear fluids if pack extends through mealtime. The attendance of a sympathetic, interested therapist helps to allay fear and secure cooperation. With these few suggestions, a wet sheet pack will find increasing use in the treatment of infectious illnesses of obscure origin.

Ice Packs

It was Priessnitz of Austria who first advocated the use of cold compresses after injury. Applications of cold are now given not only to relieve minor injuries but also for anesthesia. In proper situations, applications of cold can be just as appropriate as the use of heat.

For a sprained wrist or ankle, ice packs, snow, or cold water should be applied at the earliest possible moment. Combined with elevation of the injured extremity, the application of cold will prevent swelling and lessen the black and blue discoloration which occurs when blood vessels are injured. Cold contracts these blood vessels and keeps blood from oozing into the torn tissues. If the injured extremity is kept elevated and bandaged with an elastic support, healing will usually take place rapidly.

Applications of heat should be avoided for the first day or two in sprains or bruises. If more blood is drawn to the part by heating, tissue swelling increases. Cold packs should be applied in this type of injury to slow down the circulation and overcome the reaction of the body. Cold also relieves pain. Any application of ice or snow, however, should be removed periodically, so that the body can maintain its ability to react to temperature changes.

Cold is employed by immersing the sprained ankle in ice water or cold tap water for 30 minutes out of every two hours. Do this for at least four to six treatments. If it is difficult to put the sprained limb into cold water an ice bag or **ice pack** may be applied while the limb is kept elevated. Since an ice bag cannot cover the joint entirely, try preparing the pack as follows:
First, protect the bed or furniture with a piece of rubber sheeting or oiled silk. Then lay down a piece of plastic, such as a section of shower curtain, large enough to wrap the joint. Cover this with a one inch layer of thick towels. Then wrap the joint in a light flannel strip or bandage. Finely crushed ice or snow is then packed around the joint, not directly contacting the skin. A layer of toweling is then wrapped around the joint and pinned into place, finally surrounded with the plastic. This application can be removed after 30 minutes and reapplied every two hours, until the pain and swelling has abated. Between treatments it is helpful to give support by elastic bandaging. Avoid weight bearing, It may be painful.
Movement of the affected joint should begin as early as possible to prevent stiffness. Similar ice packs may also be used in cases of acute joint inflammation, in gout, in rheumatoid arthritis, and in acute bursitis. **Burns** of the skin should always be treated by immediate cooling with ice or cold water. Often, the extent of a burn can be reduced by this emergency first-aid measure.

Cleansing Enema

Four principal channels for the elimination of waste products are the lungs, the skin, the urinary tract, and the colon. In illness the elimination of toxic waste products is of primary importance to the healing process. In home care it is sometimes necessary to give an enema for colon cleansing or to stimulate bowel activity.
An **enema** can be given in several positions. For an extremely weak or sick person, it is best given in bed, with the patient lying on his left side. A salt solution is usually used with 1 teaspoon of salt to 1 pint of water. Tap water can also be effective, but soap suds solutions should be avoided, because of their irritation. In cases of colitis or unusual chronic inflammations of the bowel, a *charcoal slurry* solution can be made by stirring powdered activated charcoal into water. Then use only the cloudy solution, which results after the liquid has set for a couple of hours. This “slurry enema” will reduce inflammation locally, giving considerable relief.
The **enema**. Insert the tube carefully, using adequate lubrication. Water should enter as the patient lies on the left side. The knee chest position can be used for higher cleansing.
After inserting the enema tube carefully into the rectum, using a lubricant to aid passage, the container is elevated and the solution allowed to run in slowly. By slowly distending the colon, a normal stimulus to defecation is induced. The height of the can above the bed and the degree of pinching of the tubing regulate the rate of the flow. If a person complains of a desire to expel the enema, stop the flow for a few seconds by clamping the tubing. A small volume of solution repeated is better than a large amount, because an over distended bowel loses the tone necessary for vigorous contraction.
The individual should then be placed on a bed pan or assisted to the commode. If your patient is very ill, he or she should be continually attended

to until the evacuation is completed and he or she is comfortable again.

Hot Water Bottles

Someone has said, --*If a procedure is capable of doing good, it is also capable of doing harm."* The **hot water bottle** is generally considered a simple home remedy, but precautions are necessary to make it safe and effective.

Patients who are paralyzed or unconscious have an impaired sense of temperature and cannot tell if a hot water bottle is too hot. Those who have cold extremities may likewise have some impairment to the circulation. Burns may result if caution is not exercised in the use of hot water.

Water at 115° to 125° F. can be poured into the hot water bottle making it 1/3 to 1/2 full. Air should be expelled by placing the bottle on one side, until the water reaches the neck. The top is then closed securely and the device checked for leaks. A flannel cover or towel is used to cover the hot water bottle. It should NEVER be used without some protective covering. Avoid placing heating devices in contact with patients who are unconscious or paralyzed, who have poor circulation or advanced diabetes. If used properly, hot water bottles can relieve pain, relax and warm a bedfast patient, and even prolong the effect of fomentations. Congestion is relieved and sleep assisted by the use of this simple home remedy.

Sprays and Douches

The **sprays** apply water from multiple "needle" spray heads striking the entire body surface, except the head and the feet. They are used, not only for cleansing, but also as a tonic measure, with or without previous application of heat. Women should wear a shower cap. Ambulatory patients may prefer to wear thong sandals.

After the individual washes him or herself with soap and rinses well, the therapist adjusts the spray from a sedative temperature to hot and then to cold. The most sedative effects are seen with a *neutral spray,* while hot and cold contrast can be used as a vigorous tonic. The latter has a definite fatigue-relieving effect and can be employed as a progressive program in vascular exercise.

Tub Baths

A neutral tub bath with a temperature of 94° to 98° F. is a valuable sedative. Effective in exhaustion of the central nervous system, insomnia, and nervous irritability, it becomes one of nature's finest tranquilizers, as well as an inducer of restful sleep. The tub should be filled with water at the above temperature to *cover* the individual up to the neck.

The room should be quiet, with subdued light, and a pillow or folded towel placed under the head. When the individual lies quietly and relaxes in the water, the tub should be covered with a sheet to preserve the water temperature, as well as for privacy. The skin should be dried by gentle blotting, without friction or unnecessary rubbing, and at least thirty minutes of undisturbed rest should be allowed after this treatment.

Other types of baths can be used with medication**. Dry starch** may be added to a tub of water at neutral temperature to relieve skin irritation. *Aveeno* or finely pulverized oatmeal (sold at most pharmacies) may also be used, adding two cupfuls to a full tub of water for the relief of skin irritation. An **Aveeno bath** is not as drying as a starch bath. Lumping may be avoided by placing the Aveeno in a coarse muslin bag and soaking it in a towel of hot

water first. Since these substances may make the bottom of the tub slippery, care should be taken to prevent falling. For itching of the skin water dispersible oil such *as Alpha Keri,* or *oil of juniper* (Almay Tar) may be used. A **pine oil bath,** using one-half ounce of *balpine oil* to a tub of water, is a pleasant, refreshing sedative and produces slight redness of the skin. Look in health food stores for these oils.

Home style steam treatment. On a hot plate place a tea kettle or a pan of boiling water. Place this under a wooden stool, on which the patient sits. A shower curtain or some waterproof material is placed around the patient, with a hole for the head.

Steam Baths

A full-body **steam bath** may be taken either reclining or sitting. The *Turkish bath* is done in a cabinet with the individual seated and the head exposed.

A full-body steam bath with the patient reclining is called a *Russian bath.* These are used to produce sweating and for mild fever therapy. The body temperature is increased in this environment of 100% humidity, preventing heat loss. There is usually an increase in pulse rate, blood pressure, and metabolism. Alcoholism and other addictions, rheumatoid arthritis, obesity, and certain cases of influenza respond well to the steam bath.

Since this is a more vigorous treatment than other heating measures, certain considerations should be regarded. A generalized steam treatment is contraindicated in hypertension, diabetes, and cardiac impairment. An individual should have had a bowel movement within 24 hours previous to the treatment time and should void before taking the treatment.

Adequate fluid intake should be encouraged during and preceding the treatment, as any increased perspiration helps eliminate some wastes. Preheating the body with a hot foot bath or using a fomentation to the spine is helpful. In the home, a hot plate with a kettle of water may be placed under a wooden stool or chair, on which the patient is seated. The feet are placed in a hot foot bath. A shower curtain with a hole cut out for the head may be wrapped around, much as in the barber chair or at the hairdresser's. With complete covering in this way, the steam filling the area will cause a rapid onset of sweating. It may be necessary to apply a cold compress to the head, changing it frequently. Finish the treatment with a graduated spray. Patients should be adequately cooled after every steam treatment and rest for 1/2 to 1 hour.

With aromatic medications, such as *tincture of benzoin, camphor gum, menthol,* or *eucalyptus oil,* the steam bath can be therapeutic in relieving the inflammation of mucous membranes, common colds, sinusitis, and bronchitis. Other chronic conditions of the respiratory tract improve when these inhalant mixtures are used in conjunction with the steam.

Ultraviolet Therapy

Natural sunlight *(heliotherapy),* of course, is the best source for ultraviolet light. Most people today get too little sunlight, except in short doses during the summertime. A source of *ultraviolet radiation* that approaches natural sunlight is the **sunlamp** bulb. It may be used on any household AC current and screwed into a standard reading lamp. Privacy should be secured and the eyes protected, covering them with a black cloth, or using dark

glasses. Special precautions should be taken to avoid the burns that result from direct rays of the sunlamp. For average people the maximum time for first exposure should be about six minutes, with a distance from the lamp of thirty inches. For greater safety, a greater distance can be employed, with exposure time proportionately increased, depending upon the lamp manufacturer's directions. One minute daily may be added to the exposure,

up to fifteen minutes maximum. The eyes should always be protected. Gradual skin tanning will usually occur.

Ultraviolet rays aid the body in producing **Vitamin D**. This helps us absorb calcium, thus building strong bones and teeth. Infections in the skin are improved and a general tone of the body results from the regular use of sunlight or ultraviolet. Many other physiologic effects are being discovered, but the benefits can be had only by those who *use* this valuable remedial agent.

These are only a sample of many forms of hydrotherapy useful in home treatments. More complicated procedures can be given in sanitariums and hospitals where this therapy is emphasized. Water treatments do take time. So, remember that nature, if assisted, will do her work wisely and well. Hydrotherapy, massage, and physical medicine will continue to find their place in homes and hospitals where diseases are treated physiologically and where the body's *needs* are truly regarded in your recovery from illness.

CHAPTER EIGHTEEN
MEDICAL BOTANY

Nature study of all types can be most fascinating. The infinite variety displayed in the plant kingdom, and particularly the array of colors, aromas, and designs seen, delights the serious student of botany. Among the various grasses, trees, wild flowers, and other herbs, there exist great many healing properties. The study of these medicinal agents and their use in the treatment of simple illnesses is called **medical botany.**

In studying healing properties found in plants the student and health practitioner alike must always remember that *"what is new is not necessarily true and what is true in not necessarily new."* Furthermore, this sage advice by Alexander Pope is still applicable: *"Be not the first by whom the new is tried, nor the last to lay the old aside."* As we consider the various medicinal plants and their usefulness in health and disease, let us also look at the many years of change that have either amalgamated or mutated these plants, causing some of them to be poisonous.

Closely parallel and an equally fascinating field is the use of wild plants for food. Nearly everyone is familiar with the appearance of tomatoes on the vine, potatoes in the ground, and various fruits on the trees. Few people, however, realize the vast food resources in the wilderness, by the roadsides, and upon majestic mountains where wild flowers, roots, trees, and grasses proliferate. They supply food in abundance, not only for animals, but also for man. Knowledge of *edible wild plants* is valuable in preparing for survival when future economic pressures or crop failures may make such simple nutrition mandatory. In the scope of this volume, however, only a few select plants can be covered, thus whetting the "appetite" to pursue similar studies in growing numbers of references that guide more detailed research in botanical lines.

MEDICINAL PLANTS

Let us look now at several healing herbs that come widely recommended relieving symptoms and treating common diseases. This list is selected, and far from comprehensive, since among more than 40,000 plant species, many *hundreds* have been used by Indian herbalists and herbal practitioners of other nations. Some herbs can be cultivated and grown in greenhouses, in ornamental garden patios, even window ledges. Others are found among the wild grasses or flowers of forest and meadow, challenging nature lovers to take a walk now and then, to gather, to classify, and dry these medicinal botanicals for use at a future occasion.

Aloe Vera

Easily grown and very decorative, the **aloe** plant provides a quick and certain relief for many minor burns. At the barbecue or a kitchen stove, any first or second degree burn can be soothed with pain rapidly relieved by the juice expressed from the *aloe vera* leaf. Usually a simple house plant, the aloe grows in warm humid climates, and is cultivated beside the outdoor barbecue of most Hawaiian residences. Every home should have one or two of these valuable plants.

Buchu

Known by its botanical name *Rutacae,* this low shrub has small leaves and angular branches. Flowers range from pink to white in color. Dried leaves are used for medicine, prepared as a tea. A usual standard remedy consists of 1 teaspoon of the dried powdered leaves steeped in a cup of hot water. Take it in small doses. A preparation of **buchu** stimulates the appetite, increases the flow of perspiration, and acts as a natural diuretic. This is a valuable tea for

chronic disease of the urinary tract—such as cystitis, urethritis, and prostatitis. It may have value in cases involving stones in the urinary passage, and historically has also been useful in cases of vaginal discharge *(leucorrhea).*

Camphor

Steam is passed through the chipped wood of large trees in Taiwan to obtain the **camphor** distillate. The preparation is then heated until evaporation to obtain the oil. It is frequently used as an inhalant in vaporizers. Internal usage should be strictly limited, although some have claimed it beneficial in intestinal worms, various types of rheumatism, and respiratory infections.

Cascara Sagrada

Of the tree family *Rhamnaceae,* the medicinal preparation comes from the bark. Cascara acts as a gastrointestinal irritant. The fresh bark should be stored for at least a year, because of its powerful properties. As a laxative, the bark is usually steeped, 1 teaspoon to a cup of boiling water. It should not be used regularly, as even herbal laxatives may weaken the body's normal intestinal reflexes.

Castor Oil

This well-known cathartic and purgative obtained from the castor bean plant has a mild action to evacuate the bowel. One to four teaspoons may be taken to produce very complete elimination. Usually the castor oil is blended with cracked ice and orange juice, or taken in fresh or warm milk to disguise the oily taste. Castor oil may also be applied externally to relieve joint pain or itching of the skin.

Catnip

This herb from the *mint* family is available in capsules in many health food stores. But **catnip** is typically taken as a tea. Its effect helps to calm the nerves, but catnip also aids in removing gas from the intestinal tract, and it induces perspiration. The dried leaves are boiled. Like most mints, catnip is easy to grow around the house.

Chamomile

Chamomile is a humble roadside herb is well known as a simple remedy for nervous problems. The flowers and leaves are dried and powdered, then they are steeped in boiling water to prepare a tea. Pain has been relieved with poultices prepared from the chamomile flowers.

Comfrey

Known by several other names, such as *Gum plant* and *healing herb,* this perennial beautifies many a planting box or garden. The leaves are large and hairy, usually dark green with pointed ends. A fair amount of sunshine is needed, with good soil and plenty of water, to produce prolific growth. Although comfrey is probably used for more different purposes than any other herb, I list but a few of those that have shown favorable results. A tea

made from comfrey is prepared with hot water, into which is stirred an ounce of the powdered root or leaves. This may be taken several times a day. It is a rich source of calcium..

Various irritations of the stomach, even diarrhea, have responded to the soothing effects of this cleansing agent. Mucous membrane irritations improve. Hot compresses or poultices may be made from the comfrey plant,

using the moistened powdered herb or crushed green leaves. Prompt scab formation will follow the direct application, with considerable acceleration of healing to a cut or wound.

Comfrey is a nutritive food. Often the fresh leaves are blended in a base of unsweetened pineapple juice, to which mints or parsley has been added to make a healthful “green drink.” Give it a try in your herb garden.

Charcoal

Although not strictly an “herb” in itself, **charcoal** is derived from the incomplete combustion of many plant products. Usually obtained from a hard wood, charcoal is produced by slow combustion in a relative absence of oxygen. Although most hard woods can be utilized in the manufacture of medicinal charcoal, *eucalyptus* wood seems to be one of the best. In a homelike setting, charcoal can be scraped or chipped from the charred hardwood. After being moistened with water, it is forced through a food grinder. Commercial sources of charcoal are also available, principally obtained from *coconut shells.*

Treatment with superheated steam, or another industrial method, can produce “activated” charcoal, which is capable of much improved absorptive effect, The use of medicinal charcoal goes back to ancient Egypt, and was found in an Egyptian papyrus dated around 1550 B.C. In the time of Hippocrates *wood chars* were used to treat various ailments.

Charcoal’ s adsorptive property is due to a myriad of micropores, the walls of which have surface areas that range from 400 to over 1800 square meters per gram! Thus, the surface area of powdered charcoal is phenomenal. Finely ground charcoal particles are so small that it takes about 50 million to make one pound! One should not confuse the properties of activated charcoal with burnt toast or charcoal briquettes.

Many poisons can be *adsorbed* by charcoal, although the properties are quite selective. DDT, dieldrin, strychnine, malathion, and parathion are some industrial toxins that become inactivated by this “miracle” substance. Many drugs are likewise adsorbed by charcoal. Several more common ones include aspirin, barbiturates, cocaine, opium, nicotine, morphine, penicillin, and sulfas. Inorganic substances are adsorbed, such as mercury, phosphorus, chlorine, iron, lead, and silver. For this reason, **charcoal should be an important constituent of the emergency kit in every household.** Better than the *universal antidote* in case of acute poisoning, a rescue worker has merely to induce vomiting, followed with a large dose of activated charcoal to render most substances harmless. Usually 30 to 60 grams, about ¼ cup, is needed, suspended in water and taken as soon as possible after the injection of any toxin.

Charcoal may be employed to reduce or eliminate distress from intestinal gas. Its adsorbing and deodorizing properties are welcome in skin ulcers. For colostomies, place a tablet in the bag with each cleansing. Charcoal can act as

an air purifier in a sickroom, in the refrigerator, or where recycling of air is necessary, as is common in a submarine.

Although a charcoal filter in cigarettes may remove three times as much of the toxic vapor as ordinary filters do, the carbon monoxide and nitric acid present in the smoke are **not** efficiently adsorbed. Charcoal has furthermore been used in the filtering of blood for the victims of kidney disease who must undergo repetitive dialysis. Depressed individuals who have taken an overdose of drug medication may additionally be saved with a specially designed charcoal filter that will revitalize the blood, while removing impurities.

Newborn babies who experience **jaundice** will usually be improved with activated charcoal. Bile secretion from the liver into the intestines is usually followed by an efficient reabsorption process. Charcoal binds this bile and carries the pigment out, reducing risks from jaundice. Charcoal can be mingled with the baby' s formula, or for breast milk expressed into a bottle, may be mixed with the mother's milk and given for several days until the neonatal jaundice clears. The need for exchange transfusions and hospitalization has been reduced considerably with this simple measure.

Charcoal is moreover a valuable remedy for **diarrhea.** Two tablespoons of activated charcoal powder in a glass of cold water, is taken every 4 to 8 hours until the diarrhea is under control. Charcoal capsules should be in the **travel kit** of any one going to countries where the danger of *Tourista,* traveler's diarrhea, exists. If unusual intestinal irritation occurs, so that vomiting is a problem, the charcoal can be allowed to stand and settle, then one drinks the clear looking *slurry* water on top. Millions of charcoal particles are present in this "clear" liquid, as can be demonstrated by shining a light from the side. It reveals a cloudiness, called the *Tyndall phenomenon.* Even a baby will get considerable relief from this charcoal water.

Skin infections can respond to charcoal mixed with water, and applied as a poultice. Water and activated charcoal are stirred until the consistency is that of a thick cream. The mixture can be "geled" with boiled flax *seed, aloe vera* gel, or *agar,* then poured onto a piece of cotton flannel. This pack is placed directly over the area of inflammation, covered with a piece of plastic, and finally secured with tape. You should change the poultice every 6 to 8 hours or when it becomes dry. This natural adsorbing agent will reduce pain and inflammation in cases of cellulitis, bruises, and superficial burns. When properly used such a simple, inexpensive, and harmless medicine will save many lives.

Eucalyptus

Eucalyptus (also known as *blue gum)* leaves have many beneficial effects. Distilled as oil, eucalyptus may be inhaled freely for sore throats and infections of the bronchial tubes or lungs. It helps to reduce swelling of the mucous membranes in asthma and can be used with most vaporizers. A **cough** syrup may be prepared from the eucalyptus oil with three to ten drops stirred into a cup of honey. A small amount of lemon juice may be added for flavoring. One teaspoon of honey—eucalyptus "cough syrup" may be taken every few hours to relieve a sore throat or cough associated with many common respiratory illnesses.

Figs

A common fruit tree in subtropical climates, the **fig** is not only delicious

to eat, but medicinal in several aspects. Dating back to Biblical times (See Isaiah 38:21), the fig has been used for various skin afflictions. For painful boils, the ripe, fresh fruit should be split open and laid over the lesion. Its powerful proteolytic enzyme *ficin* helps to liquefy and dissolve necrotic tissue. The osmotic effect and high sugar content help to draw poisons from the wound, as well as inhibit the multiplication of disease-producing bacteria. Other sores may similarly respond. A fig tree finds its place around the patio of most southern homes, if for no other reason than for the delicious fruit it bears.

Garlic

Garlic belongs to the same family as the onion. This powerful plant has great medicinal value, in spite of the offensive breath it produces. There is considerable evidence that it may reduce high blood pressure. As an expec283 torant, garlic tends to remove mucus from the throat. It is a natural antibiotic, inhibitory to yeast organisms as well. Most easily taken in capsules or "pearls," garlic drops may particularly aid the expulsion of intestinal worms. More experimentation is needed to determine just which parasites respond most promptly to this common bulb.

Golden Seal

This herb grows plentifully in virgin forests of the United States. However, **golden seal** is becoming more scarce as a wild plant, and if cultivated, should be planted in well-fertilized soil. Abundant shade and good drainage will aid in its cultivation. Golden seal generally has a vasoconstrictive effect on the body. Blood vessels are tightened, improving conditions in which running secretions or catarrh are seen. In combination with bicarbonate of soda, golden seal may serve as a mouth wash for the relief of sores in the oral cavity, especially the gums. It may also have a styptic effect in certain cases of nosebleeds.

Jewel Weed

A beautiful late summer wild flower in the southern United States, **jewel weed,** or **spotted touch-me-not,** is a favorite habitat for hummingbirds. The fresh stem and leaves may be boiled in shortening to form an ointment for hemorrhoids. Weeping eruptions, such as poison ivy, may also respond to the plant juices rubbed on the affected skin at frequent intervals.

Hops

Dried leaves of the **hops** plant may be taken in capsule form or steeped for an herb tea. The alkaloid *lupulon,* present in the hops plant, is a sedative. In some scientific studies it has been shown to slow brain wave patterns. Hops tea is therefore valued when a person needs assistance to induce sleep. Chronic insomniacs may need several capsules. The strong hops flavor may be modified with a small amount of lemon or honey to make the tea more palatable.

Honey

Delicious as a food, **honey** is useful also in medicine. The high sugar concentration of pure liquid honey completely inhibits bacterial multiplication. Thus, honey is usually free of contamination by microorganisms, more than most natural substances.

Honey may be used with other agents to prepare a natural cough syrup. It also is valued as a covering balm over skin infections. With its osmotic drawing power and bacterial inhibition honey may rapidly aid in wound

healing. Particularly, honey is helpful as a flavor enhancer and sweetener for many herb teas that otherwise would be difficult to take because of their strong flavor.

Kelp

This seaweed is found along coasts and bordered inlets of the North Atlantic and North Pacific oceans. Being without a true root, stem, or leaf, **kelp** grows near the surface of sea water, attached to rocks. The high *iodine* content of this plant makes it a valuable supplement in cases where iodine deficiency has produced thyroid disease. Other trace minerals are present that may help in blood formation. Some vitamins are also found.

Lemon

The juice of the **lemon,** a citrus fruit, may be used as a disinfectant for minor infections, Rich in *Vitamin C,* lemon has become a popular remedy for coughs and colds. It may be mixed with honey to make a healthful syrup. Some reported beneficial effects of lemon in cases of arthritis or other chronic diseases may be due to its Vitamin C content, rather than other special herbal properties.

Oats

Cultivated extensively in the temperate zones, the common **oats** thrive best in wet soil. Oatmeal and rolled oats are prepared by removing the husks: the kernels are then rolled or ground. So-called “quick oats” are kernels, first partially cooked before rolling. This lessens the time required in preparing the product for food. Oats may be used for many conditions. The fiber of this healthful grain makes it a value in cases of indigestion and constipation. Oat bran also helps to lower cholesterol. Itching skin may respond *to poultices* of oatmeal. A bath taken in oatmeal water *(Aveno* is a common brand) will be therapeutic in many allergic conditions of the skin.

Olive

This often used remedy for constipation is a popular laxative for children. As eaten *in* the **olive,** natural olive oil is healing to an inflamed stomach. It also may be of value in chronic infections, such as tuberculosis. Olives are good for kidney infections and nephritis. Used externally, pure olive oil may be applied as an ointment for bruises, burns, scalds, and other skin conditions. A drop of warm olive oil may be placed in the ear to relieve the pain of mild earache.

Onion

Commonly used in flavoring and valuable as a source of Vitamin C, **onions** can additionally be made into a poultice for tumors or ulcers, especially where there is pus formation. Pain may be relieved in a short time, particularly with the use of the milder onion varieties.

Pine

The aromatic properties of pine needles are highly valued in respiratory afflictions. Boiled in water or used in vaporizer, the *balsam* of the pine, as well as other conifers such as cedar and fir will have numerous healing effects.

Plantain

The leaves of the common **plantain,** a green wild flower, have a pleasant, cooling effect upon the body. The juice helps stop bleeding from minor wounds. Fresh plantain leaves may be rubbed directly on parts of the body stung by insects, or on the skin rash produced by the stinging nettle.

Rhubarb

Cultivated around the world in moist fertile soil, **rhubarb** has been a favorite of pie makers for many generations. The herb resembles our ordinary garden variety, but attains a larger size. Avoid carefully the leaves, because of some poisonous properties. Small amounts of the powdered rhizome or root may be used for cleansing the intestines and colon. Rhubarb is one of the mildest laxatives, making it especially desirable in constipation associated with hemorrhoids.

Psyllium

Small **psyllium** seeds can be ground or soaked in water to form a mucilaginous substance. They are valued as a stool softener when taken with water. Commercial preparations, such as *Metamucil* or *Konsyl* are easily obtained, making it easy to try. One spoonful in a glass of water or fruit juice may be taken once or twice a day to improve the softness and ease of passage, especially for elderly, sedentary, or constipated individuals.

Smartweed

Another common wildflower growing in late summer is **smartweed**, of which there are several varieties. One type is quite mild, but the white flowered variety if crushed and rubbed on the skin will produce a definite *counter-irritant* effect. Poultices of charcoal mixed with smartweed and water have double value in reducing the inflammation of bruises and similar skin inflammations. These and other wildflowers can be easily identified from their descriptions and photographs, available in popular field guides.

Slippery Elm

A stately and beautiful tree, **slippery elm** has most interesting advantages, hidden beneath its bark. Carefully cut a section of slippery elm bark from the tree, then peel it back to disclose a mucilaginous substance. The gel may be scraped with a knife from the inner surface. Allowed it to dry and form a powder. Slippery elm can then be mixed with other herbs to prepare poultices, giving “body” and consistency to the medicinal herb mixture. With careful observation, you can find many slippery elm trees. Their growth should be protected by careful use of the valuable bark, allowing “healing” to occur after the material is harvested.

POISONOUS HERBS

A number of plants developed harmful properties, through amalgamation and genetic change. Some botanical substances are highly toxic and can quickly bring about death. Other agents have a slower action, yet are equally dangerous. I have chosen to list a number of these poisonous herbs, and recommend their identification in order to avoid accidental harm or poisoning that could easily come to the unwary.

Opium

From an oriental *poppy,* **opium** is refined into morphine or smoked as the “crude” substance. Having a profound addicting effect on the body, opium use is clearly harmful to society. It distorts mental perception. Although the use, possession, or transportation of opium or its derivatives in the United States carries penalties, opiates are nevertheless a big dilemma, both in medicine and in the influential underworld that permeates numerous large cities.

Marijuana

Common, but illegally grown in the United States and Mexico, the

marijuana plant is a growing saboteur of youthful idealism. Frequently rolled into cigarettes called 'joints" and smoked, marijuana has found its way onto college campuses, high schools, and even business circles. The active ingredient *tetrahydrocannabinol* (THC), produces a profound distortion of reality in both time and space.

In spite of the temporarily heightened imagination and false feeling of mental perceptions, regular use of marijuana is clearly associated with decreased mental acuity, a decrease of purpose and drive, and lack of interest and ambition. Marijuana use underlies many educational failures today, as well as leading into other serious addictions.

Tobacco

It is difficult to condense in a small reference book the insidious effects that have followed **tobacco** use. Tobacco is a major cash crop in the South, with a powerful industry and governmental lobby. Nevertheless, tobacco is without doubt a major health hazard. It is even more insidious because of its slow, malignant nature, the ability to create cancer. Many alkaloids that come from its combustion is capable of producing cancer in the lung, as well as the mouth, throat, larynx, stomach, and bladder.

Smoking not only contributes to cancer, it is a principle cause of heart disease, bronchitis, and emphysema. Tobacco use leads to depletion of the body's supply of a number of essential vitamins. **Carbon monoxide,** concentrated in the mainstream smoke of the cigarette's deadly "coffin nail," sabotages the circulatory system and leads to an oxygen deficiency. This impairs thinking, as well as opening the intracellular spaces in the lining of coronary vessels for cholesterol to deposit.

Nicotine is the primary addicting agent in the tobacco plant, which makes the smoker want to come back for more. Although smoking is the most common avenue of entry into the body, chewing or sniffing tobacco *(snuff)* is finding increasing entrance among the youthful generation and targeted minority groups. Smokers die eight years sooner than non-smokers and are sick 22 per cent more often. Non-smokers living with smokers suffer from more disease from the *passive smoke* to which they are exposed. All usage for the tobacco plant is harmful, unless possibly as an insecticide.

Toadstools

A great many **mushrooms** are used for food. Some however, customarily designated **toadstools**, are highly poisonous. The *Amanita* species are among the most poisonous substances known to man. One small bite of this highly toxic mushroom may result in rapid death. It is easily recognized with its swollen base, the ring around the stem, and characteristic speckled cap. Learn to recognize the deadly *Amanita* and avoid them. A general rule in mushroom hunting should require positive identification of every species before using them as food. Some are delicious, many are healthful, but the presence of a few poisonous species among this interesting family of fungi makes caution quite prudent.

Poison Ivy, Oak, and Sumac

Notice the drawings that identify the characteristic features of these common skin irritant plants. A poisonous oil is present in each of these, called *urushiol,* It is the main ingredient implicated in the typical "contact dermatitis" produced by these poison plants. All parts of the **poison ivy, poison oak,** or **poison sumac,** including the roots, stem, leaf, and flower may inflame an

allergic individual' s sensitive skin. Although some people are seemingly resistant to urushiol' s effect, one should never be too sure. Even burning clumps of the offending weeds has produced allergic eruptions. In spite of their beauty, one had better *look, but not touch* when these vines are encountered.

Foxglove

The **foxglove** plants, of which there are many varieties, are a common source of *digitalis.* Of distinct medicinal value in patients with heart failure or rhythm disturbances, the foxglove plant, nevertheless, should be taken only under a physician's direction. Purified forms, with carefully regulated dosages, are available, when the use of digitalis is absolutely necessary. In general, however, the danger of rhythm disturbances and Toxic effects with nausea, vomiting, or visual changes should confine the foxglove to its use as an ornamental flower, rather than a medicine.

Belladonna

Also called the **deadly nightshade,** this plant has a powerful inhibitory effect upon the autonomic nervous system. With dilation of pupils, drying of mucous membranes, and decrease of intestinal secretions, the *Belladonna's* properties are indeed powerful. Overdose is likely with the use of this plant. Its common availability as a tincture should be avoided, because of the alcohol content.

Coffee

This popular beverage comes from a low bush-type plant, cultivated extensively in Central and South America. The beans are harvested when mature, and dried in the sun. Because of the habit forming nature of its principle alkaloid, caffeine, coffee is classed with the harmful herbs. Caffeine acts as a drug on the central nervous system. It irritates the stomach, adversely affects a number of organs, and contributes to heart disease, headaches, nervousness and high blood pressure. Caffeine is contained in tea, cocoa, sodas, and some medications, as well as coffee. Unfortunately, the decaffeination process used for most supermarket brands of decaffeinated coffees, leaves behind traces of chemicals that may be more dangerous than caffeine. Herbal teas or grain beverages— *like Postum, Pero, Roma,* and *Caffix*— are healthier alternatives to coffee. You can buy them at most health food stores.

Jimson Weed

Classified in the same plant family as potatoes and tomatoes, the **jimson weed** is very toxic. Hallucinations and serious mental changes have been associated with its use, as well as sudden death from overdose. Blooming in the summer season as a common roadside flower, jimson weed should be carefully avoided, and regarded as a most toxic plant.

EDIBLE PLANTS

Wonderful varieties of delicious and nutritious edible wild plants grow all around our world. Many species are tastier than familiar foods. Some are as nutritious as similar garden vegetables. A few common ones are listed here for study, as well as to encourage you to try some.

Rose

After the **wild rose** has bloomed, fruit buttons form at the end of the stalk, an essence loaded with *Vitamin C.* Rose hips can be picked, made into jelly, or steeped for a tea or soup. In some parts of the world, rose hips are

one of the most valuable winter sources of Vitamin C, well known for both keeping quality and delicious flavor.

Dandelion

The common dandelion grows in lawns everywhere. Its tender leaves may be made into a fresh tossed salad, as well as cooked for "greens." Some say that it has about four times the nutritional value as lettuce. Even the buds and blossoms are edible.

Clover

The **red clover** is quite edible, including the blossom to the root. After drying you can steep the blossoms or leaves for a medicinal tea. Many edible species are known. They should be used in moderation. Even the cattle know that bloating occurs when they have overeaten of clover.

Lamb's Quarters

Goose foot or **lamb's quarters** makes delicious cooked greens. Often found between the rows in the garden, their leaf is shaped somewhat like a goose foot. The leaves are silvery underneath and have a crunchy feeling when you bite them. Like other greens, such as mustard, collards, chard, and spinach lamb's quarters are rich in calcium, as well as trace minerals and Vitamin C..

Plantain

Common plantain should be cooked for best Taste and palatability. The leaves can be blended with nettles for greater flavor. Gather the plantain in the spring while the leaves are tender.

Chickweed

Chickweed grows in wayside places and around houses nearly everywhere. You will find it in a clump or extensive mat. It may be eaten raw, cooked as greens, or steeped for tea. This is a valuable plant.

Watercress

Watercress can be discovered in running streams, even during winter in the milder climate zones. Before using it in raw salads, soak the plant in chlorinated water for a few minutes to destroy disease producing germs. Some diced onions or leeks may be simmered with the watercress. With salt and lemon seasoning, This plant is delicious. Watercress may be boiled as greens or used in a delicious soup. Other cresses are also equally good.

Thistle

The **thistle** is not all prickles. It has several edible parts. The crisp young stems may be cut in early spring and eaten like celery. It tastes, however, more like grass. Under the faded flower is a white "meat" such as you find in artichokes. In fact, the artichoke plant is a thistle.

Milkweed

The ball-like flower cluster of the **milkweed** may be picked in the morning, while it is wet with dew. Steam them to obtain a sweet liquid, honey-like water. Avoid picking one with a reddish stem, as it is bitter and toxic. Some call it *wild broccoli.* The buds on top of the common milkweed may be cooked. It makes a good vegetable. Even the leaves may be boiled for greens.

Jerusalem Artichoke

Looking like an overgrown sunflower plant, the **Jerusalem artichoke** has smaller flower heads. Dig up the roots and look at the large nutritious tubers. They may be boiled, roasted, baked, or prepared in whatever way you would

cook potatoes. The *inulin* content of these starchy tubers makes them more healthful for diabetics.

Day Lily

The common **day lily** grows along roadsides, as well as in flower gardens. Orange, red or yellow blossoms may form. When the flower buds are closed and green, snap them off and boil them like string beans.

The blossoms may be baked in a batter for another tasty dish. Crisp white stems of the day lily may be snapped off and eaten raw or steamed. Diced and creamed they make a good dish. The roots are additionally edible.

Violets

The common **violet** is one of the most nutritious green plants that have been analyzed. It is rich in Vitamins A and C, and includes a number of trace minerals. There is more calcium than in your garden greens. The leaves and blossoms may be eaten raw, in a salad, or cooked like spinach.

Ferns

The young **fern** "fiddleheads" may be snapped off and cooked like asparagus. Bracken fern with its three curled prongs is the best, while several others are also good. Do not use the mature fern, as it may be toxic. Rub off the wool and hairs of the young fiddleheads and boil them in salted water. They may also be included in a tossed salad or dried for winter use.

Mints

Wild mint furnishes flavor in refreshing drinks. **Henbit** is an erect little plant with a beautiful flower. This may be eaten raw or boiled as a pot herb. All mints have square stems and clusters of snap dragon-like flowers. Some have **medicinal properties,** such as **peppermint** and **spearmint.** A cup of hot mint Tea may provide a very refreshing beverage for the camper.

Nuts

Nuts are the most concentrated wild food. Many wild nuts grow all around the world, including walnuts, hickory nuts, chestnuts, pine nuts, pecans, hazel nuts, Brazil nuts, cashews, and butternut. They can be stored in the shell or outer hull for winter treats.

Acorns

The **acorn** of the white oak may be roasted and eaten, when picked in the early stages. *Tannic acid* can be removed by crushing the meats and soaking them in a cloth or boiling them in water containing wood ashes. Drained and rinsed, the acorn meat is then pressed thin and baked for crackers. It may be mixed with flour, or flavored with nuts and berries for a special fruit cake.

Elderberry

Black **elderberries** are edible either raw or cooked. Avoid the red ones, however. Growing in bushes along the roadside, the elderberry may be gathered and prepared like grape juice or canned and heated in the winter time with diced apples for delicious elderberry soup.

Cattails

Growing in swamps, the cattail is one of the most edible plants known. The *pollen* found on the cattail spike in the spring may be used for flour, adding its delicious nutty flavor to pancakes or camp bread. Even earlier, look for the young spike hidden in the weeds. It appears like an ear of corn, and can be boiled like corn on the cob and served with salt and butter. It tastes more like the cob than the corn. The cattail *root* is more valuable and can be harvested in the winter, if you don't mind getting muddy. It is said to be 40%

starch and 10% sugar. After being washed and peeled, it can be dried and ground to flour. A mixture of cattail flour and acorn meal with chopped wild nuts make delicious camping crackers.

Mushrooms

Most mushroom hunters start with one or two that are easily recognized. We suggest the pear-shaped **puffball,** as a good fungus for a starter. Break it open to be sure it is powder white like marshmallows. If it has lines in it, throw it away. Small egg-shaped puffballs are also good when white inside. No puffball is edible when it becomes old and the brown dust comes out.

A second type of fungus, which is unusual in appearance and easy to recognize, is the morel. Its wrinkled appearance makes it easy to identify. Look for the morel in deciduous woods or under apple trees. They are really good eating.

Most important, though, avoid the toxic species. **Do not eat any mushroom that cannot be positively identified.** Particularly, remember the *destroying angel,* or poisonous *Amanita,* with its characteristic cap, ring on the stem, and swollen base. Carry a field guide or take an expert with you in hunting for wild plants and mushrooms.

With a growing interest in plants, medical botany, and herbs, the most rewarding experiences come to the gardener. The cultivation of herbs can be a fascinating hobby, as well as a means of supplementing one' s income. Many garden spots, backyard patios, and greenhouses have been devoted to herbs with a resulting beauty, as well as health. Contact with nature tends to enrich the soul, as well as the body. The simple life expressed, the object lessons learned, and the contemplative time spent in one' s garden, cultivating herbs, or preparing the food, can bring a renewed awareness and appreciation for the harmony and infinite variety seen in the natural world.

BASIC HERBAL PRINCIPLES

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1 - Storage: Herbs are best stored in glass jars. Do not expose them to the sunlight for long periods of time.

2 - Weight factor: Larger persons require larger dosages than smaller or underweight individuals. Women generally require smaller doses than men, due to their lower average weight. Children and elderly people need smaller doses.

3 - Climate: The medicinal effect of herbs is intensified in hot climates, therefore give less at such times.

4 - People vary in their reactions: Some people are more intolerant to herbs than are others. It is best to initially give a smaller dose and see what the effect is going to be. It is always safe to start with the smaller child's dose, then build up to a larger dose if

that seems best. Increase slowly, remaining on each level for 2-3 days, to observe for unusual reactions.

5 - Dosage for children: Here is the formula: Divide 150 (the assumed average adult weight) by the child's weight. Example: A child weighs 50 pounds. This is 1/3 of the adult (of 150 pounds.). Therefore give him only a third of the regular dose.

6 - During pregnancy: Women respond to herbs differently when they are pregnant. At such times, it is best to give smaller herbal doses and observe response. Sometimes mild and nutritive herbs are best. Some herbs should not be given during pregnancy (including diuretics, purgatives, and emmenagogues; all of which are active in the pelvic area and should be avoided.)

7 - Nervous people: Give them smaller doses than robust individuals.

8 - High blood pressure: These people should avoid herbs that stimulate the heart or constrict the blood capillaries and arteries (licorice root, ephedra, and lily of the valley are examples). But cayenne and garlic can be used in normal amounts.

9 - When herbs are combined: Herbs are frequently combined; but, if not done properly, one herb may overpower or neutralize the effects of others.

10 - Laxative herbs: Give slow-acting laxatives in the morning, so not to disturb sleep. They may take 1-3 days to work; whereas fast-acting ones usually take 4-8 hours. Do not increase the dosage until a 3-day period is over, using the same dosage every day. Then, if the desired result is not obtained, you may increase the dosage. The desired objective is generally 2 bowel movements a day.

11 - Sedatives and antispasmodic herbs: Give them on an empty stomach or just before bedtime.

12 - Astringents and minerals: Astringent herbs should not be taken at the same time as nutritional supplements containing iron. The tannins in astringent herbs will leach calcium, iron, and other important minerals out of the intestines. Therefore, only give astringent herbs for a short period of time.

13 - Blood-purifying herbs: Take these herbs on an empty stomach.

14 - Strong, bitter herbs: To avoid nausea, be sure and give enough water with them.

15 - Powerful herbs: Be careful in giving herbs which have powerful effects. These include lobelia, juniper berries, black cohosh, poke root, aconite, and horsetail (shave grass).

16 - Bitter pills: They have a tonic effect on the stomach, digestion, and related organs.

17 - Herbal temperatures: A hot infusion or decoction is used to help induce sweating. Cool teas are used for tonic effect, and warm teas produce a feeling of relaxation. (Vervain is the best for inducing sweating.)

18 - Tablets vs. capsules: Tablets are easier to work with than capsules in hot climates; the latter tend to stick together. Vegetarians either open and empty capsules or use tablets, since capsules are made from slaughterhouse products.

19 - Herbs at mealtime: To avoid taking too much liquid, capsules or tablets are preferable to teas at mealtime.

20 - Varying the intensity of the dosage: Here are several principles to keep in mind:

• For a slow, gradual, general effect, give the herbs in small quantities of syrup or milk between meals. This will retard absorption.

• To aid the appetite, increase digestive secretions or, for a local effect on stomach or intestines, give herbs before meals. Give the herbs in acacia gum or olive oil for a localized effect on stomach or intestines.

• To reduce the irritation of certain herbs, give them in syrup or soy milk.

• To increase absorption of the herbs and produce a more rapid effect, give them 1-2 hours after the meal.

• To reduce the bitter taste of herbs, without reducing the bitterness, take it in a large quantity of fluid, syrup, or honey. The bitter taste is often necessary for the proper effect to take place, but the bitterness can be disguised to the taste buds.

• Fluids which do not taste good can be taken more easily by drinking them cold, followed by a drink of plain water.

21 - Weekly rest day: In order for herbs to work best, they should not be taken one day each week. Then, after 2-3 weeks of treatment, no herbs should be taken for 3 days in a row. During this rest period, observe the patient. (1) If his energy remains low during that time or if the symptoms worsen, at the end of the rest period put him back on the herb dosage. (2) If he improves during the rest period, then extend the rest period a day or so and then continue the treatment with smaller doses than were used before. (3) If he seems to completely recover during the rest period, then the treatment can be changed to a more tonic, nutritive, approach. (4) New symptoms or problems may reveal themselves at this time. If so, an herb formula or new therapy should be instituted to meet it. (5) If he seems to get stronger during each rest period, begin reducing therapy and extending the rest periods.

THE PREPARATION OF HERBS

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1 - Infusion: Pour one pint of boiling water over one ounce of dried herbs and let it stand for a half hour. Strain off clear liquid. Dose is normally 1 tablespoon to a teacup, 3 times a day. But doses can vary.

2 - Decoction: Place one ounce of dried herbs in *1½* pints of cold water and boil for 20-30 minutes. Strain off clear liquid. Dose is 1 tablespoon to 1 ounce of water, 3 times a day.

3 - Tincture: 1-2 ounces dried herbs are steeped in one pint of grain alcohol (brandy or vodka) for 2 days with vigorous shaking 3 times a day. The decoction is strained and 1 tablespoon of the clear liquid is used, 3 times a day.

4 - Capsule: The dry herbs are powdered and then placed in a 2-piece gelatin capsule. The capsule may be added to hot water for tea; opened and made into a paste for poultices, tinctures, decoctions, infusions; or swallowed.

5 - Tablet: The dried herb is pressed into a tablet shape with an excipient (binder or carrier). The tablet can be used in the same way as a capsule.

CHAPTER NINETEEN
HEALTH THROUGH NATURAL FOODS

Everyone knows that health is more than diet. However, even physicians may overlook the fact that good food is essential for health. Some diseases are obviously related to nutrition. Obesity, vitamin deficiency syndromes, and malnutrition in underprivileged groups are examples of these. Other medical conditions are either caused or aggravated by poor nutritional practices, but seem less obvious to the nonprofessional. Arteriosclerosis and coronary heart disease, diabetes mellitus and hypoglycemia, and essential hypertension are examples of this latter class. Nevertheless, to have perfect health, our blood must be pure, and the circulation unobstructed. Obedience to the health laws that promote both mental tranquility and physical vigor is directly related to our habits practiced in the dining room.

As I have expressed earlier, our dietary practices established in infancy tend to perpetuate themselves long after teenage and adult years. Nutritional "seeds" planted in childhood bear fruit later, with resultant disease or a productive, happy life. In spite of numerous advances that medical science has made, more and more individuals living in our industrialized nation are "digging their graves with their teeth." This slow form of nutritional suicide is even more insidious than that of the tobacco smoker, but is nevertheless as sure.

Growing numbers of obscure and resistant infections, together with some common ones like colds and influenza, may be traced in part to dietary indiscretion. Many forms of cancer, especially those of the lower digestive tract are intimately associated with dietary habit patterns. I plan to examine in the paragraphs that follow several guidelines to aid you in choosing a more balanced diet. This introduction to the true science of nutrition can benefit you both through the supermarket and the "farmer's market." I wish to enable any homemaker in preparing a table set with the best of nutrients for each member of his or her family.

Choosing A Balanced Diet

Try to picture the body somewhat like a seesaw. When one side goes down the other side goes up. We experience a more pleasant ride when the two sides are balanced. Children then find enjoyment as they play. A balanced diet, likewise, does not come by accident. Careful planning is necessary to achieve the optimum results. We require a wide variety of foods in order to produce nutritional harmony in our bodies. Looking at nutrition from the viewpoint of a scientist, we observe foods divided into several groups. These supply various elements needed for the growth and maintenance of every cell. Nutritional balance, then, involves a consideration of these elements and their proper interrelationship, aiding our quest for the best of health. Proteins, fats, carbohydrates, vitamins, minerals, fiber, and fluid, are the seven factors

to be considered in obtaining this balance. A very simple way to obtain these involves choosing a wide variety of natural foods. These should be eaten at regular intervals, in amounts sufficient to maintain ideal weight. To elaborate further, I will consider these basic elements, including numerous perspectives for providing us the most healthful nutrition.

Proteins

Proteins are the building blocks of the body. Like the brick wall of a house, they are built up of simple molecules called *amino acids.* There are over twenty of these, formed in the cells into long chains, and then coiled and intertwined to form the large structural proteins. Some proteins circulate in the blood, carrying valuable nutrients with them. Others transport such vital elements as oxygen to and from the cells. Proteins are used to form the structural wall of each cell, to bind cells together, to aid in the coagulation of blood, the formation of hormones and enzymes, and to contribute immensely to the identity of each species. Some most fascinating discoveries in biochemistry have been made in regard to the coding and regulating of this protein factory.

Most foods contain some protein. Some foods are high in protein and therefore are considered a major source. Vegetable foods that provide considerable protein for the body are legumes and whole grains. Nuts and dark green leafy vegetables also include a good quality of protein. In order to obtain the proper balance, we must get adequate amounts of the **essential amino acids.**

There are eight of them, and their relative proportions differ in various classes of food. For example, many whole grains are low in *lysine,* which is amply supplied in the legumes. The latter may be relatively low in sulfurcontaining amino acids *(methionine* and *cystine),* which are supplied in a complementary relationship from the grains.

We look at many of the world' s marginal diets with their corn and beans, or rice and beans, and see this essential combination supplying a proper balance. About the only complete **protein** in the vegetable kingdom are soy beans, an outstanding food, easily prepared in a variety of ways. Egg white *albumin* constitutes another excellent protein, one that forms the standard of comparison for all other types. Because of the toxic by products, cholesterol and saturated fat, present in meat, animal protein is definitely a second choice when it comes to building the healthiest bodies.

From an economic standpoint alone, a diet high in animal products is unwise. Land used to produce food crops for human consumption feeds nearly 14 Times as many people compared to using it to grow food for animals, which are in turn used for nourishment. This is termed second hand food. Of the **protein** our common food animals eat, 1/4 is returned in milk, 1/8 in pork, and 1/10 in beef. Comparing calories returned to us by food animals, we find that milk returns 1/6 the calories the animal consumes, eggs return 1/14, and beef only 1/25. Perhaps in the United States we are not concerned, since our country is not yet overpopulated. But our birth rate is still relatively high—almost twice the death rate. If this situation continues, food will be in short supply some day, just as it now is in other countries.

A Swedish scientist, Dr. Per Olaf Astrand, found that athletic endurance was much greater on a high carbohydrate diet than on a high protein or high fat diet. After three days on a high meat diet, the maximum work time on an

exercise bicycle was about 60 minutes. Three times as much endurance (180 minutes) was seen in the same people after their three-day preparation using a high carbohydrate diet resembling more closely the vegetarian type.

Many people concern themselves with getting adequate protein. But even the U.S. government has revised its recommendations in a downward direction. The current daily **recommended allowance** of 56 grams per day for the average man reflects the trend toward a lower protein intake and is compatible with the best of health. Studies have shown that animals not only mature faster, but also die younger, and have more cancers on a high protein diet as compared with a moderate one. Nevertheless, protein is important. We need some protein each day from foods such as beans, nuts, peanuts, whole grains, and the smaller but important contributions that fruit and vegetables make.

Fat

Fat, called *"lipid"* by the biochemist, is a complex of the three-carbon sugar, *glycerol,* attached to three long chains of *fatty acids.* Differences in the fatty acids, their length, and hydrogenation, contribute to the effect fatty foods have on your arteries. Just as protein is broken down in the stomach and small intestine to amino acids before absorption, fats are hydrolyzed by their fatsplitting enzymes. **Lipase** from the pancreas together with **bile**, an emulsifier, helps to break the oily forms of fat (called *triglyceride)* into more basic *diglycerides* and *monoglycerides.* A final breakdown to *free fatty acids* is followed by absorption. Fatty acids go first into the lymphatic channels, and finally into the bloodstream. Only the shortest fatty acid chains proceed directly into the blood.

The American-styled, high fat diet is associated with many health hazards. Fat, more than other dietary constituents, creates a milky appearance in the bloodstream, increasing the stickiness of tiny clotting factors called **platelets**. The contribution of fat to calorie intake is also enormous, with *nine* calories delivered for each gram, in comparison to about four calories for protein and carbohydrates. Fats, nevertheless, are useful to the body, forming layers of *adipose tissue,* which insulate, protect, and produce body contours. Some profiles, such as "spare tires," "love handles," and "double chins" are unwelcome, but the gentler curves are appreciated. Fat is furthermore used for storage of energy. Some fats convert into hormones.

Sterols are related to our common dietary fats. Some beneficial plant sterols *(egosterol, sitosterol,* and others) help block the formation of the harmful animal derived sterol, *cholesterol.* The latter is abundant in foods of animal origin, such as butterfat, egg yolk, organ meats, and so-called "red meats," and other animal foods. **Cholesterol** enters the bloodstream and forms deposits at critical points in the arterial walls. These *plaques* develop slowly over the years, and eventually produce the symptoms of *atherosclerosis.* This explains why Americans have such a high mortality from heart attacks and stroke. Most individuals today acknowledge that diet is crucial to the victory over hardening of our arteries. Millions of vegetarians, while eagerly awaiting additional research, enjoy the protective benefits of their natural vegetarian diet in lowering both cholesterol and triglycerides through these unrefined foods.

Profitable sources of dietary fat include both nuts and seeds. In warmer climatic zones, olives and avocados are valuable staples that contain beneficial

oils. Almonds, filberts, and walnuts are superior to cashews, Brazil nuts, and peanuts when it comes to *polyunsaturated* fatty acids. All fats, however, should be used in moderation. Seeds such as caraway, pumpkin and sesame, and the whole grains bring not only with them excellent polyunsaturated fat, but also contain the antioxidant *tocopherols,* **Vitamin E**, that help to stabilize their oils, and benefit the body in additional ways.

It has been discovered recently that hormone-like substances called **prostaglandins** require several polyunsaturated fatty acids for their production. *Linoleic acid,* and its more polyunsaturated "cousin" *linolenic acid,* are needed to produce these important chemical transmitters. The availability of prostaglandin requires a modest, yet steady intake of polyunsaturated fats. Some doctors advocate a "no oil" diet. If sufficient olives, avocados, or nuts are consumed daily, This program is healthful. Current scientific evidence supports the "moderate" stand on fat intake with a substantial *reduction,* rather Than the total elimination of these vegetable polyunsaturated oils. However, all animal fats, and *saturated* hardened *(hydrogenated)* vegetable fats and shortenings should be discarded, replaced of course with more natural alternatives.

Carbohydrates

Sugars and **starches** are called **carbohydrate** foods. Fiber, which is indigestible but most important for the smooth functioning of the digestion machinery, is also considered a type of carbohydrate. Carbohydrate is the fundamental food for most people in our world. Only in Western countries where cuisine is abundant, and this includes all affluent and wealthy nations, is fat such a mainstay of the diet.

All natural foods contain some carbohydrate, as well as fat and protein. Nonetheless, it is from our grains, fruits, and vegetables that most food carbohydrate comes. Carbohydrate gets its name from its chemical composition, being formed of carbon, hydrogen, and oxygen. These are produced by the plant in the process called **photosynthesis,** where *carbon dioxide* is taken from the air, *water* from the soil, then combined by plant leaves in the presence of *ultraviolet light,* to form a carbohydrate.

The chemistry is fascinating. A basic building block for natural sugar is the simple *monosaccharide,* containing six carbon atoms. Blood sugar, glucose, is one of the principal varieties, coming from corn, fruit, honey, and the breakdown of milk sugar. Two six carbon sugars appear in nature in pairs called *disaccharides.* There are three of these: sucrose, coming from sugar cane or sugar beets is a combination of glucose and fructose; maltose, composed of two glucose molecules linked together, is found in barley and other grains; and **lactose**, present only in milk, in which glucose is joined to galactose. Long chains of sugar molecules are present in various fruits and vegetables. These are called *polysaccharides* and consist of the **dextrins, cellulose, pectins, glycogen** or animal starch, and **inulin** found in Jerusalem artichokes.

Every cell utilizes glucose as a principal form of energy. It is absorbed with the help of *insulin* circulating in the blood. The central nervous system, particularly the brain, functions on glucose and is in trouble when the level drops too low. Carbohydrates are used for energy, metabolized in the cell's *mitochondria,* which are miniature power houses. Four heat calories for every gram are produced from its complete digestion.

If sufficient carbohydrate is present in the diet, less protein needs to be consumed. Furthermore, the storage of fat is enhanced when our diet is adequate in carbohydrate. For this reason, in weight control, we must restrict both carbohydrate as well as fat.

Dietary **fiber** is necessary for normal function of the colon. *Cellulose, hemicellulose, gums, pectin,* and *lignin* are the various forms of these plant fiber carbohydrates. Although not digested, nor used for energy, this valuable "roughage" constitutes a significant part of our diet. Healthy peristaltic action of the small and large bowel is enhanced in the presence of adequate fiber, which produces a gentle laxative affect. Adequate bulk is thought to protect the colon against many diseases, including diverticulosis, appendicitis, and even cancer.

Vitamins

Trace amounts of certain essential chemicals are needed for the cell factories to operate efficiently. These "biologic catalysts" were discovered in the early 1900's, isolated and synthesized in the 1930's, and are now household words. Vitamin deficiency diseases and their characteristic features are discussed in Chapter Eight. Suggestions there are also given for the correction or treatment of these nutritional problems. Many enzyme systems of the body require vitamins for their operation. Some are synthesized by bacteria in the intestinal tract, but most are obtained from natural foods.

There are two basic classes of vitamins. **Fat-soluble** vitamins require **bile** for their absorption. They therefore are usually found in foods containing some fat, and are stored for longer periods in the body. Their excess is more likely to become toxic. Vitamins A, D, E, and K belong to this fat—soluble vitamin group.

Vitamin A is important for proper vision, particularly at night. An adequate supply aids formation of our bones and teeth. Inflammation of the cornea (eye) is prevented by this vitamin. Blindness can result from it absence. Vitamin A is plentiful in most yellow and green vegetables, as well as yellow or orange-colored fruits. The deeper the color the more the Vitamin A is usually found. Vegetable sources particularly plentiful in this vitamin's precursor, called *carotene,* are apricots, carrots, cantaloupes, papaya, and yellow squash.

Vitamin D is called the "sunshine vitamin." When our bodies are exposed to sunlight, cholesterol converts to Vitamin D in the deeper layers of the skin. This is picked up and circulated in the blood, and thus aids in the absorption and conservation of **calcium.** The bones and teethe are all better mineralized in the presence of adequate Vitamin D. Fortified milk constitutes a supplied source of both A and D. Ordinarily, however, if adequate sunshine is permitted, such supplements are unnecessary.

Vitamin E is present in most seeds and oils. It serves as an *antioxidant,* preventing destruction or rancidity in the oil. A brain pigment *(lipofuchin)* which increases with aging, becomes more abundant in individuals who lack Vitamin E. Vitamin E is quite important in reproduction. Many claims have been made for its value in the Treatment of heart disease. For vascular disorders, skin conditions, and cancer prevention, evidence is accumulating as to its therapeutic value. Ordinarily, a diet rich in whole grains, wheat germ, and healthful seeds—like sesame, pumpkin, or sunflower—will contain adequate amounts of this valuable vitamin. Although many Vitamin E—like

substances, called *tocopherols*, exist in nature, the *alpha* form appears to be most active for humans.

Vitamin K is a coagulation factor. It is usually synthesized by bacteria. Present in many grains, tomatoes, and cabbage, adequate amounts of vitamin K are normally produced by our healthy intestinal flora. Breast feeding a newborn baby aids in establishing these healthful bacteria, making unnecessary the routine injection of Vitamin K to babies born in a natural setting. In fact this practice is rapidly being discarded, with most recent scientific findings. Finally, the babies get to feed on their own mother's milk as God originally intended.

Many other vitamins, just as important to the body, are soluble in water. These include the B complex group and Vitamin C. Most of these are important catalysts, promoting reactions in the cell and aiding in the production of energy. Adequate amounts of water-soluble vitamins help prevent many diseases, such as beriberi, pellagra, and scurvy.

The B Complex group includes many water soluble *coenzymes*. Thiamine, or B_1, is the most abundant. Riboflavin, also termed **Vitamin B_2,** occurs naturally in milk, but becomes rapidly inactivated in the presence of sunlight. Niacin, also named **Vitamin B_3,** is found in unrefined cereals, as are most of the other B complex vitamins. **Pyridoxine** and two "relatives," **pyridoxal** and **pyndoxalamine**, form the **Vitamin B_6** group that are essential to the nervous system, as well as our skin. **Biotin**, **folic acid, inositol,** and **pantothenic acid** are others of the B complex group. All of these are obtained in a wellbalanced natural diet. Some are more abundant in green vegetables; however, all are adequately supplied when whole grains are eaten daily. The use of whole wheat bread, rolled oats, brown rice, millet, barley, and other cereals will give adequate amounts of the B complex group for any individual with normal absorptive capacity.

Vitamin B_{12}, although part of the B complex family, is quite different in character. Also known as *cyanocobalamin.* This factor is essential for the formation of the blood. Its absence produces anemia, where the blood cells become scarce, large, and poorly formed. Nerve conduction is also impaired when Vitamin B_{12} is missing. This serious condition, called **pernicious anemia**, is discussed in Chapter Eight. A substance called **intrinsic factor** from the stomach and hydrochloric acid are necessary for the body to absorb this powerful vitamin. Although some B_{12} is generated by friendly bacteria resident in the mouth and in the colon, it is not thought that the amounts are absorbed well enough to be adequate. Many people seem to live for years without supplemental B_{12}, and suffer no ill effects. Yet, the irreversible results of pernicious anemia are so serious that some form of B_{12} should frequently comprise the daily diet. Milk and eggs constitute a substantial source for most people. Nevertheless, I recommend for complete vegetarians the use of fortified soy milk, nutritional yeast, or a supplemental form of B_{12}. This can prevent the only major nutritional threat to complete vegetarians, who commonly eat a variety of natural foods.

Vitamin C has one of the more controversial reputations among these interesting chemicals. Also called **ascorbic acid.** This valuable coenzyme is required to maintain the integrity of blood vessels and skin. It actually serves as the "glue" to bind cells, joints, and connective tissues together.

Raw fruits and vegetables are most important sources of Vitamin C, as are

potatoes cooked “with their jacket on” or baked, cabbage—including Cole slaw— and tomatoes. Rose hips can supply Vitamin C during The winter, used especially by people living in northern climates. Some fresh vegetables, citrus fruit, or melon can be eaten daily to obtain adequate amounts of this vitamin. If one eats a natural diet including some of the above foods, it is not normally necessary to take large supplemental doses to prevent colds. Neither is the course of cancer appreciably altered by massive doses of this vitamin. The conservation of Vitamin C, however, is very important. Prolonged cooking of vegetables will dissolve and oxidize many water-soluble vitamins. If this cooking water is discarded, the nutrients will then be lost, the use of cooking water should be kept to a minimum. However, it may be saved and used in preparation of gravies, sauces ,or even used in baking bread. Avoiding much food contact with oxygen to help conserve Vitamin C. Strawberries, preserved with their caps on, or eaten as soon as possible after picking, will have much more Vitamin C than those that are cut or stored for prolonged periods at room temperature. Shredded cabbage should be used fresh. When allowed to sit, particularly in an uncovered container, the Vitamin C losses are heavy. A little attention to vitamin conservation in fruits, as well as grains, will go a long way toward stretching the food dollar, helping it to yield the best nutrient dividends.

Minerals

Over sixteen different mineral compounds have been found to be essential for man’ s nutrition. Even more elements have been found in trace amounts in the “ash” of human flesh. Nonetheless their complete purpose and functions are as yet unknown. Four of these minerals are thought to be of major importance for our daily diet. These are calcium, phosphorus, magnesium, and iron. The others are called **trace minerals,** because of their much smaller requirement. However, they are by no means less essential. I will discuss a few of these in detail, because of their known importance to body health and the preservation of certain diseases.

Some minerals are called **electrolytes,** because of their importance in maintaining ionic composition of blood and plasma, the intracellular fluid, and the electrical voltage or “potential” in each living cell. The electrolyte elements are *sodium, potassium, chloride,* and the more complex ion, *bicarbonate.* The latter is in chemical equilibrium in the blood with *carbonic acid,* carbon dioxide, and water. Here is the chemical formula:$CO_2 + H_20 <—> H_2CO3 <—> H^+ + HCO_3^-$.

Calcium is one of the most abundant major minerals. It is essential in our blood-clotting mechanism, as well as several enzyme systems. Calcium is important for proper nerve transmission and for the contraction of muscles. Fundamental for proper hardness of the bones and teeth, calcium is absorbed in large amounts from many foods. Certain substances can interfere with the absorption of calcium. **Oxalates,** present in rhubarb and green leafy vegetables, bind calcium, forming salts to then be eliminated. Actually, the intestinal mucous lining has a safeguard mechanism to prevent flooding the body with calcium. Excessive IV administration of calcium could be lethal to the system, if no intestinal barrier was presented to absorption. Although only about 25% of the calcium is normally absorbed, in pregnancy this may go considerably higher. In infancy and early childhood, when the bones are

forming, more may be absorbed.
Lactose and **gastric acid** enhance the absorption of calcium. Exercise aids in this reaction, keeping our bones harder when people are in the active years. Although an enzyme called *phytic acid* is present in the husks of many grains, the body quickly adapts to this substance, which would otherwise decrease the calcium absorption. Phytase is a valuable digestive enzyme elaborated to negate this otherwise deleterious effect. Stressful situations have been known to depress calcium absorption, even in the presence of mass supplementation! Peace of mind and body, at mealtime and around the clock, is therefore necessary for the proper utilization of calcium, a major mineral in the bones, the blood, and the entire body.
Phosphorus is a mineral of considerable interest, usually absorbed with calcium. Present in our body as *phosphate,* it also forms a valuable part of many organic acids, including **DNA** *(deoxyribonucleic acid)* and the *phospholipids,* important in nerve transmission. Phosphates serve as valuable buffers of the body chemistry, keeping the acidity and alkalinity of our blood and body fluids in the most healthful range. Phosphate, moreover, acts as a storage form of energy, existing in the cells in the form of **ATP** *(adenosine triphosphate).* These high energy compounds help your body store the energy gained from the metabolism of carbohydrate and other foods.
Nearly everyone knows **iron** is essential for the healthy formation of good red blood. It is one of the more common mineral deficiencies, found particularly in women and children eating impoverished diets. When menstrual and pregnancy losses are combined with a borderline intake, anemia often develops. In spite of the "enrichment" of our grains with iron, it is all too common for people using refined foods to be deficient in this mineral. Foods high in **Vitamin C** aid in the absorption of iron. This mineral is particularly abundant in dark, green vegetables, legumes, prunes, raisins, nuts, and whole grains. Cooking in iron pots allows the release of some elemental iron to aid in securing our recommended daily allowance.
Magnesium is essential for the stability of muscles and nerves. It is involved in the conversion of glucose into energy compounds, and serves as a catalyst in many chemical reactions within the cell. Magnesium deficiency, like that of calcium, can produce *tetany,* a painful contraction of major muscles. Since most foods in their natural state contain some magnesium, deficiency is fortunately quite rare. High calcium supplementation, the chronic use of alcohol, drug use, and some less common disease states may induce a magnesium deficiency. In all but the most unusual cases, correction of an impoverished diet will result in stability of the important trace mineral elements.
The thyroid gland requires **iodine** to form its important hormones. Since some parts of the country produce vegetables in iodine deficient soil, it is recommended that iodized salt (or sea salt) be used to obtain adequate amounts of this essential element. Adequate testing of garden soil is required to determine if iodine is available. Most of the southern USA, the central plains, and the southwestern United States are outside the "goiter belt." Moreover, around the world, pockets of hypothyroidism exist from a dietary deficiency of this important element.
When most people think of **chromium, t**hey think of shiny bumpers. Nevertheless, the stability of the blood sugar and the prevention of diabetes

pivot around the presence of this important trace mineral. I frequently recommend that people with either hypoglycemic tendencies or diabetes take a daily supplement of chromium for added assurance and sugar control. Whole grains are the major source of chromium, making your unrefined diet crucial in assuring this mineral's availability.

Selenium acts like Vitamin E in its service as an *antioxidant.* Grains and onions are the principal sources of selenium, which has been found to reduce the incidence of cancer. Excessive cooking or washing of foods, especially with the discarding of cooking water, will lead to selenium loss, and possibly that of other essential minerals, too.

Fluoride is the ionized form of the element fluorine. It is present naturally in some water supplies and supplemented in others. Fluoride helps to harden the bones and retards the development of osteoporosis. Whether the domestic water supplies in most communities need fluoride additives is a subject for considerable debate and concern. However, resistance to *dental caries,* or tooth decay, is a known fringe benefit of fluoride supplementation, when the amount is not excessive. Mottling of the enamel will occur when the water source of fluoride exceeds 3 parts per million. Usually only 1/3 of that amount is present in municipal supplies where fluoride is added. Present also in various toothpastes, and applied to teeth by dentists, fluoride may aid, together with other prudent dietary measures, in preventing dental decay, currently affecting at least 97% of our population.

A look at the other trace minerals, such as **zinc, cadmium, molybdenum, cobalt,** and **manganese** shows the great importance to emphasize eating unrefined foods. These trace minerals are found primarily in whole grains, fruits, nuts, and vegetables. When taken in their most unrefined form, without prolonged storage, excessive processing, or overcooking, these elements are available for your body' s need and can help you resist many common degenerative diseases. Some minerals are toxic, even in small amounts. Warnings concerning these environmental hazards need to be considered, in the preventive nutritional care of our bodies.

TOXIC MINERALS

Lead

The amount of lead introduced into our environment since the beginning of the Industrial Revolution is enormous. More than 7 million tons of lead have been used as gasoline additives in the U.S. alone. Much of this lead is now widely distributed on the earth's surface. Urban soil and house dust can contain 33 to 500 times the normal concentration of earth lead. The bottom sediment of U.S. lakes now contains about 20 times more lead than they did just 100 years ago.

Lead is a slow, cumulative poison deposited eventually in the bones. The main sources of lead exposure include the production and burning of storage batteries, solder, paint, leaded gasoline, electric cable covering, pottery glaze, leaded glass, newsprint, ashes and fumes from burning old painted wood, black and colored inks, and drinking water that has passed through lead pipes. Fortunately, we have technology to avoid the use of lead in virtually all of the above industrial processes.

Lead exposure remains a major health problem for children today in the inner cities. Symptoms of lead exposure include colic and abdominal cramping, psychological and behavioral disorders, and decreased memory and

learning ability. Greater levels of lead are associated with peripheral neuritis (inflammation of the nerves), paralysis, anemias, fatigue, and a serious type of encephalopathy (brain disorder) resulting in convulsive seizures, mania, de307 lirium, stupor and coma. Elegant studies by Dr. Herb Needleman and others confirm that even lower doses of lead can result in long term learning impairment in children. This is frequent in children living in our inner cities. Vitamin C and the trace element zinc both tend to displace significant amounts of lead in the body. Foods rich in zinc as well as ascorbic acid include the fresh vegetables, along with fruit and nuts.

Mercury

Thermometers, paints, felt, explosives, lamps, batteries, and dental fillings all may contain various amounts of **mercury**. Although environmental concerns about mercury in fish have surfaced in recent years, most fish seem to increase their selenium content to compensate and protect themselves from mercury poisoning. As with lead, we have probably underestimated the long term effects of mercury accumulation in the body. It does not have any known biological uses, and robs the body of sulfur-containing enzymes.

The most common human exposure to mercury is through silver amalgam dental fillings. Mercury accounts for about 50% of this compound by weight. The debate concerning safety of using silver amalgam in dentistry has raged for many years. The link between mercury exposure and symptoms is very complex. Nevertheless, many patients have appreciated a decided relief of joint pain, fatigue, stiffness and similar symptoms when the mercury-silver amalgams were replaced with acrylic fillings or gold.

Aluminum

The “shiny metal” that is seen so much in industry today is **aluminum.** With the widespread use of this metal in containers such as cans, a concern about possible toxicity to our human system constrains us to take another look at this trace mineral. Very abundant in the earth’s crust, aluminum has found its way into a multitude of industries, from airplanes to automobiles from electronics to fine crafted jewelry.

Several years ago, researchers in Germany found a possible link between aluminum deposits in the brain and **Alzheimer’s Disease.** Crossing readily the blood-brain barrier, aluminum deposits itself not only in brain tissue but also in bones. Its exact function isn’t well understood. Careful evaluation of patients with mental deterioration and premature senility have found that aluminum concentrates itself in the *substantia nigra,* a specialized part of the brain that operates as a relay station. In cases of Alzheimer’s Disease this substance becomes such a tangled mess of nerves (called *neuro-fibrillary tangles)* that memory circuits are progressively disrupted.

This finding naturally raises the question of how or where this misfortune occurs. Neurosurgeons in Germany discovered recently that antacids high in aluminum lead to enhanced absorption, with a definite increase of aluminum concentration in the brain! Twenty years ago these *best seller* antacids were considered non-absorbable, acting only on local organs such as the stomach, neutralizing gastric acid, thus relieving stomach pain.

A number of baking powders contain aluminum. Moreover, aluminum silicates are used to stabilize frozen deserts, cheese spreads, sauces, and confections. Most of the antiperspirants marketed today contain aluminum, which also very likely is absorbed through the pores of the skin.

In July 1992, Australian researchers reported their study of canned soft drinks and the aluminum content of the carbonated beverage inside. Fifty-two beverages from different parts of Australia, New Zealand, and Thailand were evaluated. The aluminum content of non-cola drinks was nearly **six times higher** in cans than in bottles. The content of aluminum in cola drinks was nearly **three times higher** in cans than in bottles.

Typically, the aluminum intake among Western Europeans, Americans, and Australians is less than 10 milligrams a day. Some researchers such as Dr. Gerald Spasmin, Ph.D. of Brandeis University in Waltham, MA hypothesize that aluminum may trigger a biochemical sequence that leads to the devastatingly progressive neuro-fibrillary tangles in the victim's brain. These concerns led them to recommend a maximum daily intake of less than 3 milligrams aluminum daily.

In the Australian study, soft drinks were find to contain up To **3.9** milligrams aluminum per can! The World Health Organization (WHO) and European Economic Community (EEC) recommend the maximum aluminum concentration of **7.4** mcM/l (micromoles/liter) in drinking water. The concentration of aluminum in bottled cola drinks (**8.9** mcM/l), cola drinks in cans (**24.4** mcM/l) and non-cola drinks (**33.4** mcM/l) all exceeded this recommendation.

Although Dr. John Dugan of Australia says there is "no cause for concern, "I question this conclusion. Could it be that modern technology while attempting to benefit mankind is indeed contributing to destroy some of the very functions that it is meant to enhance? Aluminum in concentrated forms, baking powders, antacids, canned sodas is *clearly* a hazard to our health!

Arsenic

Despite its reputation, **arsenic** has a fairly low toxicity level, compared with other metals. Arsenic is used in insecticides, weed killer, paint, wallpaper, ceramics and glass. It is common knowledge that arsenic is extremely poisonous. It causes toxicity by combining with sulfur-containing enzymes (important in free radical control and detoxification) and interfering with cellular metabolism. Its toxic effects are cumulative. Chronic exposure to arsenic from ingestion or inhalation can lead to degeneration of the nerves in hands and feet (peripheral neuropathy) with numbness. Tingling and burning of the hands and feet, muscular weakness, hair loss, skin rash (dermatitis), headaches, fatigue, seizures, kidney or liver damage, or death are some of the other serious complications.

Appetite Control

We come now to factors that govern the intake and balance of various foods consumed. Modern advertising trends allure primarily our desire for gustatory satisfaction or taste. Technology adds a wide array of additives, condiments, and "non-foods" which appeal principally to the sight, smell, or taste buds. All this display advertises corporate attempts to "tickle" our appetite. Many unhealthful food additives are used in ignorance. Some produce real harm.

Certain spices, such as **black** and **red pepper** are actually corrosive to the delicate stomach lining. Most spices of tropical origin stimulate the appetite. Explorers have gone around the world in their search of these. In addition To pepper, some of the more harmful ones are **cinnamon, ginger, cloves, allspice, chili,** and **mustard.**

The proper use of many herbal seasonings may enhance the taste for natural foods. Thus, it is important for those who prepare food to understand their chemistry. Some trace minerals are found in various culinary herbs. Most herbs come from leafy plants growing in temperate or subtropical zones. Although some of these, such as sage, turmeric, oregano, and oil extracts, such as **almond** and vanilla, are considered relatively harmless, great moderation should be exercised in their use. As a general rule, a wise cook will *"season to taste, not to taste the seasoning."*

Through hereditary and cultivated tastes for certain foods, an appetite may be created for substances which in reality are harmful. The appetite for salt and sugar, for example, as well as excess calories is often acquired from eating patterns established in childhood. Hunger and thirst are natural drives, stemming from the absence of food or water, respectively. But **appetite** is a much more complicated phenomenon, having to do with gratification of desire, the "need" to feel full, or merely a habit of overeating. The *hypothalamus,* a small bit of nerve tissue located at the base of the brain, has specific areas that regulate the thirst and hunger mechanisms. Controlled by reason, these function in their normal dominion. When, however, these lower centers are allowed to dominate the lifestyle, problems develop rapidly. **Obesity** represents one of the states where the "appestat" has been set too high, creating a most obvious health problem. Chapter Eight describes the best methods of control, victory, and restored health for the unfortunate victims of excess calorie consumption.

For good health, then, as well as gratification at the dinner table, these rules should be carefully observed. Cultivate a pleasant, contented disposition. Make mealtime a pleasant, social occasion, without stress, argument, worry or contention. Select a diet from as wide a variety of natural, unrefined, foods as possible. Include some of the "big four"— fruits, grains, nuts, and vegetables— in the diet every day. Emphasize thorough mastication, and a proper combination of these natural products. Choose a diet that will pay handsome dividends for many years, particularly during your golden ones. Balance the other health measures, such as exercise, rest, fresh air, and the use of sunlight. Finally, cultivate a trustful, unselfish disposition, relying above all on divine power as the **source** of true life. This brings to fulfillment the divine promise, *"lam come that they might have life, and have it more abundantly."*

What are the basic principles of right living, to ensure the best health you can have with the limitations imposed by the body you have?

Here are 120 principles of healthful living. Many more could be mentioned:

BASIC PRINCIPLES OF HEALTH

1 - Regularity in meals. Do not eat them early or late, but maintain a regular schedule. Your stomach is used to eating at certain times each day.

2 - Moderation. Only eat as much as you need. Never overeat. Only eat to satisfy hunger, and then stop.

3 - Take small bites. Only put a small amount in your mouth at a time. You will chew and salivate it better, and tend to eat less at that meal.

4 - Relax and eat slowly. If you are too rushed to eat, then do not eat. Do not be hurried, anxious, worried, fatigued, or angry.

5 - Chew your food well. You will derive far more energy out of less food, if you do this.

6 - Do not eat too many things at a meal. Three or four items (plus a little salt, oil, etc.) are all you need.

7 - Avoid complicated mixtures. Say no to the gravies, vegetable loaves, gluten foods, and all the rest. Keep your meal simple.

8 - Avoid peculiar additives, such as vinegar, monosodium glutamate, etc., which only upset your stomach and slow digestion.

9 - Vary your diet from meal to meal. If you ate oatmeal this morning, try rye or wheat tomorrow.

10 - The food should be palatable. But if it is good food, this should not be hard to do.

11 - Never eat anything prepared in aluminum. Never drink water or juice out of an aluminum container. Alzheimer’s is worth avoiding.

12 - Aside from fresh, raw, juices or the green drink, drink all your liquids (water) between meals, not with your meals.

13 - As a rule, eat your fruits at one meal and vegetables at another. Acid fruits (such as citrus) can be eaten with either.

14 - Greens have more compacted vitamins and minerals than other type of food. They only lack vitamin D, which the body can get from sunlight. But they do not have adequate amounts of trace minerals.

15 - Nova Scotia dulse and Norwegian kelp (two types of seaweed) are the only rich source of trace minerals.

16 - Blackstrap molasses is the only very rich source of iron. It is also a very rich source of choline and inositol, the two B vitamins used in the largest quantities.

17 - The best pattern is to rest before the meal, and walk around after it, not vice versa.

FRUITS

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1 - The more natural, the better. Raw fruits and vegetables are better than cooked ones, although some find that a little cooking is necessary. Store-bought canned goods are even less nutritious.

2 - Wash the fruit before eating it.

3 - Do not eat melons, cantaloupes, and watermelons with other foods; eat them alone.

4 - Always soak dried fruit (prunes, apricots, etc.) before eating them.

5 - Never eat sulphured fruit. It may be golden in color, but the sulphur is not good inside of you.

VEGETABLES

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1 - The best is fresh, raw, vegetable juice, made from carrots, with some beets, and possibly some celery. This is made in a vegetable juicing machine. It is one of the most valuable appliances you can purchase. Use it every day. The juice is best drunk fresh, within a couple minutes of making it. But, when you know you will be away from home that day, make it in the morning and drink it later as part of a sack lunch.

2 - Also good is the "green drink." This is pineapple juice with some greens whizzed in and is made in a food blender.

3 - Some people’s digestive systems cannot tolerate a diet of totally raw vegetables. Each must do that which works best for him.

4 - Eat largely of raw vegetables, with possibly some steamed. A good way to cook vegetables is to keep records on the amount of water used and the time it takes to cook the vegetables, so all the water is gone. For example, broccoli can be lightly

cooked for 15 minutes or softer in 30. Find how much water is required to do this, and only have a very small amount of water left in the pan at the end of that time.

5 - Never pour off the vegetable water! Make it part of the meal. For this reason, prepare the food so that very little of the water remains (not over an eighth of a cup) when the cooking is finished. Then drink that water during the meal. Other than the cooking water and a glass of fresh juice, drink no other liquids with the meal.

6 - Beets, potatoes, and squash are excellent foods. Cut out the growing eyes of the white potatoes, but otherwise do not peel them! The outer half inch of the white potato is rich in potassium and is the best part.

7 - All the greens are outstanding, but avoid too much spinach; it is higher in oxalic acid. Enjoy broccoli, Brussel sprouts, celery, kale, collards, beet greens, turnip greens, mustard greens, and some lettuce. The deeper the greenness, the more vitamins and minerals it has. (By the way, never eat rhubarb; it is terribly high in oxalic acid which leaches calcium from your bones.)

8 - Fiber is very important in the diet, for the bowels and the arteries. It can protect you from intestinal problems and heart disease. Oat bran is the best, but whole grains and other vegetable and fruit roughage is very helpful.

GRAINS

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1 - Only eat whole grains. This includes whole-grain cereals and breads. Never eat processed grains, such as white-flour products.

2 - If you can eat wheat (many cannot), make zwieback of your bread. Place the slices in the oven and toast them until firm, but not rock-hard. This dextrinizes the starch and renders it more digestible.

3 - Avoid toasted wheat germ, for the oils in it will be rancid. Raw wheat germ should be stored in the refrigerator at the health food store and in your own refrigerator, when you arrive home. It should smell very fresh.

4 - Oats is one of the best grains. Rye, millet, and buckwheat are also. If you are out on the road and want to have a grain with you which is easily obtained, can be eaten as it is, and is very nourishing, eat Cheerios. Make sure it was recently purchased. Many people are allergic to wheat and products made with wheat.

5 - You are better off having a varied grain diet rather than just rice. Yet rice is a very good food. Make sure it is unpolished (brown rice).

6 - Chew each bite of grain products very well before swallowing. Digestion of starches begins in the mouth.

NUTS AND SEEDS

1 - The nuts and seeds you eat should be fresh. Rancid oil and decaying protein are not good for you.

2 - Nuts, seeds, nut butters, seed butters, and peanut butter are very rich in protein and should only be eaten sparingly. Chew these foods very well. This breaks the food down so the amino acids will be better processed by the stomach acid.

3 - Most commercial peanut butter has the peanut oil removed, and cheap oils in its place. These oils are generally hydrogenated, and thus even more dangerous. Never use peanut butter which does not have floating oil on the top and does not smell fresh.

FATS

According to your body's needs, use little or no added oil. But you do need vitamin F (the essential unsaturated fatty acids). The *best* sources are flaxseed oil and wheat germ oil; second-best are sunflower seed oil, soy oil, and corn oil. Never use cottonseed oil. Safflower oil is not as good as some believe.

SWEETENING

1 - For your sweetening, only use fresh fruit, dried fruit, a little honey, or blackstrap molasses.

2 - If you want the best, eat a small amount of blackstrap at the end of your meal. It will fill your sweet tooth, is the richest natural source of iron, and one of the richest in calcium and several important B vitamins.

OTHER NUTRIENTS

1 - Salt. Some say that all the salt you need is in the food, but that may or may not be true. You may need to add a little salt, but do not add very much. The best way is to put no salt in the cooking; then add a slight amount of salt to the food at the table. Pour a little into the palm of your hand and sprinkle it where you want it. In this way you will get the exact small amount you need, and no more.

2 - The type of salt to use: Regular store-bought, free-flowing salt has aluminum in it. If you cannot do better, buy iodized salt at the store (never non-iodized). Better yet, buy a non-free-flowing salt. It will cake somewhat (salt attracts moisture). Even better, use dulse or kelp!

3 - Nova Scotia dulse comes from western Canada. By checking around, you can locate a food source. This is an outstanding source of trace minerals—including iodine, as well as of common salt (sodium chloride). Eat only enough to satisfy your salt intake needs,—and you will have supplied all your iodine and trace mineral requirements as well. Norwegian kelp is an alternate. California kelp is not as good.

4 - Certain kitchen herbs are helpful; and, when used in small amounts, they can be used to flavor foods. This would include sage, dill, garlic powder, dried parsley, thyme, fennel seed, celery seed, oregano, marjoram, summer savory, basil, rosemary, and ginger.

5 - Cayenne is a very useful medicinal herb; but, if used more than a very little at mealtime, this can lead to pleurisy.

VITAMINS AND MINERALS

Here is a brief introduction to principles concerning the use of vitamins and minerals.

1 - Always take a full vitamin/mineral supplement with every main meal. Buy them from a source you are sure is supplying you with new stock, that has not been on a room temperature shelf for a month or two. Keep the bottle in the refrigerator until it is used.

2 - *Vitamin A:* Unless you are ill and need it right away, use a carotene source, not vitamin A. Because it is an oil-soluble vitamin, over a period of time, you can get too much vitamin A.

3 - *Vitamin B complex:* The complete B complex contains a dozen or so different, related, vitamins. Make sure you are getting them all in your supplement(s). These are water soluble, so you can never get too much of them.

4 - *Vitamin C:* Ascorbic acid by itself is not as useful as many believe. Take a "total C" formula, which also contains bioflavonoids (vitamin P). You will pay a little more, but it is worth it. It is also water soluble, so you cannot take too much. (If you

oversaturate on C, the excess will be excreted through the bowels as a brief diarrhea. This will tell you that, just then, you have taken a little more than your body needs. This is what it means to take vitamin C "to bowel tolerance.")

5 - *Vitamin D:* Do not take animal or fish liver oil; it can damage your heart muscle. Instead, go out in the sunlight every so often and you will get enough vitamin D. Vitamin D is oil soluble and is the most dangerous vitamin. It is vital that you have some of this for your bones, but you do not want too much.

6 - *Vitamin E:* Make sure your vitamin E supplement says "tocopherols," not "tocopheryls" which is synthetic and worthless. Do not rely on a multivitamin supplement for vitamin E. Take vitamin E capsules, either 200 or 400 IU per capsule. Although it is oil soluble, the possibility of overdosing is rare in the extreme.

7 - *Vitamin F:* This is your essential fatty acids, which is best obtained from the flaxseed oil or wheat germ oil, mentioned earlier.

8 - The most important minerals are calcium, potassium, magnesium, iodine, zinc, selenium, and manganese. Avoid phosphorus supplements. Your body always gets all the phosphorus it needs in the food you eat; too much locks with calcium and causes your bones to become weak.

9 - Most people need a calcium supplement. Take half a spoonful of powdered calcium twice or three times a day. Do not use a calcium supplement which has phosphorus in it.

10 - Be careful about iron supplements. They are generally not good for you. Especially avoid them during pregnancy! Use blackstrap instead.

11 - What about the capsules? They are made from animals from the slaughterhouse, generally pigs. If it is a split capsule, open and pour it into a spoon. If it is a sealed capsule, crack it in your mouth and spit out the capsule.

SUMMARY

In summary, some of the best foods for you to eat are these:

1 - Fresh, raw, fruits. You may also wish to make some fresh, raw fruit juice.

2 - Fresh, raw, vegetables and, possibly, some moderately cooked vegetables prepared in a small amount of water, all of which will be used in the meal.

3 - Fresh, raw, vegetable juices made from carrots, beets, and possibly some celery. This drink is outstanding! Green drink (pineapple juice and greens) made in a blender is also good.

4 - Beets, potatoes, and squash are excellent foods. Do not peel white potatoes.

5 - Whole grain cereals or bread toasted in the oven into zwieback. Chew starches extra well.

6 - Add some supplemental fiber to your diet. You will be thankful later that you did. Fiber will help your digestive tract, colon, liver, heart, and blood vessels.

7 - A few fresh nuts and seeds, chewed extra well. Brewer's yeast is another good protein source; so are beans. White potatoes are low in protein, but they are very well-assimilated.

8 - A good vitamin/mineral supplement, vitamin E capsules, calcium, plus other nutrients as needed. Each person will have special needs.

9 - Eat some kelp or dulse each day for iodine and other trace minerals. You do well to use it instead of salt.

10 - Drink pure water, and only between meals.

11 - Should you use milk and/or eggs? Each one will have to decide that for himself. Both are known to frequently be contaminated with disease germs. Yet some need the blood-building properties in these products. It is well-known that more people are allergic to cow's milk or wheat than anything else. It is best if you can work away from using them.

12 - Do not eat very much. Be relaxed and thankful, chew your food well; and, aside from the fresh juices or green drink, drink all your liquids (water) between meals.

THINGS TO AVOID

"Avoid" means do not use at all.

1 - Avoid sugar and sugar foods. This is food which has added corn syrup, glucose, or other sugar additives in it. Many canned and processed foods are sugar foods. Do not eat candy.

2 - Do not use white sugar, granulated sugar, or brown sugar.

3 - Avoid spices and condiments which cause stomach upset and worse. This would include black pepper, white pepper, cinnamon, and mustard.

4 - Avoid grease. Grease remains firm at room temperature, and includes Crisco, butter, margarine, and all meat fat.

5 - Avoid hydrogenated oils. An atom of hydrogen has been added to them; so, like grease, they can only be used to coat your arteries and produce fat cells.

6 - Do not use fried foods. Anything fried in oil should be avoided. Your life is too important.

7 - Avoid rich gravies, pastries, ice cream, and all the other delicacies.

8 - Avoid white-flour products: cookies, biscuits, sour bread, bagels, doughnuts, soda crackers, etc. Avoid the glue foods. Along with cheese, these are the sticky, white-flour stuff which is hard on your intestinal tract

9 - Avoid processed foods. This includes a wide variety of "food" which you will find in the store.

10 - Do not eat cheese. In order to normalize your intestinal flora, you may need a little plain yogurt for a time.

11 - Do not eat baker's yeast. This is fresh bread yeast. (Brewer's yeast and torula yeast is all right.)

12 - Avoid junk food and no-food. This includes soft drinks, cola drinks, potato chips, corn chips, and all the rest. Do not drink non-caffeinated soft drinks.

13 - Do not eat vinegar or foods made with it (pickles and mayonnaise).

14 - Never eat meat or fish! They are heavily contaminated with bacteria, parasites, dangerous fat, and uric acid (urine). As soon as they are slain, the flesh begins rotting.

15 - Avoid the food additives. You will find them listed on the labels of most all processed foods at the store. They lead to arthritic, cardiac, and cancer problems.

16 - Many people are allergic to cow's milk; you may be one of them. Every public health officer knows that meat and milk are the two most contaminated and diseased foods in the country. Eggs rank close behind them. It is best to avoid them also.

17 - Do not use caffeine products. This includes chocolate, coffee, China tea (also called black tea), and caffeinated drinks, such as Coca Cola and Pepsi Cola.

18 - Do not use nicotine products. Tobacco is responsible for an astonishing number of deaths in our world today. Avoid side smoke; do not be in rooms where people are smoking. Chewing snuff causes cancer of the mouth and throat.

19 - Do not drink spiritous liquors: beer, wine, whiskey, or vodka.

20 - Do not use hard (street) drugs.

21 - Avoid medicinal drugs, to whatever extent that you can. Careful living and eating will generally help you avoid having to take them.

22 - Find the foods and other substances you are allergic to, and avoid them. The most common allergenic foods are cow's milk and wheat products.

NON-DIETETIC FACTORS

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1 - Obtain fresh air during the day and while sleeping at night. A slight current of air should pass through your sleeping room at night. When you have the opportunity to go outside, breathe deeply of the fresh air. Practice good posture at certain times. Negative ions are important for good health, and they are primarily outside the house.

2 - Sunlight is important. Get a little every day. There is a higher rate of breast cancer in localities where there is less sunlight.

3 - Exercise is important; and, as everybody says, walking outside is the best way to get it. If you are going to do vigorous exercise, warm up first. Do some vigorous walking every day.

4 - Rest is of vital consequence. As you grow older, try to rest a little before preparing the meal. Then, when the meal is over, go outside and walk around a little.

5 - Do not do heavy reading or study just before bedtime, or your brain will be congested and it will be harder to go to sleep. Instead, go outside and walk around in the cool night air, breathing deeply. You will more easily drop right off to sleep.

6 - Maintain a cheerful, sunny, thankful, contented attitude. This is a powerful health-building recipe.

7 - Trust in God; He is the only One who can help you through the problems and trials of life.

8 - You need periods of rest and relaxation every so often. Purposive living, when the objective is to help others, is powerful for good—and excellent for your health. But do not overwork.

9 - Cleanliness is important. Keep your yard clean, your house clean, your clothes clean, and your body clean. Wash the outside with water (take a shower every day), and wash the inside by drinking enough liquids. At certain times, take an enema or colonic when needed, especially when you are sick. Showers are generally better than tub baths; they are quicker and more sanitary.

10 - Do not wear belts, corsets, garters. The clothes should be supported from the shoulders, not at the waist. Men should wear suspenders as part of the way to avoid later prostate problems.

11 - The right exercise of the will is crucial. You are well, you become well, you resist disease, you choose not the wrong, and choose to do the right—through the power of the will, strengthened by firm reliance on God and obedience to His Written Word.

12 - As much as possible, live on a scheduled routine. In this way, you will get your meals, water, rest, exercise, and fresh air. You will have time to eat, to think, and make right decisions. Maintaining regular hours is a great benefit to health. Avoid staying up late at night! Use your will and go to bed when you are supposed to.

13 - Avoid chilling or overheating. Avoid drafts. The danger is in chilling or overheating the blood; either can cause trouble. Dress properly; keep the limbs covered. They should be as warm as the trunk.

14 - Fast occasionally. Skip a meal and just drink fruit or vegetable juice instead. If you are in good health, you can carry on your work on a lighter load till the next meal. If you are frail, go to bed and rest. This will do you wonders in rebuilding and strengthening your body, so you will avoid later development of chronic and degenerative diseases.

15 - Keep your blood circulation equalized. Do not chill the extremities. Do not overeat or eat wrong foods. Maintain moderate exercise. Do what it takes to live right, and you will be richly rewarded.

16 - Avoid anger, fear, worry, and enervation. An excellent way to ruin yourself is by indulging in excess sex or forbidden sex. Happiness comes through self-control, not indulgence.

17 - Never overdo your immune system. It protects you, only as you do not make it work too hard in the process.

18 - Do not overwork one body part more than the others. Many occupational injuries occur because this rule is violated. Take time to rest, when you are not busily working. Look a little closer at athletes, boxers, and karate experts. They are usually physically damaged in their joints by the time they are 50. This is not necessary. Live well by living moderately. Too much food, too much work, and too much relaxation can each be a problem. Learn to balance it all.

19 - Have a careful attitude. Avoid falls, blows, hazards, and dangerous activities. More quadriplegia occurs from diving into shallow water than any other single cause. Get extra rest when you work near sick people.

20 - Learn the distant early warning signs. What are the first indications that you are headed toward sickness? Find out what they are—for yourself, your loved ones, and your children. When you see trouble coming, get extra rest; retire earlier. Skip a meal or two, go to bed and fast on water and lemon juice.

21 - Automobiles are one of the most dangerous things in Western civilization. Treat them with care; avoid them as much as you can. Aside from gluttony, tobacco, alcohol, and drugs, they can maim or kill you faster than most anything in your

environment. If you are trying to live healthfully, they are your primary danger of crippling or premature death. Drive carefully, always a distance from the car in front of you. Also be watchful of any situation in which cars are turning in or out. Twilight times, evenings, and night are the most dangerous.

22 - When able to do so, avoid jet lag and traveling in foreign countries. They have different intestinal bacteria, and you can surely get sick over there.

23 - Avoid loud sounds, such as chain saws and other loud machinery. Wear ear protectors.

24 - Avoid dust, smoke, and chemical vapors.

25 - Move out to the country, if you want the best of health! Away from the noise, the fumes, the rush and turmoil. Out to where there is quietness, peace, fresh air, negative ions, and better sunlight.

26 - Do not live in the lowlands, by a creek. Do not live where it is always damp around the house. Settle in an upper area where it tends to be drier.

27 - Do not have trees close to your house. Do not have your windows covered up with curtains; let the sunlight come through. It purifies every room it enters. Skylight is purifying also, but lesser so.

28 - Vegetable, fruit, berry, and flower gardening is an outstanding way to maintain your health—in several ways. But avoid using chemical fertilizers, insecticides, and other garden chemicals.

29 - Learn how to give water therapy (hydrotherapy) treatments. Learn how to prepare and use simple herbs. Keep a few on hand. As we try to help others, our own health improves.

CHAPTER TWENTY
MARRIAGE PROBLEMS

It is no secret today that our typical American home is in dire trouble. Statisticians eloquently advertise the rising divorce rate, with increasing rates of mental illness stemming from family strife. However, they offer no solutions. Teenage marriages increase in number, while more and more couples are just living together without legal sanction other than "common law." For many the marriage vows have become little more than a ring and a ceremony, while the "till death do us part" invisible ties are made only to dissolve and vanish in a vale of tears and broken hearts. In attempting to safeguard these most hallowed family ties, this chapter provides some guidance and common sense which could save, salvage, or heal your homes from the thousand perils that lurk around you.

First, let' s turn toward the **setting** for marriage, as friendships are formed. A veneer of modern culture has supplanted ancient forms and customs leading toward the marriage altar. The most prevalent method of courtship is illustrated in the experience of the strong man, Samson. His words, "Get her for me, for she pleases me well," describe the modern trend in mate matching. Most young people today, following the trends of their parents and peers, look around to select life partners, as well as transient friends, on the basis of appearance, popularity, social standing, or wealth. Hence, today's campuses have developed the "dating game."

Special friendships are often encouraged in young children, as birthday parties find even parents matching boys with little girls, pairing them up as partners, and choosing fashions that are more alluring. This trend makes the child act "grown up" prematurely. Together with the bombardment of sexual stimuli from television, popular magazines, and storybooks, the youthful mind is bent toward early courtships and marriages. By the time high school

banquets, proms, and sporting events take place, nearly all extracurricular entertainments revolve around a dating situation.

"Going steady" with an exchange of letters, trinkets, or even valuable jewelry has become increasingly common, followed usually by breakups with many tears, bitterness, and resentment. The trend toward "hands-on" contact from the simplest hand holding to the good night kiss, all tends to perpetuate early friendships, and deepen the emotional intertwining before reason has been allowed to speak its mind.

In a permissive society such as ours, the natural outgrowth of quasisexual activities becomes an intimate contact, reserved for and sanctified only in marriage. Restrictions of these liberties is deemed by many parents prudish, and by teenagers dictatorial. Nevertheless, there is a better way.

Another model for courtship finds expression in the Scriptures. The marriage of Isaac is one of these illustrations, an example of harmony and bliss which began in a heaven-directed fashion. An aging father entrusted to his most devoted servant the task of searching for a mate for his son. Isaac, the child of promise, was to be the father of many nations. His fulfillment of

God's designs would have to be accompanied by obedience to the will of God.

Thus, in a providential manner the servant was guided to the very place where Rebecca, the "soon-to-be" wife, was working. In direct answer to his prayer and by "being at the right place at the right time," this trusted servant, Eliezer, found the woman and secured the consent of her parents. Today, it is appalling to think how many parents abandon their sacred responsibility to scrutinize a prospective suitor. They should take the lead in a kind, yet authoritative way to either accept or reject his proposal. Weakness on the part of parents, like the ancient priest Eli, produces untold tales of sorrow both in the home and in churches. Churches and communities are being devastated today with homes that have "gone on the rocks."

With this introduction, then, I offer an alternative plan for courtship that may seem very strange in the freedom-loving society we live in. It offers, however, an unusual amount of protection to the committed and submissive youth who will follow this way. First, please realize, "**it is the essence of all right faith to do the right thing at the right TIME."** There is an ideal time, as the wise man Solomon points out, for everything, including courtship. Being one of the three major decisions of life, it should follow two other milestones that mark a life pattern in preparation for marriage.

Primarily, and most essential, a young man or young woman should be completely committed to serve the lord. Only in a life of service is true marital happiness found. Only with a commitment to the nobler goals of life is a state of maturity reached that can endure the "winds of strife," the adversities, and the tests that try every married couple.

The second decision, equally vital, pertains to your life work. Too many young people are marrying with no thought of support, making themselves a burden to the burgeoning welfare system, or to their parents, who should be "cutting the apron strings" at that time. Young men should master a trade with which, if necessary, they could earn their livelihood. Women should be well versed in the practical arts of cooking, sewing, baking, housekeeping, including some fundamentals, background, or experience in the knowledge of physiology and rearing of children. A profession, such as nursing, secretarial work, or any similar skill is valuable, since at times sickness or death of the partner may result, requiring a young wife or mother to be her own support as well.

With these foundations laid and a mature personality developed, it may be time to consider a life partnership. How wise is the young person who consults the parents to secure, not their blessing, but their counsel; not the rubber stamp of approval, but words of wisdom that only years of experience can give. Counsel from pastors or teachers who understand the issues at stake and who themselves are examples of happy, secure homes is valuable at a time like this. Guard the affections and the emotions constitutes a valuable safeguard to "reason," which needs to prevail in the early decisions that could set the stage for success or failure in the choice of a life partner.

As these steps are taken, then, the young suitor is well advised to **consult the parents** of the young woman to whom he has been attracted. For in reality, the young lady belongs to them. Fathers have a God-given responsibility to guard the interest of their daughters and to insure, if possible,

their future happiness. Parents should consider carefully, via correspondence or interview, the young man *before* allowing steps to be taken, either in dating, intimate correspondence, or outright courtship that may rapidly intertwine a couples emotions and lead to the marriage altar. At every step from this point forward a courtship should be carried on in a spirit of reverence, prayer, and calm deliberation, with the highest respect shown for the counsel and wishes of parents, ministers and other trusted counselors. These measures, when followed, are guaranteed to slow the rising divorce rate, the heartbreak, and the smoldering tensions that threaten to pull apart many marriages today. And, may I say, these principles are not just for teenagers, but for one who at any age is contemplating marriage. Questions like these should be asked: Will this honor God? Can it advance His cause? Will our proposed marriage help us to be of greater service to others? Otherwise, why not remain single? Unmarried life, by the way, isn't as frustrating, undesirable, or disastrous as many would make it seem to be. Remember the apostle Paul, who writing from the viewpoint of a missionary, advocated, *"I wish that ye may be as I am."* (I Cor. 7:20-29)

Some people would say that this "restrictive" method of courtship would simply prevent marriages altogether. Nonetheless, I personally know many couples who have gone this "route," admittedly infrequently, with resulting happy homes and secure lasting relationships. These friends, in contrast with others, show not the slightest remorse for romances which, although for the moment sincere, did not turn out "for real."

Marriage Customs

It has become quite fashionable for marriages to be consummated with a great expense and display. Borrowed from the popular operetta a century ago, our **wedding march** has been embellished with many modern customs, and instrumental and vocal music. Florists, photographers, and fashion designers all have their share in the profits, as parents, not infrequently, sponsor the "show," backed by credit cards, mortgages or bank loans. On the other side of the economic spectrum is the justice of the peace, with his simple "service" and the marriage license costing only a few dollars. Somewhere between these two extremes lies the balance for a Christian wedding — enough simplicity to make it genuine, and a touch of originality for interest. It is most unfortunate when the focal point of a wedding service becomes a kiss, an exchange of rings, or a grand march. Rather, let us hear a simple message from a God-fearing pastor, followed by sincere vows which can be memorized. Let the attire be made more practical, clothes designed to be worn more than once. Thus, means are saved for establishing a home. Furthermore, by using fewer flowers, candles, or photos, the bridal couple will have means to share unselfishly with others who, unfortunately, have no home at all. What a benefit society would reap from the change! Then it could truly be said, *"A prudent wife is from the Lord."* Proverbs 10:14.

We look now at the home itself — its location, furnishings, and schedule. The modern trend is toward country living. A rural location has many advantages. There is less noise, smog and other pollution in secluded countrysides, hills, and valleys. Water supply is usually pure, and a well can be prepared if desired. Fertile land for cultivation is invaluable. The planting of an orchard and yearly cultivation of a garden brings dividends, not only in healthful exercise, but the pleasure of eating fresh produce. Many young

couples find even greater joy in “do-it-yourself’ projects, such as building a log cabin, remodeling an old home, or their own start-to-finish home building. This adds construction experience to their individuality expressed in a uniquely personal design.

Secrets Of A Happy Marriage

For certain couples, sad to say, marriage is the end of happiness. It need not be so. Follow a few simple rules, and you will let the sunshine of God’ s love lighten your family circle. You can make a heaven out of any humble cottage, if love dwells there. Without that simple ingredient, even a palace may become a prison, and tears continually flow.

First, to every married couple, continue the early attentions. Remember the thoughtful remembrances for his or her birthday, and always your anniversary. The magic words “thank you” are like nectar to a honeybee. Special words of kindness and appreciation— after a delightful meal, when the house is squeaky clean, when the neatness of shrubs and lawn bear witness to hours of diligent labor— these should never be neglected. Acts of kindness can do much to lighten the load that every housewife or mother carries, and make the home a preferred place for husband to spend his leisure hours. These little expressions will benefit health, as well as home and heart, often bringing smiles to relieve tears or trials.

Second, as far as possible, a couple should **do things together**. Pray together, work together, worship together, study together, and very important — walk and talk together. Communication barriers often arise in a marriage. They must be broken down by determined effort, “oiled” with shared love. Never allow anything to come between the two partners. Secrets, for example, should not be withheld from husband or wife to be shared with others. The management of your household should be, from start to finish, a team effort. Mutual discussions in regard to major purchases — a new car, a house, vacation plans, or the raising of children— are extremely important to marital harmony. Where frankness in communication exists, suspicion cannot develop. Mutual trust grows daily with exercise.

Set reasonable goals for the family. Aspirations to be rich or famous often lead to a false display of affluence. In the purchase of new cars or homes, stay within your budget. **SHUN DEBT LIKE THE PLAGUE!** Sometimes the galling yoke of debt drives many a breadwinner to despair, while big monthly bills testify to poor planning. The bondage of financial stresses often lead to unkind accusations behind closed doors. Try to cultivate the same trustful, confiding atmosphere within the inner circle of the home that casual visitors see when they drop in for a few moments. **Be genuine**, not only with your friends, but with each other.

Next, **enlarge the circle** of your influence and benevolence beyond your special “twosome.” Selfishness in society can breed like algae in stagnant swamps. Cultivate true benevolence, with mutual giving of time, money, counsel, and service to benefit many others. It will make the home a happier place to live. The exercise of true sharing brings out the best in people, nurturing that which is noble, enduring, and worthy of admiration. Simple entertainment for guests, inviting your neighbors for a meal, or lodging a stranger, all will bring rich dividends for a little time spent in this unselfish hospitality. The patriarch Abraham one time even entertained *angels* unawares (Heb. 13:2), because of his spirit of kindness habitually expressed to

strangers.

Many of today's youth need secure **homes**, a place where harmony and devotion prevail. Lacking this privilege in childhood, some teenagers become rebellious, disenchanted both with religion, and the people that profess it. These do not need a lecture, but a demonstration. Sincere unselfish love manifested in this way may turn their lives around. Enlarging your family circle to take in these youth might even strengthen family ties. However, the special "inner circle" of confidence, love, and sharing should always be preserved and carefully guarded.

Family Worship

Many drive past colorful freeway billboards, and see the slogan *"The family that stays together, prays together."* Yet, too many households give no more than lip service to the sacred worship service that was fundamental in the home of the Israelites, the Waldenses, the reformers, and the founding fathers of America. Numerous individuals frequently forget God at mealtime, except to utter a memorized phrase before beginning to eat. The wise couple who wants a spiritual influence to prevail in their new home will safeguard carefully the time set aside for family devotions. A devotional service before breakfast is a fine way to start the day. It need not be long, but ideally complete, to include reading the Scriptures, singing a hymn, followed by some comments on the day's Scripture theme, then a fervent prayer offered by one of the family members. A father's prayer for his children and wife helps to place a hedge about them, to guard them in the path of right doing. Worship should not just be prepackaged, like opening a box of readymade cereal. A little time spent in preparation, prayerful thought, and study will reward the "priest" of the family with an enthusiastic response to this special time. Worship need not be boring, routine, or a drudgery. A hymn or two sung as a family, a few special testimonies, with the texts chosen by the children on occasion, helps to bring variety into the service. You may make it one of the happiest memories that the offspring carry with them through life. Evening services may be different, choosing a Bible lesson, a bedtime story of a character-building nature, or a personal time with husband and wife studying their Bibles and praying together. Couples that habitually pray together before going to bed each night need never allow misunderstanding, grudges, or barriers to arise in their home. Happy is the family that is united in religion, and makes theirs last seven days a week!

Family Finances

Many unhappy household experiences arise over disagreement in the spending of money. The budget for family spending needs mutual discussion. Usually, one member of the family is more skilled at money management or bookkeeping than the other. Nevertheless, a team relationship should always be encouraged. Even if the husband is the "breadwinner" and provides through his work the family livelihood, every wife should have some money that she can call her own, that she is able to spend as she sees best. Budgeting helps to keep the income and outgo balanced, with appropriate amounts allotted for utilities, housing, food, clothing, tithe and offerings, gifts, recreation, education, medical expenses, taxes, etc. This should be carefully analyzed on a periodic basis. Remember the adage, *"If your outgo exceeds your income, then your upkeep may be your downfall."* Most important, keep the channels of communication open. Never let suspicion smolder to mar the

happiness of your marriage partnership.

Vacations and Recreation

Vacation plans and periodic recreation should be considered in the needs of the family. Let these decisions be mutual ones also. A drive in the park, a picnic, a hike in the hills, or an excursion to the ocean may provide those "golden moments" that bind husband and wife together, and bring happy memories to reflect upon in later years. Especially after children arrive, your plan for family outings should be sure to take in all their needs, bringing the blessing of the Lord upon the money spent, as well as the time expended. Camping trips, or excursions of a missionary nature to foreign countries, are particularly unifying. New skills can be acquired, such as swimming, wilderness survival, or the intensive study of nature. Family attitudes fostered on such occasions will be reflected in self-reliant youth and more stable homes for the next generation.

Birthdays and Christmas

Birthdays and Christmas pose interesting challenges. Never forget them, but remember the true Giver of "every perfect gift" on these occasions. Thank the Lord who has spared the life of wife or husband for another year. Rather than falling for the commercial veneer society has thrown over the Christmas season, make it as its name implies, a special season of rejoicing for the birth of Christ and His gift to the world. Give Him your highest and best society during the holiday seasons. All—night parties, social drinking, and foolish games should be avoided. They often leave an aftertaste of bitterness and remorse, to say nothing of the drain on checkbooks, pocketbooks, and the sad tales of woe that are recorded concerning those unfortunate victims of intemperance and vice.

Birth Control

A topic frequently introduced after marriage, but which preferably is discussed in advance of the altar, is the subject of childbearing. It is advisable for a couple to become acquainted with each other for a year or more, before taking on the responsibility of pregnancy and childbirth. From a financial standpoint, as well as for social reasons, a couple's preparation for childbearing is best achieved when marital adjustment has been completed and the home well established. For this reason I discuss some of the concepts of birth control and their best implementation in marriage relations.

Remember that sexual experiences are given of God, being illustrated in the Bible as a symbol of the union of Christ and his church (Eph. 5:25). For too many, the popular press, sentimental songs, and sordid accounts of movie star licentiousness have distorted the beautiful conception of marital relations and the sacredness in which they are to be regarded. Tenderness and compassion on the part of the husband, as well as the wife will bring forth happy dividends to such couples.

Birth Control provides for appropriate spacing of pregnancies, and to enable a couple to have those children for whom they can afford, feed, educate, and care. Therefore, the following family planning considerations should be kept in mind. The most basic method to appropriately space the arrival of children requires self-control in the frequency of marital privileges. Too many couples, in ignorance of the sacred beauty surrounding their sexual relationship, give rise to indulgence of lustful passion, making the marriage vows cover even vile practices, which God's Word condemns.

Notwithstanding, there is an appropriate use of this privilege. And, under the blessing of God, heavenly angels may hallow the sacred chamber.

From a medical standpoint, there are some basic features of a woman's menstrual cycle which makes conception more likely at certain times. The interval between menstrual periods usually occupies three or four weeks. It is commonly spoken of as a "monthly" cycle. This interval can be best calculated from the onset of one period to the beginning of another. The time when fertilization is most likely is in the middle of this cycle, during a time period called **ovulation,** when the egg is released from the ovary. This egg *(ovum)* is then picked up by the nearby *Fallopian tube* in the pelvis, and conducted toward the womb. If marital relations occur during this interval, millions of vigorous *spermatozoa* may traverse the cervix, enter the womb, and migrate to the Fallopian tube. Then, fertilization takes place. Although it takes millions of sperm to generate the enzyme *(hyaluronidase)* required to penetrate the ovum, only one actually fertilizes the egg! With millions of possibilities for a unique child, how wise are the parents who make this conception a matter of prayer.

The rhythm method of birth control, then, consists simply of abstaining from intercourse during the "danger period." This extends from about one week after the menstrual period ends for another ten days or so, corresponding to at least five days past ovulation. An interval of abstinence between the 10th and 18th of a 28 day cycle usually suffices for birth control. A woman may take her oral temperature early in the morning before rising or drinking fluids, Through a monthly cycle, she will usually notice a pattern. At the time of ovulation the morning temperature (called *basal temperature)* increases about 0.5° to 1° F. This change marks the day of ovulation. Examination of mucus from the cervix may help to further pinpoint the unsafe time. The basal temperature measurement, moreover, helps couples wishing to conceive to evaluate an apparent infertility problem. They can thereby time intercourse, so as to increase the chances of conception.

Numerous mechanical barriers proliferate to prevent pregnancy. The **condom** is a sheath-like latex device designed to fit over the male organ and entrap the sperm during *ejaculation*, preventing their deposition within the birth canal. Provided the condom is intact, and does not slip off after intercourse, the method works quite well. Notwithstanding its widely advertised usage in the prevention of venereal disease, the condom is an effective means of birth control if used faithfully each time. For controlling **AIDS** and to contain the spread of the HIV virus, I do not recommend reliance on condoms. It is **fidelity** to one marital partner, and the avoidance of all illicit and high-risk sexual contacts that protects people. **Chastity** is the means God has ordained to avoid these life-threatening exposures.

A similar mechanical barrier may be temporarily placed in the birth canal just before intercourse. This is called a **diaphragm.** They must be fitted by a physician, for several sizes are available. The diaphragm must conform to the structure of the vagina, serving as an obstructive barrier to the mouth of the womb. Coating the diaphragm with a jelly *(spermicidal gel)* to inactivate and destroy the sperm will increase its effectiveness. With regular use according to manufacturer's directions, the diaphragm may function successfully for many years. More recent development of the *female condom* still awaits testing.

Foam, spermicidal gels, and other vaginal inserts such as the newer **cervical cap** are available for birth control. These utilize the same principle as the diaphragm, namely the chemical destruction of the sperm, united with a barrier to sperm penetration, rendering them inactive. Some recent reports have indicated that these substances, if absorbed, may have some detrimental effects. However, with convincing evidence still lacking as to their danger, it is your author' s current opinion that these methods may be employed with safety if used appropriately. Some ladies may be sensitive to the chemicals involved. Others decline their use because of inconvenience. Nevertheless, if faithfully used, these methods are effective for most couples in preventing unwanted pregnancy. All of the mechanical and chemical methods of birth control have some "failures," sometimes associated with a failure to use them properly. Nonetheless, occasions of fertility may happen, making none of these methods completely "fool proof."

Two other more controversial forms of birth control are the "**pill**" (oral contraceptive) and the **IUD** (intrauterine device). These methods have some harm associated with their use. The **oral contraceptives** or birth control pills utilize a combination of synthetic *estrogen* and *progesterone.* Synthetic female hormone substitutes produce a "pregnancy-like" effect over the hypothalamus and pituitary gland, inhibiting several hormone cycles that produce ovulation. Breast tenderness, headache, high blood pressure, visual changes, depression, nausea, menstrual spotting, lack of menstruation, an increased risk *of thrombosis* or clotting of the veins, even stroke and heart attack— these are some of the hazards associated with the available birth control pills. All these symptoms and risks are detailed in the drug package inserts. The potential side effects should be carefully scrutinized by potential users. **Smokers,** particularly, have a very high risk, at least five times greater than the nonsmoker for thrombotic complications associated with the pill. Increasing controversy over hormone therapies should make consumers more uncertain of its use, even for short periods.

The **IUD** (called an *intrauterine device)* is becoming more popular in underdeveloped countries. A carefully performed pelvic examination is required for its insertion. Barring complications, it may stay in the uterus for a long time, However, the IUD operates differently from any other form of contraception. It does not prevent fertilization of the egg, but rather makes a fertilized egg that arrives in the womb unwelcome. Preventing implantation of this multi-celled "child," the IUD actually performs a *"microabortion"* when it acts to prevent pregnancy. From ethical and religious standpoints, more and more concerned Christian ladies avoid this means of family planning. Medical complications frequently result, with increased vaginal bleeding, infection of the womb lining (endometritis), migration of the IUD through the womb into the pelvic cavity, and the increased risk of *tubal pregnancy.* In spite of their widespread use by public health officials, my clinic has always discouraged IUD use for contraception.

Many couples desire a more permanent method of birth control, especially after completing their family. After multiple pregnancies, with several children, they investigate the possibility of sterilization. The simplest form of sterilization involves an operation performed on the husband. Called a **bilateral partial vasectomy,** this operation involves the removal of two small segments of the *vas deferens* from the scrotum. These small tubes conduct the

sperm, produced by the testes, to pelvic storage sacs called *seminal vesicles.* In conjunction with the secretions of the prostate and accessory glands, a sticky substance called semen is discharged during intercourse. The interruption of the vas deferens by this operation makes the passage of sperm impossible. Very difficult to reverse, this operation should be regarded as essentially permanent. Precaution to preserve a man's health requires that the surgery be performed by a competent surgeon. The removed specimens should be analyzed by a pathologist. Follow-up *semen analysis* after six weeks can assure the success of any vasectomy designed to produce sterility.
The counterpart for a woman's sterilization is the so-called *tubal ligation.* This operation may follow immediately after a normal delivery, at Cesarean section, or at other selected times. More and more frequently the **laparoscope** is employed to perform this procedure. The instrument consists of a lighted fiber-optic tube, inserted through a small incision just below the umbilicus. After carbon dioxide inflation of the abdominal cavity, the Fallopian tubes are visually identified, then cauterized, and divided. Although no specimen is removed, the success rates with this procedure equal that of the more traditional tubal ligation. Even though reversal has been attempted in these procedures, sterilization operations on both men and women should be regarded as permanent, for all practical purposes.
A final type of surgery that produces permanent sterility is a **hysterectomy**. This operation should never be performed solely for the purpose of preventing pregnancy, however. When other medical indications exist, such as excessive bleeding, presence of *fibroid* tumors, or severe pelvic pain from the disease called *endometriosis,* a hysterectomy may be an imperative last resort for regaining the woman's health. Many pelvic operations, however, are not necessary at all. If any question persists, we recommend a second opinion before considering this major surgery. If during childbearing years a hysterectomy becomes necessary, the ovaries should be retained, if possible. Thus, a cycling female hormone effect may prevent premature symptoms of the menopause.

The After Years

Finally, we look briefly at the medical aspects of the *climacteric* or the **"change of life**." Both men and women go through emotional as well as physical changes in their middle years. Women usually stop menstruation between the ages of 46 to 52. Some go longer; and others quit sooner. The cessation of menses is called **menopause.** Associated with this are a number of symptoms, most of them related to estrogen deficiency. Excessive dryness of the birth canal, hot flashes, emotional changes of a psychosomatic or depressive nature, and lack of energy or increased fatigue often occurs during these years. An active exercise program, a careful diet, with the cultivation of a positive attitude, especially trusting in the Lord, will help many women through these difficult years.
Fundamental to this adjustment, however, is the understanding spirit of her loving, committed husband. Consideration for his wife's special needs for rest, relief from stress and worry, and the presence of her mate with his continued affection will go a long way towards minimizing adverse health consequences during the change of life. Men themselves, at times, go through periods of adjustment as with declining strength, increasing weight, and growing waistlines, their previous athletic prowess or intellectual abilities

appear to wane. A most powerful remedy for these ills is a continued active, unselfish interest in the lives of others.

When children leave to form homes of their own, parents may consider the needs of other youths who need a home. Volunteer service in hospitals, churches, and other civic organizations brings great personal satisfaction and fulfillment. Special vacation times spent together— in camping, gardening, or travel— or personal study around the fireside helps keep the home happy, even when healthful vigor does not seem to be as perfect as in former years. Outdoor exercise is vital for a healthy body. It aids in the pursuit of peaceful reflection for one's soul as well. Do not give up the quest. Seek counsel, and pray, whenever you are perplexed.

CHAPTER TWENTY-ONE

MENTAL HEALTH (For more references please refer to my book "Depression the way out")

A great epidemic of mental illness is spreading across the World today. Medical statisticians report that at least half of our available hospital beds in the United States and Western countries are occupied by sufferers from various mental diseases.

Great variations exist in both the cause and manifestation of mental disorders. Some mental patients, for example, have disrupted their peace and thought processes. Others victims express their anger in deeds of violence, or the most bizarre behavior. Some appear totally devoid of normal contact with reality. Physician psychiatrists, such as Dr. Szatz of Syracuse University, regard **mental illness** as largely a myth! Others interpret these disturbed thought and behavior patterns as a disease, classifying them in detail, much like the infectious and malignant conditions are categorized. In an attempt to better understand the working of the mind in both health and sickness, this chapter presents the more common mental problems and a number of simple home remedies which have been tested and found helpful in my own medical institutions.

ANXIETY

One of the more common disrupters of a tranquil mind is the process we term **anxiety.** This has been defined as an "irrational fear" that comes on suddenly, with the associated thought of impending doom or harm, either to one's self or others. This fear will persist and grow unless prompt measures are taken to combat the disturbed thought patterns. In its full-blown manifestation, anxiety causes total loss of volitional control of body actions. This, then, is usually called a *"panic attack."*

There are many potential causes for anxiety. One of these is the *very real* threat of danger, though dwelt upon at length and magnified by the imagination. A common type of mild anxiety is worry, associated with fear of what *might* happen. For example, your husband arrives home late from work, your child is playing in the street, unusual variations appear in the Dow-Jones stock averages, gasoline becomes scarce, or food availability is threatened—all of these fears may engender such preoccupation with excessive worry that they disturb your peace or mind. It is for such reasons that nervous Americans turn to tranquilizers.

Sedative drugs, sleeping pills, and nerve calmers have become a way of life to many. Others turn to alcohol as an escape from the tensions and stresses of everyday living. It is obvious that these so-called "remedies" are never *solutions* for they do not address the underlying cause. Our problems of life that evoke anxiety cannot be solved by a capsule or a bottle. In reality, these chemical "crutches" tend to cover up the situation, producing only a illusory *feeling* of tranquility. Meanwhile, the deep inner strife persists unabated. Fortunately, there is a better way.

Exercise is a most valuable remedy for people distressed with anxiety. A quiet walk on a wooded trail, meandering down a country lane, or even strolling with "man' s best friend" around the block, or in the city park—these

activities offer time for calm reflection and invite the return of peace. “Mini—vacations” in a state park or other remote rural setting also afford time for repose. Fishing on a quiet lake, bird watching with binoculars, or cultivating flowers and vegetables in the garden—all these tend to put life back into perspective.

Soothing instrumental music, with a slow, regular rhythm, can help to bring tranquility in the place of tension. The young boy David, playing on his harp, soothed the mind of troubled King Saul. He in deep depression, was lacking a solid spiritual foundation for his kingdom, thus was burdened over the affairs of his nation. David was able, temporarily, to bring peace of mind to the king through the harp and sacred song.

However, there is a modern type of music which brings no peace at all, but rather engenders more anxiety. Rock rhythms, the music of the discotheque, and even much “country western” religious rhythms are far from beneficial to the nerves. Psychological research discovered that a fast beat and a syncopated rhythm tend to raise the pulse and jangle the nerves. This contrasts with smooth flowing beauty emanating from an orchestral symphony, a pipe organ, or even hymns played on the family piano. With music and melody, the words should also be considered. Listeners should replace frivolous and sentimental songs with messages that are true, noble, and enduring. Fortunate are the children who grow up in a home where

mother sings them to sleep, hums a tune in the kitchen, and makes simple sacred music a way of life. It really brings the family close together.

Reading also may bring peace, when the articles or books are true, helpful, and character building. Much of today’ s literature that fills people’ s minds is fictitious, trivial, or downright vulgar. Try studies with meditation from the Scriptures, or biographies of great religious leaders, essays by reflective naturalists, and sublime poetry that has stood the test of time. This will serve to promote that quality reasoning and a philosophy of life that helps better to weather the storms of stress.

Yet, with all of these natural approaches to the relief of anxiety, we must *never* forget the supernatural. Above time and space, above the problems and perplexities of man’ s existence lies an unseen, all—powerful Creator God. The One who hung the worlds in space, continually sustains them by His power. He has the ability to uphold His children, who by celestial design were created in the image of God. Remember daily that *“all things work together for good, for them that love God, to them that are called according to his purpose,* “ (Romans 8:28). This realization will help the space—age Christian to endure surprises, disappointments, and the concerns that come to every soul.

The ancient Jewish prophet Isaiah summarized this meditative plane of living succinctly when he said, *“Thou will keep him in perfect peace whose mind is stayed on Thee, because he trusteth in Thee.”* (Isaiah 26:3). Yes, without question your **trust in Divine power** lies central to a tranquility of mind which not only can cover but cure the anxious brow, the troubled heart. This serenity brings smiles instead of tears, joy in place of sorrow, and peace to every worried, doubting soul.

DEPRESSION

Despondency and depression, although common, and seen at all ages, has

diverse specific causes and various practical remedies. Any depression seen in childhood is usually transient. Most children appear to have unusual buoyancy enabling them to rise above feelings and grief, unless surrounded by an atmosphere of gloom. In teen years, depression is more common. It occasionally lingers for months to years. This may be associated with tragedy, or continued elusive expectations, when romantic imaginations are shattered. Marital strife in the home disrupts the routine. Sudden illness likewise requires unforeseen adaptation.

The **postpartum "blues"** constitutes a type of depression seen after childbirth and delivery. It often follows the arrival of a baby, but does not seem to be related to the incidence of Cesarean section, any deformed offspring, or other obvious cause. The "baby blues" may last for days or develop into a deep-seated depression, requiring superhuman effort to pull out of the gloom.

In the middle years of life, however, depression finds its most common expression. Although menopause need not necessarily be associated with this emotional disaster, nevertheless it is not uncommon. Occasionally depression persists in a subliminal state—where life does not seem to have the same meaning, time slips away without the usual things being accomplished, and thoughts tend to be morbid, centered mostly on self. Occasionally, this depressive syndrome becomes so chronic that hospitalization is necessary.

One most serious complication of longstanding depression is attempted **suicide**. This takes an increasing toll among both adults and teenage youth. Ranking within the top ten causes of death, suicide is an obvious, but most self-centered, escape from the psychic pain of deep depression. Some suicides occur without warning. However, most patients leave telltale signs of their mental distress. Letters, notes, or words that express hopelessness, such as wishing to die, are usually a "cry for help." Such signals should be heeded with prompt response. For this reason, studiously avoid depending on sleeping pills, tranquilizers, and other sedatives or mood affecting drugs so that can easily be used to overdose, or prove fatal to the user. Newspapers are replete with accounts of movie stars, politicians, and wealthy, apparently well-adjusted neighbors who just came to "the end of their hope," and were found at the end of a rope. Being unable to cope any longer, they tragically took their lives. Crisis intervention at a time of deep despondency, when death wishes are expressed, may save a life for time and eternity.

In spite of prevailing philosophies among psychiatrists and counselors, it does not seem reasonable to cast, in Freudian fashion, the entire blame on traumatic childhood, punitive mothers, absentee fathers, or marital conflict when deep depression ensues. With due medical regard for the exigencies of life that bring about grief, remorse, and distress, we know that within the human heart there is a desire for goodness and a hope for better things. If cultivated, this innate quest can make even the worst of circumstances turn out to be a blessing. Illustrations in the Scriptures abound, when pressing circumstances brought out deeper faith and trust in God. Examples such as, Daniel in the den of lions, and Paul and Silas in prison, as well as Jesus in His trials and crucifixion—all were calculated to inspire faith and hope in the face of apparent disaster.

Some very real **chemical causes** may lie at the root of depression. An overuse of **caffeine** or other stimulant drugs, either in liquid or tablet form

can provoke a depression. For caffeine' s unnatural stimulation of the central nervous system is, as it were, a borrowing of energy reserves which must be repaid to keep the nerves in balance. Following each stimulation, whether

caused by reading sordid, exciting stories, seeing the latest movies, or drinking caffeinated beverages, the aftermath of depression is inevitable. Sometimes this is transient and primarily of a physical nature. But on other occasions the nerves are affected for many days.

Drugs, particularly the tranquilizer and sleeping pill type, can produce depression, especially when the dosage is increased and the usage prolonged. The use of mind-altering drubs must be stopped to overcome this type of despondency. Chronic illness, particularly if painful, may lead to depression. Patients with chronic back disorders, amputees, and others convalescing from mutilating surgical procedures are often victims of depression. Alcoholics are also not uncommonly depressed and drink to "drown their sorrows," only to wake up with *hangovers* and to find their troubles once again looming on the horizon. In fact, alcohol tends to compound most difficulties, since coping mechanisms are impaired and the tolerance for stress is handicapped under the chronic influence of this socially destructive beverage.

Some people eat to satiate their depressed feelings. In such cases, food becomes a tranquilizer. One authority on weight control stated, "It doesn't matter much what you eat, but it matters more what eats you." Most specialists in the treatment of obesity recognize that it is next to impossible to control weight without attending to emotional needs, particularly to the relief of depression.

Let us look at several simple remedies that can be applied to the depression problem encountered in an ordinary home. Our first approach in treating depression consists in a thorough evaluation of the cause. If possible, any identifiable precipitating factors should be removed. Such things as chronic illness, divorce, or grief over a death in the family may not go away for many months, or even years. Such eventualities require a firm determination to cope with the immediate crisis. Finally, with the help of God, we must rise above the inclination to become despondent. Research studies have shown that **going to bed early** is helpful in resisting depression. Most commonly the despondency appears associated with morning hours. Usually, depression improves during the course of a day. Rising early and becoming busy with household or shop projects—cooking, sewing, reading, auto maintenance, or handicrafts—will help to "put your mind in gear" early, diverting it from the self—destructive habit of centering thoughts on self. The exercise of will power goes with the labor of the hand. Thus, the more occupied any person can be in useful employment, the easier depression is to cope with.

Active physical exercise is a great reliever of depression. Vigorous walking, jogging, calisthenics, aerobics, bicycle riding, swimming, and other similar recreational outlets help in the cure of depression. It is important, however, to avoid the unnatural overexcitement associated with contact sports, competitive games, or the "carnival atmosphere" that stimulates, only to leave a hollow, empty aftermath when the stimulus is no longer there. Try cultivating flowers, small fruits, or vegetables. Horticulture helps divert the mind, and relieves depression by occupying the body in a satisfying,

rewarding type of activity. Gardening is full of learning possibilities and object lessons that illustrate the Creator's love.

The real cure for depression, however, lies in a confiding **trust** in our great Creator, God. This firm confidence can keep a person steady, even cheerful, under the most forbidding circumstances. It can smooth life's troubled waters, banish grief and psychic pain, and lift the spirits when all around is apparent disaster. In fact, to brave the future when our pressures, disappointments, and trials will be greater than we have ever seen, we people in America, as well as other nations, need the "faith of our fathers living still, in spite of dungeon, fire, and sword." Our steadfast confidence should be based upon the Word of the living God. Daily meditations in Scriptural precepts will be like a life preserver, holding us poised in the whirlpool of doubts, grief, or temporary depression.

One final remedy that also is needed for many depressed souls, is **confession of known sin.** It is not unusual to find what the Bible calls the "transgression of the law," lying deep within as a fundamental cause for longstanding depressive reactions. Marital infidelity, theft, extortion, a failure to care for the needs of aging parents, or the deep inner conflict of "respectable sins," such as inordinate pride and covetousness, produce their natural results in many disturbed minds. The early apostle and Christian leader, James, put it succinctly when he wrote: *Confess your faults one to another, and pray for one another, that ye may be healed. The effectual fervent prayer of a righteous man availeth much."* (James *5:16).* The experience of peace that comes to an individual who has experienced this assured forgiveness can be measured in eternity when the joy of Jesus is seen, who saw "the travail of His soul" and will be satisfied. Yes, friend, there is a cure for depression.

FEARS AND PHOBIAS

Nearly everyone is subject to certain fears. Unforeseeable events, such as accidents and natural disasters, commonly produce a sudden overwhelming concern called **fear**. Sometimes it becomes excessive and imaginary, akin to anxiety. On rarer occasions, the chronic nature of fear develops a pattern of bizarre behavior, which may lead to a disabling *obsession.* Such irrational responses are called **phobias.** Several types are described.

Acrophobia is the fear of heights. **Claustrophobia** is a fear of closed, tight spaces. **Hydrophobia** involves a fear of water. Phobic responses often occur on the edge of a cliff, the end of a diving board, or with the sight of blood. **Obsessive reactions** may be associated with fear of germs, occasionally leading to symbolic and excessive hand washing, compulsive wiping of doorknobs, or bizarre eating habits.

Many phobias have their roots in childhood trauma, where fear was "planted" by well-intentioned, but misguided parents, siblings, or relatives. School teachers might further exaggerate the fear response. The imagery of television, comic books, and fictitious stories do their damage, too. Since the root of the disease lies in the diseased imagination, stern self-discipline, as well as keen parental insight, are required to overcome any phobic reaction. Some psychiatrists resort to "shock treatment" (called *electro-convulsive therapy* or ECT) in order to stifle phobic responses. Rarely does this therapy cure on a long—term basis. Moreover, it may produce hostility or even intensify the symptoms. Throwing a child who is afraid and unable to swim into deep water, or threatening to push an individual off a cliff, only lowers

the child' s confidence in those close to him or her. Such abuse can nullify the spirit of trust so important to a well-balanced life. **Counseling** has a role in developing improved understanding of these fearful circumstances. Too often, however, insight comes slow. The counselor, if he or she becomes frustrated and impatient, can never achieve any therapeutic goal.

In order to overcome a particular phobia, one should focus on developing a trusting relationship with our all-wise heavenly Father. God's Word declares, *"The Lord has not given us the spirit of fear, but of power, and of love, and of a sound mind."* (II Tim. 1:7). Also from I John 4:18 is the declaration, *"There is no fear in love, but perfect love casteth out fear."* These and other Bible promises should be memorized, repeated, and claimed to help overcome any deep-seated phobia. Just as a child begins to tiptoe first to the lake's edge, then wades into the water, and goes deeper until he or she finally swims, so a person can be gingerly coaxed into activities that formerly were terrifying. This must always be done in the context of a warm, trusting human relationship. Often when some friend provides this security, the individual, in their mind at least, instinctively minimizes the risks and becomes more daring. Most phobias can be controlled and channeled into useful productive activities, if not be completely cured.

SCHIZOPHRENIA

How unfortunate it is when a person becomes so disturbed that all contact with reality is disrupted. Many of these disorders are called **schizophrenia**, a term which means "splitting of mind." Although there are many psychotic variations, medical science has yet to find a cure for this disruption of thought processes. Some professionals, with psychoanalytic insight look to childhood

experience for causes. Others look for spiritual explanations, regarding some cases as "demon possession." Whatever the cause, the results are not pleasant. Numerous children and adolescents are affected. Some who have used drugs such as LSD have suffered long-term consequences, even permanent mental derangement, from their youthful drug experimentation.

Several types of mental illness are described. In some cases, **paranoia** is the most prominent manifestation. This is a type of thought disorder where deep suspicion exists. Sometimes the symptoms of **delusions** fit so perfectly together that almost anyone would be convinced as though persecution were directed to the affected individual. It may be the Mafia, the communists, or more tragically the delusions may be directed against a husband or wife, who is at a loss to know how to make amends. Except for the paranoid delusions, the remainder of a patient's life may function normally, making his or her disease all the more difficult to diagnose.

In one common type of schizophrenia, the affected individual becomes completely irrational. Sudden onset of destructive behavior may ensue, while on other occasions screaming, insane babbling, or bizarre physical manifestations may give evidence of strange voices he or she is hearing *(auditory hallucinations)* or the totally disrupted state of the person's mind. Disgraceful disrobing is not uncommon, with eccentric exhibitions that cannot be tolerated in a respectable society.

A not so common, but very perplexing, type of mental disruption is the **catatonic** state. In this mental condition a sick individual will assume a posture and often hold the position in a waxy state of inflexibility, while

remaining entirely mute and unresponsive, It is difficult to distinguish this from drug reactions or brain tumors. Careful neurologic investigation is indicated.

Some have thought that the habit of **masturbation** lies at the root of diverse forms of schizophrenia. Scientific investigation does correlate the resulting zinc deficiency with mental aberrations. Usually, however, progressive disorder of thought processes, bizarre behavioral mannerisms, and the unpredictability of a patient's verbal response makes mental illness the more likely diagnosis. The real problem is: *"What do we DO about it?"* Generally, the earlier any diagnosis can be made and the treatment instituted, the more likely a successful outcome. Always avoid excusing the behavior as 'lust a stage" he or she will grow out of. Take such happenings seriously.

One basic therapy for improvement in mental disorders is good nutrition. Adequate quantities of all B—complex vitamins should be obtained with a strong emphasis on foods which are high in trace minerals. Fresh fruit and vegetables, whole grain cereals, and nuts, with a strict avoidance of spicy foods, sugar, and stimulating caffeinated drinks should help the affected person's diet. **Regularity** in mealtime should be habitual and as far as possible tensions should be minimized.

Many mental breaks are the result of sleep deprivation. As far as possible a person suffering from mental disease should be encouraged to **retire early**. Often a long period of uninterrupted sleep will be rewarded by renewed balance to the mind. *"Early to bed and early to rise"* with an active program of physical labor during the day can bring relief. Long walks in the woods, particularly when accompanied by a sane, understanding, sympathetic person can help to direct the thoughts and conversation back to real life.

Several hours each day should be devoted to some type of physical activity. Table games, television watching, and idle daydreaming should be curtailed, with the mind kept busy on useful, pleasant diversions. Sometimes weeks to months are required for the nervous system to regain its balance. Nevertheless persisted in, these natural remedies will produce results.

As far as possible, recourse to mind—affecting drugs, shock therapy, or hospitalization in a mental facility should be avoided. The stigma attached, as well as the sights and sounds experienced in contact with the insane, may only serve to reinforce the abnormal behavior. Psychotherapy can even prolong mental illness, rather than effecting a cure. In my experience, those afflicted with schizophrenia who have been institutionalized for years and have undergone numerous shock treatments as well as heavy sedation with tranquilizers are *almost* impossible to bring back to a normal state of thinking and mental function. Here are cases for the healing power of our Creator to cure.

All the above simple measures are best instituted in a rural setting. The tranquility and quiet of country life, the contact with domestic animals or agricultural products, as well as the necessity for the stern discipline of useful outdoor labor will help those whose minds are breaking under stress of life. Furthermore, with all of these things, good as they may be, patients with mental illness should be approached with much prayer.

The Maker of our mind knows best its needs. Reading the Word of God will bring stability to all health workers, with a balanced treatment of the physical, mental, and spiritual ills that cannot be perfected in any other way.

Sing simple gospel songs, pray fervent prayers, read Scriptural promises, and the narrative of Christ's healing others who also were oppressed in mind. Thus, a parent, friend, or relative can work with confidence, persistently applying the measures that, blessed by the Lord, bring mental health. A clear intelligent eye, and words of deepest gratitude will eventually come as your reward from the recovering victims of emotional or mental illness.

INSOMNIA—1 (Sleeplessness; Sleep Apnea)

SYMPTOMS—Inability to get to sleep, night after night.

CAUSES—If it only happens once in a while, it is sleeplessness; if it happens for weeks or months, it is insomnia. (Sleep apnea will be discussed later in this article.) It is said that 100 million Americans have insomnia, to one degree or another, and take 600 tons of sleeping pills each year to avoid it. About seven times as many women as men experience the problem. Sleeping pills are second only to aspirin sales in the U.S.

Side effects from sleeping pills includes anxiety, depression, skin rashes, irritability, loss of appetite, poor coordination, digestive disturbances, difficulty with vision, confusion, dizziness, high blood pressure, circulatory and respiration disorders, breakdown of parts of the blood (such as the white blood cells which fight infection), damage to the central nervous system, memory problems, and liver and kidney damage.

The experts tell us that, if you go to bed on time, have a current of fresh air in the room, and lay there quietly—you will get enough rest even though you do not seem to fall asleep as quickly as you might wish. Many people who report not getting to sleep at night actually slept quite a bit without realizing it.

There are others who experience *sleep apnea*. This occurs when the person, while asleep, stops breathing for as long as two minutes at a time. He then gasps for breath and may awaken. This can happen as many as 200 times at night. Those with sleep apnea tend to have higher than normal blood pressure, are more likely to have strokes, and are at greater risk of heart disease. These people also have a higher incidence of emotional and psychotic problems.

Overeating, eating too close to bedtime, and eating bad food can produce sleeplessness or insomnia. Systemic disorders in the heart, liver, kidneys, pancreas, lungs, digestive organs, endocrines, and brain can all affect sleep.

TREATMENT—

• A lack of calcium and magnesium can cause you to wake up after a few hours and be unable to return to sleep.

• Eat nutritious food, and let breakfast and lunch be your main meals. Only eat lightly in the evening, and several hours before bedtime.

• Foods with the amino acid, tryptophane, promotes sleep. These include figs, dates, and whole grain crackers.

• Avoid cheese, bacon, chocolate, ham, sausage, and wine before bedtime. Better yet, keep those junk foods entirely out of your diet. Do not eat eggplant, sauerkraut, potatoes, sugar, spinach, or tomatoes before retiring. All the foods in this paragraph contain tyramine, which increases the release of norepinephrine, a brain stimulant.

• Other foods which keep people awake include fatty foods, sugar, white flour, salt, monosodium glutamate (MSG), chemical preservatives, additives, and allergenic foods.

• Obtain enough exercise during the day, with some of it being out-of-doors. Exercise regularly in the late afternoon or early evening, but not right before bedtime.

• Before bedtime go outside and walk around quietly in the fresh air for 30 to 45 minutes.

• Take a hot bath (not a shower) an hour or two before bedtime.

• Some people need to have the bedroom quiet. Others need some sound to mask background noise. In such cases, have a fan turned on.

• Trust in God. He promises to give His beloved rest.

• Regularity in your habits is important. This is vital to good sleep. Always go to bed at the same time, and get up at a definite time. The body has normal rhythmic cycles. People with regular habits have faster reaction time and are happier than those with irregular sleeping times. Getting up each morning at the right time will help you go to sleep at the right time each night. Sleeping in, on weekends, disrupts the biological clock. If you want sleep problems, stay up late every so often.

• For some people, daytime naps make it more difficult to sleep at night. But, for some older people, a little rest before mealtime during the day helps them, so that any sleeplessness at night never fatigues them.

• If you cannot sleep, you can just lay there, relax, and rest. This is nearly as good as sleep.

• Or you can get up and do something quietly and calmly for a short time—and then go back to bed and to sleep. One excellent method is to go outside and breath the fresh air, look up at the stars, breath some more fresh air—and then go back to bed and to sleep.

• If you are wakeful one night, do not nap the next day, and you will be more likely to go right to sleep that night.

• Go to bed early when you are sleepy.

• Some take melatonin or calcium to help them go to sleep. These are both natural and safe aids in promoting sleep.

• The room temperature should be 60^{o}-65^{o} F. If the room is too warm, you are more likely to move about more and awaken more frequently. The problem is a lack of air.

• If you want a restful night's sleep, make sure a little current of air is passing through your room, even in the winter. But you cannot sleep well when it is stuffy.

• Do not take sleeping pills. They have pain relievers, bromides, antihistamines, and/or scopolamine. These are ineffective and produce unpleasant side effects.

• Alcohol, barbiturates, and hypnotics do not solve the sleep problem, but worsen it. Alcohol disrupts sleep later in the night. Nicotine appears to be calming, but it is actually a neuro-stimulant.

• Do not take caffeine substances after lunch.

• Do not take nasal decongestants and other cold medications. They stimulate many people and keep them from getting to sleep.

• Studies reveal that, in countries where people regularly nap during the day, there are less accidents, and productivity is higher. The important factor here is consistency. Be regular in your hours for sleep at night. If you nap during the day, be regular in that. If you nap, generally keep your naps short—less than an hour at a time.

• Herbal teas which help increase sleepiness include hop tea, catnip, and chamomile. But do not rely on herb tea, to help get you to sleep every night.

• Make sure you have a good mattress to sleep on.

• Keep your thoughts heavenward, and you will find it much easier to go to sleep at night.

INSOMNIA—2 (J.H. Kellogg, M.D., Formulas)

TO RELIEVE BRAIN CONGESTION—Neutral Douche, 3-5 minutes at bedtime; Cold Douche; Hot Leg Bath; Footbath under running water; heating Wet Sheet Pack, followed by Wet Sheet Rub; Hot Abdominal Pack, warmly covered and protected with plastic; heating Leg Pack; dry heat to the legs and feet; Hot Leg Pack followed by Cold Mitten Friction to the legs; Heating Compress to legs or Leg Pack at bedtime, to be prolonged during the night; Hot Abdominal Pack and Leg Pack through the night; Revulsive Douche to the legs at 102^{o} F. for 2 minutes, then 60^{o} F. for 15

seconds; Neutral Douche, 3-5 minutes; downward stroking of head and neck [to eliminate phlegm and aid lymph flow].

RELIEVE IRRITABILITY OF THE BRAIN CELLS—Prolonged Neutral Bath at bedtime; neutral Wet Sheet Pack; Enema, if constipation or flatulence are present.

IRRITABILITY OF SOLAR PLEXUS OR LOWER BACK NERVES— Abdominal Fomentation followed by abdominal Heating Compress, changing every 6 hours. Avoid eating anything but fruits after 4 p.m. Copious water drinking. Colonic, especially if the bowels are inactive, as constipation is a frequent cause of insomnia by producing irritation of the abdominal sympathetic nerves.

EXCESSIVE CARDIAC ACTIVITY—Ice Bag over heart.

FIDGETINESS OR RESTLESSNESS—Warm Pail Pour to spine, at 95^{o}-98^{o} F. Tepid Sponging; rubbing of limbs; rubbing of spine; massage of head.

GENERAL IRRITABILITY—Neutral Wet Sheet Pack; Neutral Full Bath; Neutral fan Douche or Shower, for 2-4 minutes.

GENERAL METHOD—There may be said to be three forms of insomnia: Sleeplessness may be due to (1) congestion of the brain, (2) irritability of the brain cells, or (3) a combination of these two conditions. Here is how to go to sleep: (1) Come to God, and in peace of heart, trust in Him. (2) Relax and let your mind rest; do not try to problem-solve, you just gave them all to Jesus. (3) Check the temperature and air; it is more difficult to go to sleep in a room that is too hot, too cold, too drafty, or one lacking fresh air. (4) With your nerves and muscles relaxed and cheerful in the thought of Jesus' love, concentrate on breathing slightly deeper, and go to sleep.

VERTIGO (Dizziness)

SYMPTOMS—Dizziness, faintness, or light-headedness. The person may feel that he is falling or sinking or that the room is moving around him, sometimes even spinning. This sensation is usually accompanied by nausea, vomiting, perspiration, headache, or hearing loss.

CAUSES—Vertigo is caused by an impaired sense of balance and equilibrium, and is generally due to an inner ear problem. Older people have it more often than those younger.

If the original cause is concussion, skull fracture, or injuring the inner ear, the dizziness may occur long after the injury supposedly healed.

Other causes are anemia, brain tumors, high or low blood pressure, psychological stress, lack of oxygen or glucose in the blood, nutritional deficiencies, viral infection,

fever, changes in atmospheric pressure, the use of certain drugs, middle ear infections, excess wax in the ear, or blockage of the ear canal or eustachian tube.

Lower oxygen levels at higher altitudes can also cause it. Another cause is vitamin B_6 and niacin deficiency.

You can expect that you may temporarily experience it if you engage in certain activities, such as amusement park rides, sailing, or virtual reality games.

Be aware that dizziness can be a warning sign of a coming heart attack or stroke. It can also be an indication that a concussion has just occurred.

Dizziness is not the same as vertigo. From time to time, anyone can experience some dizziness or faintness. Those with low-blood pressure will frequently experience this when standing up suddenly.

TREATMENT—

• Immediately, sit in a chair with your feet flat on the floor and stare at a fixed object for a few minutes.

• But, if the cause is low-blood pressure, lower your head while the blood gets up there.

• Eat a nutritious diet, including niacin, B_6, and the entire B complex—including B_1, B_2, and pantothenic acid. Vitamin C is also important.

• Do not take over 2,000 mg of total sodium per day. Too much sodium disrupts the operation of the inner ear.

• Take powdered peppercorns.

• Avoid nicotine, caffeine, alcohol, and fried foods.

• Catnip tea will help.

• If vertigo begins after taking some new drug, stop using it immediately.

• If vertigo seems to be chronic, search out the causes. You may need professional help.

NEURASTHENIA—1 (Nervous Exhaustion)

SYMPTOMS—The symptoms vary greatly. Most frequently there is easy fatigue, a sense of great weariness after slight exertion, or inability to perform a normal amount of mental or physical labor.

There may be mental depression, impaired memory, and inability to concentrate. There may be a sense of fullness, pressure, or pain in the head.

Pains in the neck, shoulders, back, and limbs. Tender spots on the spine.

Dizziness, ringing in the ears, attacks of palpitation and distress about the heart.

Cold feet, clammy hands, hot flashes about the head.

There is generally constipation, a disturbed digestion, and sleeplessness.

CAUSES AND TREATMENT—

• A variety of causes may, and probably are, involved. For example, the person may be hypothyroid and fears to exert himself. Yet vigorous, out-of-door activity is probably what he needs, along with fresh air, sunlight, and nourishing food.

• The orthodox approach is to prescribe rest and quiet. But it may be that getting outside and walking around is a better solution during part of the day. Find someone who needs help.

• Start taking on small challenges, and then expand them. Begin by washing the dishes and sweeping the floor. Do something useful, and thank God that you can.

• Eat nourishing food—and nothing else. Include niacin and the entire B complex. Do not eat between meals. Chew your food well. Do not overeat. Do not go on binges.

• Stop consuming all fried, processed, and junk food and drink. Stop alcohol, tobacco, caffeine, and hard medicinal drugs. Avoid chemicals in the food, air, and water.

• Take a cool shower; jump out and dry off in the cooler air.

• Run down the road a few yards. Go in and lay down and rest. Go outside and run again. Keep pushing yourself, and get yourself built up.

• Avoid enervation. Think positive. Be thankful for what you have and what you can do.

NEURASTHENIA—2 (J.H. Kellogg, M.D., Formulas)

NOTE—Neurasthenia (nervous exhaustion) is not a distinct pathological entity, but a group of symptoms due to various etiological influences and connected with various morbid states.

BASIC ASPECTS—Rest cure for those who have been overworked, nervously and physically, and for those who are mentally and nervously tired.

COMBAT AUTOINTOXICATION—Aseptic diet; fruit diet; daily Neutral Baths 1-3 hours; sweating procedures of short duration (3-6 minutes), followed by suitable cold applications; Hot Enema daily; copious water drinking; out-of-door life.

COMBAT EXHAUSTION—Rest for the overworked. Improve digestion, in cases of starved dyspeptics, by appropriate measures. Tonic cold applications carefully graduated; especially Percussion Douche to spine.

CHECK EXHAUSTING DISCHARGES—Apply appropriate measures.

RELIEVE REFLEX IRRITATION—If sexual, rectal, prostatic, or urethral irritation, employ Revulsive Sitz Bath, Prolonged Neutral Sitz Bath, Hot Footbath, Hot Pack over pelvis. For ovarian irritation, in addition to above, hot vaginal irrigation for 15-20 minutes.

IRRITATION OF SOLAR PLEXUS AND SYMPATHETIC NERVES—Fomentation over abdomen 3 times daily; during intervals, Heating Compress; abdominal supporter.

IMPROVE GENERAL NERVE TONE—Graduated cold applications. The Cold percussion Douche to spine is the most efficient of all measures; general Cold Douche; very Hot Douche at 110^0 F. for 30 seconds, followed by Graduated or Cold Douche.

HEADACHE—Hot and Cold Compress; Revulsive Compress; to spinal area, give Alternate Compress or Sponging; Hot Footbath; Footbath under running water.

FRONTAL HEADACHE—Revulsive Compress to forehead and eyes; Hot and Cold Truck Pack; derivative applications to feet and legs.

CONGESTIVE HEADACHE—Ice Bag to back of head and Cold Compress to face; Ice Collar; Hot and Cold Compress to head; Hot Footbath; Hot Leg Pack; Heating Compress to legs; Cold Footbath under running water; Alternate Footbath; and wear felt shoes.

OCCIPITAL HEADACHE [on back of head]—Hot Compress or Sponging to upper spine and occipital region. Revulsive Compress; Hot and Cold Compress to head. [The occipital region is the area around the bump on the back of your head).

NERVOUS HEADACHE—Fomentation to seat of pain, with simultaneous Hot Footbath; Daily Cold Enema to relieve constipation if present; special attention to the diet; a dry aseptic diet is indicated, avoiding milk.

SENSATION OF BAND AROUND HEAD—Hot Sponging or Hot Compress; Alternate Sponging of neck and upper spine; massage to head.

SENSATION OF PRESSURE AT VERTEX [top of head]—Hot Footbath, Cold Compress to head; Ice Collar; sleep with head elevated; heat to feet and legs if cold.

PAIN IN EYES, INTOLERANCE TO LIGHT OR USE OF IN READING— Light Fomentation over eyes and forehead, but never over naked eyeball: Close eyelids and lay gauze or thin, dry cotton cloth over it, beneath the Fomentation; protect eyes from bright light; facial massage and massage to eye. An oculist should be consulted, for eyeglasses may be needed, temporarily or permanently.

BACKACHE—Fomentation to abdomen, Hot Abdominal Pack, abdominal supporter, Alternate Spinal Sponging or Alternate Compress, Revulsive Douche to spine, Revulsive Sitz Bath.

VERTIGO—Fomentation to stomach, followed by Hot Abdominal Pack; bathing face or top of head with very hot water or Hot Compress for 2 minutes, followed by Cool Compress, 15 seconds; heat to back of neck in anemia of the brain.

ANOREXIA—Cold Hot Water Bottle over stomach for half an hour before meals, with Cold Compress or Cold Water Bottle to area, front and back, opposite stomach; Cold Mitten Friction or Cold Towel Rub.

MUSCULAR WEAKNESS, ESPECIALLY IN LEGS—Cold percussion Douche to spine; Alternate Douche to legs.

MENTAL DEPRESSION—Sweating Bath, followed by short general Cold Douche; Neutral Bath for 1 hour daily; Neutral Pack; Cold Percussion Douche to spine; Alternate Sponging to spine or Alternate Douche to spine.

FIDGETINESS—Fomentation to abdomen, followed by Hot Abdominal Pack; empty colon, if loaded, by Enema; abdominal supporter; Revulsive Sitz Bath; Neutral Pail Pour to spine.

DREAMS—Neutral Bath for half an hour before going to bed; Hot Abdominal Pack; evaporating head cap; elevate head of bed; avoid eating after 4 p.m., except fruit.

COLD EXTREMITIES—Revulsive Douche to legs and feet, followed by standing Shallow Bath; Fomentation to abdomen twice daily, followed by heating compress during the intervals between; Alternate Footbath; massage to feet and legs; Cold Mitten Friction.

GENERAL METHOD—While not recognizable as a distinct malady, it is convenient from a practical standpoint to consider neurasthenia (general exhaustion) as a disease. The tonic effects of cold water are essential in the treatment of neurasthenic conditions. The management of cold applications in such a way as to secure the tonic effects desirable without aggravating any of his symptoms is a problem which taxes, to the utmost, the skill and experience of the hydrotherapist. Special attention must be given to the digestion, improvement of nutrition, regulation

of the bowels, and the relief of prominent and distressing symptoms by suitable palliative measures.

CHOREA (Nervous Twitching) (J.H. Kellogg, M.D., Formulas)

BASIC FACTORS—Combat anemia and improve general nutrition by graduated tonic applications (Tonic Frictions); copious water drinking; large Enema or Colonic; Fomentation to abdomen morning and night; Heating Compress during intervals between. Secure mental quiet by isolation, if necessary. He should be kept in the open air as much as possible. Out-of-door life and rhythmical gymnastics are especially useful.

INSOMNIA—Prolonged Neutral Bath or Neutral Douche, Hot Abdominal Pack.

AGITATION—Neutral Pail Pour to spine, Wet Sheet Pack.

IRREGULAR MOVEMENTS—Neutral Pail Pour to spine, daily; prolonged Neutral Bath; special exercises.

ENDOCARDITIS—Ice Bags over the heart.

GENERAL METHOD—Improve the nerve tone by tonic measures and careful attention to nutrition. Train him to better mental and moral control and to combat choreic movements by systematic gymnastic training.

Stress, Anxiety, Pain

STRESS AND ANXIETY (Nervousness)

SYMPTOMS—Depression, anxiety, irritability, chronic fatigue, low-stress tolerance, nervous exhaustion, unable to cope, insomnia, panic attacks, unable to relax, or diseases caused by immune problems.

Tightening of stomach muscles which causes nausea or digestive problems. Increases in blood pressure, sweaty palms, nervous twitches, tooth grinding, trembling when not cold. Tense muscles, especially shoulder muscles.

Poor concentration, cannot retain information, negative thoughts, loss of sense of humor, demanding attitude, critical attitude, or becoming withdrawn.

CAUSES—Here are a few of the many causes: deadlines, pressures, problems at home or work, special occasions, crowds, noise, pain, traffic, temperature extremes, overwork, lack of sleep, smoking, alcohol, a worrywart attitude.

Researchers estimate that stress is significant in 80% of all major illnesses, including cancer, back problems, endocrine, cardiovascular, skin, and infectious diseases.

The adrenals especially suffer from stress. This results in a lowering of the immune system's ability to protect you from infection and cancer. It also disrupts the function of your entire endocrine system.

Everyone experiences stress from time to time, but frequent stress is more serious. And long-term stress wears out the body.

Some people can handle stress better than others. Some individuals work in the emergency room at the hospital and thoroughly enjoy the excitement and challenge of every new crisis which comes along. Others burn out and have to transfer out within a year.

TREATMENT—

Find out what your ongoing problems are and solve them. Problems are like a wall; you can go through them, go over them, or go around them. You go through a problem when you eliminate it. You surmount an immediate problem when you figure out a way to sidestep it and still do what is needed. You go around it when you learn to live with an ongoing situation you cannot solve. You stop worrying about it or letting it bother you, and turn your attention to other things.

Here are several basic suggestions:

• Think positive in every situation. See a good side to it, and learn to make the best of it. See it as an interesting challenge to solve difficulties. Trust in God to help you weather every crisis and carry on through to the end.

Think about something else for a time. That will help your brain to rest and your emotions to calm down. Gradually answers will come to mind.

• Counsel with a good friend. If it is a problem with your husband, counsel with a woman, not with a man. The same holds true for a man.

• The primary problems in a person's life are employment, spouse, money, children, deadlines, and guilt.

• Sometimes you need to temporarily leave a threatening situation and get away and calm down, take time to pray and rest your mind.

• Stretching your muscles can help move a circulation made sluggish by the situation, so you can think better. Massage muscles which have tensed up. Drop your jaw and move it left to right. This helps relax the jaw muscle.

• Take a hot bath; that really relaxes you, so you can start thinking constructively again.

• Go outside and walk in the open air. Hold your head up, breath deeply, and relax.

• Many times, the underlying need is to go to God and ask forgiveness, obey His Ten Commandment law, and start living a new, clean life. Make things right with those you have wronged.

• Believe that, with God's help, the situation can be dealt with. Keep trusting Him as a little child trusts his parent to lead him by the hand across a busy street.

• A change in diet is needed to help restore a sickly immune system. Fresh fruit and vegetables, especially raw vegetables. Kelp or dulse, and raw seeds or nuts. Be sure and take enough vitamin C, as well as a full range of supplementary vitamins and minerals.

• The following herbs are helpful: ginkgo, echinacea, dong quai, gotu kola, bilberry, milk thistle, catnip, chamomile, hops, skullcap, and valerian. Take them separately or mix 2-3 together, and take as a tea.

HEADACHE—1 (Nervous Headaches; Cluster Headaches)

SYMPTOMS—A pain or ache in any portion of the head.

Cluster headaches: Often occurs as a one-sided headache which comes on suddenly, causes debilitating pain, and comes and goes in severity.

CAUSES—Over 45 million Americans repeatedly have headaches. About 18 million have migraines.

Common causes of headaches include eyestrain, tension, poor ventilation (lack of fresh air), sinus pressure, constipation, allergies (food, pollens, chemicals, etc.), stress, anxiety, muscle tension, infection, anemia, hunger, fever, hormonal imbalances, trauma to the head, nutritional deficiencies, sinusitis, alcohol, drugs, tobacco, spinal misalignment, temporomandibular joint syndrome, or airborne pollutants and chemicals (perfume, industrial fumes, etc.). Diseases of the eyes, nose, or throat can also produce them. Niacin or pantothenic acid deficiency, an overdose of vitamin A, a

vitamin B deficiency, or disturbances of the digestive or circulatory system can bring them on. Birth control pills can also cause headaches (by causing a vitamin B_6 deficiency).

The headache may be caused by a reaction to a certain food, such as chocolate, wheat, sugar, monosodium glutamate (MSG), dairy products, hot dogs, luncheon meats, citric acid, vinegar, or marinated foods. Sulfites, found in certain foods, can do it. Fermented foods, such as sour cream, yogurt, and cheeses can do it also.

There are three important subtypes of headaches. Emotional stress is an important cause in all of them:

Nervous headaches. These are muscle contraction headaches. The experts tell us that 90% of all headaches are caused by tension, worry about problems, conflicts with others, etc. Nervousness causes the muscles to tighten up.

Cluster headaches. These are severe, recurring headaches. These are also called histamine headaches, and are related to allergic reactions. Inhalant allergens may be a cause (including perfume, house dust, cigarette smoke, etc.). Keep a diet diary. Ninety percent of those with cluster headaches are men.

TREATMENT—

• When a headache comes, apply cold compresses to the place where the pain seems to be originating. This reduces muscle spasms and constricts blood vessels. Leave a damp washcloth in the refrigerator for 10 minutes or dip the cloth in water with ice cubes, wring it out, and apply. Also take an enema.

• Place a heating pad, hot towel, or hot water bottle on the shoulder muscles, and possibly on the neck. Do that which helps you best.

• Get enough sleep.

• Do not overeat. Include enough fiber in your meals and take an enema weekly.

• The treatment for headache depends on the underlying cause. Headaches caused by a certain problem frequently return. So identify what is causing them and many future headaches will never occur.

• Sometimes repeated headaches are a symptom of a serious disorder.

• Make sure you are taking enough B vitamins, especially niacin and pantothenic acid. Vitamin A and iron are also important (but be sure and get your iron from food, such as blackstrap molasses, not from chemical supplements).

• Regular exercise can help prevent tension headaches. Exercise when it occurs, but do not exercise if it is severe.

• Get enough sleep, but do not oversleep.

• Eat on time, and do not eat problem foods.

• Stand tall; sit tall.

• Breathe deeply.

• Bright light can cause squinting, eyestrain, and headaches.

• Do not chew gum. The repetitive chewing can bring on a tension headache.

• Do not use much salt.

• Do not overdo. Learn to live within your limits.

• When you have to face high altitudes, take additional vitamin C, to avoid a high-altitude headache.

What are sometimes thought to be sinus headaches are actually tension headaches, migraines, or cluster headaches. When the headache is recurring, it is probably not sinus trouble.

• Keep a diary, to help you determine the cause of the headaches. Note date, time of day, where the pain is felt, and any comments about what you think might be possible causes.

• If any of the following symptoms occur with the headache, the situation may be more serious and you may want to consult a professional: fever and stiffness in the neck, sensitivity to light, loss of speech or confusion, throbbing of the head and temples, pounding heartbeat, pressure in the facial sinus area, visual color changes, or a feeling that your head may explode.

• If you think that something you just ate might bring on a terrible headache, take 5 charcoal tablets within an hour; and, as soon as you can, take an enema. (But do not take charcoal tablets daily.)

• Helpful herbs include valerian, feverfew, balm, fleabane, cowslip, lavender, and white willow.

There are many types of headaches. Here are a few of them:

• *Nervous tension headaches:* Continual pain in one area or many, with sore muscles in neck and upper back, plus lightheadedness and dizziness. Treatment of this most common of headaches includes application of ice packs on neck and upper back. Take extra vitamin C and P (bioflavonoids). Avoid sugar, caffeine, food allergens, stress. Get enough exercise.

• *Cluster headaches:* Strong, throbbing pain on one side of head, tearing of eyes, flushing of face, congestion of nose. May occur 1-3 times a day for weeks or months. Take enough protein, avoid inhalant allergens, and keep a diet diary.

• *Hangover headache:* This headache has throbbing pain, and is caused by drinking liquor. Put ice on the neck and drink lots of water and fruit juices. Stop drinking alcohol.

• *Exertion headache:* This headache is caused by physical exertion or sexual excess. Apply ice packs to the point of pain, improve the diet, and stop the excesses.

• *Caffeine headache:* It is a throbbing pain, and happens when you try to quit your coffee addiction too fast. Drink a small amount of coffee, to stop the headache and then gradually keep getting away from this addiction.

• *Sinus headache:* A nagging pain to the right and left of the nose and over it. Apply moist heat, to reduce sinus trouble and take more vitamin C.

• *Bilious headache:* The temples throb, and there is a dull headache in the forehead. It is caused by overeating, wrong eating, and inactivity. Take an enema; then change your diet and get more exercise.

• *Menstrual headache:* A headache which feels like a migraine and occurs at menstruation or during ovulation. Take potassium, magnesium, and vitamin B_6.

• *Hunger headache:* A general headache which occurs just before mealtime, and is caused by skipping meals or excessive dieting. Eat better meals, which include complex carbohydrates and protein, to help carry you to the next meal.

• *Eyestrain headache:* Pain in the frontal lobes, just behind the eyes. Many think this is caused by uncorrected vision problems, but it can also be caused by too much brain work at late hours. Change your way of life; perhaps you need a change in eyeglasses.

• *Arthritis headache:* Pain at the back of the head or neck, which increases with movement. Feverfew herb teas are recommended, but not during pregnancy.

• *Hypertension headache:* A dull pain over much of the head, increased by movement. Lower your blood pressure.

HEADACHE—2 (J.H. Kellogg, M.D., Formulas)

NOTE—The following grouping of headaches is made for practical convenience. Because each type has a different cause, it has a different treatment.

HYPEREMIC HEADACHE (caused by excess of blood in the head)—Rest, head and shoulders elevated; heat to feet and legs by means of a Footbath, Leg Bath, Leg Pack, or Revulsive Douche; cold to head and neck, accompanied by Neutral Enema at 102^0 F.; Hot Abdominal Pack, well-protected by plastic covering; Wet Sheet Pack; Neutral spray Douche, given for 24 minutes.

ANEMIC HEADACHE (caused by a lack of blood in the brain)—Hot Water Bottle to back of neck; Fomentation over painful part; rest in bed with head low; general treatment for Anemia.

HIGH PRESSURE HEADACHE (head will feel as though it has a great pressure within it)—Abstemious aseptic diet; prolonged Warm or Neutral Bath daily, with Cool Compress to head; Hot Footbath or, better, Hot Leg Bath; Revulsive Douche to legs; Heating Compress over heart.

DYSPEPTIC HEADACHE (a headache more directly traceable to indigestion)—(1) The immediate pain: Hot and Cold Compress to head; avoid sleeping soon after eating, though a very brief nap is sometimes beneficial. (2) If it keeps repeating, use an enema if constipated; dry aseptic diet, two meals a day or only fruit at night.

HEADACHE DUE TO PROLAPSE (of the intestinal or abdominal organs)—-(1) The immediate pain: Alternate Sponging to spine or Alternate Compress over spine; Hot and Cold Compress to head. (2) If it keeps repeating: Abdominal supporter, Hot Abdominal Pack at night, abdominal massage; Cold Douche to abdomen.

TOXIC HEADACHE (caused by an excess of uric acid, oxalic acid, urea, and other wastes, or as a result of decomposed products absorbed through the alimentary canal)—Sweating baths, followed by a Cold Douche, Wet Sheet Rub, or Shallow Bath. Copious water drinking; Enema or Colonic daily or three times weekly; out-of-door life; aseptic diet.

PERIODIC HEADACHE, NERVOUS HEADACHE, BILIOUS HEADACHE, MIGRAINE, OR LACK-OF-AIR HEADACHE—Dry, abstemious, aseptic diet; out-of-door life; air bath; large Enema the day before the attack is due; Tonic Frictions to build up the body; Hot Abdominal Pack; abdominal supporter, if a prolapsed condition exists.

RHEUMATOID HEADACHE (a headache related to the presence of rheumatism)—Sweating bath daily; Hot Footbath or Hot Leg Pack, Fomentation to the painful part for 10-15 minutes, followed by Heating Compress. S

NEURASTHENIC HEADACHE (caused by nervous exhaustion)—Hot and Cold Compress, Revulsive Compress, Alternate Compress to spine or Sponging to spine, Hot Footbath; Footbath under running water.

FRONTAL HEADACHE (often related to fatigue of the eyes or brain)—Revulsive Compress to forehead and eyes; Hot and Cold Trunk Pack; derivative applications to feet and legs (such as Hot Footbath or, better, Hot Leg Bath).

CONGESTIVE HEADACHE—Ice Bag to back of head, with a Cold Compress to the face; Ice Collar; Hot and Cold Compress to the head; Hot Footbath; Hot Leg Pack; Heating Compress to the legs; Cold Footbath in flowing water; Alternate Footbath.

OCCIPITAL HEADACHE (a headache centered on or near the bump at back of the head)—Hot Compress or Hot Sponging to the upper spine and, at the same time,

to the area around the occipital region. Revulsive Compress; Hot and Cold Compress to the head.

NERVOUS HEADACHE (a form of headache accompanied by a feeling of nervous tension)—Fomentation to the seat of the pain, with simultaneous Hot Footbath; daily Cold Enema to relieve constipation, if present. Special attention to the diet; a dry aseptic diet is indicated, avoiding milk.

BAND-AROUND-THE-HEAD HEADACHE (a form of an anemic headache)— Hot Sponging or Hot Compress to head; Alternate Sponging on neck and upper spine; massage to head.

VERTEX HEADACHE (a headache characterized by a pain at the top of the head)—Hot Footbath; Cold Compress to head; Ice Collar; sleep with the head elevated; heat to the feet and legs, if they are cold.

EYE HEADACHE (pain in or near eyes, made worse by light)—Gentle Fomentation over eyes and forehead; protect eyes from bright light, facial massage, and massage to eyes; consult an optometrist, for eyeglasses may be needed, temporarily or permanently.

CLAVUS HEADACHE (This headache feels like the sharp pain of a nail being driven into the head.)—Very Hot Footbath, with Fomentation over painful point for 10 minutes, repeated every 2 hours; Heating Compress at night; protect him from the cold during the day. Begin a series of carefully graduated Cool Baths, to build him up.

RENAL HEADACHE (This headache is caused by a kidney problem.)—Copious water drinking; Enema; Hot Bath; Ice Bag over lower sternum, with Hot and Cold Compress to head.

HEPATIC HEADACHE (a headache due to a weakened liver)—(1) For the immediate pain: Revulsive Compress to the head; Hot and Cold Compress to the head, with derivative applications to the legs (Hot Leg Bath, etc.); graduated Tonic Frictions. (2) If it keeps repeating: Aseptic diet; fruit diet; water drinking; Graduated Enema; Fomentation over liver twice a day for 15 minutes, with Heating Compress over it during the intervals between. Out-of-door exercise; air bath; breathing exercises; massage to abdomen.

ORGANIC HEADACHES (caused by tumors, inflammation, abscesses, trauma, general paralysis, syphilis)—Very hot and frequently repeated derivative applications to legs (Hot Footbath or, better, Hot Foot and Leg Bath); with short, often repeated Revulsive, Compress to the head, followed by Cold or Heating Compress to the head.

INFECTION HEADACHE (headache caused by infection or disease of the eye, ear, nose, or teeth)—(1) For the immediate pain: Hot Footbath or Hot Leg Bath, with Revulsive Compress over the painful parts. (2) Longer term care: The problem causing these headaches should receive proper attention.

VARYING HEADACHE (with a sense of coldness, numbness, pressure, band sensation, etc.)—(1) For the immediate pain: Massage the head and neck; Revulsive Compress to the spine, head, and face; Hot and Cold Compress to the head. (2) Longer term care: Improve tone of the nerves by Tonic Frictions.

SUPRA-ORBITAL HEADACHE (This is a headache felt as a strong pain above the eyebrow.)—(1) For the immediate pain: Hot Footbath with revulsive Compress above the eyebrow, but not covering the eye; avoid exposure to cold; rest the eyes, protecting them from the light; Hot Footbath or Hot Leg Bath. (2) Longer term care: Begin a series of carefully graduated Tonic Frictions.

TEMPORAL HEADACHE (This is a pain over the side of the head, to the right and left of the forehead.)—(1) For the immediate pain: Fomentation over side of head, face, and ear for ten minutes, followed by warm dry Compress, repeated every 2 hours. Massage to the area of the pain. (2) Longer term care: Between attacks give Tonic Frictions to so build the body that the headaches will stop repeating. A nourishing, strengthening diet that avoids all meat is needed.

MASTOID OR POST-AURICULAR HEADACHE (This is a headache felt as a pain just below the ear.)—Fomentation for 10 minutes to side of head followed by cotton poultice or well-covered Heating Compress, repeated every 2 hours. Pain in the mastoid process must be given immediate attention or major ear infection can result! If pain does not subside fairly quickly, see your doctor.

CERVICO-OCCIPITAL HEADACHE (This is a headache showing itself in a pain extending from the back of the neck, on up to the occipital bump on the back of the head.)—Revulsive Compress to the back of the head and neck. Fomentation over the painful area for 10 minutes, followed by a warm, dry Compress over it..

UTERINE HEADACHE (This is a pain or pressure at the very top of the head, caused by uterine problems.)—(1) For the immediate pain: Hot and Cold Compress to the head; massage of the head. (2) Longer term care: Revulsive Sitz Bath; abdominal supporter; Hot Abdominal Pack. Correct any ovarian or uterine disease that is present.

FEVER HEADACHE (a headache caused by a raised body temperature or fevered condition)—(1) For the head pain: Ice Cap or Cold Compress to the head; Ice Collar. (2) To lower the fever: Ice Bag to the heart; Cooling Wet Sheet Pack; Prolonged Neutral Bath. See also under the specific disease causing the fever.

MIGRAINE—1

SYMPTOMS—Generalized or one-sided head pain and possibly nausea, vomiting, and visual disturbances (light sensitivity, bright spots and patterns before the eyes). It

might last for days. The first sign is frequent flashes of light or tingling. There may be nausea, vomiting, diarrhea, and cyanosis (blueness) of the fingers from lack of circulation and oxygen. The pain is most common in the temple, but may occur anywhere on the head, face, or neck. The pain is frequently on one side, but it may change to the opposite side, alternate sides, or be on both sides.

CAUSES—These are caused by a disturbance in the blood circulation. There is alternating constriction and dilation of the blood vessels in the brain, and occurs between the ages of 10-30, more often in women (70%) than men. Food allergies are frequently the cause. Search them out. Here are six of the most common causes: food allergy, low blood sugar, tension, depression, water retention, and menstruation. There often are no migraines during the second and third trimester of pregnancy, or after menopause is past.

Migraines can disappear for years and then reappear. They usually decrease after middle age.

Over 50% of those with migraines report that one or both parents also had the problem.

TREATMENT—

• Resting in a darkened room with an ice cap to the head is helpful. There may first be an increase of pain, but within three minutes, the symptoms may disappear, except for a mild headache.

• As soon as one begins, if possible, take an enema. This will help stop the attack.

• When an attack begins, try wrapping something tight about the head.

• When it is a throbbing pain, place light pressure on the arteries of the neck for a few seconds at a time.

• Vigorous daily out-of-door exercise helps decrease attacks.

• Maintain a regular schedule. Too much sleep, too little sleep, missed meals, etc., may trigger an attack. Do not sleep in late. Some people must avoid naps during the day.

• It is thought that 25% of migraines trace their cause to food allergies Various studies have identified the following causes: cola drinks, chocolate, pork, corn, onion, garlic, eggs, tea, citrus, wheat, coffee, cane sugar, yeast, beef, alcohol, cheese, fried foods, seafood, mushrooms, and peas.

• Eliminate any suspected food from your diet for five days, and see if that helped solve the problem.

• Chills can induce migraines. Tiredness, anxiety, or eating late also can. Other causes include antibiotics, high-salt diet, odors and inhalants, tobacco smoke, caffeine,

refined carbohydrates, fatty fried foods, emotional stress and resentment, and allergy shots.

• Exposure to sunlight triggers migraines in some people. They cannot take the bright light in their eyes. Staying in the shade on bright days does not cause this problem.

• The amino acid, tyrosine, produces a breakdown product, called tyramine. Tyramine is a significant cause of migraine headaches. It does this by releasing norepinephrine from brain tissue, which causes constriction of scalp and brain blood vessels.

• Any substance which has undergone bacterial decomposition (such as cheese) has high levels of tyramine. Other foods with it include plums, oranges, bananas, raspberries, and avocados.

MIGRAINE—2 (J.H. Kellogg, M.D., Formulas)

PREVENT FORMATION OF URIC ACID—Avoid use of meats, also tea and coffee, etc.; aseptic dietary; out-of-door life.

ELIMINATE URIC ACID—Hot Baths, especially moderately prolonged sweating baths, followed by short Cold Baths; Radiant Heat Bath; Wet Sheet Pack; Steam Bath; prolonged Neutral Bath; water drinking.

LOWER ARTERIAL TENSION—Hot Full Bath at 102^0 F., 5-10 minutes; Hot Leg Bath or Hot Leg Pack; Hot Enema; rest in bed in a darkened room.

PAIN—Hot Footbath; Alternate Compress to spine or sponging of spine; Revulsive Compress to seat of pain; local application of Ice Bag in some cases; Hot Leg Pack; protect the eyes from light.

NAUSEA AND VOMITING—Ice pills, ice to stomach and the spine opposite the stomach.

CONSTIPATION—Colonic.

TO PREVENT ATTACK—Fruit diet; large colonic; water drinking.

TO RELIEVE HYPERESTHESIA OF LOWER BACK NERVES—Fomentation over abdomen, twice daily; continuous Heating Compress during the interval between; abdominal supporter.

GENERAL METHOD—Every case is curable by sufficiently prolonged treatment, carefully managed. The general nervous system must be built up by measures essentially the same as those indicated for neurasthenia and other conditions requiring

tonic treatment. The causes must be removed, especially autointoxication and morbid reflex influences arising from dilation of the stomach, enteroptosis, and indigestion.

NECK PAIN

SYMPTOMS—A pain in the neck.

CAUSES—Working in a hunched-over position for long hours is a frequent cause. Working so that you must lean your head forward, to better see what you are doing. But an injury may also have occurred.

TREATMENT—

• Place an ice pack on the back of the neck or apply ice, wrapped in a towel.

• Then place heat on the painful area. This can be a heating pad or a hot shower.

Here are several longer-range solutions:

• Do neck exercises each day, to stretch your neck muscles and strengthen them.

• To stretch those muscles, slowly tilt your head forward and back and turn from side to side.

• To strengthen them, put your hand on the side of your head and push. Then do the other side, and then the back and front. Hold light weights (3-5 pounds) in your hands, keeping your arms straight while shrugging your shoulders.

• Sit in chairs which give you good back support.

• Sit up, not forward. Keep your head level and pull in your chin. Arrange your work so you can look forward, and not downward, most of the time.

• Stop every so often and take a break.

• Always lift heavy things carefully with the legs and not the back.

• Sleep on a firm mattress.

• Do not sleep on your stomach, but, better, on your side or on your back.

• Keep your neck warm when you are outside in the cold.

• You may do better with a smaller pillow or no pillow at all.

NEURALGIA—1 (Neuropathy)

SYMPTOMS—Pain which comes on suddenly, followed by intervals of freedom from pain. The pains are severe and seem to shoot along the course of the affected nerves. The nerve trunks become tender to pressure. In severe cases, there is twitching of the muscles of the affected part, with burning and tingling sensations in the skin. The attacks are rarely on both sides of the body at the same time. They generally continue from a few minutes to a few days, and may occur frequently for months. As time passes, the attacks tend to become more severe.

CAUSES—Neuralgia is nerve pain; neuritis is nerve inflammation.

Neuralgia is an irritation of a nerve which can be caused by many factors, including trauma, nutritional deficiencies, herpes, shingles, diabetes, multiple sclerosis, or alcoholism.

Chilling an area of the skin is a frequent underlying cause, as well as nutritional deficiencies including the B complex (especially B_1, B_6, folic acid, pantothenic acid, and B_{12}).

Other causes include decayed teeth, wrong diet, constipation, tension, insomnia, fatigue, exposure, lack of exercise, sinus infections, and eye strain.

A frequent cause of the problem in the various forms of neuralgia is chilling of part of the body over a period of time, when the rest of the body is relatively warm. This is most likely to occur in the winter months, when you are in bed sleeping. A current of cold air is passing across your face, and the rest of your body is tucked under the covers.

The cause can also occur as a result of regular commute driving. A window is kept open slightly to provide fresh air but a slight chilling breeze blows on the face for perhaps a total of an hour each day.

The formula for trouble is (1) chilling draft to part of the body while the rest is warm (2) over a period of several hours, (3) day after day.

Now that you are aware of the cause, watch closely the situations you place your body in each day—and you will probably find the cause.

TREATMENT—

• Give a high catnip herb enema. It should as warm as can be taken.

• Put alternate hot and cold applications over the painful area. The cold should be very short! This can be done for several hours at a time.

• Fomentations wrung out of mullein and lobelia, or chamomile, tea are also good.

• Place the hand and arm (which are on the opposite side of the body where the head and neck pain is) in very hot water for 20 minutes.

• Give close attention to the conditions you place your body under each day. You will learn some interesting facts.

• Make sure the diet includes lecithin and enough calcium and magnesium.

• Get sunshine, fresh air, and exercise.

• Helpful herbs include mullein, sage, hop, plantain, valerian root, skullcap, nettle, lobelia, black cohosh, poplar bark, and mint.

NEURALGIA—2 (J.H. Kellogg, M.D., Formulas)

COMBAT TOXEMIA WHEN PRESENT—Sweating bath followed by appropriate general Cold Bath, 3 times a week. The Radiant Heat Bath, Steam Bath, and sweating Wet Sheet Pack are especially helpful. Copious water drinking; aseptic dietary; dry friction of skin or oil rubbing daily after short sweating bath, followed by tonic cold application.

COMBAT ANEMIA AND GENERAL WEAKNESS—Graduated cold applications. Avoid the increasing pain of preceding or accompanying the Cold Bath by a hot application to the affected part; cover or avoid the part during the cold application.

PAIN—Fomentation or Revulsive Compress to the seat of pain. Revulsive Douche or Alternate Douche; Ice Bag is sometimes more effective than heat. This is often the case when the parts are congested as shown by redness of the skin or throbbing sensation and also when the nerves are extremely superficial.

REFLEX NEURALGIAS—Fomentation to abdomen twice daily; Hot Abdominal pack during intervals between; abdominal supporter. After baths, avoid chilling and general prolonged cold applications, such as Full Baths, Shallow Baths, and Wet Sheet Packs.

NEURALGIA OF THE HEAD—Employ derivative measure, as Hot Sitz Bath; Hot Leg Bath; Hot Pack to legs; Hot Footbath; Cold Footbath under running water; Heating Wet Sheet Pack; Fan Douche to head; Hot and Cold Compress to head; heat over primary area of pain. Fomentation to the abdomen twice daily, followed by Heating Compress; very hot application to forearm of opposite side.

SPINAL NEURALGIA AND LUMBAGO—Fomentation to spine 2-3 times a day; during interval between, apply Heating Compress; Hot and Cold Pack to spine; Alternate Compress; Revulsive Douche; Hot Trunk Pack; Hot Half Blanket Pack; Fomentation to spine with Hot Leg Bath; rest.

GENERAL NEURALGIC PAIN—Hot Full Bath 4-5 minutes followed by Prolonged Neutral Bath at 95^0 F; Hot Blanket Pack; Radiant Heat Bath; Steam Bath or Sweating Wet Sheet Pack, followed by Dry Pack.

NEURALGIA DUE TO CHRONIC NEURITIS—Alternate Compress and/or Alternate Douche. In sciatica, Revulsive Douche, if persistent; nerve stretching.

NEURALGIC AFFECTIONS OF OVARIES, UTERUS, RECTUM, BLADDER, AND COCCYX—Revulsive Sitz Bath; Hot Pack to pelvis, followed by Cold Mitten Friction; Hot Enema; Hot and Cold Pelvic Pack; hot vaginal irrigation; revulsive Compresses over affected parts.

GASTRALGIA—Very hot Fomentation over stomach and abdomen; Hot Trunk Pack; Revulsive Compress for 10-30 minutes over stomach, repeated every 2 hours or as often as needed; Hot Leg Pack; hot water drinking; Hot Enema. Withhold food until pain is relieved. Aseptic diet; if necessary, liquid diet for a few days.

ENTERALGIA—Abdominal Fomentation for 15 minutes every hour; Hot Enema; Heating Compress applied at 60^0 F. during interval between; graduated Tonic Frictions.

ERYTHRO-MELALGIA (RED NEURALGIA)—Rest; elevation of the affected part. Cold Compress changed every 20-30 minutes. Graduated Tonic Frictions.

HERPES ZOSTER—During eruption, Dry cotton Pack; after Revulsive Compress several times daily; Heating Compress during the interval between.

CONTRAINDICATIONS—Cold applications increase pain unless very carefully graduated, but are usually necessary for permanent results.

BELL'S PALSY (Facial Palsy)

SYMPTOMS—Pain in the temples and/or neck. Only one side is generally affected. There is pain, weakness, and a sensation of pricking, tingling, or creeping on the skin. One side of the face can droop.

CAUSES—Bell's palsy is a type of paralysis characterized by distortion of the face, due to a lesion of the facial nerve.

It may be caused by injury, irritation of a sensory nerve, or nerve root. A decayed tooth may be the cause. Chilling of the face at night while one is sleeping can also produce it; the blood has been chilled back from the area. Sometimes Bell's palsy follows a respiratory infection.

Bell's palsy is often mistaken for a stroke, because it comes on suddenly and results in numbness and partial, or total, loss of muscular control on the affected side. But it is not a stroke.

Treated properly, there can be as much as 80% chance of significant recovery—all those with partial palsy and three fourths of those with complete palsy recover with no treatment of any kind. Because most of those with this problem recover spontaneously, they should not be given drugs or surgery.

But severe taste impairment and/or reduced tearing of the eyes are bad signs, especially in older people.

Bell's palsy can occur in anyone at any age, but most frequently occurs between 20 and 40, often in the summer months (especially August). The younger the person is the more likely he will have a full recovery.

TREATMENT—

• Take B_{12} (1000 mcg day) for a total of 20,000 mcg; also calcium (2,000 mg day), magnesium (800 mg day), and essential fatty acids.

• Make sure, when you go to bed at night, that you do not sleep so that a decided current of cold air is blowing across your uncovered face while the rest of your body is covered under the blankets. When this happens, the chilled part does not receive adequate rest. A nerve in the face or neck can become chilled and cause problems.

• Apply warm, wet washcloths twice a day, for 20 minutes at a time, to relieve pain and tenseness. Follow with gentle massage both backward and upward.

• Apply pure water to the affected eye 4 times a day, to keep it moist and free from dust. Wearing sunglasses will reduce evaporation from that eye. Occasionally close that eye with the finger, to rest it. Wear an eye patch at night to protect it.

• A few days later, as the muscles begin functioning again, he should exercise his facial muscles: Standing before a mirror, wrinkle the forehead, close the affected eye, purse the lips, move the mouth to one side and then the other, blow out the cheeks, and try to whistle.

• Until the problem clears up, place charcoal poultices over the weakened nerve area at night, and maintain a low-salt diet. This will help eliminate fluid released by the nerve.

• Prednisone is a drug often given, but it has negative side effects.

TIC DOULOUREUX (Trigeminal Neuralgia)

SYMPTOMS—There is sudden darting pain which is severe, accompanied by spasms of the muscles of the face and tingling and burning of the skin. A slight redness and swelling of the affected side will be seen, along with an increased flow of saliva and tears.

The affected nerves and skin become very tender; and movements of the face, speaking, and chewing may provoke violent pain.

CAUSES—Tic douloureux is a common form of neuralgia. It generally occurs in winter.

There are three divisions of the sensory nerve of the face most likely to be affected. The first is in the eyeball and over the forehead; the second is in the side of the face, the cheekbone, and the upper teeth; the third is inside the mouth and in the lower teeth.

The cause of the problem is chilling of the face over a period of time, when the rest of the body is relatively warm. The formula for trouble is (1) chilling draft to part of the body while the rest is warm (2) over a period of several hours, (3) day after day.

TREATMENT—

• Keep the affected area warm. Apply hot, wet fomentations to it. Bed rest is helpful, depending on the severity of the problem.

• A cleansing fruit juice fast for several days would enable the body to work more effectively in solving the problem. But keep in mind that a nerve was damaged by chilling over a lengthy period of time, so healing may not always come immediately.

• Apply warm fomentations (or warm whole baths) several times a day.

• On an ongoing basis, make sure that parts of your body are not exposed to chilling drafts.

• The medical route is to operate on the face and destroy a nerve. This eliminates the pain, and also permanently numbs part of the face. Some operations result in paralyzing part of the face; you cannot know, in advance, what the operation will do to you.

SCIATICA

SYMPTOMS—Pain is noted down the back of the thigh, the outer side of the calf and along the outer side of the foot, or on the top of the foot to the big toe. The person compensates by placing more weight on the other leg and foot. The pain is often worse at night and coughing, walking, heavy labor, or sneezing increases both the pain in the back and in the sciatic nerve.

Still later, numbness may be felt when the hand is rubbed over the area where the pain is felt.

Later still, a wasting of the muscles of the calf and a weakness in running and even walking may be noticed.

CAUSES—The sciatic nerve is the largest nerve in the body. This nerve comes out of the spine and a branch runs down each leg, along the back of the thigh, down the inside of the leg, to the ankle.

There are two primary causes of sciatica:

The first is chilling the thigh over a lengthy period of time. The experts tell us that sciatica usually begins as a neuralgia of the sciatic nerve. If you sit on cold surfaces a lot (steel folding chairs in cool rooms, or steel tree chairs while hunting, or steel boat seats while fishing, etc.) for lengthy periods of time, you can irritate the sciatic nerve and produce sciatica.

Fortunately, this form of sciatica is quite easy to solve: Apply neuralgia-type treatments, and only sit on warm surfaces or surfaces your body can heat relatively easily. Do not overlook chairs with foam that are too deep to easily warm up within a short time (say, 8 inches).

On your favorite chairs, place a folded, wool blanket or a piled thinner blanket. That is something you can warm up. Experiment, and see what works best for you. If your body does not begin warming it up in a few minutes, lay something down that will.

Unfortunately, there is a second, and much more serious, cause:

The second cause of sciatica is damage to the lower spine. There may be a history of an accident, a fall, the lifting of a heavy weight, or a twist under some tension. Pain was first felt in the lower back. Later (weeks or even years later) pain begins to be felt at one or more places along the entire course of the sciatic nerve—back of the thigh, outer side of the calf, or in the top of the foot to the big toe.

One of the cartilaginous plates (disks, also spelled discs) in the lumbar region of the lower back has been damaged. The cartilage bulges and later breaks, creating pressure backward against a nerve root. (It is also possible for a tumor to develop and press against the sciatic nerve, but this is far less likely.)

Other important facts are these: (1) The person probably was not maintaining a nourishing diet, with supplemental calcium, and other bone-building factors. (2) He may have been overworking his body in running, weight-lifting, etc. (3) He was not

lifting objects properly. (4) He was working at an occupation, such as lifting heavy patients in a nursing home, which is hazardous.

In older people who do not obtain enough bone-building materials in their diet, degenerative problems can occur in newly formed spicules, or ridges, of bone. These may press on a nerve root.

Some people derange their lower back by the simple method of always carrying a thick wallet in one pants back pocket.

TREATMENT—

• Search out the cause and try to correct it.

• Rest the painful limb in as comfortable a position as possible.

• Apply hot, wet applications to the affected leg, for the relief of pain and inflammation.

• Give prolonged applications of dry heat in any form (hot water bottles, radiant heat, or electric heating pads).

• Apply heat in the form of hot fomentations, 3 times a day, omitting any use of ice or cold water.

• After each application of heat, rub the limb to increase circulation.

• *Carefully* apply stretching exercises, *but always stop before there is pain it becomes too uncomfortable.* Do each exercise 3 times, 2-3 times a day, increasing the number as improvement occurs:

• Pull the knees up as close to the chin as possible. You will feel a pulling sensation in the lower back.

• Sitting in a chair, reach under it as far as possible, and bend from the hip only.

• While laying on the back, the leg is raised with the knee straight. Someone else raises the leg, bending it from the hip only. This stretches the sciatic nerve and the hamstring muscles.

• If the attack of pain lasts so long that the leg muscles have lost considerable strength, massage and a daily hot and cold leg bath (cold after the painful period is over) will help to restore circulation and strength.

• There are times when a back adjustment helps. If the back is out of adjustment, this pain can occur. You will want to weigh this possibility carefully.

• Fast one day a week, and eat only raw food for a month.

• Have a good foot massage every 3 days and especially around the Achilles tendons, up the back of the ankles.

• Add 2 cups of salt to a boiling quart of water. When quite warm, apply with a cloth to the area until relief comes.

• Get fresh air, sunlight, and, if possible, moderate exercise.

Also apply the preventative measures, below.

• If no improvement results from home treatments, you may wish to consult a specialist. He is likely to tell you that an operation is necessary. Should you have an operation on your spine?

Preventative measures: If you identify the problem early on, there may be greater likelihood of containing or eliminating it.

• Taking vitamin B complex is very important for healthy nerves. Taking supplemental calcium, magnesium, silica, and vitamin D for the bones is also important.

• Be careful of your back when you work!

BRACHIAL NEURALGIA (Thoracic Outlet Syndrome)

SYMPTOMS—One to three hours after falling asleep, there is a sense of pins, needles, numbness, and pain in one or both hands. The discomfort generally wakes the person. There may be wasting in the small muscles in the hands, as well as coldness or swelling. It generally occurs among adults, not children.

The symptoms can eventually include the lower arm, upper arm, and even the shoulder, and are generally worse after a day of heavy lifting.

During the day few symptoms are present, unless heavy lifting occurs.

CAUSES—This is to the shoulder, what sciatica is to the leg. A nerve, leading to the shoulder, is pinched in the spine.

But it can also be caused by overworking of the arms, carrying excessively heavy weights, poor posture, and letting the arms and hands get cold at night. More rarely, there may be an abnormality in the seventh cervical rib.

The lower branch of the brachial plexus of nerves exits from the lower cervical vertebrae, then passes underneath the clavicle and on into the arm. If this somehow experiences compression, the nerves to the arm and hand will be affected.

It is best to solve this problem, since it is likely otherwise to gradually keep getting worse.

A similar affliction is called the *cervical rib syndrome.* But it occurs more often in younger people, and produces pain or numbness soon after heavy lifting, wearing a heavy coat, etc. The symptoms occur in the day, not at night.

TREATMENT—

• Back adjustments by a competent chiropractor may be the solution.

• Keep the hands and arms warm at night, especially if there is a cool draft on the body.

• Improve the diet. A good, nourishing diet which will build the nerves and bones is important. Raw green vegetables are needed, along with daily vitamin/mineral supplements. A diet similar to that used in treating arthritis is helpful.

• Maintain an ongoing exercise program, to strengthen the muscles of the shoulders and arms and improve the posture: arm lifts, neck exercises, shoulder shrugs, horizontal upper trunk push-ups, etc. Also helpful: swimming, ball throwing, and similar activities.

• Avoid heavy lifting. When you have to lift, shrug first, and remain in a semi-shrugged position while you lift. This will ward off nerve compression.

NEURITIS—1

SYMPTOMS—There may be pain, tenderness, tingling, and loss of the sensation of touch in the affected nerve area along with redness and swelling. Pain is not always a prominent symptom of true neuritis, but the numbness, burning, tingling, crawling, with possible pain, tends to occur by spells. Weakness, and even paralysis and loss of sensation, are common. In serious cases, convulsions may occur. The affected muscles may shrink in size.

CAUSES—The symptoms can vary with the cause, which can include an injury to a nerve, infection involving a nerve, or a disease (gout, diabetes, leukemia, etc.) Poisons breathed or swallowed (mercury, methyl alcohol, or lead) can cause nerve trouble. A lack of the vitamin B complex, especially thiamine in the diet. A degenerative illness can produce neuritis as a side effect.

Men between the ages of 30 and 50 are the most likely to experience neuritis.

Footdrop, due to sitting with knees crossed, occurs when ankle or foot muscles weaken, causing the toes to drag as one walks. Wrist-drop is caused by pressure in the

armpit from a crutch or other support. Optic neuritis occurs when inflammation affects the optic nerve in the eye. This can produce gradual, or sudden, blurring and loss of vision. Blindness can occur in severe cases. But it is usually temporary if prompt treatment is given.

TREATMENT—

• A well-balanced diet, including a full spectrum of vitamins and minerals is vital. The entire B complex is very important. If the problem is not too far advanced, administration of enough B complex and thiamine can bring great improvement within 3-4 days.

• If poisoning is a factor, the source of contamination must be avoided and eliminated. Obtain an abundance of fresh air.

• Treatment for neuritis includes rest; good diet; and, after the pain subsides, massage and careful exercise. Identify the cause and solve it.

• A fruit and vegetable juice fast for a day or two may help eliminate toxins, and thus strengthen the body to more rapidly heal the affected nerves.

NEURITIS—2 (J.H. Kellogg, M.D., Formulas)

IMMEDIATE—Rest of the affected parts until the acute stage is over.

COMBAT TOXEMIA—Sweating bath 2-3 times a week, preferably the Radiant Heat Bath; follow sweating bath by a suitable cold application.

COMBAT INFLAMMATION—Local Revulsive Compress for 15 minutes every 2-4 hours, followed by Heating Compress during intervals between; suitable derivative applications.

PAIN—Revulsive Douche; Steam Bath followed by graduated Fan Douche, gradually lowering from 100^0 to 80^0 F; protect by Dry cotton Pack or Heating Compress covered with plastic.

PARALYSIS—Alternate Compress; Alternate Douche; percussion Douche to spine and affected parts.

MULTIPLE NEURITIS (J.H. Kellogg, M.D., Formulas)

BASIC—Rest in bed while the disease is rapidly progressing.

COMBAT TOXEMIA—Prolonged Neutral Bath 1-2 hours, daily. Aseptic dietary; avoidance of tea and coffee, tobacco and alcoholic liquors, and all excesses. Sweating, especially by Radiant Heat Bath, 10-20 minutes, followed by Cold Mitten Friction.

COMBAT LOCAL INFLAMMATIONS—Revulsive Compresses, then Heating Compress or packing in dry cotton (Dry Pack); Fomentations to spine, followed by Heating Compress. When affecting the lower extremities, Hot Footbath or Hot Leg Bath; Hot Leg Pack; complete rest of the affected part.

IMPROVE THE GENERAL NUTRITION—by Graduated Cold Baths; massage; out-of-door air with careful protection; sunbaths; aseptic diet.

ATROPHY—Alternate Douche, massage.

CONTRAINDICATIONS—During acute stage, carefully avoid cold applications unless very short and preceded by heat; avoid percussion applications so long as tenderness exists, that is, all forms of the Douche. Avoid especially Cold Full Baths and very prolonged Hot Baths.

 # NERVES, STRENGTHENING

BUILDING UP THE NERVES—Good blood, healthy nerves, and strong bones and joints are needed for good health. Here are several suggestions, to help you strengthen your nerves. This is a building program:

The vitamin B complex (100 mg per day; best taken as 50 mg twice a day) is especially important in maintaining good nerve action and response. Deficiencies of the B complex are common among people eating modern, devitalized, processed, and assorted junk foods. Take a good vitamin/mineral supplement at least twice a day. It should include all the B vitamins.

Vitamin B_1, also called thiamine (100 mg, twice a day) is especially needed for neuritis.

Vitamin B_3 (niacin, 50 mg twice a day). Do not take more than 100 mg of niacin a day. Niacinamide is equivalent to niacin, and does not produce the flushed face which niacin does.

Vitamin B_{12} (2,000 mcg, twice a day).

Vitamin B_6 (250-500 mg, 1-2 times a day), especially for carpal tunnel syndrome.

Folic acid (400-800 mcg, daily).

Inositol (1000 mg, 1-2 times a day), especially for diabetic neuropathy.

In addition to the above B vitamins, also take Vitamin C with bioflavonoids (3,000-6,000 mg daily, when you have a nerve crisis).

Vitamin E (400 IU, 2-3 times a day), especially with post-herpes syndrome.

Vitamin A (5,000 IU, a day), but not over 10,000 IU a day if you are pregnant. It is best to take vitamin A supplementation in the form of beta-carotene.

Minerals include calcium (400 mg, 2-3 times daily), magnesium (200 mg, 2-3 times a day), zinc (50-80 mg daily, not to exceed 100 mg daily from all supplements), and iodine.

Essential fatty acids, obtained from 1-2 tbsp. of cold pressed oils daily. Never put it into your cooking; instead, put it on your food after the plate is served.

Fresh and steamed vegetables are rich in minerals which are needed for the nervous system and brain.

Brewer's yeast, kelp or dulse, lecithin, and wheat germ oil are very helpful. Eat regularly, chew slowly, and do not overeat.

Octocosanol is found in wheat germ oil. It helps the neuron membranes.

Increase your fluid intake.

Obtain enough rest at night and avoid sexual enervation. Medical professionals know that such enervation is one of the quickest ways to produce weakened, degenerate, and diseased nerve tissue.

A good balance between exercise and rest has a powerful effect in building the body, if a nutritious diet is maintained.

Avoid stimulants and all processed, refined, and junk foods.

Cool and cold water treatments will help tone and strengthen the nerves.

The nervine herbs include skullcap, hop, chamomile, valerian, dong quai, wood betony, passion flower, lady's slipper, mistletoe, and small amounts of lobelia.

Reviewing some of the nutrients needed, as they apply to the brain, we learn this:

There is a direct relation between the transverse colon and the brain. When the colon is clogged, mental illness is triggered in some and an attack of epilepsy in others.

Eliminate the "glue foods"; these tend to clog the colon, produce a buildup of mucous and toxins in it, and lead to mental problems. Such foods include White flour, sugar, eggs, meat, peanuts, and dairy products.

A high carbohydrate (whole grain) diet stimulates the amount of tryptophane in the brain, and produces a calming, peaceful feeling.

Brain cells cannot function properly without proper nutrients.

Deficiencies of the B complex and vitamin C decrease the metabolic rate of the brain. Lack of niacin can produce deep depression, often seen in psychosis. Symptoms of a severe vitamin B_6 deficiency are headache, irritability, dizziness, extreme nervousness, and inability to concentrate. Pantothenic acid (another B vitamin) is needed to handle stressful situations. A thiamine deficiency results in a lack of energy, constant fatigue, loss of appetite, and irritability; if this continues too long, there are emotional upsets and overreaction to normal stress. Lack of vitamin C leads to irritability.

Adequate calcium in the diet is vital. Inadequate calcium results in insomnia, tenseness, and fatigue.

Calcium and magnesium protect the nerves from damage.

Too much copper in the body occurs in schizophrenia, and can be reduced by dietary intake of zinc and manganese. Vitamin C deficiency can cause copper retention which accumulates in the brain and liver.

Vitamin B complex (especially B_3, B_6, $B_{12,}$ and folic acid) reduces excess estrogen from the liver and prevents it from causing mental troubles.

Many of the schizophrenias, autism, abnormal behavior, and subsequent learning disorders are caused by too much lead or copper in the body. Check your plumbing pipes. Plastic water pipes are the safest.

A person with a magnesium deficiency tends to be uncooperative, withdraw, apathetic, or belligerent.

It is vital to obtain enough oxygen, if you want a clear mind which functions properly. Vitamin E helps the brain obtain enough oxygen from the amount supplied to the lungs.

A lack of thyroxine, the hormone from the thyroid, results in a slowing of physical and mental functions. Hyperthyroidism is related to emotional disturbance, forgetfulness, slow thought processes, and irritability.

When the adrenals do not function properly, depression and other forms of mental illness may result.

Exercise, especially out-of-doors in the fresh air, combined with relaxation helps rejuvenate the body and mind.

Ginkgo biloba improves brain function and cerebral circulation, and enhances memory.

SEASONAL AFFECTIVE SYNDROME

SYMPTOMS—Withdrawal, social isolation, depression, cravings, weight gain, loss of energy, oversleep, decreased sexual desire.

CAUSES—This condition, also called the "winter blues", is caused by several factors:

The winter months bring dark and dreary overcast days, and this emotionally bothers some people more than others.

The winter months have shorter hours of daylight and more overcast skies during the daytime, resulting in less light entering the eyes. This light deficiency sends signals to the pineal, pituitary, and hypothalamus glands; and they do not function as fully as usual.

There is often more stress and greater nutritional deficiencies in the winter. Less fresh fruit and vegetables may be available.

All this combines, in some, to produce seasonal affective syndrome. In our waking hours, we need sunlight every so often. We have a friend who, moving to Labrador, on the eastern Canadian coast, could not tolerate the incessant dreary fog, and moved away within a year.

TREATMENT—

• In most cases, an improvement in diet will greatly help. Foods rich in the B complex are needed, along with fresh fruit and vegetables. The nervous system needs to be built up with better food.

• Negative attitudes are also powerful. Train your mind to be thankful for the blessings you have.

• If possible, obtain a full-spectrum light for your dining room and work area.

TENNIS ELBOW

SYMPTOMS—Tenderness and pain in the elbow, weakness in the hand.

CAUSES—Tennis elbow is an occupational and recreational problem. Those who do a lot of hand-gripping can have this disorder. This would include golfers, carpenters, factory workers, housewives, and even politicians who shake hands a lot.

The weakness occurs when gripping an object, and is not a true muscle weakness. The tendons are involved.

TREATMENT—

• For 3-4 days, do not do the types of activities which cause the pain.

• Apply cold or hot to the affected area, according to which helps you best: Apply ice on the affected area for 30-90 minutes each day; the more the pain, the longer the application. Or apply heat, especially after the first few day.

• Careful exercise is also needed, to eliminate tennis elbow; rest is not enough. The tendons need to be strengthened. Purchase a hand gripper at a sporting goods store, and slowly increase your usage of it until you are using it 5-10 minutes, 4 times a day. When you use it, the elbow should be straight and the wrist bent. This will stretch the extensor tendons and help strengthen the fibrous tendons.

• Other exercises are also helpful. Place your forearm on a table, palm down, and grip a 3-pound dumbbell. Flex the wrist upward slightly; hold for 5 seconds, lower and rest for 3 seconds. When you can easily do this 15 times, increase the weight by 1 pound. Over a period of 4-6 weeks of doing this every day, you may be able to move up to 8-10 pounds lifted without pain. *Medical Tribune* (January 12, 1977) reported that 14 of 18 patients, on a four-week program with this exercise, obtained complete pain relief.

• Athletes sometimes place a band several inches wide around the forearm near the elbow, and another just above the wrist. Be sure they are not too tight.

• Avoid cortisone injections, for these can produce tendon atrophy or even dissolve it!

CARPAL TUNNEL SYNDROME

SYMPTOMS—Mild numbness and faint tingling to excruciating pain, but generally only burning, tingling, or numbness in the thumb and first three fingers. Crippling atrophy of the thumb can result.

Symptoms are often worse at night or in the morning. The pain may eventually spread to the arm and shoulder. Symptoms normally affect only one hand, but may be present in both.

CAUSES—Carpal tunnel syndrome (CTS) is a cumulative trauma disorder that develops over time, due to repeated stressful movements of the hands and wrist. It affects 23,000 workers a year. The median nerve in the wrist is compressed or damaged. This nerve controls the thumb muscles and sensation in the thumb, palm, and first three fingers. The median nerve passes through a very small opening, about a quarter inch below the top of the wrist.

Either compression or injury to this nerve can cause problems: Pressure from the bone spurs inflammatory arthritis or tendonitis, swelling due to pregnancy or water retention.

Other causes include repeated stressful motions, such as writing, typing, or hammering. Bookkeepers and checkout clerks can develop it; so can hairstylists, musicians, writers, drivers, athletes, restaurant servers, and jack hammer and chain-saw operators. The occurrence of CTS has greatly increased since the 1980s, when personal computers came into use. The tendons swell and compress the median nerve that runs to your hand, causing great pain. A common pattern is rapid and continuous use of the fingers, producing a repetitive wrist motion injury. Women between 29 and 62 experience CTS more often than anyone else.

Raynaud's disease, pregnancy, hypothyroidism, diabetes, and menopause increase the risk of developing CTS.

Other disorders, especially arthritis in the neck, have similar symptoms. But, if the first three fingers in one or both hands are affected by the pain, then it is probably CTS.

TREATMENT—

• As soon as the tingling begins, begin doing some gentle hand exercises. Rotate the wrist in a circle for 2 minutes. This exercises all the muscles of the wrist, restores circulation, and gets your wrist out of the position that usually causes the trouble.

• Raise your hands above your head and rotate your arms while rotating your wrists at the same time. Also do some neck turns; look over your right, then left, shoulder. Learn to exercise and relax as you work.

• Vitamin B_6 helps eliminate the problem.

• Eat half a fresh pineapple daily, for 1-3 weeks. The bromelain in it will reduce swelling and pain.

• Eat only moderate amounts of oxalic acid foods (beets, beet greens, sorrel, Swiss chard, cabbage family, eggs, parsley, asparagus.). Avoid spinach, and especially rhubarb. Fish have oxalic acid also.

• Avoid salt and all sodium foods, for they promote water retention.

• Try to reduce the impact of repetitive mechanical tasks on your wrists and hands. If possible, stop all such movements for several days and see if improvement occurs. If so, try to do these functions less frequently. If possible, rotate your duties, so you do not do those repetitive tasks every day.

• Keep your weight down. Extra weight puts more pressure on the carpal tunnel.

• Keep your arms close to your body and your wrists straight while sleeping. For example, if you let your hand drop over the side of the bed while you are sleeping, the pressure on the median nerve is increased.

• You might wish to temporarily wear a wrist splint at night. This helps keep the wrist straight.

• Do not wrap your wrist in an Ace bandage. This could cut off the circulation.

• If you have to carry something, make the sure the handle is the right size. If it is too small or large, it could hurt your wrist.

• Aloe vera, yarrow, and yucca help restore flexibility and reduce inflammation. Skullcap relieves muscle spasms and pain. Wintergreen oil reduces pain and aids circulation to the muscles.

PREVENTION—Carpal tunnel syndrome is a problem which many can develop in our time. Here are several suggestions for avoiding its occurrence:

• Use a tool instead of flexing your wrists forcibly.

• Use your whole hand and all your fingers when you grip an object.

• In doing a task, use your whole arm, not just your wrist. For example, when hammering, swing your arm rather than just your wrist.

• Maintain good posture and keep your elbows bent when typing, writing, etc. What is the ideal position? Cock your wrist back slightly, so that your thumb is parallel to your forearm. Your hand should be in approximately the same position as if it were holding a pen. This position keeps the carpal tunnel as open as possible. Place a wrist pad on the table, just in front of the keyboard.

• Before starting handwork, exercise the fingers and wrists for a couple minutes, to warm them up. Take a break from handwork every hour. Shake out your hands every so often throughout the day.

Convulsions

CONVULSIONS **(Spasms, Seizures, Fits)**

SYMPTOMS—Paroxysms of involuntary muscular contractions and relaxations, which occur most frequently in children.

CAUSES—Convulsions are uncontrolled body movements set off by an electrical malfunction of the brain.

Convulsions can be caused by epilepsy, meningitis, tetanus, uremia, hysteria, or eclampsia. They can also be induced by poisoning from camphor, cyanide, strychnine, santonin, brucine, or aspidium.

In children the cause is often wrong diet, rickets, syphilis, malaria, toxemias, or acute infectious diseases.

In adults, the cause is often epilepsy, heat cramps, strychnine, or food poisoning.

Convulsions, due to tetanus and hydrophobia, are easily distinguished and, for the most part, involve a small portion of the voluntary muscles. Strychnine poisoning causes spasms which involve the whole body.

High fevers of 104^{o}-105^{o} F. are often a cause of convulsions in children.

TREATMENT—

• Loosen the clothing and give plenty of fresh air. If the cause is undetermined, keep him from injuring himself. Place a soft pad between his teeth, to avoid biting his tongue or cheeks.

• If an infant, put him in a bath of 95^{o} F. or in mustard and water bath at 85^{o} F. Cold should be applied to the head. The cause must first be found, or injury may result from the bath. If fever is present, it should be a tepid or cool bath.

• Produce vomiting by placing the finger down the throat. If gums are hot and swollen, give cold water and rub gums with a cloth that has been held on ice.

• The bowels should be emptied immediately with an enema. Take some laxative herbs, to clean out the small intestine. Fast on fruit juices, water, or nervine herb teas (listed below) until all symptoms subside. Keep the body warm.

• After this, rest in bed, absolutely quiet; give careful diagnosis without disturbing him.

• One successful method of therapy has been the injection in 1 large dose of 600,000 IU of vitamin D. This helps the utilization of calcium.

• Take calcium (2,000 mg, daily) and magnesium (1,000 mg, daily) supplements. Also B_6 (100 mg, twice a day) and chromium (75-100 mcg, 3 times a day).

• Helpful herbs include catnip, skullcap, and peony.

• Other useful herbs include rue, black cohosh, valerian, vervain, peppermint, chamomile, wild cherry bark, goldenseal, and a little cayenne.

• One Central American naturopath says that, over the years, he has treated a thousand cases of convulsions—and fully one-half were caused by parasites. Other important causes are constipation and wrong diet. He puts them on a cleansing and building program, discarding all meat eating, and requiring that they never return to it (so they will not again become infested with worms).

• If parasites are the cause, use garlic enemas, plus eat garlic

• There is a definite possibility, especially in children, that a food allergy is involved, very possibly accompanied by malnutrition (maybe partially caused by being fed too much junk food and soft drinks). After the convulsion is past, begin testing with pulse tests for food allergies

• If it should be a spasm of asthma, inhale eucalyptus oil.

• If it is a muscle spasm, wring a towel out of hot water and lay it on the area.

• A coughing spasm can be relieved by the tincture or an emetic.

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EPILEPSY—1

SYMPTOMS—There are several types of, what are called, seizures:

Absence (petit mal): A blank stare lasting about half a minute, and the person is unaware of his surroundings. Most often in children.

Complex partial (temporal lobe): A blank stare, random activity, and a chewing motion. No memory of this seizure afterward. An aura, or warning indication, may occur before. It may be a certain odor, sound, thought, etc. No after memory of the seizure.

Myoclonuc: Brief but massive muscle jerks.

Simple partial (Jacksonian): Jerking begins in the fingers and toes, and progresses throughout the body. The person remains conscious.

Simple partial (sensory): Things that do not exist are seen, heard, or sensed. A general seizure may follow.

CAUSES—Epilepsy is defined as an episodic disturbance of consciousness, during which generalized convulsions may occur. There are recurring seizures, generally one of seven patterns (listed above). This is caused by electrical disturbances, in the nerve cells, in a portion of the brain.

Electroencephalographic studies reveal a direct relationship between changes in electrical brain potentials and the occurrence of seizures.

Epilepsy is the most common form of seizures, also called convulsions or fits. Epilepsy can be caused by injury to the head, neck, or spinal cord, especially before or during birth. High fevers during early childhood or infectious diseases can also cause it. Heredity can be involved. Oxygen deprivation at birth or a later head injury may be causal factors.

A variety of factors may trigger the onset of a seizure. Oddly enough, an important one is constipation in the transverse colon. Eating bread, especially soft bread, is known to lead to seizures.

An improperly functioning ileocecal valve is a possible cause. This permits powerful toxins to enter the blood stream and affect the delicate nervous system and brain.

During a seizure, the person may fall during the attack, often injuring himself; he may bite his tongue, pass urine, and awake to realize something has happened because of muscular soreness.

There is a tendency to sleep following the attack. Sometimes attacks occur only during sleep.

Some seizures take the form of antisocial or unnatural conduct.

On recovery, amnesia is generally complete, so no effort is made to hide what happened. The epileptic may gradually deteriorate.

IMMEDIATE TREATMENT—During the attack, arrange the head to facilitate breathing. Prevent the tongue from being bitten or from obstructing the windpipe. Place a pad between the teeth during the attack. Afterward allow him to sleep.

Comments from a reader: I am writing in regards to your section on Epilepsy, under which you have stated: "During the attack, arrange the head to facilitate breathing. Prevent the tongue from being bitten or from obstructing the windpipe. Place a pad between the teeth during the attack. Afterward allow him to sleep."

Although a common belief is that a person can swallow his/her tongue during a seizure, or that the tongue can obstruct the windpipe, this is not true. During a seizure, the afflicted person’s body will stiffen and convulse - resulting in biting of the tongue. It is therefore not advised that anything be placed in the person’s mouth, as that may cause further damage, but instead to place the person on his/her side. Additionally, if by "arrange the head" you were referring to turning the person onto his/her side, I would ask that you please clarify as it is currently vague and unclear. First Aid instructions from the Epilepsy Foundation are listed below. I do hope you can update

this information so viewers will not be misinformed. -Keep calm and reassure other people who may be nearby. -Don't hold the person down or try to stop his movements. -Time the seizure with your watch. -Clear the area around the person of anything hard or sharp. -Loosen ties or anything around the neck that may make breathing difficult. -Put something flat and soft, like a folded jacket, under the head. -Turn him or her gently onto one side. This will help keep the airway clear. Do not try to force the mouth open with any hard implement or with fingers. It is not true that a person having a seizure can swallow his tongue. Efforts to hold the tongue down can injure teeth or jaw. -Don't attempt artificial respiration except in the unlikely event that a person does not start breathing again after the seizure has stopped. -Stay with the person until the seizure ends naturally. -Be friendly and reassuring as consciousness returns. -Offer to call a taxi, friend or relative to help the person get home if he seems confused or unable to get home by himself. Thank you for your time and cooperation. Sincerely, Debbie Fiore

PREVENTING SEIZURES—Do not eat soft bread; better yet, do not eat any bread. You may find that you should not eat mush either.

Keep the colon clean. Take enemas or colonics weekly if necessary. Pressure from a clogged colon can press against the ileocecal valve and release toxins which are absorbed by the bloodstream.

If the bowels do not move each day, take a lemon enema (juice of 2 lemons in 2 quarts water) before going to bed that night.

Drink fresh fruit and vegetable juices.

Include raw vegetables in your diet.

Check your diet with pulse and other tests, to see which foods are a problem. Use rotation diets to this objective.

Avoid white sugar and white-flour products. Avoid fried foods, animal protein, and artificial sweeteners.

Maintain a well-balanced, nutritious diet. Do not overeat! Do not take in excess amounts of food or fluid at one time.

Take manganese supplementation. A lack of it can produce epilepsy. Women who lack it can give birth to epileptic children.

Vitamin B_6 deficiency has been linked as a factor in some cases of epilepsy. When given to some babies, in their formula, the epilepsy ceased.

Deficiencies of vitamins A, D, folic acid, zinc, and aurine (an amino acid) are also involved.

Magnesium deficiency may cause muscle tremors and convulsive seizures. Epileptics have a lower than normal amount of this mineral. Infants with excess calcium intake had a magnesium loss. Yet other studies revealed that calcium was also important.

Avoid alcohol, caffeine, pesticides, and aluminum cookware. High levels of aluminum have been found in the brains of those with epilepsy. Aluminum is a conductor of electricity, and trace amounts in the brain may trigger seizures.

Toxic metals (lead, copper, mercury, and aluminum) are known to cause seizure. Hypoglycemia is linked to convulsions. Serum glucose levels fall just before a seizure.

The artificial sweetener aspartame (NutraSweet) has been linked to seizures. Beware of lead poisoning also.

Allergies cause seizures in some. This includes chemicals, pesticides, food additives, or common foods such as peanuts.

Doses of folic acid, in excess of 400 mcg per day, can trigger seizures.

Have a hair analysis done, to see if a metal toxicity could be involved as a causal factor.

In some instances, a ketogentic diet is prescribed; but, if used, it should be under the guidance of someone who understands how to apply it: This diet is keyed to restricting protein and carbohydrate intake, increasing fat intake, and producing acid levels in the bloodstream which act to inhibit brain stimulation of seizures.

Avoid the herb, sage. This herb should not be used by anyone with a tendency to seizures.

EPILEPSY

BASIC FACTORS—Abstemious, dry, aseptic dietary, chiefly fruits and grains; vigorous out-of-door exercise to the extent of fatigue daily. Prolonged Neutral Bath daily; sweating process 2-3 times a week; graduated cold procedures (Tonic Frictions), avoiding prolonged and intense applications. [Avoid constipation in the transverse colon: this is a key factor in avoiding attacks. Avoid doughy foods that tend to constipation.]

WHEN ATTACK IS THREATENED—Colonic twice daily; copious water drinking; Neutral Pack; ice to head; rest in bed. Seizure may sometimes be averted by placing the part in cold water.

AFTER ATTACK—Rest; cold to head; Cold Mitten Friction or Cold Towel Rub; Half Bath; Revulsive Douche to legs; and percussion Douche to spine.

GENERAL METHOD—Train him to a vigorous regimen; a simple abstemious dietary, abundance of outdoor exercise; the daily employment of the Prolonged Neutral Bath, followed by short, moderate cold applications; copious water drinking;

regulation of all the vital functions, avoiding all sources of nervous irritation and exhaustion.

 # ANTISPASMODIC TINCTURE

WHAT IT IS—A tincture is an extract made from herbs by soaking them in alcohol. (Only grain alcohol should be used for internal use; wood alcohol, such as rubbing alcohol, will cause blindness.) The resultant mixture does not spoil.

Then when a spasm occurs, only a very small amount is given to the person, and he generally pulls out of the crisis quickly.

Antispasmodic tincture is used for all spasms or attacks such as those of the heart, asthma, cough, epilepsy, or shock.

HOW TO PREPARE IT—This formula has been used, for decades by veteran naturopaths, with great success. Here is the formula:

One-half ounce cayenne pepper and 1 ounce of each of the following herbs: skullcap, skunk cabbage root or seed, gum myrrh, lobelia seed (or the plant if the seed is not obtainable), and black cohosh root.

Mix each of the above together while dry and put into a large-mouth jar. Add 1 pint pure grain alcohol of 70-100 proof. Eighty proof Vodka works fine because it is tasteless.

(An alternative to alcohol is to, instead, use 1 pint of apple cider vinegar. Store in the same manner.)

Let this stand for 10-14 days, tightly covered, and shake well, daily.

At the end of that time, strain it through a very fine cloth and squeeze out all you can. Store it in a tightly capped bottle. Also put some into a small dropper bottle.

In a crisis, it is given in 8-10 drop doses. It can be squirted into the mouth or taken in a tbsp. of water. (If stored in vinegar, give in teaspoonful doses, not drops. Its effects are not quite as rapid.)

As a cough syrup for children, prepare it in this way: Pour 1 quart water over the herbs. Let it stand for 1 hour, then strain. Add 1 pint honey. Place it over low heat and let it evaporate to the equivalent of 3 cupfuls. Pour this hot syrup into hot baby-food jars and seal for future use. Give it in teaspoonful doses for cough, asthma, convulsions, or insomnia.

Jethro Kloss mentions a man who was released from clenched lockjaw by a small application of antispasmodic tincture.

When the case is severe, especially with an infant, the tincture can be rubbed onto the chest, neck, and between the shoulders. Place 2-3 drops in the mouth, and wash down with teaspoon doses of warm water while the person is kept in bed. If necessary, repeat every 1-2 hours.

There are six herbs in the formula. The lobelia is the active agent in relaxing the muscles and normalizing breathing. The cayenne pepper warms, stimulates, and reduces inflammation. The skullcap and valerian soothe the nerves and keep small vessels from rupturing. The skunk cabbage and gum myrrh aids in reducing infection.

Paralysis

LOU GEHRIG'S DISEASE—1 (Amyotrophic Lateral Sclerosis)

SYMPTOMS—Progressive muscular weakness and atrophy, weakened respiratory muscles (which can result in pneumonia), difficulty chewing and swallowing, stiffness, cramping, and involuntary quivering of small muscles.

CAUSES—Amyotrophic lateral sclerosis (ALS) is the most common motor neuron disease, resulting in muscular atrophy.

Causes include heredity (10% of the cases) or strenuous physical work in one's occupation, combined with nutritional deficiencies (especially vitamins B complex, E, F, and C). Other factors include viral infections, physical exhaustion, and trauma.

Heavy metals, ingested or inhaled, can induce damage to the nervous system.

TREATMENT—

• A nourishing diet, which includes complete vitamin/mineral supplementation, plus fresh fruits, vegetables, and vegetable juices.

• A vitamin E deficiency is a special factor inducing ALS.

• Calcium, magnesium, potassium, and silicon are also needed.

• Flaxseed (or, secondarily, wheat germ oil) is essential.

• Avoid dairy products, meat, sugar, and white- flour products. This will accelerate healing.

AMYOTROPHIC LATERAL SCLEROSIS

BASIC APPLICATIONS—Prolonged Neutral Baths, 1-3 hours daily; massage.

GENERAL METHOD—Build up the general health by gentle tonic measures, slowly increased in intensity, suppressing the formation of toxic substances and promoting their elimination by a suitable dietary, improvement of digestion and the employment of the other measures indicated above.

By the suppression of the active causes of the disease and the adoption of better means for the improvement of general nutrition and especially of the nutrition of the spinal cord, it is usually possible to arrest the disease; and, not infrequently, a considerable degree of improvement may be secured. Therapeutic measures must be most thoroughly and perseveringly employed. The progress of the disease may be delayed, even when it cannot be altogether arrested.

LOCOMOTOR ATAXIA

IMPROVE GENERAL NUTRITION—Careful Cold Mitten Friction or Cold Towel Rub; Very carefully Graduated Cold Baths; Wet Sheet Pack, protecting the spine by a dry towel, followed by Cold Mitten Friction and Pail Pour or Half Bath at 85^0 F.

COMBAT TOXEMIA by short sweating baths, followed by appropriate Graduated Cold Baths. Prolonged Neutral Bath, beginning at 96^0 F. and daily lowering the temperature to 90^0 F.; increase duration from 30 minutes to 2-3 hours daily; copious water drinking; colonic daily.

IMPROVE NUTRITION OF SPINAL CORD—Fomentation to the spine at 110^0-120^0 F. twice daily, with Heating Compress during the interval between. Thorough massage of the back; suspension, or spine-stretching by flexion of the trunk upon the thighs or flexion of the thighs upon the trunk.

ATAXIC MOVEMENTS—Special exercises in small movements of each of the affected muscular groups.

LIGHTNING PAIN—Prolonged Warm Fan Douche to spine at 95°-100° F., 2-3 times a day (with pressure at 2-5 pounds.)

GASTRIC CRISES—Very hot Fomentation to the abdomen several times a day, followed by Heating Compress when nerves of lower back are sensitive; continue for several weeks; Revulsive Compress to stomach.

LOCAL PAINS—Revulsive Compress and Revulsive Douche, followed by Heating Compress.

RECTAL PAIN—Very hot Anal Douche at 115°-122°F., with little pressure; Revulsive Sitz Bath; Fomentation over buttocks; Hot Colonic.

PARESIS OF BLADDER—Daily Colonic. Cold Plantar Douche.

TROPHIC CHANGES - CHARCOT'S JOINTS—Fomentation to the parts when painful, 3 times a day, with Heating Compress during the intervals between. Apply mechanical support when necessary.

CONTRAINDICATIONS—Cold baths, cold applications to spine, general cold douche, very hot applications.

GENERAL METHOD—Build up his general health by gentle tonic measures, carefully avoiding such applications of cold water as are found to increase pain or aggravate other symptoms; combat the local morbid process in the spine by the measures above indicated, and restore the power of coordinated movement in the affected muscular groups by special gymnastic training.

MENINGITIS—1

SYMPTOMS—Symptoms vary considerably, but usually include a sore throat, fever, headache, stiff neck, and vomiting. Children and adults can become critically ill in 6-24 hours after the first appearance of the symptoms. This condition requires rapid diagnosis and initiation of treatment. Take him to the emergency room immediately! Demand immediate help!

Symptoms include sore throat, red or purple skin rash, fever, chills, malaise, headaches, vomiting, sensitivity to light, nausea, delirium, stiff neck, and convulsions.

In infants: vomiting, fever, difficult feeding, irritability, a high-pitched cry, a bulging fontanel (soft spot on top of the head). Changes in temperament and extreme sleepiness indicate dangerous changes in cerebrospinal fluid.

Warning: A child can be hurt when he is picked up.

CAUSES—Meningitis is an inflammation of the two membranes that cover the brain and spinal cord. They are called the meninges. In addition, the thin membranes that cover the spinal cord may also be infected. It is a contagious disease.

Causes include several different viruses (including those causing polio, measles, rubella, fungi, yeast infection) and several types of bacteria.

Infection can spread from the nose and throat to the meninges. A depleted immune system (along with nose and throat trouble) can cause it to enter the blood stream and go to the brain.

If not treated properly, a case of flu or ear, nose, and throat infections can develop into meningitis.

Eating heavy meals or taking drugs while sick can cause an infection to drive deeper into the system and enter the brain area.

Other factors aiding in the development of meningitis are alcoholism, brain surgery, brain cancer, exposure to chemical agents, head injury, pneumonia, Lyme disease, syphilis, tuberculosis, or anything that weakens the immune system (chemotherapy, radiation treatment, steroid therapy, HIV infection, and certain types of cancer).

Of the three main types of meningitis, viral infection is more common and produces milder symptoms, such as malaise and headache, which generally clears up on its own in a week or two.

But the bacterial type requires prompt, aggressive treatment—or brain damage or death can result. (Any time a bacterial infection occurs [such as strep throat or an ear infection], eliminate it; do not ignore the problem.)

Fungal meningitis progresses more slowly, but also requires medical care.

Do not guess! Call a physician!

Meningitis is more common in children than adults.

TREATMENT—

• Meningitis can progress quickly and become life threatening in 24 hours for adults, and even quicker for children. Call a physician.

• Rest in bed in a dimly lit room. Drink plenty of clean liquids. Take cool sponge baths, if there is fever.

• If untreated, permanent brain damage and possible paralysis can result.

• Drink citrus juices, from lemons, oranges, and limes.

• For fever, use catnip tea enemas. The tea can also be sipped.

• Goldenseal is a natural antibiotic. Echinacea boosts the immune system.

• It is best not to eat food during the acute phase. Eating food stops the elimination of toxins from the tissues, so that digestion can begin. This causes the toxins to be thrown still deeper into the system.

• When the acute phase is ended and recovery is beginning, eat a nourishing diet of fruits and vegetables. Fresh pineapple helps reduce the infection.

• Avoid meat, dairy products, caffeine, and salt. Avoid processed, sugared, and white-flour foods.

• If there are no complications, recovery usually takes three weeks under a physician's care.

• Remember: Meningitis is contagious. Those caring for a person with this disease must be very careful, and be sure to obtain adequate rest.

MENINGITIS

GENERAL—Careful Cold Mitten Friction, 2-4 times daily.

COMBAT CONGESTION OF THE BRAIN AND SPINAL CORD—Ice Cap; Ice Collar; Cooling Compress to the head; Ice Bag to the spine; general derivative treatments, such as Hot Hip Packs and Hot Leg Packs; Hot Blanket Pack; Hot Full Bath at 102^0F. The head should be protected by the Ice Cap, or Ice Collar, during all hot applications. Fomentation to the spine every 2 hours. Spinal Ice Bag during intervals between. Vigorous skin circulation must be maintained

PREVENT BRONCHITIS—Fomentation to the chest twice daily; well-protected Heating Compress during interval between. Keep shoulders dry and well-protected while in bed. In Cold Bath, see that the water covers the shoulders. The Chest Compress must cover the shoulders.

HEADACHE—Fomentation to the back of the neck, Ice Compress to head and neck, Hot and Cold Head Compress.

PAIN IN BACK AND LEGS—Fomentation to back; Hot Hip Pack. Repeat every 4 hours or more often. Heating Compress or Ice Bag during interval between.

VOMITING—Ice Bag over stomach; Hot and Cold Trunk.

DIARRHEA—Enema at 95^0 F. after each movement. During interval between, give Cold Abdominal Compress at 60^0 F., renewed every 15 minutes with Fomentations to the abdomen for 15 minutes, every 2 hours.

MUSCULAR RIGIDITY—Hot Blanket Pack; Hot Full Bath; Hot Fomentation, followed by well-protected Heating Compress.

HYPERESTHESIA—Neutral Bath at 94^0-96^0F.

DELIRIUM OR MANIA—Prolonged Wet Sheet Pack, Ice cap, or Ice Collar.

MUSCULAR SPASM—Hot Full Bath at 102^0 F. for 15-30 minutes, with Ice Cap and Ice Collar. Prolonged Neutral Bath. Heating Spinal Compress.

CONTRAINDICATIONS—Do not use Cold Full Baths and other general cold procedures.

GENERAL METHOD—The object to be sought, by treatment, is to relieve congestion of the brain and spinal cord by diverting as much blood as possible into the skin hence the skin must be kept constantly warm. General cold procedures, such as the Cold Full Bath and the Cooling Pack must be avoided. Undue excitement of the brain and spinal cord during hot applications is prevented by protecting these parts by Ice Compresses and the application of an Ice Bag over the heart. Partial cold applications, as Cold Mitten Friction, should be administered several times daily to maintain vital resistance, care being taken to maintain surface warmth by the application of heat to the spine and legs or other parts during the treatment so as to avoid retrostasis.

MENINGOCELE **(Spina Bifida; Severe Anencephalia)**

SYMPTOMS—A severe birth defect.

CAUSES—We cannot provide you with solutions once this occurs. We can only tell you what would have prevented it.

This severe birth defect results in exposure of the brain or spinal cord and its coverings (meninges) because of the improper formation of the vertebrae.

Death may result. Medical treatment is limited to surgery

PREVENTION—This birth defect is caused by a deficiency of folic acid, B_{12}, zinc, or vitamin A during early pregnancy.

These deficiencies may be the result of poor and inadequate nutrition or intestinal malabsorption problems in the mother.

MENKE'S SYNDROME

SYMPTOMS—Kinky, sparse, and brittle hair. Loss of hair color, arterial aneurysms, scurvy-like bone disease (ostosis), and progressive brain degeneration.

CAUSES—The current theory is that it is a genetic disease, but it is actually a malabsorption problem in early infancy.

Celiac disease (primarily from feeding the infant wheat at too early an age; can produce a copper deficiency, along with other deficiencies.

TREATMENT—

• Give this vital trace mineral (copper) to the child (copper IV, at 200 ug/kg/day).

• Also deal with the malabsorption problems by taking the infant or child off wheat, cow's milk, and soy milk.

• Give copper orally at 1-2 mg per day, after elimination of symptoms.

MULTIPLE SCLEROSIS

SYMPTOMS—Earlier stages: occasional dizziness, mood swings or depression, numbness in the fingers and feet, weakness in the hands and feet, loss of balance, nausea and vomiting, muscular stiffness, tremors, slurred speech, and difficult breathing. Later stages: difficulty in walking, a staggering gait. Later still: spastic movements, paralysis, extreme fatigue, and bowel and bladder incontinence.

Symptoms flare up, and then nearly disappear for a time. Yet the problem keeps worsening, over a matter of weeks, but sometimes slowly over decades.

CAUSES—Multiple sclerosis (MS) is a progressive, degenerative disorder of the central nervous system. The nerves are covered with a coating called myelin. MS destroys this covering, leaving scar tissue (called plaques) in its place. Eventually the nerves themselves become sclerotic (hardened) and stop functioning.

Possible causes include an autoimmune attacking by the white blood cells of the myelin sheaths; malnutrition or poor diet; stress; possible food allergies (dairy products or gluten); metal poisoning (lead, mercury, etc.); chemicals (industrial chemicals, pesticides, etc.); toxins from bacteria and fungi in the body; and vaccinations.

Diet appears to be a primary factor: heavy consumption of meat, sugar, refined grains, and rancid oils.

Overwork, emotional stress, fatigue, pregnancy, acute respiratory infections, chemical poisoning, and poor diet are known to precede the onset.

MS usually begins between 25 and 40, and twice as often in women as men.

There is no known cure, but suggestions, below, will help retard (and possible halt) the progress of the disorder.

TREATMENT—

• Give attention to solving as many of the above possible problems as possible.

• Eat a nourishing diet with supplemental vitamins and minerals. Fruit and vegetable juices are important.

• Avoid meat, milk, eggs, dairy products, and caffeine.

• Avoid sugar, excess fat, white-flour, rancid oils, fried foods; all of which are able to destroy nerve cells.

• The mercury fillings in your teeth may be a factor. The levels of mercury in people with MS are seven times higher than those in other people. Get rid of your mercury fillings, if you have any symptoms of MS.

• Massage and regular exercise are helpful. Keep mentally active.

• Avoid stress and anxiety; they can bring on attacks.

• Short fasts are helpful.

• Hyperbaric oxygen therapy has been used successfully in some other countries (outside the U.S.).

• Helpful herbs include ginkgo, suma, gotu kola, kelp, hop, chamomile, skullcap, and valerian.

MUSCULAR DYSTROPHY

SYMPTOMS—Weakness of the muscles, scoliosis (curvature of the spine), enlargement of certain muscle groups (calves, trapezius, etc.) to compensate for loss of major muscle groups. The muscles gradually shrivel and weaken. The muscles in the trunk are especially affected. All muscles eventually become involved.

CAUSES—Muscular dystrophy (MD) produces a weakening and wasting of muscle tissue which is not noticed (because of replacement of muscle tissue with fat and fibrous scar tissue) until there is substantial damage.

Animals given a vitamin E deficient diet develop muscular dystrophy. It is believed that MD could be wiped out if vitamin E was given to all expectant mothers and bottle-fed babies. Mother's milk has six times as much vitamin E as cow's milk, and almost twice as much selenium.

There may a hereditary factor, but diet is still the crucial issue.

TREATMENT—

• Vitamin E and selenium should be given orally, intramuscularly, and intravenously at the very outset of the disorder, in order to arrest it. Vitamin E: intramuscularly at 80 mg per day; orally, at 800-1,200 daily. Selenium: orally, intravenously, and, intramuscularly at 50-1,000 mcg per day, based on weight.

• Essential fatty acids are needed (5 gm daily). Also choline or soy lecithin, at 10-20 gm per day.

• Avoid food allergens and excessive fats; no more than 20% of daily calories should be in fat.

• Avoid exercise for one month during initial treatment period, to avoid undue injury to already weakened muscles.

MYASTHENIA GRAVIS

SYMPTOMS—Muscular weakness, fatigue, emotional stress, and droopy eyelids. Difficulty in breathing, swallowing, and speaking.

The onset is gradual, and the symptoms are worse in the evening. The person complains of difficulty in chewing, swallowing, and talking.

CAUSES—Myasthenia gravis is a disease characterized by great muscular weakness (without atrophy) and progressive fatigability. The name means "muscle weakness."

Adolescents and young adults, especially women, are the most likely to have this problem. But it sometimes occurs in newborn infants and adults over 40. In the latter case, a tumor in the thymus is involved. It rarely occurs past 50.

The muscles of the face and neck are primarily involved, but those in the trunk and extremities may also be involved.

Some cases are mild; others are rapidly fatal. When the respiratory system is involved, death is much more likely to result from this disease. Progress of the disorder is variable, and prolonged remission may occur.

It is thought to be an autoimmune disease that causes malfunctioning of the enzyme, acetylcholine, which is responsible for inducing muscles to contract. (It is conjectured that there may also be an excess of cholinesterase at the myoneural junction in which the nerve impulses fail to induce normal muscle contractions, but this is less likely.)

There is a failure in transmission of nerve impulses at the neuromuscular junction. Either the acetylcholine release is not adequate or the muscle response to the acetylcholine is not sufficient. An autoimmune factor may be involved (i.e., there are so many toxins in the body, that the system interferes with normal functions.)

Autointoxication may thus be a primary cause. Toxins accumulate in the bloodstream from chemicals, chronic constipation, etc. Either they destroy the muscular system or they trigger other body systems to do so.

Chronic constipation can cause the cecum to press against the ileocecal valve, releasing poisons of the colon back into the small intestine. This is a dangerous situation, since toxins in the small intestine are absorbed into the blood far more quickly than when they are in the colon.

TREATMENT—

• Clean out the colon, by means of colonics or high enemas. Go on a fruit/vegetable juice fast for several days.

• Begin eating a nourishing diet, not overeating, and always including an abundant amount of roughage (to aid in preventing constipation). Drink enough fluids.

• A deficiency in vitamin A can produce muscular and spinal cord degeneration. Also important for the nerves and muscles are vitamins B (all), C, and E. Calcium, magnesium, potassium, silicon, manganese, and zinc are also important for muscles and nerves.

• Lecithin is very important for good nerves, as well as chlorophyll.

• Good foods include buckwheat, millet, rye, and red potato peeling broth.

• Avoid the solanaceous crops, for they contain solanine, which interferes with the neurotransmitter, acetylcholine. These foods include tomatoes, white potatoes, green and red peppers, egg plants, and tobacco.

• Avoid the glue foods, such as white flour and dairy products. Stay away from fried foods, meat, all animal fats, cheese, and eggs.

• Do not overwork. Learn to relax; learn to work at a more moderate pace, and stop more frequently to rest.

• Walk a little outdoors, and gradually build up. But do not overdo. A little walking is good; too much of any exercise might not be.

• Helpful herbs include slippery elm, comfrey, oatstraw, and the nervine herbs: skullcap, hop, chamomile, valerian, dong quai, wood betony, and small amounts of lobelia.

PARKINSON'S DISEASE **(Shaking Palsy, Paralysis agitans, Parkinsonianism)**

SYMPTOMS—Initially: mild to moderate tremor of the hand or hands while at rest, a feeling of being slow and heavy, tendency to tire more easily, muscular stiffness, loss of skill in the fingers and thumb (writing, buttoning and unbuttoning, playing the piano, etc.)

Later: depression, loss of appetite, muscular rigidity, permanent rigid stoop, shuffling gait, drooling, tremors, fixed facial expression, and impaired speech. Ability to maintain balance may be affected.

The body gradually becomes rigid as limbs stiffen. Dementia may occur.

Principle signs are tremor at rest, muscle rigidity, and slow or retarded movement. Tremors and slowness generally begin in one limb, then progress to the other limb on the same side; later still to the other side. Usually the hands are affected before the feet.

CAUSES—Parkinson's disease is a gradual degeneration of the nervous system. The nerve cells in the basal ganglion of the brain are gradually destroyed.

Parkinson's disease is one of the most common debilitating diseases in the United States. But actual disability usually does not occur for 10-15 years after onset of symptoms.

Although the underlying cause is not known, symptoms appear when there is a lack of dopamine in the brain. Dopamine is made by the body, and carries messages from one nerve cell to another. Normally, another neurotransmitter, acetylcholine, is made, to keep dopamine in balance. When there is not enough acetylcholine, myasthenia gravis occurs; when there is not enough dopamine, the result is Parkinson's disease.

In Parkinson's, the problem generally is destruction of the cells which make dopamine. But sometimes the cause is blockage of the dopamine receptors in the brain.

One possible cause of this disorder is that too many toxins have been released in the body for the blood to filter out through the liver. An excess of chemicals, drugs, toxins in meat eating, etc., are thought to be involved. It is known that one of the

chemicals in heroine directly destroys the key brain cells preventing Parkinson's. A chronic poor diet, over many years, is also considered to be a significant factor.

TREATMENT—

• It is very important that the person afflicted with Parkinson's disease keep active. Muscles which are not used atrophy more quickly. The person's own determination and faithfulness in an exercise program will forestall the progress of the disease better than almost anything else. Every exercise keeps the muscles more useful. Use a wide variety of simple exercises! Buy a book on weight lifting; but, of course, use much smaller weights. Swing the arms forcefully when walking. Exercises involving joint movements (including the neck) are very important.

• Keep the feet a distance apart, when walking, and take short steps, when turning.

• Typing, writing, working with clay, etc., helps the fingers.

• Breathe deeply in and out.

• Take frequent rest periods.

• Read aloud, to keep the mouth muscles in good condition.

• Any act difficult to perform should be done daily.

• A nutritious diet, adequate rest, exercise in the open air, enough fluids, and sunlight help slow the effects of Parkinson's disease.

• Octocosanol is found in wheat germ oil. It helps the neuron membranes.

• Eat foods and take supplements containing antioxidants. The most important of these is vitamin E (3,200 IU daily!) and vitamin C (3,000 mg daily!). This can slow the progression of Parkinson's disease by 2-3 years! Theoretically, a person who takes significant dosage levels will never contract Parkinson's disease in the first place. It appears that free-radical damage may be a major cause of damage of dopamine-producing brain cells.

• Iron supplementation seems to help in some cases. The production of tyrosine, an enzyme involved in dopa production (the precursor of dopamine), is stimulated by iron supplementation in the diet.

• Here are some additional helps and dosages of worthwhile natural substances: octocosanol (300 mcg, three times a day), Neuro-Gen leucine (10 gm/day), l-methionine (5 gm/day), essential fatty acids (1tbsp., twice a day), ltyrosine (100 mg/day), dl-phenoalanine (100 mg, three times a day), B_1 (200 mg, three times a day), B_6 (100 mg, three times a day), betaine HCl (75-200 mg three times a day before meals).

• Overweight is a problem; take the extra weight off.

• Ingestion of aluminum is a factor in Alzheimer's disease, and it may also be involved in Parkinson's disease. Do not use aluminum cookware or use deodorants containing it (alum is aluminum). Also avoid lead. Some people with Parkinson's disease have high levels of lead in their brains.

• L-dopa (L-dihydroxyphenylalanine), in form of the drug brand, Levodopa, is a synthetic dopamine which is given to patients, to supply the missing dopamine. Intriguingly enough, actual dopamine (from animal sources) cannot be given, because there is a blood-brain barrier rejecting it. So levodopa is given, which is accepted (through conversion to dopamine in the basal ganglion).

• But two facts should be noted: (1) Vitamin B_6 reverses the effects of levodopa, so efforts must be made to eliminate B_6 from the diet. (Eat in moderation bananas, oatmeal, peanuts, whole grains, potatoes, meat, and fish and only eat protein foods in the evening.) (2) Levodopa usually produces side effects, such as nausea, vomiting, insomnia, mental confusion, and agitation, as well as liver and kidney damage.

• L-dopa and carbidopa can aggravate and speed up the progress of Parkinson's disease in many cases, and is said to have little beneficial effect in over half the cases.

POLIO (Poliomyelitis, Infantile Paralysis)

SYMPTOMS—Fever, nausea, diarrhea, headache, and irritability.

Incubation is generally 2-7 days, and onset is often abrupt. There may be digestive disturbance, plus a slight elevation of temperature, usually for not more than 3 days. Then paralysis may, or may not, develop.

Bend the person's neck forward. If it aches, polio may be coming on.

CAUSES—Poliomyelitis means "gray marrow," and is inflammation of the gray matter of the spinal cord. The condition is not confined to infancy, nor is paralysis always involved. Polio is a virus infection of the spinal cord which destroys the nerves controlling muscular movement, often resulting in paralysis of certain muscles.

The first of two stages of polio is the infectious stage, when the virus is active. The second is the noninfectious stage, when recovery may occur.

Paralysis may be confined to a small part of the body or much, or nearly all, of it. But muscle atrophy may also occur. Death usually only occurs in bulbar and respiratory cases. Aside from bronchopneumonia, other complications are relatively few.

Epidemics, when they occur, usually reach their peak during the warmest months (July and August).

TREATMENT—

• In the late 1940s, Benjamin Sandler, M.D., was interviewed on the radio in the spring, just before the summer polio season. He declared that, if sugar foods and especially Cokes and soft drinks were avoided, polio would not be contracted. This went into the newspapers and the East Coast area covered by the announcement had very little polio that summer. Later, Sandler wrote a book detailing his concept.

Sugar injures the nerves; calcium is needed by the nerves; highly acid substances remove calcium; phosphorous locks with calcium and carries it off, making it unavailable. Coca Cola-type drinks combine all these special qualities! The liquid in Coke is more acid than vinegar, yet is not noticed because of the very high sugar content. Coke is phosphoric acid. So the sugar and acid eat away the calcium, and the phosphorus immediately locks into it. A tooth, dropped in a glass of Coke, will melt away in a matter of hours.

• Another factor is being cold. People drink Cokes and other soft drinks at swimming pools, then jump and in and vigorously swim in the cold water. So many people contract polio at swimming pools in the summer that it is suspected that there must be something in the pool water. But the problem is the soft drinks, not contaminated pool water.

• The body is adapted to the intense heat of mid-summer; but poor diet plus soft drinks weaken it, then the cold plunge intensifies the effects.

• Because it was so dangerous to the health, Coca Cola was banned from interstate commerce by the original Food and Drug Administration early in the 20th century. That is why, to this day, Cokes and Pepsi's are made in local bottling plants. The syrup is shipped interstate, and then, with water, is poured into bottles.

• Franklin D. Roosevelt was very athletic. He fought a forest fire near his home, ate some junk food, and jumped in an ice-cold river to cool off. He then came down with polio.

• Another factor is keeping the body warm.

• As soon as a person comes down with polio, he is placed in bed and observed. —But, what should be done is to place him immediately in a warm, full bathtub or, better, give him the "Kenny packs."

• Nurse Kenny (called Sister Kenny, because nurses in Australia are called "sister") applied hot packs to the patients (on parts, or all, of their bodies), and eliminated polio with few or no after effects. But this water therapy method was not permitted in America. It was too effective.

Other factors:

• During the infectious stage, keep the diet high in protein and potassium, to replace that which is lost because of tissue destruction.

• Fluid, caloric, and sodium intake should also be increased because of the fever. Additional B vitamins are also needed, along with vitamins A and C.

• Helpful herbs include prickly ash berries, wild cherry bark, valerian root, skullcap, goldenseal, black cohosh, red clover, catnip, and yellow dock.

• Dr. Salk, himself (developer of injectable polio vaccine), warned against the serious dangers in taking oral polio vaccine! Beware of oral polio vaccine! In the latter part of the 20th century, oral polio vaccine has produced more cases of polio than any other agency.

• In addition, there is extreme danger in handling the bowel movement of an infant who has received the oral polio vaccine! You can get crippling polio from doing so.

• Medical history reveals that people who were vegetarians, did not eat junk foods, or drink soft drinks, but lived a clean life—and avoided polio vaccines; and those recently receiving them—have rarely contracted polio.

POST-POLIO SYNDROME

SYMPTOMS—Difficulty in swallowing, which could produce a risk of choking. A progressive muscle weakness.

CAUSES—More than 125,000 Americans have post-polio syndrome.

TREATMENT—

• A cleansing diet, followed by a rebuilding, nourishing diet. Avoid all the junk foods.

• Eat foods high in fiber and vitamin/mineral supplementation. Calcium, magnesium, potassium, and silicon are important. Selenium and zinc, along with vitamins A, C, D, and E are antioxidants. The B complex is important for strengthening the nerves.

• A regular exercise program.

KURU

SYMPTOMS—Ataxia (balance problems) and decreased coordination progressing to paralysis, dementia, slurring of speech, and visual disturbances.

CAUSE AND PREVENTION—Kuru is a slow, progressive, fatal viral infection of the central nervous system. The incubation period may be 30 or more years, but death usually occurs within months of the onset of symptoms.

There are only two classes of people who contract kuru: (1) cannibals, particularly in the central New Guinea highlands and (2) those who submit to transplant surgery.

Research reveals that brain tissue from infected people produces the disease when inoculated into primates in the laboratory.

So the solution is to not eat people, either through cannibalism or by having transplant surgery. (A second problem to transplant surgery is that most persons must thereafter remain on immuno-suppressants the rest of their life. Doing so renders them as vulnerable to disease as a person with AIDS.)

Memory Problems

 # MEMORY IMPROVEMENT

IMPROVING YOUR MEMORY—Here are several suggestions to try to remember:

The attitude toward remembering is important. As we get older, it is easier to become lazy about trying to learn.

Pay attention to what you want to remember. Sometimes we are too busy or indolent to really give our attention to what we need to remember.

An outstanding way to remember something is to say it out aloud to yourself. When you do this, you both speak it and hear it. If it is written down and you do this—you see it, speak it, and hear it.

An equally outstanding way to memorize something (or teach it to children) is to say it over several times. Saying it, speaking it, hearing it, and repetition, are powerful ways to learn math tables and other things.

Here are more suggestions:

Categorize the items you want to remember. List what you need to remember under their logical categories, and you will be more likely to remember the main points and the subsidiary ones.

When you set your glasses down on a table where you do not usually place them, take a good look at them and think about what you have done.

As you walk away from your car in a mall parking lot, say out loud, to yourself, aspects of the location, so you can return to it.

When trying to remember someone's name, take a good look at their face as you think of, or speak, their name.

When trying to remember numbers, put them into units or chunks. It is harder to remember 6-8-7-2-5-0-9 than it is to recall 687-2509.

If you are trying to memorize a new word or how to spell it, learn the meaning of the word and make it part of your everyday vocabulary. Or write it down several times.

Associate a new word or name with a similar word or an object.

Select the most important things to remember, and skip the rest.

Quiz yourself on what you are supposed to remember before you come to the time when you have to use that knowledge.

Avoid stress. When you are under tension or in a time schedule, it is harder to remember things.

Of course, you can also jot down lists on paper. Some people quickly write notes on the palm of their hand.

And, of course, make sure you are eating a good diet, skipping the junk food, getting fresh air, exercise every day, and getting enough rest at night.

In addition, there are also nutrition and lifestyle factors which will affect your memory.

MEMORY PROBLEMS **(Forgetfulness)**

SYMPTOMS—You find you are forgetting too many things.

CAUSES—People fear memory problems, because it might indicate the onset of Alzheimer's which generally begins gradually in the mid-40s, and is fairly common among many older people; so folk have reason to be concerned.

But two facts stand out: Some memory loss does not have to mean Alzheimer's; it is possible to keep the mind in good shape, even into advanced age.

Alcoholism, aging, candidiasis, stress, allergies, thyroid problems, hypoglycemia, diabetes, and poor circulation are factors in memory loss. Others are cited below.

TREATMENT—

• Eat a nourishing, balanced, diet and skip all the junk, processed, and fried food. Good food is needed to nourish the brain.

• Nutritional deficiencies, especially of the B complex and amino acids, add to memory loss. Obtain your proteins from brewer's yeast, brown rice, millet, nuts, soy, and whole grains rather than from meat sources.

• Maintain an even amount of blood sugar. This is best done by eating complex carbohydrates at mealtime, and no food between meals.

• Avoid greasy and high-cholesterol foods; both interfere with passage of food through the blood to the brain.

• Avoid free radicals in the diet; these can greatly damage brain memory.

• Avoid refined sugars; these reduce brain power.

• For some people, dairy and wheat products cause memory reduction. Try cutting them out for a month and see if there is improvement.

• Drink enough water, get enough rest at night. Exercise regularly.

• Stop using liquor, drugs, caffeine, and tobacco. Alcohol does an excellent job of destroying the brain.

• Ginkgo biloba increases blood flow to the brain. Other helpful herbs include ginseng, anise, and blue cohosh.

KORSAKOFF'S SYNDROME (Recent Memory Loss; False Alzheimer's Disease)

SYMPTOMS—Inability to keep new events or facts in the memory, although earlier data already in the memory is still there.

CAUSES—This is a type of "amnesia" which can result from chronic alcoholism, a blow to the head, or vitamin B_1 deficiency.

Because of embarrassment, people with this problem tend to make up stories and invent "facts," to satisfy others.

A blow to the head generally brings recovery, but the problem is less likely to be reversed, if alcoholism or B_1 deficiency is the cause.

TREATMENT—

• Three times a day, take vitamin B_1 (100 mg), lecithin (2,500 mg), chromium/vanadium (50-200 mcg), selenium (200-1,000 mcg), and betaine HCl.

• Obtain adequate rest, exercise, water, and fresh air.

Avoid sugar and alcohol.

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ALZHEIMER'S DISEASE

SYMPTOMS—Disoriented perceptions of space and time, inability to concentrate or communicate, and memory loss.

This produces depression, agitation, withdrawal, insomnia, irritability, memory loss, personality changes, severe mood swings, and senility.

An intriguing early warning sign has been discovered at the San Diego Medical Center: As much as 2 years before mental decline, those with Alzheimer's begin to lose their sense of smell. The rate at which the ability to distinguish strong odors diminishes is an indicator of how rapidly an individual will lose mental functioning. (But smokers have already lost part of this sense, so the diagnostic test does not work as well when applied to them.)

CAUSES—Alzheimer's disease is a progressive mental deterioration. Memory and thought processes are weakened and disoriented.

Nerve fibers, leading into, and out of, the hippocampus in the brain become tangled and short circuited. As a result, information is no longer carried to, and from, the brain. New memories cannot be gained, and old memories cannot be retrieved.

In addition, plaques of a certain protein (beta-amyloid) build up in the brain, damaging nerve cells.

One form of Alzheimer's occurs between 36 and 45, and is quite rapid. The more gradual form develops in those who are 65 or 70.

Simple forgetfulness is not Alzheimer's. If you do not remember your wife's name, that is forgetfulness; if you forget you have a wife, that is dementia (of which Alzheimer's is a form).

There are other disorders which produce similar symptoms: Arteriosclerosis (hardening of the arteries), which slowly reduces blood flow to the brain; a series of minor strokes; hypothyroidism; advanced syphilis.

Many elderly people are taking 8 or 10 medicinal drugs. This drugging will surely affect the brain. You can see the effects in nursing homes across the continent. Add to this a devitalized diet of fried, processed, and junk food.

Other causes include heavy metals in the body. One in particular stands out: When you hear the words, "Alzheimer's disease," think of it as "aluminum disease," for this is what it often is.

Autopsies on persons who died with Alzheimer's reveal accumulations of up to 4 times the normal amount of aluminum in the nerve cells of the brain. Significantly, especially high concentrations are in, and around, the hippocampus.

But those with Alzheimer's also have high levels of mercury in their brain. Beware of amalgam dental fillings. Mercury from the fillings gradually passes into the body and, over a period of time, accumulates in the brain.

Obtaining an adequate supply of minerals in the diet helps keep heavy metals from accumulating in the body.

Women with Alzheimer's have lower estrogen levels than normal.

Free radicals are another factor. Avoid foods which contain them.

Those with Alzheimer's have low levels of vitamin B_{12} and zinc in their bodies. All the B complex vitamins are important.

Vitamins A and E, important antioxidant vitamins, are also important.

Levels of choline and ethanolamine are lower in those with Alzheimer's.

Undergo a trial of intensive nutritional therapy, especially B_{12} injections. This may ward off the developing problem.

Those with Alzheimer's tend to have a strong craving for sweets. But such a craving is frequently an indication of a food hunger for vitamins and minerals.

Some people with Down Syndrome live to be in their 30s or 40s; they usually develop Alzheimer's.

TREATMENT—

• The above data is full of suggestions for treatment and prevention.

• If a person is developing Alzheimer's, he should be told, so he can prepare for the future and settle his affairs.

SENILITY (Senile Dementia; Cerebrovascular Disease)

SYMPTOMS—Memory loss in the older years, an inability to reason properly which interferes with the home, employment, depression.

CAUSES—Also called Dementia, this occurs in old age, yet is not widespread. Most older people do not have this problem. Many people in advanced age are quite clear in their thought processes.

(But there are actually two types of dementia: Primary dementia comes on gradually, without apparent cause. Secondary dementia comes on suddenly from brain injury, operation, drugs, or diabetic coma; is usually reversible. Senility and Alzheimer's are examples of primary dementia.)

Common causes of senility include poor blood circulation to, and in, the brain, cerebral arteriosclerosis, heavy metal toxicity, prolonged nutritional deficiency, prolonged use of medicinal drugs, and lack of exercise and fresh air.

Calcification and fatty cholesterol deposits in the middle cerebral artery reduces the main blood supply to the brain, resulting in a poor oxygen supply to the brain. This produces a loss of memory and typical "senile" changes.

The experts tell us that, over a matter of years, wearing uncomfortable collars and neckties tend to cause eddies in the carotid arteries, contributing to the deposition of cholesterol.

Many of those diagnosed as senile are actually suffering from the effects of medicinal drugs. Avoid drugs throughout your life, if you want a happy old age. But hearing, thyroid, liver, or kidney problems can also produce apparent memory loss. There is the possibility of brain tumors, as well as stroke, and various problems with the nervous system.

A combination of nutritional deficiencies is often the underlying cause.

TREATMENT—

• Reduce vitamin D intake to a maximum of 400 units a day, for it works with cholesterol to cause blood vessel problems. Vitamin D is angiotoxic; that is, toxic to blood vessels.

• Choline and lecithin are both important. Also take vitamin C to bowel tolerance, as well as vitamin E. The B complex vitamins are important for the nervous system and brain.

• A New England hospital successfully treated senility by giving niacin and a high-potency vitamin supplement. This opened up the narrowed blood vessels. Niacin has a vasodilatory effect on the body. That is why, when taken, it temporarily causes the face to flush.

• Stop using alcohol, tobacco, and nicotine.

• Eat lightly of nutritious food. Mainly eat raw or slowly cooked foods. Raw seeds and nuts help the brain, but eat in moderation. Millet and buckwheat are good.

• Ginkgo, an herb, may help prevent further deterioration of mental capacities.

• Daily exercising, to the point of breathlessness, is vital to good circulation. But do not overdo! Only go up to the point of breathlessness, not beyond. Too much can lead to a heart attack.

• Heavy metals must be avoided. Never use aluminum cookware, or other aluminum products. Do not use canned goods any more than necessary.

ORGANIC BRAIN DISORDER (Chronic Brain Syndrome)

SYMPTOMS—Errors in judgment, lack of reasoning ability, short-term memory loss, disorientation, poor intellectual function, neglect of personal hygiene.

Severe symptoms include hallucinations, incoherent speech, agitation, and restlessness.

CAUSES—Malnutrition can induce the symptoms of organic brain syndrome. Chemicals and other toxins can influence it also, as well as food allergens.

TREATMENT—

• Eat a nutritious, balanced, diet.

• Niacin, B_1, B_{12}, and folic acid are needed; also chromium and zinc. Essential fatty acids are also needed. Vitamin E repairs brain damage. Manganese improves memory. The brain also needs calcium and magnesium. Lecithin helps clean plaques from the arteries.

• Include enough fiber in the diet. A congested colon weakens the blood supply to the brain.

• Avoid overcooking and too much cooked foods.

• Avoid alcohol, lead poisoning, mercury poisoning (found in dental amalgam).

• Do a pulse test, to determine if food allergens are part of the problem.

• Do a six-hour glucose tolerance test, to see if diabetes or hypoglycemia is involved.

• Hydrochloric acid (Betaine HCl) supplementation may be needed to increase food absorption.

• Herbs which help include capsicum, burdock, echinacea, garlic, ginkgo, psyllium, and gotu kola.

Emotional, Mental

HYPERACTIVITY **(Hyperkinesis)**

SYMPTOMS—Cannot sit still, short attention span, impulsive acts before one thinks, runs rather than walks, forgets easily, moody, temper tantrums, irritated and indifferent when disciplined, determined to get his own way.

Sleep disturbances, clumsiness, head-knocking, bothers other children, speech and hearing disorders, extreme distractibility, absent-mindedness, unable to follow a series of instructions.

Not all symptoms are found in any one child. The symptoms are not limited to children, but are also found in some adults.

Keep in mind that most children display some hyperactive symptoms at times.

CAUSES—Hyperactivity is now called "attention deficit disorder" or, sometimes, "attention deficit hyperactivity disorder" (ADHD). Primarily occurring in children, it produces a variety of learning and behavior problems.

Some of the causes include:

Allergies to milk, wheat, chocolate, yeast, food additives, oranges, and antibiotics.

Lead poisoning can be a significant factor.

Eating too much sugar or sugar foods, smoking during pregnancy, oxygen deprivation at birth, prenatal trauma.

Artificial food additives, preservatives and foods containing salicylates, other food additives.

Low-protein diet.

Emotional problems and inadequate, inconsistent, or ineffective discipline in the home. Hyperactive children often control the situation in the home more than the parents. Because parents are too yielding, children find they can scream their way to dominance, and become uncontrollable.

When spoiled children enter school, they sometimes try to use overactivity to control their new environment.

Hyperactive children often have learning disabilities.

Certain types of fluorescent lights are overstimulating.

Overstimulation from television, competitive games, violent TV programs and, nutritional deficiencies are major factors.

Mothers who smoke are more likely to give birth to brain-damaged or hyperactive children.

Children from broken homes are more likely to have this problem.

A strong link has been established between learning disabilities and juvenile crime. Try to solve the problems early.

TREATMENT—

• Change whatever items, cited above, you are able.

• Provide the child with a nourishing diet, as discussed elsewhere in this book. This is important.

• Locate and eliminate food allergies.

• Avoid all foods containing salicylates.

• Foods that irritate the stomach or inflame the nerves must be removed from the child's diet. Avoid all refined sugar, fried, and junk foods from the diet. This includes soft drinks. Eliminate artificial flavorings, colorings, and preservatives. Do not attempt to only change the diet partway. Nourishing food, and only nourishing food, must become a way of life. It will help all in the home. It will be easier for the child to accept the new regime if the mother (and hopefully, father) does also.

• The parent must learn to control the situation, by training the child to obedience and self-control. This is vital. Teaching the child to obey you causes him to learn to control himself. This enables him to organize, and better manage, his mental discipline and his entire life.

• Regularity in rising, eating, bedtime, and other daily schedules is important.

DYSLEXIA (a disturbance in the ability to read)

SYMPTOMS—A physical problem. The child's eyes actually see the letters backward, as compared to the normal child's eyes.

CAUSES—Dyslexia is sometimes called hyperactivity but there is a partial difference. Dyslexia is a complex syndrome rather than a specific disease.

In some instances, a true organic or biochemical brain injury has occurred. But most of the time, the problem is more easily treatable.

Food allergies are often a key problem.

TREATMENT—

• Food allergies should be located and eliminated. Food sensitivities can produce learning disabilities, which may appear to have organic origin.

• Beware of sugar, wheat, milk products, possibly certain other grains, and meat. In one or more (often several) of these may lie the problem.

• Taking hydrochloric acid (betaine HCl) and digestive enzymes may be necessary for a time.

NIGHTMARES

SYMPTOMS—Unpleasant dreams while sleeping.

CAUSES—In most cases, nightmares can be solved.

TREATMENT—

• Do not eat 4 hours before bedtime.

• Eat a light supper of fruit and toast. Too much food in the stomach is a major cause of nightmares.

• Food allergies are another prime cause. Search them out and eliminate them

• Hypoglycemia is another significant cause. The low point of low blood sugar level occurs at 4 to 4½ hours after food is eaten, especially sugar foods and drinks (cookies and milk, etc.).

• Include chromium in the diet.

• Avoid caffeine.

• Liquor drinking and hard drugs induce nightmares.

• Sometimes the problem is emotional; a parent that is mean to the child, a terrifying incident that a person has had, etc. Go to God with these problems; only He can bring peace of heart.

• Before bedtime, go outdoors and walk in the cool night air, breathe deep, and relax.

• Some take a whole, warm, bath before bedtime, to relax.

• Avoid enervation of any kind. Do not overwork.

PHOBIAS and PANIC ATTACKS (Irrational Fears; Anxiety Disorder; Agoraphobia; Claustrophobia, etc.)

SYMPTOMS—An irrational fear of something, which ordinary people are not bothered by. The experts call it an irrational, involuntary, inappropriate fear reaction that generally leads to an avoidance of common everyday places, objects, or situations.

Symptoms include attacks of tension, panic, dizziness, tightening of the throat, inability to swallow, muscle twitching, sweating, depression, nausea, and obsessions. Feeling of being outside the body.

The heart starts beating faster; the person feels nauseous, shaky, as if about to faint.

CAUSES—There are three types of phobias: simple phobias, social phobias, and agoraphobia.

Those with simple phobias dread a certain situation, place, or object.

Social phobics are those who do not like to be in public situations, such as a party. They fear doing something which may embarrass themselves.

Agoraphobics fear being alone, being in public places, or being in strange places. It is a fear of being away from a safe person or place. This is the phobia that people most frequently talk to professional counselors about. Most agoraphobics are women, who develop it between 15 and 35.

Panic attacks are closely related to phobias and strongly held anxieties.

The body has a natural fight-or-flight mechanism, when more adrenaline is produced, causing the body to increase metabolism of proteins, carbohydrates, and fats, so the body will have more immediate energy. Muscles become tense, and heartbeat and breathing become more rapid.

But when this mechanism occurs, without a reasonable reason, the result is a panic attack.

The problem often develops suddenly after a major problem, such as a severe illness, accident, or mental depression.

The attack may occur suddenly, perhaps while standing in line at the checkout counter. The worst thing such people can do is to go home and stay there, in order to avoid facing the problematic situation. This prevents the formation of coping skills and only worsens the problem.

Some can only go outdoors if they have a certain friend or trusted dog with them. Some can move freely about in a feared area if it is dark. Wearing sunglasses when they go out in the daytime may ease the problem while they are overcoming it.

Hot weather, fatigue, or illness often makes the symptoms worse.

Post-menstrual syndrome is another cause.

TREATMENT—

• Phobics often eat lots of sweets. Cut them out of the diet.

• White flour should also be eliminated. Only eat whole grains.

• Avoid caffeine in every form (including chocolate) if you have panic attacks. Do not drink alcohol. Medicinal drugs can be a cause.

• Rebound anxiety and panic attacks can occur when Valium, Xanix, or Prozac is taken, to ward them off. Xanix can be addictive!

• Food allergies can be the cause (cow’s milk, corn, etc.). Keep a food diary and gradually, over a period of time, determine what foods are bothering you.

• Panic attacks and calcium deficiencies go hand in hand. Calcium protects the nerves and prevents toxins from irritating them.

• Valuable minerals, such as calcium, magnesium, and potassium are depleted by stress. The B vitamins are also important in resisting stress.

• Selenium elevates mood and decreases anxiety.

• Take chromium (200-300 mcg/day), B_6 (100 mg/3 times day), B_3 (450 mg/3 times day), B_1, B_2, B_5 (50 mg/3 times day), tryptophane (10 gr/3 times day), calcium (2000 mg/day), and magnesium (800 mg/day).

• Eat a rounded balance of amino acids; but, of course, do not consume too much protein.

• Chemical fumes, such as formaldehyde from newly purchased clothes or carpets, can induce panic attack feelings.

• A severe hypoglycemic (low blood sugar) reaction. Professionals call this a "crash and burn" curve because the down slope on the glucose curve is almost vertical. Diabetes can be involved here.

• Do a six-hour glucose tolerance test.

• Get regular exercise out-of-doors. Adequate rest is important.

• When you have a problem, have a friend you can talk it over with.

• Avoiding your fear keeps you from overcoming it. Face your fear and, slowly, reason with yourself that it is nothing to be worried about. One individual feared allowing a small bird on, or near, her. She overcame it by slowly placing her finger near a tame canary in a cage, which hopped on and sat quietly. After doing this for several days, the fear was overcome.

• Think to yourself, "That person (object, place) cannot hurt me." It is the truth, and keep telling it to yourself. Shift from negative thoughts toward it, to positive thoughts.

• Recognize the attack for what it is. You have had them before, so you know you are not going to die. You have left the house before, and you know you can do it again. You can do it.

• Be easy on yourself, but keep pushing forward. Even if an attack comes on, tell yourself how you succeeded, and keep at it. Do not give up.

• Start out slowly, but expose yourself to the unpleasant environment a little every week. Set goals for yourself: one-week goals, 8-week goals, etc. Push forward and accomplish them.

• You will notice that sometimes the fear is stronger than at other times. Determine what causes it to increase: a dietary problem, not enough rest, etc.

• When an attack comes on, you have an excess of adrenaline. So do not sit still. Instead move about and do something; this will help use it up. Walk around or exercise during the attack. If the situation is such that you cannot move about (you are standing in line, etc.), then play a game at alternatively tightening and loosening various muscles in your body. Tighten the large muscles in your upper legs, then release them.

• It is now known that people with inner ear problems (where the sense of balance is located) tend to have phobias and panic attacks.

• When an attack seems to be coming on, breathe deeply. Take repeated deep breaths. This relaxes the mind and helps the whole system brace against the intruding fear. (When an attack begins, phobics tend to take short, rapid breaths. The body is not receiving enough oxygen and is losing too much carbon dioxide, the heart begins beating faster, and there is a sense of air hunger.) Instead, breathe slowly and deeply.

• Women who wear tight-fitting clothes tend to become chest breathers, and are more likely to have panic attacks. Men should wear suspenders.

• Maintain good posture. Practice deep breathing every so often.

• When an attack begins to occur, or if even the thought of the feared item begins to come to mind, tell yourself "stop!" If necessary, say "Stop!" out loud. Then consciously change your thoughts to something else, something pleasant. Keep doing this. By doing thought-stopping, you will see excellent progress in as little as 4 weeks.

• When you are completely relaxed and in a pleasant environment, think casually about the feared item. Candidly tell yourself that it does not amount to anything. Then change the thought to something else.

• "Flooding" occurs when the person goes into the feared situation (such as a shopping mall) and stays there until the fears leave. This generally takes 8 to 12 hours.

• Reinforcement takes place when you write the shopping list until it no longer bothers you. Then you put on your coat and go to the door. Then you go outside to the car. Then, when this no longer bothers you; you go to the store and walk up to the door. Later, you go on in and buy the groceries.

• Pray to God for help. He can give you the strength you need to meet your needs. Thousands have come to Him and obtained the help needed to win great victories in their lives. It is a sweet experience to have peace with God.

• Herbs to help strengthen the body include dong quai, gotu kola, kelp, ginkgo, passion flower, slippery elm, suma, valerian, and lady’s slipper.

HYPERVENTILATION

SYMPTOMS—Pounding heart, fingers are tingling, and palms are sweaty.

CAUSES—Hyperventilation is overbreathing. It can be induced by stress. When some people are frightened, they start breathing very fast—both rapidly and deeply, even though they do not need the extra oxygen. This causes them to exhale a lot of

carbon dioxide, which in turn causes the blood to become somewhat alkaline. That results in the symptoms of a panic attack

Episodes of hyperventilation can last for hours, but generally for only 20-30 minutes. But, for the one going through it, the experience can be quite difficult.

TREATMENT—

• When this happens, people often go to the emergency room of the hospital. And what do they do? They may hand the sufferer a paper sack and ask him to breathe into it for a short time. This replenishes the carbon dioxide in the body, and brings him back to normal.

• But there is a danger here: The person might be having, not a hyperventilation problem, but a real heart attack In this article, we will assume that heart trouble is not the problem. But you may want to check our various sections under Cardiovascular: Heart.

• People who know they might experience hyperventilation attacks, from time to time, sometimes carry a paper sack with them.

• Exercise also helps. It not only reduces anxiety, but exercise requires more oxygen—so faster breathing is just fine.

• Do not smoke. This only adds to the problem, for nicotine is a stimulant and can aid in triggering attacks. Caffeine is another stimulant to avoid.

• Practice calm, relaxed breathing. The average you should strive for is one moderate breath every 6 seconds or 10 every minute. Ordinary people need never concern themselves with how often they breath; but, if you have this special problem, you may want to practice doing it the right way every so often.

• The more tense you are, the faster you will breath; so be calm, and think about breathing slower.

• Think about someone else beside yourself. We can focus on our fears so much, they come out of proportion.

• Avoid situations which tend to make you overly nervous. For example, for some people this occurs when they are required to stand in crowds.

DEPRESSION

SYMPTOMS—Decreased energy and appetite, chronic fatigue, sleep disturbances, headaches, backaches, weight loss, slowed movement, purposeless thinking, irritability, quickness to temper, and feeling like doing nothing.

CAUSES—Depression may be caused by the loss of a loved one or a job, food allergies, hypoglycemia, environmental problems, or post-menstrual syndrome. Anything that disrupts a person's sense of worth, stability, security, or effectiveness.

Forty percent of those with this problem have one or both of their parents who suffered it also.

Individuals with severe viral illness, hepatitis, endocrine problems, or stroke can have it.

An alternate type is bipolar depression (manic depression), in which a person varies between episodes of depression and mania (over-excitedness).

Depression is twice as common in women as in men.

TREATMENT—

• Avoid processed and junk foods; they are a great source of emotional depression.

• Eating complex carbohydrates increases the amount of the amino acid, tryptophane, that is ingested. This, in turn, increases the amount of serotonin made by the brain, which calms and relaxes the whole system. (In contrast, high-protein foods promote the production of dopamine and norepinephrine, which increases alertness.)

• Practice deep breathing outdoors, twice a day. This reduces a sense of gloom.

• Eat your meals on a regular schedule, and only eat nourishing food.

• Low blood sugar induces depression. Yet eating a high-sugar diet also produces depression. Learn to eat right, of nourishing fruits, vegetables, and grains; avoid sugar foods.

• Caffeine and tobacco both are known to induce depression.

• Go to bed on time at night, and maintain regularity in your daily schedule.

• Maintain a regular exercise program in order to increase feelings of well-being and cheerfulness. Purposeful outdoor exercise, such as gardening, is ideal.

• Sunlight is beneficial for depression, since it suppresses melatonin production.

• Keep your weight down; and, if you are overweight, go on a gradual weight reduction program.

• Food allergies are very significant. Locate and eliminate them.

• Over 200 different medicinal drugs are reported to cause depression! You might consider throwing out your medicine chest.

• Beware of antidepressant drugs! They lead to a wide variety of physical damage!

• Do something active. Forget yourself and find happiness in purposive activity. Do something worthwhile that helps others: It may be washing the dishes; it may be going out and helping a sick person.

• Talk it out; you may find that many of your problems really do not amount to much.

• Have a good cry. Crying releases tension and worry.

• Be respectful and kind to others. Making others miserable will only add to your own misery. Being kind to others helps you feel better yourself.

• Beware of eating or shopping binges, to help you feel better. Neither accomplish the intended purpose.

MANIC DEPRESSION **(Bipolar Disorder; Mania)**

SYMPTOMS—Extreme pessimism, withdrawal from society, changes in sleep patterns. A sudden loss of interest in, and failure to, complete projects started with enthusiasm. There is chronic irritability, sudden attacks of rage when crossed, and loss of inhibition. More symptoms given below.

CAUSES—Mania is a mental state characterized by excessive excitement. Depression is a mental state characterized by dejection, lack of hope, and absence of cheerfulness.

Both of these qualities are strikingly observed in manic depression. Manic depression is cyclic, or circular affective psychosis, in which there are alternating moods of depression and mania. Ordinarily there is a series of periods of psychotic depression or excessive well-being, appearing in any sequence and alternating with longer periods of relative normalcy.

Though intensity may vary greatly, the manic shows an elevated though unstable mood, a flight of ideas, and great physical activity. The case of primary depression finds one thinking that all exertion is exhausting. There is difficulty in thinking or acting and the person is very unhappy.

Manic-depressive disorder is also called bipolar disorder. It typically begins as depression and then develops into alternating periods of depression and mania.

Both mania and depression can vary in intensity and length of the cycles (a few days to many months). During the depression phase, some do nothing while others go through the motions of everyday work while always feeling depressed.

Hypomania is a burst of energy and activity, but full-blown manic psychosis includes delusions of grandeur, invincibility, or persecution, and may result in day and night activity without sleep.

Factors inducing manic depression include an overgrowth of yeast in the intestinal tract, food allergies, environmental sensitivities, and certain diseases: hypothyroidism, hyperthyroidism, diabetes, Alzheimer's, multiple sclerosis, and Parkinson's disease.

TREATMENT—

• A good nourishing diet is very important, omitting all junk food.

• Avoid processed, sugar, and fried foods.

• Locate allergy foods and eliminate them.

• Foods which are common offenders include cow's milk, corn, wheat, rye, soy, and sugar.

• But also consider house dust, perfume, formaldehyde, and cosmetics as allergenic factors to be avoided.

• Solving the manic depressive problem can require some weeks of careful diet and elimination of offending factors.

• High doses of the B-complex vitamins are important. They normalize and strengthen nerve function. The minerals found in nourishing food are also needed.

• Chromium and vanadium (500 mcg, 4 times a day), essential fatty acids (5 gm, 3 times a day), niacin (450 mg, 4 times a day), B_1, B_5, B_6 (each at 5 gm, twice a day).

• Avoid the amino acids, ornithine and arginine. Some say these and choline may make symptoms worse. Others say that choline is needed. Still others say that choline should only be taken in normal amounts with other B vitamin supplements. Researchers at MIT found that choline helped reduce manic depression. So do as you think best regarding choline.

• Obtaining sufficient balanced amino acids, especially tyrosine and taurine, are important.

MANIA

FOR MALNUTRITION—Graduated Tonic Baths; generous aseptic diet.

TO INCREASE BLOOD PRESSURE—Hot Baths: Radiant Heat Bath; Hot Full Bath at 100^0-102^0 F. for 8-15 minutes; Hot Leg Bath or Hot Sitz Bath (either one at 108^0-115^0 F. for 8-12 minutes), followed by Shallow Bath (68^0-74^0 F.), Pail Pour (75^0-70^0 F.), or percussion Douche (60^0-50^0 F.) with duration of 20-40 seconds; ice bag over heart for 15 minutes, every two hours.

TO DIMINISH CEREBRAL HYPEREMIA—Short Hot Full Bath or Shower, followed by Douche at 70^0-60^0 F., 20-40 seconds; Ice Bag over heart for 15 minutes every 2 hours.

FOR AUTOINTOXICATION—Aseptic diet; if necessary, fruit diet; Colonic daily for a few days; long Neutral Bath, 30-60 minutes.

TO RELIEVE OR PREVENT EXHAUSTION—Rest in bed; Tonic Friction twice daily.

FOR FEVER—Local fever-reducing measures, as may be indicated; Neutral Bath; Cooling Pack.

CONTRAINDICATIONS—Avoid very hot or prolonged cold baths; avoid cold to head when face is pale.

HYSTERIA—1 (Melancholia)

SYMPTOMS—There are a great variety of possible symptoms: The mental attitude is calm and somewhat aloof. There may be easy laughing and crying; episodes of emotionalism, possibly without any apparent explanation, and even occurring in sleep. The problem may, or may not, be psychotic in nature.

In some cases, fugues occur. These are episodes when the person takes on a different personality, name, etc., leaves and goes somewhere else for a time. When the primary personality returns, there is a forgetting of the secondary state. But this problem is not the same as the psychotic condition, known as schizophrenia—in which there is a splitting in personality, incongruities, and confusion co-exist in a person at the same time.

CAUSES—There may be an emotional instability, various sensory disturbances, and a marked craving for sympathy which sometimes leads to unusual words, actions, and activities.

Hysteria (melancholia) can result from post-menstrual syndrome, food allergies, hypoglycemia, prescribed or illegal drugs, or alcoholism.

TREATMENT—

• Place the person on a nourishing diet, avoiding all junk food.

• Test for allergies

• Give a 6-hour glucose tolerance test.

• Keep a daily diary, to test for PMS. Look in a Physician's Desk Reference, to locate drugs which might be causing problems.

• Take the vitamins and minerals needed, to build strong nerves

• Place the person in a quiet place, devoid of spectators. Give cold applications to the head, face, and neck. Quiet, firm suggestions are important.

HYSTERIA—

DIETARY AND LIFESTYLE—Tonic, reconstructive, and restful measures. Graduated cold applications (Tonic Frictions) are of the first importance and must be carefully managed at first; application twice daily, short, intense; Prolonged Neutral Bath in cases due to autointoxication; Out-of-door life; generous aseptic diet; suitable moral and mental surroundings.

CONVULSIONSNeutral Bath; Neutral Pack; Hot Blanket Pack; Hot and Cold Compress to spine or Sponging; Hot Enema; Hot Half Bath with Tepid Pail Pour to head and spine; Heating Compress to spine.

COMA—Alternate Compress or Sponging to spine; Cold Mitten Friction; Hot Half Bath; Cold or Hot and Cold Compress to head.

VOMITING—Hot and Cold Compress over stomach area; dry diet; rectal feeding, if necessary; ice to the area above the stomach; ice pills.

ANOREXIA—Ice Bag over stomach half an hour before meals; Alternate Compress over stomach, twice daily; Cold Douche to spine and epigastrium.

COUGH—Fomentation to spine; sipping hot water; Chest Pack; Cold Compress to the throat; gargling hot water several times daily.

MUSCULAR PARALYSIS—Alternate Pail Pour or Alternate Douche; Alternate Compress; Cold Pail Pour; Cold Douche; massage.

CONTRACTIONS—Fomentations to affected parts, followed by Heating Compress; Revulsive Douche.

TREMBLING—Neutral Pail Pour to spine at 92^0-96^0 F., for 15 minutes.

INCONTINENCE OF URINE—Percussion Douche to spine; Neutral Sitz Bath for 15-30 minutes.

RETENTION OF URINE—Hot Sitz Bath, 5 minutes, followed by Cold Plantar Douche; Cold Perineal Douche; Cold Douche to the lower back area, front and back, opposite the intestines and pelvic organs; Cold Rubbing Sitz Bath.

PARESTHESIA—Alternate Douche or Alternate Compress; Cold percussion Douche to spine; Cold Hand Rub or Cold Mitten Friction to affected area. Do this after a hot Fomentation for 5-10 minutes.

HYPERESTHESIA (PAIN)—Hot fan Douche; Fomentation followed by Heating Compress; Revulsive Compress. Cold Douche to the symmetrical part of the opposite side.

LOSS OF MUSCULAR STRENGTH—Alternate Douche; Cold Percussion Douche.

VISCERAL NEURALGIA—Very hot Fomentation over the affected part 20 minutes twice a day, followed by Heating Compress during interval between; Revulsive Compress; Revulsive Fan Douche.

MOTOR PARALYSIS—Alternate Douche, Cold percussion Douche.

HICCOUGH—Hot Trunk Pack;, Heating Compress over stomach, sipping ice-cold water.

SYNCOPE—Heat to neck; short cold application to chest and face, Alternate Compress to spine, percussion of the chest with the hands dipped in cold water or with the end of a cold towel, vigorous centripetal friction; rhythmical traction of the tongue.

SPINAL IRRITATION—Fomentation to the spine twice a day, followed by continuous Heating Compress during the intervals between; Revulsive Fan Douche; Fomentation followed by Pail Pour for 5 minutes, 80^0-85^0 F.

ANAL SPASM—Hot Anal Douche or hot Shallow Sitz Bath at 102^0-106^0 F. General applications of massage and regular gymnastics.

APHONIA—Ice Bag to the throat with general Cold Douche.

GENERAL METHOD—Improve his general health by vigorous tonic measures continued during many months or even years. Improve the general nutrition by a nutritious, simple, unstimulating dietary. Combat special symptoms by the hydrotherapy measures indicated above, together with suitable mental and moral treatment.

MELANCHOLIA—2 (J.H. Kellogg, M.D., Formulas)

Note: Hysteria—1 is also Melancholia—1. In Kellogg's day Hysteria and Melancholia were two separate conditions; in our day they are treated the same.

FOR ANEMIA AND MALNUTRITION—Fomentation to abdomen followed by Cold Mitten Friction twice daily; aseptic diet; water drinking; air bath; Radiant Heat Bath; sunbaths; rest in bed; massage.

FOR CEREBRAL ANEMIA (which is usually present)— Warm compress at 98^0-100^0 F. to back of neck for 15 minutes, 3 times daily.

TO DIMINISH BLOOD PRESSURE (which is usually excessive)—Warm Full Bath, 98^0-100^0 F., 10-20 minutes, twice daily; Heating Wet Sheet Pack; Heating Trunk Pack, 30 minutes, twice daily; Neutral Douche, 94^0 F., pressure 10-20 pounds., duration 2-4 minutes.

CONSTIPATION—Laxative diet, fruit, malted cereals; Cool Enema.

MENTAL AND NERVOUS IRRITABILITY—Neutral Bath at 94^0-96^0 F., 30 minutes to 2 hours; Heating Wet Sheet Pack; Hot Abdominal Pack; Heating Compress to spine.

CONTRAINDICATIONS—Avoid cold immersions and all very cold general applications which, by raising blood pressure and exciting the irritable cerebral structures, aggravate the condition.

GENERAL METHOD—A person suffering from melancholia requires essentially the same therapeutic measures as the neurasthenic, with the special moral treatment and control indicated.

MENTAL ILLNESS

SYMPTOMS—Depression, anxiety, delusions, nervousness, loss of interest in school or work, sleep pattern changes, irritability, withdrawal from society, sudden rages, lack of enthusiasm, and panic attacks.

CAUSES—It is important that we note that this article includes both neurotic and psychotic syndromes. Just because a person has one or more of the symptoms noted here, that does not mean he is crazy. He may just be having a hard time dealing with life.

A person is no longer able to cope effectively with emotional or physical stresses, which others are able to handle. Women are twice as likely to experience mental illness.

TREATMENT—

• There may be heredity factors, but the environmental factors and lifestyle are very important! Nutritional deficiencies have a strong effect on mental health.

• Autointoxication and constipation are contributing factors in mental illness. Symptoms which are alleviated range from mental sluggishness to hallucinations. Even schizophrenia can be greatly lessened.

• There is a direct relation between the transverse colon and the brain. When the colon is clogged, mental illness is triggered in some and an attack of epilepsy (which see) in others.

• Eliminate the "glue foods"; these tend to clog the colon, produce a buildup of mucous and toxins in it, and lead to mental problems. Such foods include white flour, sugar, eggs, meat, peanuts, and dairy products.

• Brain cells cannot function properly without proper nutrients

• It is known that many cases of mental illness are solved when a simple, nourishing, diet, including sufficient fiber and adequate vitamins and minerals, are given and the colon is cleaned out with enemas or colonics.

• A high-carbohydrate (whole grain) diet stimulates the amount of tryptophane in the brain, and produces a calming, peaceful, feeling.

• Exercise, especially out-of-doors in the fresh air, combined with relaxation helps rejuvenate the body and mind.

• Allergy specialists successfully treat individuals with mental illness by isolating foods and chemicals in the environment which induce the mental problems. Allergic reactions may be a factor in criminal behavior. In some cases, the offending food does not cause mental reactions until hours after being eaten. This is called "masked food allergy." Do not under-rate the allergy factor!

• Many persons with schizophrenia, autism, abnormal behavior, and subsequent learning disorders are caused by too much lead or copper in the body. Check your plumbing pipes. Plastic water pipes are the safest.

• Herbs which calm the brain and nerves include hops, chamomile, skullcap, valerian, wood betony, and schizandra.

INSANITIES (Post-Febrile; Post-Operative; Toxic; Puerperal Confusional)

MALNUTRITION—Rest, careful Tonic Frictions.

AUTOINTOXICATION—Aseptic dietary; fruit diet for 3-4 days: Warm Baths, Radiant Heat Bath, Sweating Wet Sheet Pack, followed by short cold applications; Wet Sheet Rub; or brief Cold Douche; copious water drinking; Colonic daily for a week or two.

PUERPERAL LESIONS OR COMPLICATIONS—Hot vaginal irrigation, Neutral or tonic Sitz Bath.

FEVER—Absolute rest in bed; prolonged Tepid Bath at 88^0-92^0 F., 30-60 minutes; Cooling Enemas; Cold Compress to head; copious water drinking.

ALCOHOLISM—Withdraw alcohol at once; withhold food for 3 days; nutritive enemas; copious water drinking; Neutral Colonic daily for a week.

CONTRAINDICATIONS—The same as those of Mania, when conditions coincide. Especially avoid all intensely exciting procedures.

GENERAL METHOD—In most cases essentially the same as for Mania, giving special attention to the particular causal element which may be a prominent factor in the case. In certain cases, the symptoms are those of Melancholia, and the treatment must be modified accordingly.

SCHIZOPHRENIA (Paranoic, Catatonic, Hebephrenic; Dementia Praecox)

SYMPTOMS—Principle signs are moodiness, solitary habits, stupor and excitement, delusions and hallucinations.

Hallucinations common, especially of hearing. Loss of emotion or, if shown, it is out of place. Actions are absent or inappropriate. There may be impulsive destructive acts and negativism. Extremities tend to be cold, blue, and edematous (puffy with fluids). Conscious, but takes little cognizance of what is going on about him. Delusions frequent but absurd, often of grandeur and persecution. May have attacks of tears or laughter. There may be excited activity. May remain in a stupor. Grimaces and mannerisms are frequent. Symptoms sometimes change form.

Schizophrenia affects about 3% of the population at some time in their lives.

CAUSES—This is the most important of the psychoses, and is characterized by a loss of contact with the environment and by a disintegration of personality. The earlier name for it was dementia praecox.

There are four primary types. A vague sense of being two personalities and "changed" occurs in all types:

1 - Simple schizophrenia: The person becomes dull emotionally, loses ambition, and tends to withdraw. Yet there is no serious intellectual impairment.

2 - Paranoid schizophrenia: The person develops extensive delusions of persecution. He believes people are plotting against him.

3 - Catatonic schizophrenia: The person may show stereotyped excitement or simulate a stupor. But he will clearly remember it, if he later recovers.

4 - Hebephrenic schizophrenia: There are mannerisms, speech anomalies, hysteroid symptoms, delusions, hallucinations, and often a dreamy, ineffectual reaction.

Some believe schizophrenia is hereditary; others think that only attitudinal, dietetic, and external factors lead to it (head injuries, complications during birth, reaction to a virus or medicinal drug, environmental poisons).

A wide range of medicinal drugs can produce schizoid symptoms. It is known that many schizophrenics had birth complications or a head injury in childhood.

Schizophrenia is also linked to an excess of copper in the body. High copper levels cause vitamin C and zinc levels to drop. It is believed that a zinc deficiency may be a key factor inducing schizophrenia. A full 80% of those with this disorder have a deficiency of zinc and an excess of copper and iron in their body tissues. Supplementation of zinc and manganese are needed to correct this.

Zinc deficiencies occur more frequently in the winter, and this is when this disorder frequently begins.

It is now known that some individuals who, later in life are schizophrenic, had a prenatal zinc deficiency, from their mother’s diet and way of life.

The pineal gland in the brain normally has high levels of zinc, and weakening of this endocrine gland may be a factor.

Magnesium deficiency may also be involved, since schizophrenics have lower magnesium levels in their blood; and, when they recover from it, their magnesium levels are higher.

Hypoglycemia appears to be frequently involved in schizophrenia. A fair level supply of blood sugar is vital, if oxygen is going to be regularly provided to the brain. Yet it is believed that an undersupply of oxygen is a key factor inducing the disorder.

High-quality food, with emphasis on slow-to-digest whole grain products, should be eaten.

Mineral and trace mineral imbalances exist in schizophrenics. A nourishing diet, along with vitamin/mineral supplementation is needed.

Severe vitamin B_3 (niacin) deficiency (pellagra), with its characteristics such as nervousness, loss of memory, confusion, paranoia, insomnia, depression, and hallucinations—resembles schizophrenia so closely, that the two disorders probably are the same.

Here is an interesting fact: When experiments were made on prisoners, and they were given no niacin for extended periods of time before they were again given normal diets, it required 60 times as much niacin to return them to normal, in order to prevent pellagra.

Severe deficiencies of other B complex vitamins can also produce schizoid symptoms. Severe B_{12} deficiency caused difficulty in concentration, poor memory, agitation, hallucinations, and manic or paranoid behavior. Biotin deficiency causes depression, lassitude, panic, and hallucinations.

Faulty essential fatty acid metabolism or deficiency is another factor leading to schizophrenia. The remedy was 2-6 tbsp. of linseed oil, in divided doses, given daily. Flaxseed oil, wheat germ oil, or sunflower seed oil work just as effectively.

Another factor is heavy metal poisoning. This would include lead, copper, mercury,

TREATMENT—

• Using orthodox psychiatric treatment, complete recovery is rare. The orthodox methods use various tranquilizers, all with severe side effects—electroconvulsive shock therapy and psychotherapy. Orthodox remedial substances deplete many essential vitamins, are highly toxic, damage brain tissue, and should be avoided.

• Using natural remedies, which are far broader in scope, solutions are much more likely.

• The primary areas of treatment are discussed above.

• Go on a fruit and vegetable juice diet for a time. This will provide vitamins and minerals while keeping the blood sugar normal during the fast. Repeat short juice fasts or one longer one for 4-6 weeks. Overly sweet fruit juices should be avoided or diluted 50-50 with water.

• During this time, give massive doses of niacin, in the form of niacinamide (1,000-3,000 mg with each meal; often as much as 25,000-30,000 mg per day). An equal amount of vitamin C should be given, B vitamins, especially pantothenic acid, and 3-5 tbsp. of brewer’s yeast.

• After recovery, a large daily dose of niacinamide will have to be continued indefinitely.

• Repeat: Do not give massive doses of niacin, but rather in the form of niacinamide.

• Avoid all processed, junk, and fried foods. Do not use white flour or sugar foods. Stop eating meat. Avoid alcohol, tobacco, and caffeine.

• Eat a high-fiber diet, including plenty of fresh raw vegetables and quality protein. Complex carbohydrates in the diet are important to keep the blood sugar level.

AUTISM

SYMPTOMS—Symptoms are very obvious before the age of three: A marked unresponsiveness to other people and surroundings, indifferent to affection, and withdrawn into themselves.

Sometimes strange actions, such as pounding feet while sitting, continual rocking back and forth, silent sitting for long periods of time, bursts of hyperactivity while they bite, or pound, on their bodies.

CAUSES—There are about 100,000 autistic children in America. They look normal in appearance; but, in addition to the above symptoms, they have learning disabilities and are often mentally disabled. A rare few have astounding abilities in mathematics or music.

Nutritional improvement appears to be the best route for natural treatment.

In some instances, autistic children have recovered, usually during adolescence. Some progress well, and later lose what was gained.

If you have an autistic child, give him a high B-complex supplementation, plus other nutritional factors.

TREATMENT—

• Dr. Bernard Rimland, a research psychologist in San Diego, found that 50% of his patients improved when placed on a megavitamin therapy.

• The vitamins which especially helped were niacin (use as niacinamide), pantothenic acid, B_6 and C. When improvement did not occur, additional B_6 was given, along with magnesium, to offset the B_6, and then improvement was seen.

• As soon as the vitamin therapy ceased, the symptoms returned.

• As a result of vitamin therapy, there was a reduction in tantrums, improved speech, better sleep patterns, increased alertness, and greater sociability.

• Allan Cott, M.D., a New York psychiatrist, gave 200 mg of pangamic acid to autistic children, and decided improvement frequently occurred.

• Give a nourishing diet high in vitamins and minerals.

• The diet should be high fiber, of 50-75% raw fruits and vegetables.

• No junk, processed, sugar, dairy, wheat, or white-flour foods of any kind should be given. Avoid fried and fatty foods and most meats.

• Regular, moderate, exercise is important.

• Use an elimination diet

CHAPTER TWENTY-TWO
PREGNANCY AND CHILDBIRTH

The arrival of a newborn baby is an exciting moment for the entire family. After months of waiting, not a little expense, and the experience of labor and childbirth, the newborn baby is a welcome sight indeed. Many items must be considered in planning for the baby' s arrival. First, the mother' s health together with the presence or absence of genetic diseases in the family should be scrutinized carefully. Financial questions should be asked, since the current costs for obstetrical care and delivery in local community hospitals is formidable. Next remember, with the arrival of your baby, expenses have just begun. The costs of feeding, clothing, and educating children are all subject to inflation. This should, ideally, be considered before conception occurs. For many reasons today, financial and philosophic, numerous couples contract with midwives and plan for home deliveries.

In this context, the following description of pregnancy and childbirth applies especially for **home birthing** experiences. However, I do not want to be understood as recommending that *every* baby be born at home. Nonetheless, a long experience involving most western European nations attests that a home delivery, if performed by a competent midwife or medical practitioner, can be safe and beneficial to all concerned. Barring unforeseen complications, home birthing proves extraordinarily satisfying to both the newborn' s parents.

Evidence of this modern trend toward natural home-like deliveries is evident in an increasing number of ‘‘birthing rooms" placed inside modern progressive hospitals. A definite trend toward breast feeding, "rooming—in," and maternal—infant bonding also advertises the modern mother' s interest in personalized, home—like approaches to those sacred moments when her off335 spring takes his or her first breath. I will depict first some problems of early pregnancy, with many simple remedies that can be applied in the home. Then, with a description of prenatal care I will offer several suggestions on the delivery of a child in the home, its aftercare, and the successful initiation of breast feeding.

PROBLEMS IN EARLY PREGNANCY

One of the earliest predicaments to confront a woman who has missed one or two periods, involves this all absorbing question, "Am I pregnant?" There are several simple techniques to determine pregnancy with reasonable certainty, right within one's own home. A suspicion arises when there is a miss of the normal menstrual period. If menses have been regular for several months, then the intuition heightens. Many women have months when they skip the cycle normally. Others have periods too scant to notice. Then the diagnosis of pregnancy becomes more difficult.

Symptoms of pregnancy may be present. You may experience a feeling of *nausea*, typically in the morning. This is occasionally associated with prolonged vomiting lasting throughout the day. The breasts may swell and become more tender than is usually associated with the premenstrual state. A slight change may occur in the vaginal discharge. Occasionally, a woman who has had previous children just "feels pregnant." In pregnancy after three to four months, a "lump" may actually be felt above the pubic bone, located in

the lower abdomen. This is probably the enlarging womb. By five months gestation it will usually reach to the navel, with an obvious rounded prominence in the lower abdomen. Fetal movements may be sensed at four to four and a half months, though they are sometimes detected earlier by experienced mothers carrying their second or third child.

In most pharmacies today, you can purchase a urine pregnancy test kit. This analysis very simply measures the amount of HCG *(Human Chorionic Gonadotropin),* a hormone secreted by the developing placenta. A positive test for pregnancy develops within three to six weeks after conception. Use a concentrated morning urine sample for best reliability. If performed according to directions, these tests are quite dependable in confirming the suspicion of pregnancy.

Vague abdominal pains are sometimes felt in early pregnancy. Pelvic pain may occur from pressure on an enlarged ovary, or from a "tilted" uterus. As it enlarges, the organs become tighter in the pelvis, while the womb has not yet risen into the abdominal cavity. Pain could be related to constipation, or to **cystitis**. Usually, a bladder infection is characterized by burning combined with a frequent urge to urinate. Stretching of the ligaments that support the uterus may produce pain. In later months, the pressure of a fetal part on a pelvic nerve or a sudden shifting of the baby within the womb may give rise to such symptoms. Usually reassurance is all the patient needs. Severe pain or sudden changes in health status should be called to the attention of a physician immediately, however, since it could be an **ectopic** *(tubal)* **pregnancy.** If this goes unrecognized it could rupture, with internal hemorrhage and potential disaster. Appendicitis may occasionally be superimposed upon pregnancy, requiring early diagnosis and prompt surgical treatment as usual.

Vaginal bleeding sometimes occurs, even after pregnancy begins. Usually this appears scant and transient, but at times it may be profuse. When an actual hemorrhage develops after pregnancy has established, this constitutes an obvious threat of **miscarriage**. The presence of regular contractions and pelvic pain, combined with vaginal bleeding, should alert to this possibility. At times a miscarriage may occur with the complete passage of the placenta and the subsequent stoppage of bleeding. If incomplete expulsion of the placenta or fetal tissue occurs, a simple operation, called a **D and C** *(dilation and curettage),* should be performed, so the bleeding will stop and the uterus can return to its normal size. Fever in the presence of a miscarriage is a more ominous sign, as it probably indicates the presence of pelvic infection.

For treatment of threatened miscarriage, bed rest is always advisable. The absence of straining, standing, or moving about lessens the flow and usually decreases the likelihood of a miscarriage. Sexual intercourse should be avoided in early pregnancy, particularly near the times when a menstrual period would otherwise occur. Uterine cramping and the likelihood of miscarriage is greater at these cycles, for reasons yet unknown. Hormones are no longer given routinely to mothers threatened with miscarriage. They are powerless to stop the inevitable. Furthermore, progesterone concentrates may cause damage to the fetus, if it is carried to term. Scientists believe that many spontaneous miscarriages are the result of some chromosomal defect, which otherwise would have led to congenital deformity. They are eliminated by nature before the pregnancy goes too far. This is of considerable consolation

to parents, suddenly disappointed by the premature loss of a long-looked-for baby. Most couples can wait a few months, then try again.

One of the more troublesome conditions of early pregnancy, sometimes lasting for months, is an upset stomach. Called “morning sickness,” for obvious reasons, nausea and vomiting tends to herald the onset of pregnancy. Although only a few ladies find it incapacitating, these symptoms tend to hinder proper nourishment, so important in the early months of pregnancy. This nausea may last throughout the day. On the other hand, it may be relieved by eating some crackers or other form of dry food. Frequently, the appetite completely changes, and the “lady-in-waiting” craves foods that were formerly disliked. In extreme cases this so-called **pica** (abnormal craving) is manifested by the “clay eating” habit of southerners, or the strange love for “pickles and ice cream” that ordinarily seems like a repulsive combination. Mothers need to be careful that their appetites are controlled by reason when such cravings become abnormal.

Where vomiting in pregnancy becomes persistent, hospitalization may prove necessary. One or two days of intravenous feedings is normally sufficient to bring back a normal digestion once again. Emotional contributions to this gastric problem are frequent. These can be related to ambivalence about being pregnant, or an underlying temperament of nervousness manifested in an unusually sensitive stomach. Nevertheless, the physiologic and hormonal changes that occur are profound. Such endocrine considerations may well explain these early digestive symptoms. A tolerance for food usually emerges by the fourth month, enabling a normal digestive tone to continue for the remainder of pregnancy.

Adequate fluid intake is vitally important from the start. It is suspected that the common, insufficient intake of water is one principal cause of persistent nausea and vomiting. Drink at least six to eight glasses of water per day, at whatever temperature is best tolerated by the sensitive stomach. If the mother avoids soups and creamed mixtures, and chews thoroughly a rather dry meal of whole grain crackers, breakfast cereals, or raw vegetables, her food will stay down better and permit the best nutrition at this critical stage.

Vaginal discharge is often troublesome during the latter months of pregnancy. This may be due to the parasite *Trichomonas,* but is more commonly caused by a buildup of yeast or **Monilia** *(Candida albicans).* Hormone changes combined with increased perineal moisture and warmth, create an environment favorable to the growth of these organisms. Diabetes mellitus, particularly aggravates the tendency to develop yeast infections. Administration of hormones such as the birth control pill may produce a diabetes-like state in non-pregnant women. However, pregnancy increases this trend. Nylon underwear, panty hose, and tight slacks tend to increase the propensity for vaginitis. This is because greater warmth and moisture are produced in the perineum when one wears those synthetic fabric materials. Air circulation around the body and “breathing” of the skin is impeded. Then it leads to the rapid multiplication of yeast germs with such unpleasant symptoms as discharge, burning, itching, and skin rash. Gentle vaginal douches, with a dilute vinegar solution (one tablespoon of white vinegar to one quart of warm water) can help decrease the discharge and restore normal acidity to the birth canal. Specific agents are available to help in acute stages (such as *Massingill* products). However, the intestinal tract always harbors

these germs, so it is impossible to completely escape from them. Therefore, you will find it preferable to build up resistance and let improved health of the body create its own defense.

Marital relations should be avoided, not only when discharge or infection is present, but during any time of spotting or uterine cramping. Moreover, for at least four to six weeks prior to the birth of the baby, intimate relations should likewise be curtailed, since a significantly increased risk of infection in the amniotic fluid surrounding the baby has been linked to intercourse at this stage. Sexual continence at this critical time will be rewarded with better health, as well as peace of mind.

PRENATAL CARE

Before your baby arrives, a great deal of care needs to be maintained to preserve the your best health. Although pregnancy is a normal physiologic event, many physicians treat it as a disease, and attempt to control too closely the behavior of the mother. Most women, however, can be taught the basics of hygiene during pregnancy. That means taking take responsibility for your own health.

During the monthly visits a pregnant lady makes to her midwife or physician, she will have a urine test for protein and sugar. Sugar in the urine raises a suspicion of diabetes. The diabetic mother is at increased risk during pregnancy, and has a greater likelihood of difficult labor, due to the predictably excessive size of her baby. Blood incompatibilities and hemorrhagic problems are more severe in a baby born to a diabetic mother. In addition, the stability of a mother's diabetes is greatly influenced by her pregnancy. It could even trigger the death of a baby *in utero,* or a miscarriage, if care is not taken to control the diabetes with appropriate levels of insulin. Still, one can perform the simple test for urine sugar right in the home with commonly available strips of *Tes Tape* or *Clinitest* tablets, available at any pharmacy.

Toxemia in pregnancy has several facets. With the mother's excessive accumulation of body tissue, fluid overload becomes generalized edema. Her weight may go up several pounds within a few days, creating puffiness not only in the ankles, but the hands, eyes, and occasionally her entire body. Along with this dilemma, the kidneys show signs of damage, losing large amounts of protein. A simple dip—stick urine test for protein may show 2+, 3+, or 4+ protein, implying heavy losses of this important substance. Third, the blood pressure rises, frequently producing symptoms of headache, painful pressure behind the eyes, or outright nosebleed. When these three manifestations of toxemia *(hypertension, proteinuria, edema)* occur late in pregnancy, it is crucial to evaluate the reflexes. Tap gently, for example, with the doctor's little hammer on the tendon just below your knee. Then, for preventive treatment, secure a calm, quiet environment, strictly limit your salt intake, and eat adequate protein to replace the heavy losses. Prolonged bed rest in a darkened room is occasionally prudent to prevent external stimuli that could trigger seizures. **Convulsions** are the most frequent cause of death (for mother *and* child) when toxemia develops. This grave complication should be prevented, whenever possible. Modern management with I.V. administration of magnesium sulfate (Epsom salts) prevents most serious and life-threatening convulsions that could occur without warning.

For many timely reasons, during every pregnancy I recommend the

routine measurement of weight and blood pressure on a monthly basis. Mothers, be sure to limit weight gain during pregnancy to approximately twenty five to thirty pounds. Extreme austerity in diet is not necessary, but neither is overindulgence and its resulting obesity a boon. Mothers who later breast feed their infants, find their weight returning to normal much sooner. Nursing helps because it utilizes significant numbers of stored calories to manufacture milk. As a general rule, very little weight gain is advisable during the first three months of pregnancy, about two pounds per month in the second trimester, and one pound or more per week during the final three months. This adequacy of weight gain provides for a mother's and child's needs with plenty of nutrients that will build bone and blood, muscle and connective tissue. Even more importantly, good nutrition promotes health to the nervous system and brain of each developing *fetus.*

Proper diet for every pregnant mother is vital. You should strictly avoid **all** use of alcoholic beverages, because of their toxic effect on your baby. Moreover, beverage alcohol sabotages your brain and will power. Tobacco should also be eliminated, for numerous reasons mentioned above. Coffee and tea are unnecessary, as every pregnant mother needs a calm environment without stimulants or any chemical that would weaken the nervous system. Recent research shows caffeine definitely harmful to the unborn child, capable of transmitting a legacy of irritability to the high—risk offspring.

The mother's diet should ideally be unrefined, with a unequivocal emphasis on whole grains, fresh fruits and vegetables, along with adequate amounts of water. Calcium intake can be secured through a liberal use of whole grain cereals, green leafy vegetables, and skim milk. The iron needed to maintain healthy red blood comes from such foods as: cereal grains; fruits—such as raisins, prunes, and strawberries; and dark green and yellow vegetables. At times, supplements are needed for those with deficient absorption of these important trace minerals. All other needed vitamins and minerals can be obtained easily from a diet of unrefined natural foods.

The mother should eat a substantial breakfast. Energy needs for the day are best obtained at its beginning. One or two pieces of fresh fruit, a slice of whole wheat toast with peanut butter, a bowl of cereal such as shredded wheat, oatmeal, or granola, topped with fruit and soy milk make an excellent breakfast. For variety a healthful waffle, apple crisp, fruit sauces or muffins may be substituted. The mother who starts the day sharp with a good breakfast will keep going longer and maintain far better health than those who sleep in, nibble a little, then make up for it with evening snacks. Lunch should be carefully planned, so that the noon meal is as generous as breakfast. A vegetable or two, a baked potato, a bowl of soup, or a sandwich on whole wheat bread, with tossed salad, or a vegetable entree are some of the variations that bring the best of natural nutrients for better health to mothers. Vegetarian recipe books abound with suggestions for cooking these natural foods. Suppers should be light—fruit, fruit soup, *zwieback,* or homemade crackers are ideal. The evening meal should be completely digested several hours before going to bed.

Exercise should be carefully planned, to keep the muscles strong and the joints limber. "Tailor sitting" helps the perineal muscles to relax and loosens the ligaments of the thighs. Arch the back from the hands and knees position to strengthen the postural muscles. This so-called "pelvic rocking" exercise is

excellent for late pregnancy to minimize low back pain. Moreover, it helps promote an erect standing and walking posture. “Sitbacks,”— in which a person sits on the floor with the legs outstretched and leans back, then forward, then back, repeating several times—is an exercise designed to improve tone in the abdominal muscles. It benefits the tummy, while avoiding any danger of back strain so common in more traditional sit-ups. Practice a general routine of warm-up calisthenics each day to prevent muscle cramps and joint tightness, which could otherwise create problems later during labor.
The very best exercise, however, for any pregnant mother is walking. Walk briskly one, two, or even three miles per day with your shoulders back, the arms swinging comfortably from the sides, and your head erect. This will pay dividends in fitness, health, and a feeling of vigorous well-being. The mother who walks during pregnancy may well breeze through labor. On the average, labor and delivery requires less time in a physically fit mother, when you can relax and cooperate with these forces of nature. Swimming, bicycling, gardening, and other mild activities are likewise beneficial during pregnancy to keep the muscles firm and the disposition gentle.
With the physical culture of your body, remember to cultivate the mind. Pregnancy is an ideal time to read books on child training and natural childbirth. You can secure the best mental preparation for motherhood in a context of Christian commitment that makes motherhood a partnership between you and your Maker. Such encouraging books as *Child Guidance* by Ellen G. White and *Natural Childbirth and the Christian Family* by Helen Wessel constitute valuable resources to every parent who is serious about successful childrearing, as well as child bearing.

HOME DELIVERIES

In European countries most babies are delivered at home. Until recent years in the United States, the same custom was true. Among idealistic college youth, natural living enthusiasts, and those with no insurance, home delivery still holds an attraction. Midwives and occasionally physicians usually attend these patients. Husbands, wives, nurses, and family physicians should all become acquainted with the techniques of a home delivery. Either through planning or in an emergency, this knowledge may prove most useful.
First in importance is the **recognition of labor.** For several weeks prior to delivery there may be painless, irregularly spaced contractions. These so - called *Braxton—Hicks contractions* serve to firm up the uterus and, as it were, “prime” it for the main event. The baby typically “drops” several weeks before labor is to begin, as the head descends into the pelvis, creating a “lightening” sensation. Slight cervical dilation then follows, with increased secretion of mucus—like discharge.
When labor actually ensues, however, one of three changes heralds its onset. The loss of the mucus plug, at times coated with blood *(bloody show),* may coincide with the onset of labor. Second, the cervix begins to thin (called *effacement)* and dilate. Regular contractions then commence, usually coming every eight to ten minutes, lasting at least sixty seconds. They then increase in frequency, becoming quite intense. Labor contractions located in the low back may be extremely painful. They are commonly associated with an “occiput posterior” delivery. In this more challenging type of labor, the back of the head orients toward the mother’ s back, making passage through the birth canal during labor more difficult. The “bag of waters” *(amniotic sac)* may

burst, causing a sudden flood of warm clear fluid. Occasionally, the escape of urine or a vaginal discharge may mimic the breaking of the water. This must be tested with **pH** paper (litmus or nitrazine). The amniotic fluid is always alkaline, turning nitrazine paper blue. When labor initiates itself by the breaking "bag of water," it normally proceeds faster. In fact, it is important for the delivery to be accomplished within twenty-four hours after the water breaks, to lessen any risk of infection in the mother's womb.

Labor usually progresses steadily through three distinct stages. The first stage consists of progressive cervical dilation and thinning *(effacement).* When the cervix is completely dilated, the opening is 10 cm. in diameter, the average diameter of a baby's head. The second stage of labor begins when the head passes through the completely dilated cervix, and descends into the birth canal *(vagina).* The first appearance of the baby' s head between the *labia* is called **crowning**. Progressive dilation of the vulva then occurs, requiring special self-control on the part of the mother. Periodic panting with each contraction, helps to avoid pushing the baby out too fast, thus preventing laceration of either vagina or cervix. If all goes smoothly at this point, the baby enters the world into the waiting hands of an attendant midwife or physician.

Your first maneuver, after the baby' s head emerges, should be to clear its mouth and nose of mucus. A rubber suction bulb works excellently for this purpose. Clearing the airway of mucus should be performed thoroughly, with the baby's head in a downward position (for a normal ''face down" delivery). Quickly check the baby's neck for the umbilical cord. If a loop of the cord is discovered, slip it gently over the head to make the delivery of the shoulders and trunk easier. This helps prevent its strangling the baby, or accidentally tearing the cord. A hemorrhage would then result, depleting the baby of its precious blood. The upper shoulder of the infant is usually delivered first, followed by the lower. Finally, the rest of the body slips out easily.

Continue holding the baby in a head down position, and suction the mouth and nose again. Wait "patiently" for the first cry and a few deep breaths that ventilate the lungs and bring a healthy pink color to the newborn body. The pulsing umbilical cord should be left alone for a minute or two, to allow further blood flow from the placenta into the baby. This acts as a mild "transfusion" to give the baby some of its own blood, which would otherwise be lost. "Stripping" the cord of its blood in this fashion retards the later development of anemia, commonly seen in babies a few months old. When the cord quits pulsating, it can be tied or clamped. In a normal home-like setting it is convenient to boil a clean white shoelace, and use this to tie the cord. About ¼ to ½ inch from the skin of the navel, tie the cord securely, with care taken to avoid pulling or traumatizing the umbilicus. Place two ties about an inch apart, the second one being further from the baby than the first tie. Then use a pair of sterilized scissors to cut between the cord ties.

The third stage of labor involves the **delivery of the placenta.** The "afterbirth" follows within five to forty five minutes, and usually separates on its own accord with no manipulation required. If necessary, use your hand to gently massage the uterus. Another "push" on the mother's part, and the placenta comes easily.

The uterus should again be massaged carefully. The baby can be positioned to nurse at mother's breast. This enables both hormonal and neural

mechanisms to contract the uterus and lessen the likelihood of hemorrhage. Periodically, for the next hour massage the uterus to keep it firm and minimize bleeding.

If there has been a laceration of the perineum during the delivery, it should be carefully inspected. If the tear is extremely small and not bleeding, it may be allowed to seal by merely lying still with the mother's legs together for a few hours. All deeper lacerations, particularly those involving the muscle of the rectal sphincter should be sutured. Even if this means a trip to the emergency room or doctor's office, it should be repaired, so complete healing will occur. Then the rectum and birth canal will not lose their normal anatomic relationships, leading to incontinence or discharge.

One most important qualification for a successful nurse-midwife is the ability to remain calm under pressure. The delivery of a baby is an exciting time. All the attendants should continually remain alert, interested, and composed. Encouragement to the mother during the strenuous pushing stage can make all the difference between a successful home delivery and one that needs obstetrical assistance in a hospital. The use of forceps can often be avoided if mothers receive the proper coaching and encouragement during this labor stage. Patience in waiting for the placenta will likewise be rewarded. Although excited viewers may request to take pictures, it is much more important to attend to the physical needs of the newborn than obtain a few precious snapshots.

The newborn baby needs immediate care once the cord has been divided. He or she should be wrapped in warm dry blankets, and the head gently covered. A small cap made of stockinette helps to prevent heat loss from the scalp as well as the baby's body. Prompt breathing and rapid delivery of oxygen to the tissues are enhanced when the newborn is kept warm. If the home is unusually cold, the child should be placed "skin-to-skin" upon the mother. Then, both should be wrapped in a blanket. The use of insulating "aluminum foil" may be helpful, but in such cases monitor the child's temperature frequently with a thermometer to prevent overheating. Some newborns enjoy the experience of suckling, and will lay at their mother's side to nurse for several minutes. A newborn baby who has been delivered with minimal trauma will have its eyes open, looking around. He or she may recognize the mother and "imprint" her image in their mind within hours after birth. This "bonding" is very important for the mother-and-child interaction, often conditioned by the immediate experience of the postpartum period.

Several emergency situations should be kept in mind. Their possibility, although rare, may require immediate intervention. The **prolapse of the umbilical cord** is one urgent complication. If the umbilical cord appears before the baby has been delivered, emergency rescue measures may help to save the infant' s life. The head should be firmly pushed back into the birth canal, to prevent its pressing tightly against the cord, and thus obstructing the flow of blood to the baby. Usually a *Cesarean section* is indicated in such cases. If performed soon enough, surgery may save the life of the child.

Breech delivery sometimes presents unexpectedly. Either a foot, both feet, or the rump of the baby will appear at the opening of the birth canal. If this was the first pregnancy, the baby is particularly in danger. Ignorance concerning the size of the "aftercoming" head leads most physicians in a hospital setting to do a *Cesarean section* on the mother whose firstborn baby

is a breech presentation. However, if the mother has delivered previous children, this baby could be delivered with the feet grasped and held by an assistant, elevated above the mother's abdomen. Then, the baby is rotated so that the head can be delivered face down. Exert a *gentle* pulling with a finger in the baby's mouth. When its chin appears at the entrance of the birth canal, help to deliver the head with minimal trauma.

At times, **premature** babies come unanticipated in the home. They are particularly sensitive to heat loss, and should be kept very warm and close to the mother. Usually the tiniest ones are unable to suck well and must be tube fed. With practiced skill, this small feeding tube can be placed in the baby' s stomach with each feeding. Give a small amount of breast milk for nourishment every two or three hours. Most premature infants should be cared for in a hospital with facilities for newborn intensive care.

Hemorrhage involving the mother is a serious emergency. Usually, this will occur immediately after the birth of the baby or within the first few hours. When the blood flow is bright red, there exists the possibility of an overlooked laceration. Look for it carefully. Pressure may help stop the bleeding until the patient can be transported to an emergency room. If there is no laceration, then the bleeding usually originates from the uterus. Firmly massage the softened dome of the uterus immediately, while applying an ice pack to the lower abdomen. This may help the uterus to contract. Place the infant at her breast to nurse and stimulate the release of *oxytocin.* This hormone aids in uterine contraction and shrinkage *(involution).* However, if bleeding is not immediately controlled, the mother should quickly be taken for emergency care. Blood transfusions and medications designed to contract the womb may be lifesaving.

Fever occurring immediately before or after childbirth may be ominous. It may indicate infection in the bladder, particularly if a catheter has been used. Occasionally, fever may be due to unrelated conditions, such as influenza or respiratory illness. However, it could emanate from infection of the womb itself. Urgent treatment may help to prevent blood poisoning and serious complications. Cooling measures, such as the hot blanket pack, will open the pores. On the other hand, a dripping wet sheet for evaporative cooling may be beneficial, as described in Chapter 17.

Maintain careful records of the delivery, including the weight of the newborn, and the time and date of birth. Birth certificates may in most states be filed and signed by the individual who attended at the delivery, whether they are husband, friend, nurse-midwife, or physician. A drop of antibiotic ointment or *1% silver nitrate* solution should be put in each eye of the newborn baby, required by state law to prevent gonorrhea infection.

After a brief rest the mother should walk, go to the bathroom, and take a shower if she feels able. Early physical activity after the delivery of a baby will enable her to gain strength as soon as possible. Exercise also helps to prevent complication such as venous clots *(thrombosis),* that formerly were common with prolonged bed rest. Textbooks of maternity nursing and midwifery describe in more detail the equipment needed for a home delivery and the most efficient setup of the bedroom.

BREAST FEEDING

Many benefits transpire from choosing nature's method for infant feeding. Popularized by the **La Leche** League in a book called *The Womanly Art of*

Breast Feeding, this routine is finding increasing acceptance among educated mothers and the thinking classes of society. Many scientific facts have amplified our understanding of the superiority for breast feeding over formula. In spite of infant formula propaganda, motivated by economic considerations, human milk and cow's milk are *very* dissimilar. Only the water and lactose (milk sugar) contents resemble each other. The protein is different, with amino acid ratios that are quite distinct. Much less *phenylalanine* (a factor in the PKU syndrome, called **phenylketonuria)** is present in breast milk. The principal protein of cow' s milk is *beta-Lactoglobulin,* while those of human milk are *lysozyme* and *lactoferrin.* The *casein* in the two milks are quite different. Fat content, cholesterol levels, and vitamins are likewise dissimilar.

Although technological tinkering has modified cow's milk to make it less inappropriate for the human baby, hindsight proves the story of formula production to be a procession of errors. Additions and subtractions of Vitamin B_6, Vitamin E, protein, sodium, and other substances have occurred. Various additives are employed in baby formulas, such as emulsifiers, thickening agents, and antioxidants. Although these are known not to be essential for nutrition, they seem for the most part to be lacking in normal breast milk.

Breast feeding affords considerable protection against infection, particularly the diarrheal diseases. Lack of cleanliness and contamination of bottles and formulas has produced a high mortality in developing nations where bottle feeding was introduced. Human milk is, moreover, rich in a wide range of "host resistance factors." It contains **Immunoglobulin A,** which protects against a number of infections. Lysozyme, an enzyme particularly effective against viruses and bacteria, is rich in milk from the baby's own mother. Factors that regulate the micro-organisms in the intestinal tract, as well as white blood cells (called *macrophages),* are there to combat diseaseproducing germs in the intestinal tract. A breast-fed baby develops a flora primarily of *Lactobacilli,* much different and more harmless than the normal germs resident in the intestine of a bottle-fed baby.

Cow's milk protein is the most common food allergen in infancy. About 1% of bottle-fed babies are affected by allergies to cow's milk. These foreign cow (bovine) proteins enter the body through the relatively "open" young intestinal wall. In later childhood and adult life, these foreign proteins are normally broken down. However, in early infancy they are absorbed intact. Breast feeding and the avoidance of semisolid foods—particularly eggs, meat, and wheat—until four to six months of age is considered the best protection against food allergies in infancy.

Child spacing is relatively successful when the baby is breast fed full time. When the baby is totally nourished from his or her mother's breast the menstrual period ordinarily does not return until at least six months after birth. A hormone called **prolactin** is secreted by the pituitary gland. This inhibits the onset of mother's menstrual cycle. World estimates indicate that *"lactation amenorrhea"* has a larger statistical effect on large scale birth control than any other available contraceptive program! Breast feeding in Western cultures consists of a limited number of feedings, usually only in the daytime. Often the early use of solid foods will negate further this protective effect, explaining why many breast-feeding mothers become pregnant within

the first year.

Breast feeding has great economic implications. In all communities this form of nourishment conserves resources. Not only concerning the ingredients used in cow's milk formulas, but also in canning tins and bottles, energy is consumed in production. Formula manufacturers have turned largely to the third world to promote their wares today. Sales personnel, dressed in white uniforms *(milk nurses),* enter the hospitals to give free packages of their artificial nutrition to mothers as they are about to leave. When mothers finally realize that they can neither afford the formula, or that it is unavailable, their breasts have already dried up. Then, thousands of babies lose their lives.

One most important benefit of breast feeding, however, prevails in the emotional realm. An intense attachment between the mother and her infant was shown to be related to early contact. Called "bonding," this occurrence is most significant during the first twenty four hours of life. Maladjustment developing later in the child, may be traced to the absence of this "mother—baby interaction" within the first few days after birth. Closer contact is more likely to occur when the mother breast feeds. She holds the baby more, cuddles it more, and is less likely, according to a number of surveys, to abuse the child physically subsequently.

In summary, then, we realize that there are many rewards to a natural birth and a natural feeding program. Whether the baby is born in a hospital or at home, reared on a farm or in the city, fed at the mother' s breast or cradled at her side, both parents and babies will find happiness, health, and security in these simple, natural, satisfying approaches to parenthood. This, Biblically speaking, is a fitting prelude to raising their children *"in the nurture and admonition of the Lord." Ephesians 6:4.*

CHAPTER TWENTY-THREE
OUTLINE OF BODY STRUCTURES AND FUNCTIONS

"Fearfully and wonderfully made" was the testimony of David the psalmist, after reverently studying the human structure. Here are some of the various medical terms that describe the science and study of the human organism: **anatomy**, the study of structure; **physiology**, the study of function; **pathology**, the study of disease process; and **genetics**, the study of heredity and inherited influences. An introduction to this knowledge is essential for any parent or health worker who desires to understand and treat various diseases.

It immediately becomes apparent, when we scrutinize the intricacies of the human form, that our bodies are highly organized. When God said, *"Let us make man in our image, after our likeness,* "the orderly principles of the universe were concentrated in designing the human structure. As the task reached completion, man was *inspired* with the breath of life. The genesis of our human race is embodied in this simple Biblical declaration, *"Man became a living soul,"* (Genesis 2:7). From the viewpoint of creation, then, we will ponder the organization, design, and purpose for our various body parts, which together make up a whole man.

The "hierarchy" of the body is usually illustrated by four general classifications: cells, tissues, organs, and systems. **Cells** are the "building blocks" of which our body is made. There are trillions of them, some functioning for a lifetime, while others are shed and replaced every few days. The concept of the *simple cell,* that satisfied foremost biologists a generation ago, is no longer adequate today. Cells are miniature factories with complicated enzyme systems and little organs (called *organelles)* that manufacture, store, package, defend, design, and even reproduce cells after their kind.

Central to the design of each cell is its **nucleus**. This specialized inner portion contains the hereditary material we call **DNA**. Containing the code for structural proteins, as well as its master plan for reproduction, this DNA *(deoxyribonucleic acid)* is wound in the shape of an alpha-helix, containing four basic groups of nitrogenous rings *(guanine, cytosine, adenine, thymidine)* linked through phosphate bonds to the five-carbon sugar, *deoxyribose.* This combination of genetic codes makes possible practically an infinite variety of human beings. Simple features of hair color, body shape, and native intelligence, as well as the more complex human features which give us our individuality, are determined by the DNA molecule.

Reproduction involves the genetic combining of one-half the DNA structure from the sperm and the other half from the ovum. In reproductive cell division, called **meiosis**, the number of chromosomes (usually, human cells contain 46) is reduced by half, allowing two germ cells to combine and make up a full chromosome complement for the fertilized egg (called the *zygote).* Cell division then occurs to create the beginnings of an embryo. This follows the usual plan of mitosis, where identical "daughter cells" are

produced with each division. It has been estimated that the possibility for variations and differences in the hemoglobin molecule alone is of the order l x 10 146 (this means the number one followed by 146 zeros). Thus, the probability of this marvelous event occurring by chance or evolving over long eons of time is virtually nil!

Other parts of the cell are equally marvelous. The **mitochondrion** is a tiny "organ" within the cytoplasm of the cell. It is in this structure that food processing takes place for the production of energy. For that reason, it is sometimes called a "power house." Oxygen is required to utilize various vitamins and minerals as cofactors in the conversion of food to energy. The **Golgi apparatus** is a packaging plant where enzymes, mucus, and other products of the cell's metabolism are stored in parcels, ready to be released. Closely related to protein synthesis in each cell is the **endoplasmic reticulum,** which provides a operational base for the **ribosomes**. These small packages of RNA *(ribonucleic acid)* constitute the location for our structural genes, that direct the manufacture of protein molecules. They, seemingly, are "turned" on or off like a thermostat in a type of *servo—control* mechanism. **Repressor genes** act in this manner to regulate the process of protein synthesis. It is estimated that there are approximately 175,000 genes derived from the DNA of each living human cell! This is represented along the more that eight million base pairs, comprising the numerous DNA molecules present in each cell's nucleus.

The second level of organization is our **tissues**. These are groups of similar cells, organized together for a common purpose. Examples of tissues are found in the following areas: **adipose tissue** is the storage form of fat, comprised largely of foamy appearing lipid—laden cells. **Epithelial** or covering tissues are the linings of the body. The skin is an example of **stratified squamous epithelium**, in which the cells are layered and flattened, with an external layer of horny *(cornified)* cells providing a waterproof covering for our body' s surface. The skin contains sweat glands, hair follicles, and oil-secreting **sebaceous glands**, as well as the following: nerve fibers for perception of temperature, pressure, pain, and touch; blood vessels for proper nutrition; and an under layer of elastic supportive tissue, fatty insulation, and lymphatic vessels that give the skin its contour, warmth, color, and texture. The respiratory membrane is lined with a **pseudo—stratified columnar ciliated epithelium.** This long term refers to the tall columnshaped cells lining the respiratory tract, each of which contains tiny hair-like cilia. These move in a wave-like fashion, transporting a layer of mucus toward the throat, carrying dust particles and other debris that must be eliminated daily. The lungs, for example, completely cleanse themselves by this *mucociliary escalator* approximately every twenty minutes, bringing any inhaled particles up to the cough area, where they can be expectorated or swallowed. Muscular tissue, nervous tissue, and blood—forming *(hemopoietic)* tissue are other examples of this hierarchy of organization within the body.

The various tissues of the body become more highly organized to form **organs**. These may be extensive, as represented by the skin, or solid organs, such as our liver or brain. The stomach and intestines are examples of hollow organs.

Various organs, functioning together to accomplish a common purpose,

constitute the **systems** of the body. There are nine of these systems, some of which will be illustrated in the sections that follow. The **nervous system** has to do with the electrical connections and general oversight or control of all body functions. The **circulatory system**, comprised of the heart and blood vessels, enables nutrients to reach the cells, oxygen to be delivered, then removes waste products, and maintains hormonal connections with all parts of the body. The **skeletal system** provides support, structure, a framework for contour, and protection to nearly all our body parts. In vertebrate animals, such as humans, the skeletal system comprises bones and muscles that move across the joints, keeping the spine erect, and creating the possibility of numerous facial expressions, as well as innumerable other actions. These muscles, of course, are controlled by nerve connections, to enable the body to move. Locomotion with functions as diverse as walking, running, sitting, eating, typing, or playing a musical instrument are coordinated with skills programmed for us by our muscular system.

The **respiratory system** includes our lungs, the voice box *(larynx)* and amazing air passages. This network governs the exchange of vital gases—oxygen and carbon dioxide. The digestive system includes our entire digestive tube and its related glands. However, we think of digestion especially involving the stomach, our liver, the intestines, gallbladder, and pancreas. Beginning in the mouth, digestive physiology embraces all our nutritive processes. The **urinary system** provides for the excretion of liquid and soluble wastes, the conservation of sodium and various vital nutrients, and numerous diverse functions of our two kidneys. The paired ureters, a urinary bladder, and urethra act as final excretory organs. The **reproductive system** preserves our human race, with hormone functions controlled by the hypothalamus and other command centers in our brain. These are mediated through the **gonads**— the ovaries and the testes—giving rise after puberty to the distinguishing sexual characteristics of women and men. Finally, there is the **endocrine system**, that most fascinating collection of *ductless* glands, which send hormones through our bloodstream to influence organs at considerable distance from the parent gland. The growth and development in our body, feminine menstrual cycles, and our rate of metabolism are examples of marvelous functions controlled through this somewhat mysterious hierarchy of physiologic functions.

BONES AND JOINTS

Just as a tall building is supported by a foundation, and its framework of girders and steel supports, so the body uses its framework, called the skeleton. Our bones give structure and shape to the human form, as well as providing a protective case around certain vital organs, such as the brain and heart. Bones provide for the larger share of our calcium storage, and constantly sustain a blood-forming mission. Most outstanding, is our locomotion provided through the skeletal system, enabling us to stand erect and move.

There are two general divisions to the skeletal system. The **axial skeleton** consists of the *cranium* or skull bones, the spinal column, and our twelve sets of paired ribs. Several smaller accessory bones, such as the hyoid in the neck, and the tiny bones of the middle ear, the *malleus, incus,* and *stapes* (hammer, anvil, stirrup) are also associated with our axial skeleton. We have twenty eight distinct bones in our cranium. Four of these contain air—filled sinuses—

two frontal, two maxillary, the ethmoid air spaces, and the sphenoid sinus. In the temporal bones on the side of the head are **mastoid** air cells arranged to allow equilibration in ambient air pressure with that in the middle ear. Abnormal blockage of the channels to any of these air-filled cavities can produce severe pain, or result in an infection—sinusitis or mastoiditis. The most vital parts of the body are encased in the skull. In addition, functions such as speaking, chewing, thinking, and breathing are intimately associated with this system.

The **vertebral column** provides for the erect posture of our human race. There are curvatures in the lumbar, thoracic (chest), and cervical (neck) portions. These form naturally during the normal developmental stresses as a baby sits, stands, and walks. There are seven cervical vertebrae. Interestingly enough, this number is equal in all mammals, the giraffe included! His neck bones are just longer. Twelve vertebrae delineate the chest or thoracic portion. To each of these is attached a pair of ribs, one on each side. So we have twelve pairs of ribs. Most of them connect to each other in the midline anteriorly through the *costal cartilage* and our breastbone, or **sternum**. There are two paired ribs on each side that are unattached in front; hence they are called *floating* ribs. Five **lumbar** vertebrae support the low back. They are the largest and heaviest, since they must bear the most weight. The **sacrum** is a set of five vertebrae fused together. The coccyx, our tailbone, connects its two or three bones at the lower end. Our sacrum forms the posterior wall of the pelvic girdle.

We look now at the second portion of the skeleton, the **appendicular** bones. These comprise the upper and lower extremities. The **shoulder girdle** includes the collar bone *(clavicle),* the shoulder blade *(scapula),* to which is attached the long bone of the upper arm *(humerus).* There are two bones in the forearm, the *radius* and the *ulna.* The latter hinges at the elbow, while the radius, the larger, pivots at the wrist, It is located on the thumb side. The wrist bones *(carpals)* are attached to five hand bones *(metacarpals)* in the palm of the hand. To these attach the bones of the fingers *(phalanges).*

The pelvic girdle is composed of a basin—like set of bones—the *ilium,* the *ischium,* and the *pubis.* These fuse to form the pelvic (or *innominate)* bone. United with the sacrum, they constitute the pelvic girdle. *The femur,* the longest bone in our body, is attached to the hip via a ball-and-socket joint. This bone articulates at the knee with the *tibia,* the largest bone of the lower leg. The kneecap *(patella)* increases the mechanical force of our leg straightening muscles. *The fibula,* a small accessory leg bone, aids ankle stability and provides the attachment of muscles traversing the lateral side of our lower leg. Ankle bones are called *tarsals.* The bones of the feet are the *metatarsals,* and our toes are called *phalanges.* There are an equal number of phalanges, fourteen, in both the hands and the feet.

The **articulations** or joints of our body enable these bones to move against each other. Some of the joints, such as our hip and shoulder, are *ball— and—socket* type. Others, like the elbow, are hinged joints. In the fingers we have *saddle* joints, in the wrist *gliding* joints, while in the axial skeleton the bones are relatively fused. The skull bones join together by fibrous tissues and are comparatively rigid; whereas in the spine the cartilaginous joints allow considerable motion. In fact, our vital intervertebral discs are thick plates of fibrous cartilage. They function as shock absorbers to

enable considerable running, jumping, and other forms of gymnastic "horse—play" without the danger of trauma.

The structure of any joint is closely related to its function. Most of these movable joints are bound together by fibrous connective tissue. This allows considerable elasticity, while providing for conservation of space and energy. Each joint surface is lined by cartilage, which acts as a cushion to absorb pressure. The movable joints are lubricated through a lining of synovial membrane and its enclosed fluid *(synovial fluid).* This fluid contains a large amount of protein, to keep the joint moving smoothly without friction. Disturbances in this synovial fluid, the joint lining, or the cartilage can give rise to various forms of arthritis.

There are several interesting differences between men and women in the structure of their skeleton. A male skeleton is usually larger, with heavier bones to accommodate his increased strength. Primary differences are found in the pelvic girdle. The female pelvis (a word meaning *basin)* is shaped to allow the cradling of a developing child and its passage through the birth journey. The male pelvis is more funnel-shaped with a narrowed opening. These contrasts develop during puberty.

The ratio of our head circumference to body height differs considerably with aging and maturity, being 1:4 in a baby and 1:8 in an adult. A cross—section of a child' s thorax (chest) is round, while in an adult it is oblong. Comparisons among other vertebrates can make the study of anatomy fascinating, where function is always reflected in the design.

The Scripture records, *"God made man upright,"* and God's design is best obtained when our posture is erect. The positions chosen for lifting, sitting, and standing should be selected with regard to the necessities of our system. A body in motion is less likely to become stiff and arthritic. The benefits of exercise to bone structure and joint flexibility are incalculable.

THE MUSCLES

Lending graceful form to the body contours, muscles are primarily for movement. When you are active, your muscles use more oxygen than any other part of the body. They store the carbohydrate **glycogen**, a type of starch for energy. The contraction of muscles is initiated by the nervous system. Coming from the brain, long nerve fibers unite (at the *synapse)* in the spinal cord with nerve cells connected to the muscles. Some muscles, such as in the eye, have such precise control that one nerve fiber innervates each muscle fiber. Other large muscles in the back have hundreds of muscle fibers controlled through one nerve. There are actually three basic types of muscle tissue.

Cardiac muscle, as you might expect, is found in the heart. These specialized muscles have microscopic filaments of contractile proteins (called *actin* and *myosin),* somewhat similar to those found in our skeletal muscles. Consequently, they appear *striated* viewed under a microscope. However, the muscle cells of the heart are much more interconnected than the skeletal muscles. The fibers connect with one another through a branching network, enabling the heart to contract as a whole. Moreover, the cardiac muscle is under a non-voluntary **autonomic** control. Fortunate for us, it does not require a decision of the will to initiate each heartbeat.

Smooth muscle fibers are found in our gastrointestinal and genitourinary tracts, the walls of each blood vessel, and the air tubes *(bronchi)* leading to

the lungs. These muscles are likewise controlled through the autonomic nervous system. Contraction is either speeded up or slowed down by a modifying action of these nerves. Stress influences the autonomic nerves in profound ways.

However, they are separated from the conscious (volitional) control of our central nervous system.

Third, we come to the **skeletal muscles**, long fibers of *striated* muscle tissue, all under voluntary control. These are the muscles that bulge when we exercise, and with which we move our limbs. All skeletal muscles, nevertheless, work in cooperation. When a muscle, such as the *biceps* in our upper arm contracts, other opposing muscles must relax, to permit a smooth coordinated movement. Along with this action, other muscles join in and assist, giving us the terms "prime mover," "antagonist," and "synergist"—names for the synchronized muscle groups described above.

Looking closer at muscle contractions, we see that each fiber contracts according to an **"all or none" law.** This means that either the fiber is contracted or it is relaxed. Additional strength is obtained by the phenomenon of "recruitment." Additional available muscle fibers unite to give the desired action added force. If contraction occurs repeatedly and the glucose supply is exhausted, *fatigue* sets in. Overstimulation of the muscle produces a sustained tonic contraction, called **tetany**. It is usually quite painful. A muscle cramp illustrates simply this phenomenon.

Motions of the major skeletal muscles are described under six general headings: **Abduction** involves a motion away from the body, as when your arm is raised from the side. **Flexion** is a forward motion of the arm, or a drawing upward at the elbow or knee. **Extension** is the opposite of flexion, where the angles of the extremity open completely. **Adduction** is the opposite of abduction; the limb is moved *toward* the body. Bringing the arm down to the side, is one example. The forearm **pronates** when the hand is turned inward, palm down. The opposite of this motion is called **supination**. Finally, we have **circumduction**, in which the ball-and-socket joints of the shoulder and hip rotate in a circular motion. These joints, of course, can circle either clockwise or counterclockwise. These six actions constitute the major directions of motion that our skeletal muscles make. The accompanying table lists the major muscles of our extremities and the basic functions of each.

Muscles that are not often used lose their strength. Then, progressive **atrophy** results. Complete absence of muscle function, either from nerve damage or disuse, is called **paralysis.** This may occur from injury to the central nervous system, as in a stroke, or from traumatic injury.

Muscle strength may be acquired through two types of exercise. **Isometric** exercise involves an increase of tension in the muscle without actual change in length. An example of this would be the mutual clasping of your hands, then pulling back on each arm, without any actual movement taking place. **Isotonic** exercise, on the other hand, is motion with constant tension. This occurs when a weight is lifted. Isotonic movements tend more to promote endurance than simply to develop muscle bulk. Most exercises, regardless, combine the two forms. Swimming, running, walking, and cycling, for example, produce our greatest build-up of strength, flexibility, and endurance.

Large muscles in our back and neck serve primarily the function of

posture. These are designed to possess a resting *tone* that maintains our body position without the necessity of continual thought. Proper standing posture is attained when your shoulders are back, the head erect, your belly, buttocks, and chin tucked in, and your knees very slightly flexed. A straight rod should line up with the tip of the ear, mid-point of your shoulder, the hip bone, the back of your knee, and the ankle bone. Walk with your arms swinging side to side; keep the shoulders and spine erect, and hold your head up. Proper posture contributes greatly to a free respiration, a healthy disposition, and an inner self-confidence, and poise. Correct sitting and standing posture will help promote all these attitudes. This attribute of nobility is something that corsets, girdles, braces, or body casts could never provide.

THE NERVOUS SYSTEM

Just as every army needs a general and every country a president, so the body has built-in methods of leadership and control. The "headquarters" for all body functions reside in the **central nervous system**. A brief overview of the nervous system shows it to consist of the brain, the spinal cord, and the peripheral nerves. The **autonomic** nervous system is involved in the regulation of blood flow, hormone production, responses to stress, and other functions not under voluntary control. Recently, a hormone-producing *(endocrine)* branch of the nervous system has been discovered. This, likewise, has profound regulatory effects on the body as a whole.

Transmitting nerve fibers, called **axons,** carry messages from the brain to every part of the body. Sometimes a sequential connection of *neurons* (nerve cells), with their transmitting axons, is required to reach a distant organ. The junction or connection between neurons is called a **synapse**. Chemical transmitters, such as *acetylcholine,* are used to transmit the electrical impulse, conducted first through the nerve fiber, then across the synapse to stimulate the second arm of the "final nerve pathway." Nerves bringing impulses to the brain are called **afferent nerves**. Those carrying impulses away from the brain to distant parts of the body are called **efferent nerves**. A simple illustration of how this works is seen in the *reflex arc.*

The reflexes of the body involve both the reception and the reaction of the spinal cord to sensory signals. This may be a pin prick, a tap on a muscle tendon, a burning sensation, or a loud noise. In the spinal cord and brain stem these impulses are integrated and connected with outgoing nerves that react to preserve the body from harm. An example of this occurs when you step on a tack. Immediately there is a *withdrawal response* in the affected foot and leg, while the other one extends to support the body and prevent a fall. The withdrawal of your hand from a hot stove, eyes blinking in response to loud noise, and the general startle response are examples of these protective reflexes.

The second type of reflex occurs when a tendon is stretched. Perhaps you remember your doctor taping on the patellar tendon, just below the kneecap. Your knee jerks in response to the sudden stretching of the tendon. These reflexes can either be accentuated or diminished, depending on the modifying nerve impulses that affect the spinal cord. For an example, a stoical individual may be able to endure much more pain without flinching than one who is sensitive or scared. Under certain conditions an athlete can perform feats of near super-human strength which in other circumstances would be virtually impossible.

The Spinal Cord

The **spinal cord** extends from the brain stem down to the lower level of the lumbar spine. Nerve filaments, appearing like a horse's tail *(cauda equina),* extend downward to exit through their individual openings. Discrete tracts of nerve bundles connect the brain to our extremities, supplying motor control and coordination. In turn, there are numerous ascending fibers bringing sensory impulses for the perception of touch, pain, temperature, and location. Position sensitivity allows for the integration of smooth motion, in conjunction with the cerebellum. Accidentally disrupting the spinal cord will produce paralysis and anesthesia below the level of the severed nerve roots. A pinched nerve occasionally develops when there is protrusion of the central portion *(nucleus pulposus)* of an intervertebral disc.

Gradual degeneration of the spinal cord occurs in such diseases as **multiple sclerosis** and **amyotrophic lateral sclerosis** (sometimes called Lou Gehrig's disease). In both of these conditions the nerve fibers lose their insulation. With demyelinization, a short circuiting of the electrical current results, producing patchy loss of muscular (motor) function, sensation, or both. In multiple sclerosis the condition is more progressive, diffuse, widespread, and subject to periodic remissions. The cranial nerves and sensory organs may similarly be affected.

The Brain

Headquarters for our body control system resides in an organ called the **brain.** Protectively housed within the skull bone, these three pounds of gelatin-like, gray substance operates as a powerful miniaturized computer. It is here that the **mind** dwells, our **personality** is integrated, **memory** storage takes place, and smooth control of all muscular activity begins. Humming a tune, playing the violin or piano, ice skating, reading *Braille* with the fingertips, learning a foreign language, the meticulous skill of a surgeon, and a warm handclasp by a loving friend— all these experiences, emotions, and sensations find their origin here. Let us examine the brain's various parts that make up the whole.

Cerebrum

The highest level of organization of the human brain is found in the **cerebrum. The cortex (from** a word meaning *bark,* as of **a tree)** consists of at least 15 million individual nerve cells! Many interconnections between these nerves *(synaptic junctions)* allow for the storage of an unlimited amount of information. Most of our increase of brain size occurs here, during the first year of life, making that period critical for the development of intelligence, personality, and a happy, productive existence. The **frontal** cortex is thought to be the "seat of the soul." It is here that the willpower, reasoning processes, and judgment find their home. Damage to the frontal lobes may occur with a severe head injury, surgically as in *a lobotomy,* or through the influence of mind-affecting drugs, such as alcohol and tranquilizers. Our sense of right and wrong, the desire to please others, and our ability to love—all reside within the frontal lobes. Just behind this area is the "motor strip," so called because the fibers that control all the muscles in the body are arranged here. An *association area* just adjacent to this set of "pyramidal neurons" provides for the integration of smooth muscular function, the ability to memorize a musical composition and the proficiency to reproduce accurately one' s signature for a lifetime.

The **parietal lobes,** just behind the frontal cortex and above the ears on each side, are areas primarily devoted to sensation. An *association area* nearby allows one to remember and accurately distinguish the feel of a nickel and a dime, the positions of the keyboard notes on the piano, and remember (hopefully) what it was like to touch the hot stove. In the occipital **cortex** of the brain is located our visual area. The imprint of visual images may be stored for a lifetime, although fortunately for us, some memories are soon forgotten. Our sense of awe when looking at a beautiful sunset, the happiness expressed as children play, and the pictures of childhood that bring back memories— all are integrated as the visual impulses traverse first our eyes, then lodge in the memory bank of the occiput. A blow to this area causes one to "see stars." Developing a cancerous tumor that destroys this part of the brain causes a characteristic type of blindness.

The **temporal** lobes contain the auditory receptors. One of the earliest experiments in brain function involved the electrical stimulation of this part of the brain. The patient, awake at the time, reported hearing a symphony which could be started or stopped as though one would remove the needle from a phonograph disc. This occurred as the electrical connections were initiated and withdrawn. Our ability to memorize a composition, sing a song, give a speech, and communicate in several languages is a tribute to the amazing engineering design of the temporal lobes.

Deep inside the cortex of the cerebrum, lies a pair of **basal ganglia.** These areas integrate the smooth flowing gait and enable fine finger motions. One type of *Parkinson's disease* stems from the degeneration of these areas. It is characterized by a shuffling gait and pill-rolling tremor, along with rigidity of the muscles.

The **thalami** are located more central to the midbrain. They function as relay stations. Sensory impulses are distributed to the brain from receptors in the skin, through ascending nerves of the spinal cord. Stimulation of the thalami, however, produces a *generalized* sense of discomfort. The localization of pain is accomplished within the parietal area of the brain.

Just below the thalamus on each side is a specialized part of nerve tissue called the **hypothalamus.** It is this area that secretes the *releasing factors* for many pituitary hormones. The headquarters for appetite and its control through the *satiety center* are located here. Some of its hormonal interactions will be presented as we study the pituitary glands and endocrine system.

The **reticular formation** in the brain stem regulates our level of arousal and alertness. Nicotine and caffeine affect this influential center, as well as impacting the hypothalamus.

The **cranial nerves** govern many functions of the face, including its sense organs, the muscles of expression, and the sensation of taste. These twelve paired nerves are as follows:

I. Olfactory nerve — Sensation of smell.
II. Optic nerve — Vision.
III. Oculomotor nerve — Eye muscles.
IV. Trochlear nerve — Eye muscles.
V. Trigeminal nerve — Sensation to the face and taste of the anterior two thirds of the tongue.
VI. Abducens nerve — Eye muscle.

VII. Facial nerve — Muscles of facial expression and mastication.
VIII. Auditory nerve — Sense of hearing and balance.
IX. Glossopharyngeal nerve — Swallowing mechanism, taste of the posterior one third of the tongue.
X. Vagus nerve — Swallowing reflex and parasympathetic fibers to the lungs, heart, stomach, intestines, gallbladder, and pancreas.
XI. Spinal accessory nerve — Muscles to shrug the shoulders and move the neck.
XII. Hypoglossal nerve — Movement of tongue.
These nerves may be affected by infections such as bulbar *polio* or degenerative conditions such as *multiple sclerosis.*

Cerebellum

Located at the base of the cerebrum in the back of the head is a specialized portion of nerve tissue called the **cerebellum.** Functioning like a miniaturized analog computer, it monitors the state of muscle contraction and the positions of all our muscles simultaneously. These bits of information are integrated into a pattern that smoothly controls the movement of muscles. The ability to feed oneself, play an accordion, type a letter, or walk a tight rope are all due to the special services provided by the cerebellum. Disease in this area often manifests itself in a staggering gait, an inability to point and accurately touch an object, with total loss of coordination when the eyes are closed.

The Autonomic Nervous System

The "automatic" (in the sense of being unavailable to *volitional* control) or **autonomic nerves** function as modifiers of organ function. There are two divisions to this system, the **sympathetic** and the **parasympathetic**. Sympathetic nerves exit from spinal roots in the thoracic and lumbar portions of the spinal cord to be distributed into all parts of the body. The adrenal medulla is affected, its stimulation producing the secretion of *adrenaline.* Blood pressure rises with the contraction of smooth muscle fibers in the blood vessels, all attributed to a "second cousin" of adrenaline, *noradrenaline.* Stimulation of the sympathetic nerves inhibits peristalsis in the intestinal tract, decreases blood flow to the stomach and its acid production, and inhibits the secretion of digestive enzymes. Dilation of the bronchial tubes leading to the lungs occurs when the sympathetic nerves are stimulated. The pupils dilate, the heart rate increases, and sweating occurs. All of these responses are typical of the "fight or flight" mechanism that we see manifested during periods of stress. A frightening "growl" heard while walking in the woods, the first tense ride in a jet plane, stage fright, or pressure in the operating room when one is performing unfamiliar surgery— all involve the secretion of this fascinating stress hormone, adrenaline.

The **parasympathetic** nerves exit through the sacral plexus, as well as via the cranial nerves. The voiding reflex of the urinary bladder, healthful digestion after a good meal, and clear vision through constricted pupils are all mediated by the parasympathetic nerves. The heart rate is slowed, salivation enhanced, and blood flow to the major internal organs increased through the media of parasympathetic nerves. In contrast to the chemistry of the sympathetic nerves whose transmitter is primarily noradrenaline, the parasympathetic nerves use the transmitter acetyl *choline.* This balance

between the “gas pedal” and the “brake” in our body infrastructure is profoundly influenced by *nicotine,* which adversely stimulates both systems simultaneously. Imagine driving a car that way. No wonder the body is affected and life span shortened by this “wear and tear” phenomenon of tobacco addiction.

NEUROENDOCRINE CONNECTIONS

Within the last decade a fascinating new family of body chemicals has been discovered in the brain. The **endorphins**, located in certain portions of the midbrain have been related to many powers, including our threshold for pain and the stability of the emotions. Every year another brain peptide gets discovered, stimulating fascinating research in stress control, mental illness, and the relief of pain. Corresponding hormones have been found in the stomach and other abdominal organs, revealing to scientists the Creator’ s wisdom and the complexity of body design. Surely, we are *“fearfully and wonderfully made.”*

Moreover, all of these integrated functions help produce a unique person with characteristics that no other human being possesses. This is partly what makes us so precious, not only to our friends and closest companions, but also in the sight of God, our Creator.

The ability of a human mind to restore and retrieve information is just amazing. Some philosophers maintain that, because of this, the memory should be carefully guarded, putting nothing into it that we would not choose to retain. To carry out this aim, we really should **“guard the avenues of the soul,”** and avoid reading, seeing, or hearing things that would suggest impure thoughts. You might have to turn away from a thousand topics which invite attention in order to keep your God—given computer from being filled with “garbage” which only confuses, never edifies. To develop in children and youth the type of mind that can give our world what it needs—Josephs, Esthers, Daniels, Carvers, Whites, and Lincolns—will require forethought and stern self—discipline. The television set may have to be discarded, so that study becomes more relevant. Furthermore, the labor of your hands should be such that it will help build character. Believe me, it is possible. Growing numbers of Christian youth are here to testify.

Our character does not come by accident. It develops by careful attention to the laws of the mind—laws which our Creator has written on every nerve fiber and brain cell, and which He sustains and upholds continually. *“In Him we live, and move, and have our being,”* (Acts 17:28).

THE ENDOCRINE SYSTEM

Most people at some time in their lives have observed midgets, giants, and excessively obese people. Although we know that some instances are genetic, other cases are certainly acquired. Significant numbers of people are affected by disease of their endocrine organs. The word **endocrine** refers to *ductless glands,* which discharge their secretions directly into the blood. This distinguishes them from other glands (called *exocrine),* which have channels (ducts) to discharge their secretions at a body surface location. For example, consider the sweat glands and the breasts.

The purpose for our endocrine glands is similar to that of the nervous system, namely communication and control. Through the **hormones** secreted by these glands our body maintains contact with many distant organs. Several of these hormones will be described as we consider the individual glands and

their functions.

Pituitary

The **pituitary gland** is located at the base of the brain, just beneath the hypothalamus. It is encased in a bony cradle called the Turkish saddle *(sella turcica).* The two parts of the pituitary gland exhibit different functions: the anterior pituitary *(adenohypophysis)* secretes several hormones via a feedback mechanism that functions like your household thermostat. **ACTH** *(adrenocorticotropic hormone)* controls the secretion of cortisone from the adrenal gland. This increases in certain conditions such as accidents, surgery, burns, and major stress. Over secretion of ACTH will cause adrenal gland enlargement and a clinical picture called **Cushing's syndrome**. In this case, there is a moon-faced appearance, with obesity of the trunk and relatively thin extremities, violet-hued striae on the abdomen, and general loss of mineral from the bones. Glucose intolerance resembles that of diabetes. Hypertension often develops. Along with the characteristic appearance come personality changes.

Deficiency of ACTH will lead to atrophy of the adrenal cortex and the onset of **Addison's disease**. In this syndrome there is low blood pressure, increased pigmentation of the body, weakness, and profound loss of salt. Eventually, the patient will collapse if the condition is not recognized and treated.

Several pituitary hormones stimulate the sex organs. **FSH** *(follicle stimulating hormone)* helps in the monthly development of an *ovum* by the ovary. It also plays a role in men in stimulating sperm production. **LH** *(luteinizing hormone)* aids in the ripening of the ovum prior to ovulation. It also promotes the production of *progesterone* by the ovary, just as FSH stimulates estrogen secretion. These two female hormones are potent in producing the impressive feminine changes of puberty. Another hormone, **prolactin**, helps to stimulate milk production and aids during pregnancy in the development of the breast for this purpose. In fact, all of these three hormones influence the breast, with resulting growth in size and proliferation of milk glands and ducts to prepare a pregnant mother to nurse her baby.

In the posterior portion of the pituitary *(neurohypophysis)* two hormones are secreted. **Oxytocin** is actually produced in the hypothalamus. It travels down tiny tubules to the pituitary where it is stored. Oxytocin is the hormone that stimulates the onset of labor and regular uterine contractions associated with the delivery of a baby. It also causes the "let down" reflex in a nursing mother, to permit the expression of milk that has been formed. The other hormone, **ADH** *(antidiuretic hormone),* is also produced in the hypothalamus. Its action, however, is primarily on the kidneys, where it helps our body retain water to aid in the conservation of body fluids. This hormone (ADH) is closely related to our thirst mechanism. It definitely tends, as do other endocrine functions, to help preserve our lives.

Pineal Gland

The **pineal gland** is located deep within the brain substance. Until recently, its function was a mystery. A hormone called **melatonin** has been found to influence the *estrus* cycle in animals and the human menstrual cycle, as well as other body rhythms. It also plays a role in the pigmentary changes that occur in our bodies. A prime stimulus to melatonin production is the

presence of light transmitted through the eyes. Many mysteries have yet to be uncovered in regard to body rhythms. However, one thing is clear—regularity of eating, sleeping, and working are important for normal utilization of these hormones.

Exciting research into the **Seasonal Affective Disorder** (SAD) reveals the vital role that sunlight plays in our hormones, our biologic rhythms, and our emotional stability. In climates where the long winters and norther latitudes create shorter days, some without much sun at all, eating disorders and depression are much more common. During the darkest months this syndrome may affect up to 10% of the population! Exposure to bright light, even for only a few minutes a day, helps to shut down the melatonin hormone production, relieving depression and the so-called "winter blues."

Thyroid

The **thyroid gland** is located just below the "Adam's apple," in the front of the neck. It regulates the *metabolic rates* of the body—that is, the speed at which food substances are burned to produce energy. Over-activity of the thyroid gland produces a rapid heart rate, weight loss, a fine perspiration, tremor, and nervousness. In one type, called **Grave's disease**, serious problems with the eyes may develop. The opposite side of the hormone "coin" is **hypothyroidism**, a disease where the production of *thyroxine* (called T_4) is deficient. In this condition characteristic lassitude, fatigue, dullness, and apathy are seen. The body becomes colder, the digestive tract slows down, and constipation develops. Edema accumulates in the skin *(myxedema).* Along with personality change, an almost "bovine placidity," and heart failure may occur from thyroid hormone deficiency.

Actually, the production of thyroid hormone is regulated by the anterior pituitary gland *(adenohypophysis).* **TSH,** the **thyroid stimulating hormone,** is produced there. Like the ACTH mentioned above, TSH serves a regulatory purpose to maintain the body in metabolic balance (called *homeostasis).* Supplemental forms of these hormones are available. Accurate laboratory blood tests can determine their body serum levels. The examinations are needed to make the proper diagnosis.

Parathyroid

Four small glands are found in the neck behind the thyroid, two on each side. These **parathyroid glands** help to regulate the calcium levels in our blood. Their hormone, called *parathormone* (short for parathyroid hormone), is able to draw calcium from the bones, as well as increase its absorption in the gastrointestinal tract. When the calcium level of our blood drops too low, **tetany** develops. This occasionally occurs as a serious complication following thyroid surgery.

Adrenal Glands

Two small organs, each perched like a three-cornered hat on top of a kidney, are called the **adrenal glands**. These have two main divisions: the outer part is called the **cortex**, the inner substance the **medulla.** The medulla is supplied with sympathetic nerves, stimulation of which evokes the *'fight or flight"* response discussed above. The production of either epinephrine *(adrenaline)* or **norepinephrine** speeds up the pulse, raises the blood pressure, dilates the pupils, and produces sweating. This is the hormone, that in an emergency, enables a ninety pound mother to lift an automobile off the ground, when it rolls over on her three year old. It also helps hikers to run

away from bears, whether real or imaginary.
The adrenal cortex is much more complex, producing three distinct types of hormones. The stimulation of **ACTH** from the pituitary gland enhances the adrenal' s production of **cortisone**. This hormone, widely known for its relief of arthritic pains, is considered a normal stress hormone. It stabilizes the blood pressure, increases our resistance to infection, and aids in growth and maturation. Excessive function of the adrenal cortex results in the *Cushing's syndrome*, mentioned above.
Second, the adrenal cortex secretes a hormone called **aldosterone**. In contrast to cortisone (a *glucocorticoid),* this hormone functions to safeguard minerals (thus termed a *mineralocorticoid).* It primarily conserves sodium, which is retained as urine flows through the kidney. With retention of sodium comes fluid retention *(edema).* Occasionally an adrenal-cortical tumor will develop, that secretes excessive amounts of this hormone. Aldosterone produces not only fluid retention, but high blood pressure as well.
For its size, the adrenal receives the richest supply of blood of all the organs. It is essential for having vigorous health. In fact, our survival is unlikely without at least one functioning adrenal gland.

Pancreatic Islets

Microscopic sized islands of specialized tissue in the pancreas were discovered by Langerhans, while a medical student in Vienna over a century ago. These specialized glands, called **Islets of Langerhans,** contain unique cells that secrete two hormones. *The alpha cells* produce a secretion called glucagon, which raises the blood sugar, by mobilizing it from liver **glycogen** (animal starch). The *beta cells* are producers of **insulin**. This fascinating hormone was isolated by Doctors Banting and Best in Montreal during the early 1920's. The fortunate discovery of insulin has lengthened the lives and productivity of millions of diabetics, who otherwise would have died early, or at best been unable to have families.
Insulin is a protein-like hormone (actually a chain of *amino acids)* whose primary function is the constant regulation of blood sugar. When a person eats a meal containing carbohydrates the elevation of blood sugar (or *glucose)* is modified by the influence of insulin. This helps all sugars to pass from the blood into our tissues. It "knocks" on the cell membrane for entrance, expecting its welcome admission into our cells. There it is processed, and converted to energy or stored as fat. Insulin, furthermore, aids in producing glycogen for the liver, and it affects the metabolic reconversion of fats and proteins into available energy.
Excessive amounts of circulating insulin produce **hypoglycemia**. This is periodically seen in the body's reaction to prolonged stress, especially when combined with a diet high in sugar and/or caffeine. Occasionally, through hereditary or viral causes the pancreas loses its ability to produce insulin. This gives rise to elevated blood sugar levels and the clinical syndrome called **diabetes mellitus.** Recent evidence points to the early use of cow's milk in babies for this pancreatic failure, at least in the juvenile forms of diabetes. Excessive amounts of glucose spill over into the urine, and feelings of lassitude, excessive hunger, increased thirst, frequent urination, and cloudiness of vision ensue. The administration of insulin corrects these problems, bringing normality to the body's metabolism again.

The Gonads

The reproductive organs likewise serve an endocrine function. These glands, both male and female types, secrete hormones that profoundly influence sexual maturation during puberty. The **testes** (male) secrete a hormone called *testosterone.* This is the amazing steroid chemical which leads to voice change, muscular development, and sexual maturation in earliteen boys. It is additionally necessary for the formation of spermatozoa, permitting reproduction.

Three female sex hormones are known. **Estriol**, **estrone**, and **estradiol** are *estrogens,* feminizing substances produced at puberty, again during pregnancy, and throughout the childbearing years. These hormones contribute to adolescent female maturation, to normal breast development, and a woman's s cyclic menstrual periods. The ovaries also secrete *progesterone,* a hormone that also contributes to a normal monthly cycle during the years of menstruation. These biologic rhythms will be further explained as we consider the reproductive cycle.

DIGESTIVE SYSTEM

Proper assimilation and processing of our food is essential to life. Since all of us "are what we eat," the proper understanding of nutrition and the physiology of digestion is basic to the maintenance of excellent health. This process begins in the mouth.

The **teeth** are most important organs of digestion. Thorough mastication of our food mingles it with enzyme-rich saliva, aiding the initial digestion of starches. The skillful care of our teeth and simple approaches to prevent dental decay are discussed in Chapter 16.

The **salivary glands** are additionally located in the head. Two, called the *parotid glands,* lie just in front of our ears at the approximate angle of the jaw. These are the glands that enlarge frequently when a person has mumps. Their secretions, thin and watery, contain a rich enzyme **ptyalin** *(salivary amylase),* which begins to digest complex carbohydrates. The mucoid secretions of the submandibular and sublingual salivary glands are similarly important in the proper lubrication of well-chewed food. In addition to grinding our breakfast and mingling it with saliva, **mastication** initiates, through vagus nerve pathways, secretion of the gastric enzyme *pepsin,* with its teammate, *hydrochloric acid.*

The **esophagus** is a ten-inch long tube that conducts the food from our swallowing area down to the stomach. It lies behind the windpipe (trachea) in the upper portion of the chest and behind the heart, piercing the diaphragm to enter the stomach. There is an area of increased pressure, called the *lower esophageal sphincter,* which normally prevents the regurgitation of food into the esophagus. A **hiatus hernia** sometimes develops in the diaphragm, permitting a portion of the stomach to crowd into the chest. This leads to regurgitation and the inflammatory symptoms of heartburn.

The **stomach** is an expandable pouch, capable of accommodating about 2-3 quarts of liquid or solid food, when it is stretched to maximum capacity. Of course, with adaptation, the capacity of the stomach may be increased. For example, the stomach, given a steady diet of heavy foods, changes form into a "J" shape. This phenomenon is taken advantage of by sword swallowers. In the membrane lining the inner surface of our stomach there are about 62,500 gastric glands per square inch! These mostly secrete **mucus**, providing a protective, coating effect. There are also specialized cells that produce

pepsinogen (called *chief cells)* and **hydrochloric acid** (secreted by the *parietal cells).* The precursor enzyme *pepsinogen* is the forerunner of our best protein-splitting enzyme, **pepsin,** to which it is activated in the presence of acid. Thus, pepsin plays a significant role in the breakdown of protein into simple *peptides.* A small amount of the fat-splitting enzyme, *lipase* is also present. In the stomach our food is thoroughly mixed by a **peristaltic** churning action, while considerable absorption of water takes place.

The **small intestine** consists of three parts: the **duodenum,** about twelve inches long; the **jejunum,** five to eight feet long; and the **ileum,** sixteen to twenty feet long. The inner lining of our small intestine is much folded, giving it an enormous surface area (called *valvulae conniventes).* The tip of each cell ends in many *microvilli,* which constitute a so-called "brush border." These keep busy producing enzymes to enable our efficient enzymatic digestion to take place just before absorption. These enzymes digest the *peptides* into *amino acids,* and break up many of the fat molecules into *monoglycerides* and *diglycerides* as well as *fatty acids,* so they all can be quickly absorbed. Long chain complex fatty acids usually enter our lymph system through channels called *lacteals.* Lymph appears as a milky fluid, migrating slowly up into the chest *(thorax),* where it is enters the circulation to mingle with our blood. This lymphatic vascular system enables the breakdown products of absorbed fat to bypass our liver for several minutes, and thereby be distributed to other tissues, notably the *adipose* (fat) cells. End products of carbohydrate and protein digestion are absorbed directly into the bloodstream, transported by the portal veins to our liver. Minerals and vitamins, such as iron and B_{12} are absorbed in the small intestine, together with most of the water we consume.

The **large intestine,** or **colon,** consists of the following six segments: *cecum, ascending, transverse, descending, sigmoid,* and *rectum.* The **appendix** attaches to the cecum. It contains a specialized type of lymphoid tissue, as does the small intestinal lining *(Peyer's patches).* In our colon the final absorption of water, and formation of the stool (waste products) takes place. **Constipation** occurs when the intake of dietary fiber, your physical exercise, inadequate fluid intake, or other habit patterns are out of balance, preventing regular perstalsis and evacuation. **Hemorrhoids**, dilated veins in the rectal area, then may develop, with irritation, pain, or bleeding.

The **pancreas** is an accessory organ to digestion, cradled in a curve of the duodenum, and lying behind the stomach. It secretes into the second portion of the duodenum juices rich in fat-splitting enzymes *(lipase),* protein-digesting enzymes *(trypsin* and *chymotrypsin),* and a starch splitter (pancreatic *amylase).* Further digestion of carbohydrate occurs in the intestine with the disaccharidesplitting enzymes *(sucrose, lactose,* and *maltose),* as described in Chapter 16.

Bile is produced by the liver and stored in the **gall bladder.** Under the influence of a stimulating hormone *(cholecystokinin-pancreozymin),* the same substance which stimulates pancreatic secretions, the bile releases. By a strong gallbladder contraction bile squirts through the common bile duct into the duodenum. Bile aids in fat emulsification, making the fat droplet particles small enough to permit entrance into our lymphatic system. Occasional stones can form in the gallbladder, producing chronic irritation *(cholecystitis).* When gall stones block the bile duct, jaundice develops, with the very severe pain of a gallbladder attack.

The largest "gland" of our body is the **liver**, filling the upper right section of the abdominal cavity and extending across to the left. One of its important functions is to secrete bile. This juice drains out of the liver through the hepatic duct and is stored in the gallbladder, as mentioned above. After a big dinner, glucose, amino acids, and some of the breakdown products of fat are absorbed into the blood, passing through the portal veins to our liver. The hepatic cells of the liver help maintain the quantity of sugar in our blood at a normal level, and also make various blood proteins. This organ produces, for example, the blood clotting factors, so important in coagulation.
Detoxification of various drugs and other harmful substances is carried on in the liver. Disease of the liver can produce serious consequences. **Hepatitis** is a relatively common infection caused by one of several viruses. Cancer may develop in the liver, either secondary to malignancies elsewhere in the body (called *metastasis),* or as a primary tumor, related to chemical toxins. Contamination of water with carbon tetrachloride and other poisons, as well as molds which produce *aflatoxin* have been associated with liver cancer.
In summary, the science of digestion holds fascination. Nevertheless, much more important is the **eating** of good food. This kind of study should always be carried on in the context of nutrition and the intriguing science of healthful cookery. For, remember, **we are what we eat.**

RESPIRATION

No one needs to be told how important his or her **respiratory system** is, for you cannot live without breathing for more than a few minutes. After only four or five minutes without oxygen, brain damage occurs. *"Air is a precious boon of heaven,"* having an invigorating influence over the entire body, as well as helping to soothe our nerves. Laden with fresh inspired oxygen, our blood circulates energetically through the system, refreshing our organs and keeping the body strong and healthy.
Recent evidence has shown the vital importance of *outdoor* air, particularly abundant under evergreen trees. Beneficial influences of negative air ions (called *aerions)* have been demonstrated in many scientific studies. They enhance a quickened sense of well-being, including a lessened risk of disease. Air ions, moreover, enhance several cellular enzyme functions, enabling them to help kill germs floating in the atmosphere. The influence of negative air ions is lost in an artificially air-conditioned, indoor environment. Closed windows in schools and offices are one frequent cause of the boredom and frustration that exists in so many sedentary jobs. Modern science, therefore, highlights the original plan of our Creator, who situated His first children in a garden.
The respiratory organs are the nose, pharynx, larynx, trachea, bronchi, and lungs. Their basic structural plan is that of a wind tunnel or tube, with many branches ending in tiny thin-walled sacs called **alveoli**. Capillary networks, appearing like hairnets, surround each microscopic *alveolus.* The purpose of such an arrangement is to bring inspired air within reach for the blood cells to extract enough oxygen and release carbon dioxide. This delicate membrane barrier is less than 5/1000 of an inch thick! With millions of alveoli per lung, an enormous surface area is presented, in the neighborhood of 1,100 square feet.
The **nose** is the first organ of respiration we encounter. Air enters through our nostrils (or *nares)* into the nasal cavity, which is divided by a membrane

(septum). The paired nasal chambers are lined by mucous membrane, which traps duct particles. Mucus secreting cells produce a powerful enzyme, lysozyme, that efficiently kills most harmful germs. The **pharynx** is what most people call the throat. It serves the same purpose as your hallway does in the house. Two pairs of **tonsils** and **adenoids** are located in the pharynx. It connects with the middle ear by way of the paired *Eustachian tubes.*

The **larynx**, or "voice box," is located just below the throat. It is composed of several pieces of cartilage. The one we feel (the so-called "Adam's apple") is surrounded by other laryngeal cartilages, with the *epiglottis* acting as a lid to close our larynx when we swallow. If this does not function properly, we may cough and choke, because food or liquid enters where only air should go. *Vocal cords,* tensed by attached muscles, stretch across the interior of the larynx. When our vocal cords are short and tense, the voice sounds high pitched. On the other hand, longer relaxed cords vibrate with a lower tone.

Feeling your neck just below the larynx, you will encounter the **trachea**. Its framework is made of almost noncollapsible material, namely 15 to 20 Cshaped rings of cartilage. Air has no other way of getting into the lungs. Therefore, any complete tracheal obstruction causes death in a matter of minutes.

The **bronchi** appear like a miniaturized upside down tree. These smaller air tubes branch and divide approximately twenty-three times! They finally terminate in the **bronchioles**, then into tiny microscopic *alveolar sacs* resembling a cluster of grapes. These vital alveoli further the final exchange of oxygen.

Our two **lungs** are large organs, filling almost the entire chest cavity on each side. They are covered with thin, moist, slippery membranes that enable each lung to slide smoothly against the chest wall as they expand and deflate with each breath. When fluid accumulates in this pleural space, one feels the effects of an inflammation of the pleura, called *pleurisy.* It is best treated with hot packs.

Respiration involves a rapid molecular exchange of the gases *oxygen* and *carbon dioxide.* As blood flows through the delicate and alveolar walls, carbon dioxide ($C0_2$) leaves the blood to diffuse into the alveolar air sacs. Oxygen molecules, simultaneously, enter our blood. This two-way gas exchange is carried on continually. Oxygen is transported speedily to our tissues by millions of microscopic red blood cells.

The **hemoglobin** molecule (part of the red blood cell) is responsible for carrying most of the oxygen. Carbon dioxide, a waste product of cell metabolism, dissolves principally in the plasma. **Hyperventilation** occurs when one breathes too fast. This lowers the carbon dioxide level of the blood, producing several uncomfortable symptoms. Tingling, drawing of the hands, and dizziness can occur. These may be relieved after a short period of shallow breathing into a paper bag, quickly reversing the abnormal gas exchange in the tissues.

Breathing, furthermore, involves the brain, skeletal muscles, and even some bones. Ordinarily we take about a pint of air into our lungs with each breath. This is referred to as the **tidal volume**. The largest amount of air that we can breathe in and out in one full inspiration is known as the vital capacity. In most adults this amounts to approximately *4.5* to five quarts (or *liters).* A

special diagnostic device, called the *spirometer,* is used to measure the amount of air exchanged in breathing.

THE CIRCULATION

Scriptures declare that *"the life of the flesh is in the blood,"* (Leviticus 17:11). However, without the circulation of blood, life as we know it, would be impossible. As we consider the **circulatory system**, let's look first at the blood and its constituent elements. Our survey of clotting factors and blood types will be followed by a close look at the heart, the blood vessels and their vital functions.

Approximately four to five quarts of blood constantly circulate in an average man or woman. The time required for our blood to traverse throughout the entire system can be measured. When a bitter substance, such as bile, is injected into a vein of the arm, it can make its circuit through the heart, the lungs, back to the heart, then be tasted by the tongue, all within 10 to 15 seconds! So, it is no wonder that each hormone produced by the body, every morsel we eat, and all the oxygen inhaled are all rapidly distributed throughout the body.

When blood is centrifuged or allowed to stand for several hours, it normally separates into two distinct layers. There is a layer of blood cells that settles first, being heavier than the *plasma,* which is primarily fluid. If we first allow the blood to clot, then separate the liquid portion, we have *serum,* which is basically blood plasma minus the clotting factors. This ratio of blood cells to plasma is measured in the laboratory with the **hematocrit** test. A small capillary tube of blood is centrifuged. Allowing for slight variations between men and women, the blood cellular elements will usually constitute 38 to 46% of the total volume. Lesser figures indicate the presence of *anemia.*

Two major types of cells distinguish themselves under the microscope.

The **red blood cell** is our oxygen carrier, deriving its name from the crimson pigment *hemoglobin* which gives blood its characteristic red color. These red cells are produced in the bone marrow. After several stages of maturation, mature red blood cells *(erythrocytes)* are sent on to the circulation. Normally there are 4 1/2 to 5 1/2 million red blood cells in every cubic millimeter of blood. Seen under the microscope, these appear as biconcave discs, a peculiar shape which provides maximum surface area for any given volume. Their flattened shape enables them to pass through the tiny capillaries, where they optimize their surface area by folding in two, like an apple turnover. Their life span is approximately 120 days.

The **white blood cells** are produced in the bone marrow also, all except for our *lymphocytes.* By producing powerful *antibodies,* lymphocytes defend against many kinds of infection. These cells develop in our lymph nodes and spleen, as well as the thymus gland in children. Other lymphoid tissues—located in the ileum, appendix, and tonsils—aid in this important secondary "line of defense" against many abnormal cells, numerous germs, foreign proteins and other extraneous material.

The most numerous white cells in our blood are called the *neutrophil.* It gets its name from its microscope staining characteristic, and appears as a multi-lobed, nucleated, granular cell. Several members of the white blood cell series contain granules, little packages of potent enzymes that help them in their job of body protection. These granule containing defender cells include

the neutrophil, the *basophil,* and the *eosinophil.* Lymphocytes and *monocytes* (another scavenger cell) do not contain granules.

The neutrophil is really quite interesting. Living only around eight days, it frequently gives its life to defend our body. More than any other circulating cell, neutrophils (sometimes called "polys") are able to surround a germ, take it within the cell, eat it (termed *phagocytosis),* then discharge its potent "suicide bags" *(lysosomes)* of powerful enzymes to kill the invader, then finally digest it. Large numbers of these cells migrate into a wound, and ultimately give their lives to defend the body. The outcome of this defense reaction produces a substance known as *pus.* Nearly five to ten thousand white blood cells per cubic millimeter circulate in the blood at any given time. During most bacterial infections, the white blood count increases. Viral infections, on the other hand, depress the white blood count, or leave it normal. In the laboratory one will see a "shift" toward more lymphocytes, the body's prime defenders against virus. During a normal, healthy state, many white blood cell lie "marginated." That is, they spread themselves along the blood vessel walls, moving slowly, or even resting while the main stream of the circulation moves on. Vigorous exercise, the *sauna* bath, a very cold shower, or a *cold mitten friction* increase the white blood count, mobilizing all our available blood "soldiers" to the "battleground."

Less is known about the other white blood cell's activities. Eosinophils appear to play a strategic role in allergic states and parasitic diseases, since their numbers are often increased in those conditions. Unusual forms of white blood cells are additionally seen. In **leukemia**, a type of blood cancer, many bizarre white blood cell characteristics appear, as well as a proliferation of immature forms. **Mononucleosis**, an infectious disease of viral origin, is likewise characterized by the appearance of unusual white cells.

In studying blood transfusion science we encounter several distinct types of human blood. **Antigens** on the surface of each red blood cell give rise to these characteristics, categorized as follows: *type A* blood contains the antigen classified "A," with antibodies to type B circulating in the plasma. Blood *type B* contains just the reverse, the "B" antigen and the anti-A antibodies. *Type AB* contains both antigens, "A'' and "B," attached to the cells, but has no anti-B or anti-A antibodies. For this reason *type AB* blood is called the universal **recipient.** *Type 0* blood contains neither "A" or "B" antigens, but has circulating anti-B and anti-A antibodies. This type is called the universal **donor.** The accompanying table summarizes these characteristics.

TYPES ANTIGENS ANTIBODIES

A A Anti-B

B B Anti-A

AB AandB 0

0 0 Anti-A and Anti-B

Another blood factor was discovered in research on *Rhesus* monkeys. Called the **Rh factor,** it is present in *85%* of the adult population. The other 15% have no Rh factor. Precisely as the ABO *type* classifications must be compatible for a blood transfusion to be given successfully, so also must the Rh *factor* match. This is determined by a laboratory process called "crossmatching'' in which a few donor cells are placed in some serum from the potential recipient's blood. If antibodies in the patient's serum coagulate

the donor cells, that blood cannot be used to transfuse that particular patient. During pregnancy, the Rh factor becomes extremely important. A mother who is *Rh negative* may be married to a man who is *Rh positive.* If the baby born to them is also Rh positive, sensitization of the mother's placental blood cells can occur. Subsequent pregnancies may result in newborn *jaundice* and *hemolysis,* a serious condition in which the baby's blood cells are destroyed by circulating maternal antibodies. In recent years, not only has the cause of

this **hemolytic disease of the newborn** *(erythroblastosis fetalis)* been determined, but its prevention likewise assured. A small injection of *gamma globulin* high in the anti—Rh antibody (marketed as *RhoGAM)* will prevent the mother's sensitization which otherwise would occur in subsequent pregnancies. This has been a tremendous breakthrough for safer obstetrical care of babies born to Rh negative mothers. **Exchange transfusions** for the newborn are necessary at times to prevent severe jaundice with its danger of brain damage *(kernicterus).*

Blood Coagulation

The speedy **clotting** of blood is a marvelous study in cooperation. When injury occurs to a blood vessel, the damaged tissues elaborate a chemical called *thromboplastin.* This triggers the activation of a whole "cascade" of enzyme reactions, with the final production of *thrombin* to activate the clot. Thrombin forms in the liver, under the influence of *Vitamin K. Fibrinogen,* another circulating coagulation factor, is ultimately converted into *fibrin,* which is stabilized into a network of fibers, securing the clot. Another extremely minute, strategic element circulating in the blood is the **platelet** *(thrombocyte).* This smallest blood cell presents in large numbers, 250,000 to 400,000 per cubic millimeter. They are essential for normal coagulation to occur. Platelet stickiness, which contributes to abnormal clot formation, is enhanced by eating animal foods. Eating cholesterol-rich meats increases the production of a potent chemical, *thromboxane* A_2, which spurs on the coagulation sequence. Normally, it is optimum to have our platelets negatively charged, so that they repel each other. They should not be inclined to stick together. This would endanger our heart or brain by clot *(thrombus)* formation. Research in animals has shown that one meal of meat can alter the electric charge on the platelets, making them dangerously sticky.

The Heart

"Keep they heart with all diligence; for out of it are the issues of life," (Proverbs 4:23). These were the words of the wise King Solomon, as he meditated on the sublime wisdom evidenced in the human body. The **heart** is a pump designed to circulate blood throughout the entire system. Carrying nourishment to the tissues, warmth to our limbs, and oxygen to billions of cells, our "pump" performs a marvelous function. It beats over 100 thousand times a day, pumps six to thirty quarts of blood per minute through more than 60,000 miles of blood vessels! *The* human heart does this by beating sixty to eighty times per minute, never stopping for one's s entire lifetime! Actually, the pumping phase takes about one-third of the time *(systole),* with a resting phase of two-thirds that allows time for re-filling the cardiac chambers (called *diastole).* A healthy heart is capable of increasing its output five or six times normal during strenuous exercise.

Four chambers compose the heart, much like four rooms in an apartment.

Blood enters the heart through the superior and inferior *vena cavae,* two large veins that collect blood from the upper and lower parts of the body respectively. These enter the right *atrium,* a mixing chamber through which the blood passes on its way to the *ventricles.* As blood passes through the door *(tricuspid valves)* between these two "room," it enters the right ventricle, from which it is then pumped to the lungs. Ejected through the *semilunar valves* into the *pulmonary artery,* the blood passes into the right and left main pulmonary vessels. Within both lungs it receives oxygen and releases carbon dioxide.

Through four *pulmonary veins* enriched blood then enters the left *atrium.* It mixes thoroughly in the atrium, necessary because some parts of the lung aerated the blood better than others. Flowing through the *mitral* or *bicuspid* valve, blood then passes into the left ventricle. This contains the thickest muscular wall; it is the strongest portion of the heart. The left ventricle contracts simultaneously with the right, each time ejecting an equal amount of blood. As systole occurs the blood is pushed with great pressure into the aorta through its *semilunar valve.* The mitral valve closes at this time *(systole)* to prevent regurgitation of blood into the atrium. This forceful contraction of the left ventricle produces what we call the ''systolic blood pressure."

Blood pressure is the arterial pressure, measured in millimeters of mercury (mm Hg), attained when the heart pumps forcibly. The maximum pressure seen with each contraction is called *systolic pressure,* and is usually written above a slant line as follows: 120/80. The lower figure reflects the *diastolic blood pressure,* which measures pressure when the heart is not actively beating. Diastolic pressures are related to the elastic tone of the arterial walls. In the ventricles the diastolic blood pressure drops close to zero, allowing the heart valves to open as blood flows in from the upper chamber.

The rhythm of the heart is controlled by our **pacemaker**, a specialized bit of cardiac tissue located in the right atrium. From this mysterious "spark," an electrical current passes through both atria of the heart, initiating a contraction to force blood into both ventricles. A split second delay through the **A—V node** *(atrio-ventricular node)* allows the heart valves to close. The ventricles contract a split second later, squirting blood into the aorta. Nerves affect our heart's rhythm. The *sympathetic nervous system,* as a rule, speeds up the heart rate and elevates the blood pressure, while *vagal nerve* stimulation *(parasympathetic* impulses) does the opposite.

Working constantly, the heart uses very little oxygen from the blood that flows through it. Coronary arteries exit through tiny orifices behind the semilunar valve leaflets in the aorta. These supply blood to the muscular wall of the heart. Our **coronary** (crown-like) vessels divide into three main branches, the *right main,* the *left anterior descending* and the *left circumflex* arteries. Blood returns from the heart muscle *(myocardium)* to the right atrium via the *coronary sinus.* Dietary **cholesterol** accumulates, producing the characteristic features of coronary heart disease—such as angina pectoris, myocardial infarction, or congestive heart failure. See Chapter Four with respect to details of diagnosis and treatment of these problems.

"Lifelines" to our entire body include the arteries, veins and capillaries. Discovered by William Harvey in the 1600's, our vascular structures vessels

act like the arteries of a major city freeway system, delivering blood to every organ. The **aorta** is the largest vessel of the body, leaving the left ventricle like a powerful garden hose. It distributes blood through three large branches to our head and upper extremities, then carries this pipeline of precious enriched fluid to our abdominal organs and legs. As blood reaches a myriad of smaller arteries, tiny sphincter muscles are encountered. This fortuitous function allows for shunting blood to the most needy organs. After a meal, for example, our digestive organs receive the largest share. However, during violent exercise more blood flow goes to the muscles.

The closest contact with body tissues is made in our **capillaries**. Blood cells pass single file through these microscopic vessels, distributing numerous nutrients to the tissues. Excess fluids are then taken up by the lymphatic vessels. Capillaries connect with *venules* which terminate in veins. They unite, growing progressively larger, to return blood to the heart. This completes the cycle.

The **lymphatic system** consists of a series of one-way channels that bring tissue fluid *(lymph)* toward the lymph nodes. Here it is filtered, and some toxic materials are processed. The purified lymph fluid re-enters the circulation via the *thoracic duct,* located in the upper chest.

The **spleen** also plays its vital role, acting as a "policeman" to remove damaged cells from the circulation. Many reusable blood elements are processed, conserving iron and amino acids for future use. The spleen, moreover, acts as a reservoir. Blood cells, temporarily sequestered there, can be mobilized in case of infection or any sudden hemorrhage. Unforeseen injury may require its removal. Fortunately, one's survival would be unimpaired. Nevertheless, the spleen is a valuable organ for the entire body.

One more feature of circulation deserves mention. In the developing *fetus* oxygen and nutrients are received from the placenta, then brought via the *umbilical cord* to nourish the growing child. *The umbilical vein* receives this blood and channels it through a liver bypass (called the *ductus venosus)* to the heart. Since the child is encased in amniotic fluid, and thereby unable to breathe, a shunt through the heart is provided. A temporary "hole" in the atrial septum *(foramen ovale)* and the *ductus arteriosis* (connecting the aorta with the pulmonary artery) divert most of the blood into the systemic circulation, rather than into the lungs. Coming up from the bladder are two *umbilical arteries.* They return blood to the placenta through the umbilical cord, and thus keep the cycle going. All three of these shunts close within minutes afterbirth! Then, the adult pattern of circulation is established, leaving only small remnants of fibrous tissue as a reminder. How wonderfully the Creator has thought of our needs in designing the human circulation!

THE URINARY SYSTEM

It is easy to guess the function of the **urinary system**, namely, the secretion and elimination of *urine.* Most people do not realize, however, how essential these functions are for health and survival. It is important in preventive health care to try to understand how these systems work.

First, there are two **kidneys**. They normally lie behind the abdominal organs, against the muscles near the backbone. The left kidney is slightly larger than the right, located farther above the waistline. Each kidney is encased in a cushion of fat, for protection and which helps to hold it in place. Occasionally a kidney will drop *(renal ptosis)* in the vertical position. This

hinders urine drainage, by putting a kink in the ureter. The outer portion of the kidney is the *cortex* (a Latin word, meaning "bark" or "rind"). The inner part is called the *medulla.*

Kidney cells are arranged to form unique functional units called **nephrons**. Each nephron consists of three main parts: a *glomerulus,* a *Bowman's capsule,* and a *collecting tubule.* The glomerulus involves a network of capillaries tucked into a microscopic funnel. The top part of the "funnel'' is called the Bowman's capsule. Extending from this is a twisted tubule, which continues like a loop, extending into the medulla (called respectively, the *proximal convoluted tubule, loop of Henley,* then the *distal convoluted tubule).* About one million nephrons are located in each kidney!

The kidney nephrons are designed to filter our blood. In the Bowman's capsule we encounter an extensive network of thin membranes, to filter both water and dissolved substances as the blood passes through the capillaries. This filtrate trickles through the convoluted tubules. And, as it does so, a large part of the water is reabsorbed into the capillaries. Dissolved substances, such as glucose and various salts are further reabsorbed, so that nothing is wasted by being lost in the urine. Just before the urine is finally sent to the **bladder**, a final exchange of potassium and hydrogen ions occurs. Various drugs are likewise secreted.

Two hormones, **aldosterone**, a salt-retaining hormone, and **ADH** *(antidiuretic hormone),* influence the reabsorption of salts and water. These are controlled, as mentioned above, by the adrenal glands, the pituitary gland, and the brain.

Urine drains out of the collecting tubules into a "basin," in each kidney called the *renal pelvis.* It then passes through two tiny muscular tubes less than ¼ inch wide, called the *ureter,* into the *urinary bladder.* The bladder contains muscular and elastic fibers well suited to expand and hold varying amounts of urine. When the bladder contains about ½ pint of urine, most people feel the desire to void. Occasionally the kidneys do not secrete enough urine. This may be due to inflammation *(nephritis).* **Anuria** is the absence of urine, usually caused by suppression of kidney function. **Oliguria** (scanty urine) occurs from various causes.

To leave the body, our urine passes from the bladder through the *urethra.* This is the lowermost part of the urinary tract. Infection occasionally occurs from germs ascending up the urethra, and develops inflammation of the mucous membrane lining the urinary bladder *(cystitis).*

REPRODUCTION

Truly, we are *'fearfully and wonderfully made!"* To duplicate the human body requires one of the most marvelous systems ever designed.

Reproduction has as its goal the survival of our human species. Although male and female sexes appear significantly opposite, they do share the common function of reproduction.

The **male reproductive system** consists of a pair of sex glands, a series of ducts, several accessory glands, and the external organs. The latter, called *external genitalia,* consists of the *scrotum and penis.* A special kind of erectile tissue composes most of the interior of the penis, becoming engorged with blood and distended during erection. The skin overlying the head, or *glans,* is loosely folded into a double layer called the foreskin *(prepuce).* **Circumcision** involves surgically removing the foreskin, thus preventing its

fitting too tightly or causing irritation. This simple surgery is commonly performed in newborn males.

The *testes* are two oval-shaped glands, each one capable of forming millions of male sex cells *(spermatozoa).* Any single sperm cell may join with a female sex cell *(ovum)* to produce a new human being! The testes also secrete a male sex hormone (**testosterone**), of such potency that in a few months at **puberty,** it can transform a little boy into a man. The testes are externally, cradled in a pouch-like structure called the *scrotum.* This provides the variation from body temperature (cooler) necessary to promote the development of healthy sperm. The functions of testosterone are described above in the section on endocrine organs.

The ducts that convey the spermatozoa to the outside are called *vas deferens.* They lead from the testes and their attached *epididymis* to enter the *prostate* gland. The *ejaculatory ducts* pass through the prostate gland to empty the sperm into the urethra. This climactic process is called *ejaculation.* For permanent contraception, a minor operation (called the **bilateral partial vasectomy**) is performed to interrupt the duct leading from the testes and produce sterility.

Two *seminal vesicles,* one *prostate* gland, and two *bulbourethral (Cowper's) glands* are accessory male glands that produce alkaline secretions. These constitute the gelatinous fluid part of the *semen.* Normally, about one teaspoonful of semen is ejaculated at one climax. Each milliliter contains over sixty million sperm! Vasectomy does not usually affect the erection or ejaculation response, but renders a man sterile.

The prostate gland frequently enlarges in older men, compressing the urethra and causing obstruction. This may require surgery. The cause of this *benign prostatic hypertrophy* (BPH) is not known. Suspected lifestyle factors include coffee, and the high fat intake of a meat diet.

The **female reproductive system** has several similar structural designs to that of the male. A pair of sex glands, the *ovaries,* are located within the pelvic cavity. After puberty the ovaries go through cyclic changes each month, during which one ovum is produced. The tissue of each ovary comprises several thousand sacs, called *Graafian follicles.* Within each one of these lies an immature *ovum.* Powerful hormones are produced by the ovaries. **Estrogen** is secreted by the Graafian follicles, while the *corpus luteum* (yellow body) produced late in the monthly cycle secretes chiefly **progesterone**. These are the feminizing hormones that produce characteristic changes at puberty.

The tubes connecting the ovaries to the womb are paired. The *Fallopian tubes* (or *oviducts)* are about four inches in length. Their fluted, expanded ends sweep over the ovum at *ovulation,* attracting the mature ovum toward the location where fertilization can occur. Occasionally, conception takes place in the tube, leading to serious complications **(tubal pregnancy**), and requiring emergency surgery.

The *uterus* is a small organ about the size of a pear, but extremely strong. It is almost entirely smooth muscle, with a small cavity inside where *implantation* of a fertilized egg can occur. During pregnancy the uterus will grow many times larger, so that it can accommodate the baby plus a considerable amount of fluid. The upper portion, or *body* of the womb, connects with the mouth, called the *cervix.* The uterus actually functions in

three distinct processes—menstruation, pregnancy, and labor. Around the age of thirteen years, a girl will begin having *menstrual periods.* The onset of menstruation is called the time of *menarche.* A cyclic hormonal and physiologic change occurs approximately every twenty eight days for the next thirty years or so. Then it ceases. The change of life at the end of the child—bearing age is called *menopause* or the *climacteric.*

The *vagina* is a hollow perineal cavity, composed largely of smooth muscle lined with mucous membrane. Near the opening of the vaginal outlet are the *Bartholin's glands,* which secrete a lubricating fluid, especially important during sexual intercourse.

The external genital parts of the female are called the *vulva.* The external opening for the urinary tract, the *urethra,* empties here. Above the urethral *meatus* is the *clitoris,* a small bit of erectile tissue, presumably the female counterpart of the penis. The *labia majora* and *labia minora* form the socalled lips, while a perforated membrane guards the entrance of the vagina at the *hymeneal ring.* Occasionally, the hymen will lack an opening, producing difficulty in starting the menstrual cycle. The treatment for an **imperforate hymen** involves surgical incision.

The *breasts,* after puberty, consist of fifteen to twenty five divisions, arranged like the spokes of a wheel. Each lobe consists of several *lobules,* with grape-like clusters of secreting cells surrounding the small milk ducts. A dark colored area around the nipples is called the *areola.* Under the hormonal

influences *(estrogen, progesterone,* and *prolactin)* of pregnancy, the breasts develop their milk glands further to permit nursing, or **lactation**.

As we look at our bodies again, with the poetic Psalmist we have to admire the awesome wisdom of our Creator— *"marvelous are Thy works; and that my soul knoweth right well,"* (Psalm 139:14).

CHAPTER TWENTY-FOUR
SPECIAL SENSES

Living in an ever-changing world, we must constantly sense events that may threaten, as well as appreciate the experiences that enrich our lives. Without sense organs to make us aware of danger or enable us to appreciate beauty of our environment, we would be completely helpless. These sensations include touch *(cutaneous),* smell *(olfactory),* taste *(gustatory),* sight *(visual),* hearing *(auditory),* and position *(sensory).* From both clinical and physiologic perspectives this chapter will look at these sense organs, and focus particularly on the eyes and ears.

A sense organ is called a **receptor**. Most receptors are located within the skin or mucous membranes. However, in order to be rightly interpreted, every sensory impulse requires a special pathway to the brain, as well as a sensory *receiver* in the cerebral cortex, where there are sensory areas for each of the senses. Positional location is analyzed for the body through tiny vestibular canals in the ear. Our individual joints, digits, and limbs base their messages on changes in muscle tension. The integration of these impulses occurs in the cerebellum and cerebrum.

Our knowledge of position or location for various parts of our body, without any aid of vision, is called **proprioception**. Closely related to this is our ability to judge the texture of cloth, estimate the weight of objects, and even identify their shape when we are blindfolded. This is called **stereognosis**, a word meaning "solid knowledge." Some examples of skills in which muscle sensitivity is all important are hammering a nail, typing, and playing a musical instrument. Our internal organs are also connected to sensory nerves, which primarily send messages in response to spasm—such as colic, dilatation or stretching of a hollow organ, and irritation by chemicals. Organic sensations arise from stimuli in the internal organs, producing cravings such as hunger and thirst. If these are severe, they produce considerable mental anguish.

The receptors for **smell** are located in the upper part of the nasal cavity. Numerous *olfactory cells* connect with the first cranial nerve, not only to warn us of danger as from breathing poisonous gases, but also to contribute immensely to the pleasure found in a variety of natural scents. The sense of smell is less important in man than in lower animals, but receptors are available for hundreds of different odors. The memory for these is exceptionally keen. Vivid sensations of smell when no stimulus is present (called *olfactory hallucinations)* are a fairly common occurrence in mentally ill patients.

Receptors for our sense of taste are located chiefly on the tongue. There are four basic types of taste buds—**sweet, sour, bitter,** and **salt.** Hundreds of taste buds for sweetness are concentrated on the tip of the tongue. Those for sour sensations are located along the side, while salt taste is distributed around the prominent circumference of the tongue. There are fewer sensors for bitter taste, which primarily serve as a warning for dangerous chemicals, rancidity, or poison. They are located on the base of the tongue near the epiglottis.

HEARING AND THE EAR

Hearing is the sense by which sounds are appreciated. This function is called the "watch dog'' of the senses, being the last to disappear when one falls asleep and the first to return when one awakens. This particularly applies to patients in coma or under anesthesia. Two sets of receptors are present within our ears. One set is concerned with hearing, the other with position sense. Both connect with the brain stem through the eighth cranial nerve.

The ear consists of three divisions, the external, the middle, and the inner portion. The visible external ear receives the sound waves. This *auricle* or *pinna* comprises cartilage covered with skin. An *auditory canal* extends inward, forward, and downward toward the **eardrum** *(tympanic membrane).*

Cerumen, a waxy secretion is produced by oil glands in this canal. Excessive amounts may block the ear, causing pressure on the tympanic membrane or hearing loss. Lukewarm water may be used to gently wash out the obstructed ear canal, using an ear syringe or a pulsating device such as the Water Pic. Care must be taken to direct the fluid stream to the *lateral* walls to avoid irritating the drum. Hydrogen peroxide (H_2O_2) can be used similarly as an irrigation solution.

Swimmer's ear is a common complaint in which infection develops in the auditory canal. Caused by excessive moisture, this affliction produces ear pain with a watery drainage. Usually the hearing is unimpaired. *Burrow's solution* (sodium aluminum acetate), hydrogen peroxide, or specially prescribed ear drops can be instilled to relieve pain and counteract infection. Thorough drying after each immersion of a sensitive ear in water is important to prevent this condition, common in the summer swimming season.

The **middle ear** connects with the nasal passageway by the *Eustachian tube.* This provides for the equalization of pressure when one changes altitudes, going up a mountain, or coming down in a pressurized airplane. A small bone called the **hammer** *(malleus)* connects with the eardrum, then transmits the sound vibration through two other bones, the **anvil** and the **stirrup** (called *incus* and *stapes),* to the *oval window.* Occasionally, the middle ear fills with fluid or develops increased pressure due to blockage of the Eustachian tube. *Amyringotomy* is a surgical procedure where the eardrum is punctured to equalize pressure while withdrawing fluid. Occasionally tiny tubes are placed through the ear drums of children to maintain drainage of the middle ear. This helps to prevent the recurrent ear infections that follow frequent colds.

Foreign bodies are common in children's ears. Occasionally, a small beetle or tick will find its way into the external ear canal and attach itself tightly. Irrigation can be attempted after the installation of some oil drops to kill the offending insect, preventing its respiration. However, tiny forceps are needed frequently to remove the offending object. Of importance for direct vision is adequate lighting, and usually the aid of a topical anesthetic. It is extremely important to avoid putting match sticks, bobby pins, and other small objects into the ear canal. Accidental rupture of your eardrum can originate a life-long hearing problem or necessitate an expensive surgical repair.

The **inner ear** consists of the three *semicircular canals* positioned at right angles to each other, which help to maintain our balance. Responding instantly to minute changes in position, this paired organ can create the

characteristic dizziness when one spins rapidly. Usually there is a flicker to one side of the eyes *(nystagmus)* associated with this type of problem. Increases of pressure and viral infections of the inner ear can originate acute labrynthitis. The syndrome is characterized by a whirling type of dizziness (called *vertigo)* in association with nystagmus, nausea, and extreme discomfort. This annoying condition is usually self-limited. Nevertheless, a special diet and supine position are important aids to healing as the symptoms subside.

The **cochlea** is likewise located deep in the inner ear. This is the actual organ of hearing (called the *Organ of Corti).* It responds to vibrations transmitted through the auditory canal, the ear drum, and the tiny bones *(ossicles)* of the middle ear. Tiny hair cells in the cochlea respond to various frequencies of sound, enabling us to identify a voice on the telephone by a single "hello," or relax to enjoy a beautiful symphony.

Deafness and hearing impairment are increasingly common around the world. There are two types of deafness, one caused by nerve damage, and the *conduction* type related to sound transmission. Older individuals commonly develop hearing impairment due to degeneration of the eighth cranial nerve. This so-called **nerve deafness** *(presbyacousis)* primarily involves the higher frequencies of sound. Thus, a man's voice is easier for older individuals to identify than a woman's and distinct voices are more readily heard than talking in a group setting. **Conduction deafness** may be of several types. Wax in the ear causes one kind that is easily cured. It obviously is related to blockage of sound transmission via the acoustic canal. Rupture of the eardrum or fluid in the middle ear may also produce conduction deafness, commonly associated with ear infections *(otitis media).* Most cases resolve spontaneously in a few weeks.

Deafness occurring in young people without the presence of ear infection raises the suspicion of **otosclerosis**. This premature hardening of bone in the middle ear stiffens the stapes, preventing vibration of sound at the oval window. An operation to remove the stapes *(stapidectomy)* and replace it with a tiny wire attached to a piece of cartilage restores the hearing for most individuals. Naturally, this delicate surgery must be performed by an expert using the operating microscope.

Hearing aids may be invaluable for those with deafness of congenital or acquired origin. Minute and extremely expensive, the clarity of sound obtained with a hearing aid can enable a deaf individual to communicate once again, being more aware of his or her surroundings or potential danger. Congenital deafness may not be amenable to treatment with hearing aids. Notwithstanding, the affected person can be enrolled in sign language classes or acquire the skill of lip-reading. In actuality, it is my belief that if more people in general were able to communicate via sign language, the better the horizon of possibilities would be for the deaf. Otherwise, they are severely handicapped for life, and frequently unemployable. Most of them are at least of average intelligence and may not only learn skills and trades, but pursue most of the professions open to people with unimpaired hearing.

EYESIGHT

The importance of **vision** to men and women can only be measured by the intense handicap suffered by the **blind.** As everyone knows, the organ of sight is the eye. Sensory vision is carried to the brain through the *optic* or second

cranial nerve. The occipital portion of the brain registers these images, recognizes and interprets them in the context of our memory and reason.
Looking closely at the eye we see it covered by the *eyelids,* retractable membranes covered with skin and rimmed with tiny hairs, called *eyelashes.* Sensitive reflexes enable these lids to close with a quick blink, protecting the eye against insects and accidents. A thin transparent membrane, the *conjunctiva,* lines the inner portion of the eyelid and the surface of the eye. A thicker transparent window, the *cornea,* protects the visual part of the eye and reflecting light rays slightly, as they enter. Forming the posterior wall of the *anterior chamber* of the eye is the *iris,* usually colored blue, brown, or black, and corresponding to the diaphragm of an ordinary camera.
Light enters through the hole in the center of the iris called the *pupil.* This varies in size according to the intensity of light and usually narrows for distant vision. Drugs such as *atropine* and *adrenalin* can dilate the pupil. *Morphine* and *pilocarpine* will produce pupillary constriction. Light rays are bent, or refracted, by the *lens.* This is a transparent jelly-like substance just behind the pupil. An opaque degenerated lens is called a *cataract.* Light rays pass through the anterior part of the eye and after refraction by the lens are reflected onto the *retina,* where the nerves to the eye enter. Light then passing through a jelly-like substance, the *vitreous humor.*
The retina consists of nerve receptors, millions of them, the *rods* and *cones.* Cones are most numerous in the *fovea centralis,* or point of maximum vision. The cones are receptors for color vision. Black and white contrasting blends, required for night vision, are widely distributed across the retina, and are received by the rods. Nerves from the rods and cones constitute the *optic disc,* seen as one looks at the retina. Numerous blood vessels, and the *sclera,* or hard external capsule, complete the globe of the eye.
Eye movements are accomplished through fixed muscles innervated by the cranial nerves three, four, and six. These provide for the sensitive parallel motions of the eye ball, giving rise to **binocular vision,** so important in depth perception.
By standard principles of optics, the image projected on the retina is upside down and reversed left to right. Individuals having an eyeball too long will focus the image in front of the retina, producing *myopia* or **nearsightedness**. If the eyeball is too short, the image focuses behind the eye, making vision **farsighted** and requiring a positive lens for correction. This is called *hyperopia.* As one grows older the lens loses its elasticity or hardens, just as one's arteries harden with age. This condition is termed *presbyopia* or "old sight." Elderly people often wear bifocals, which means part of the glass lens is for distant vision and the remainder for near vision.

CATARACT

A cataract is an opacity in the lens, and is usually found in older people. Congenital tendency to cataract formation may be evident at birth or a much earlier age. Traumatic injury to the lens can cause this also. More commonly we see a cataract developing in diabetics or merely occurring as a degenerative condition in old age. When a cataract begins to blur one's vision or obscure the entrance of light, it is time for surgery. A trained ophthalmologist can remove the lens, often under local anesthesia, and subsequently fit the patient with contact lenses or glasses. Artificial lens implants are being used more and more in conjunction with cataract removal.

Most comprehensive physical examinations include visualization of the retina. An *opthalmoscope* is a special set of lenses, lighted to observe the retina through the pupil. In a darkened room or with special eye drops, the pupil can be seen with evaluation of many common diseases made possible. High blood pressure and diabetes mellitus produce characteristic changes in the back of the eye. This guides the physician in treatment.

TIPS ON SELECTING GLASSES

When a person's vision has been impaired to the place where corrective lenses are required, an appointment should be made with an ophthalmologist (eye specialist) or optometrist. Both types of doctors are equipped with the instruments necessary to **refract** the eye. Careful evaluation of the vision is performed, along with special tests for *color blindness, astigmatism,* or other eye diseases. The **eye chart** helps to determine the extent of impairment. Normal vision is described as 20/20, meaning that a normal healthy eye will see the letters clearly at 20 feet. On the other hand, 20/40 vision means that your eye sees at 20 feet what another healthy person should see at 40 feet. The large "E" on most eye charts is set for 20/200 vision. Some unfortunate individuals can barely see hand motion. If this cannot be corrected with glasses, they are considered legally blind. Complete **blindness** exists when no light or motion at all can be detected. Of course blind people may become extremely perceptive with their other senses— especially the hearing, touch, and smell. Some have been those talented musicians and gifted authors who overcame the severe handicap of blindness to make their contribution to society. The noted hymn writer, Fanny Crosby, is one outstanding example.

When your prescription for lenses has been written, the selection of your own personal glasses comes next. Be prudent and avoid cut rate chain stores when purchasing eye glasses. Otherwise, the *exact* prescription may not be filled. If a person cannot obtain an exact set of glasses for his or her individual need, try another oculist. The extra time and expense will be worth it. Suitability of the eyeglasses themselves should be primary, with the choice of frames a second consideration. As a rule, hardened plastic is more durable and resistant to breakage than glass. However, this material is vulnerable to scratching and must be carefully cared for.

Sunglasses are fashionable. However, they're often used when unnecessary. Some of the cheaper ones permit ultraviolet rays to pass through their lenses. This may damage the eye, whose pupil is dilated because of the decreased light created by the dark glasses. Avoid this type of glass, if possible. Dark green and gray glasses should normally be selected, to filter out ultraviolet light with the visible rays. Amber glasses may be helpful when snow glare is a problem. All sunglasses should be shatterproof, especially if used in athletics or a type of work where flying objects are likely. The special precautions recommended for working around grinding wheels, welding equipment, or other industrial devices, should always be observed.

CARE OF THE SENSES

Care of your five senses includes more than physical protection. It has truly been said that the eyes, ears, and other senses are the *"avenues to the soul."* As such, they should be carefully guarded lest your **character** become warped through contact with much evil. Frequent hearing or seeing of violence, immorality, and crime makes powerful impressions on everyone, especially our youth. More importantly, our senses, if carefully preserved, can

be channels of communication with our **Creator.** This opens the mind to dimensions of thought, aspirations of holy living, and an exciting hope of total communication that, begun here, that can be freely realized only in eternity. How wisely it was said, *"I have heard of thee by the hearing of the ear: but now mine eye seeth thee,"* (Job *42:5)!*

Head

SINUSITIS **(Sinus Trouble)**

SYMPTOMS—One or more of the following symptoms: facial pain, tenderness on the cheekbones, face and forehead, earache, headache, dry cough, bad breath, fever, dazed feeling in the head, loss of smell, and burning and tearing eyes. Sometimes it results in a swollen face, stuffy nose, and a thick mucous discharge.

CAUSES—The nasal sinuses are located in the bones surrounding the eyes and nose. They help your voice sound fuller and richer. They also help store overflow phlegm in time of illness.

Sinusitis is an inflammation of the nasal sinuses that generally occurs together with upper respiratory infection. Colds or bacterial and viral infections spread into the sinuses.

Sinus problems which have become chronic may be caused by injury of the nasal bones, smoking, small growths in the nose, or irritant fumes and odors.

Allergenic sinusitis may result from plant pollens (hay fever) or allergies to milk; dairy products; or, less likely, wheat.

An over-acid condition in the stomach can cause sinus troubles. Poor digestion of starch, sugar, and dairy products can produce a runny nose. When force is used in blowing the nose, phlegm is pushed up into the sinuses.

Swimming or diving can force phlegm up into the sinuses.

Allergic rhinitis is a common cause of sinusitis. Avoid substances which might be giving you allergies.

Decayed teeth, enlarged and infected adenoids, cigarette smoke, perfume, household cleansers, and dusty air can cause irritation to the sinuses.

So sinus trouble can either be caused by an infection or by other things. If drainage is clear after a week, you probably have no infection; but, if mucous is greenish or yellowish, you do. If drainage is clear and there are no accompanying symptoms of a common cold, you probably have an allergy.

Few people with sinus trouble have actual sinus infection (sinusitis).

Beware of swelling around the eyes! If left untreated, this can lead to bronchitis, asthma, throat infection, or pneumonia.

If you are interested in figuring out which sinuses may be bothering you, here is some helpful data:

Frontal sinuses produce frontal headaches which are most severe between 8 a.m. and 5 p.m.

Maxillary sinuses makes pain in the upper teeth and cheek, and sometimes eye pain as well. It generally lasts from 11 a.m. to 6 p.m.

Ethmoid sinuses induce a dull pain behind the eyes, pain in eye movements, tearing, light sensitivity, and occasionally sore throat and nighttime cough.

TREATMENT—

• Do not suppress a cold, flu, sore throat, infected tonsils, or other acute disease. Go to bed, take juices and light meals, rest, and get well. When suppressed, the phlegm does not flow out, but hardens in the sinuses and trouble begins.

• Take a short fast on citrus juices, vegetable juices, and herb teas. Drink lots of water and juices.

• As soon as you are able, begin eating nourishing food, especially vegetables, fruits, nuts, and beans. Drink fresh carrot juice every day.

• Eliminate meat, dairy products, white flour foods, and sugar.

• Do not use nose drops; they aggravate the situation by stopping the drainage and hardening the mucous. Decongestants also increase blood pressure.

• Hot liquids help the sinuses flow out their contents.

• Helpful herbs to reduce sinus congestion would include comfrey, slippery elm, fenugreek, mullein, aloe vera, yerba santa, red clover, and white oak bark.

• Garlic contains a chemical which makes mucous less sticky. Horseradish has it also. Cayenne acts in a somewhat similar manner. Peppermint tea also helps open up the sinus passageways.

• Add crushed garlic cloves to 4 cups water; remove from the heat after coming to a boil. Cool and gradually drink. This will help clean out the sinuses and lower stuffiness.

• Heat on the sinuses helps relieve pain. This can be hot wet compresses, a heat lamp, a 60-watt light bulb, or a heating pad.

• A variation of this is: Twice a day, lean over a pan of hot water with a towel draped over your head (or stand in a hot shower). Inhale the vapors as they waft up toward your nose. If you are at work, order a cup of something hot; and, leaning over, sniff up the moisture.

• Some prefer cold applications to the sinuses, instead of hot ones. Put crushed ice in a plastic sack, wrap in a moist towel, and place over the sinus which hurts. At the same time, have the feet in hot water. This will help draw blood from the sinus area. However, the hot method is better for draining the sinuses.

• Mix 1 tsp. of salt with 2 cups warm water. Pour it into a small glass; and, holding back your head, sniff it up into one nostril (as you pinch the other one closed). Repeat for the other side.

• Rubbing your sore sinuses brings a fresh supply of blood to the area. Press your thumbs firmly on either side of your nose and hold for 15-30 seconds.

• Sit with your head between your knees. Cough gently as though you were clearing your throat. Then hold your breath for a minute or so, as the mucous slowly drains. Then gently inhale. Be sure you are drinking enough fluids when you do this.

• Walking helps clear your sinuses.

• Between meals every day, take six charcoal tablets with water. This will help remove toxins. Only do this during the crisis, or it can cause temporary constipation.

• It is better to sniffle than to blow your nose. If you must blow, only blow lightly and through one nostril at a time.

• A humidifier will help keep sinuses moist indoors during the winter months. A humidity of 40-50% will increase sinus comfort.

• Avoid cold, damp living, working, and sleeping quarters.

Eyes

EYE PROBLEMS

SYMPTOMS—Various kinds of eye problems can develop, such as blurred vision, bulging, blood spots, dark circles, dryness, double vision, itching, lumps on the eyelids, redness, twitching, or watering.

TREATMENT—

• Certain eye problems need specialized attention. But there are also general solutions to a wide variety of eye problems. The eyes and the brain use a lot of oxygen; be sure and get enough.

• Poor nutrition clogs tiny arteries, such as are found in the eyes. A gradual clogging of the veins in the eyes can lead to blindness.

• Eliminate all fried foods. The free radicals in these greasy foods damages the organs.

• Drink carrot, celery, beet, and parsley juice. You may need to go on a short vegetable juice fast.

• The mineral, zinc, is important. Be sure it is included in your diet.

• Avoid drinking fluids before bed. Avoid salt. Do not smoke, and avoid second-hand smoke.

• Eyebright, golden seal, and red raspberry teas all help the eyes. Eyebright is especially noted for what it can do for the eyes; people have used it for centuries.

• Dandelion helps the liver detoxify, and seaweed (Norway kelp or Nova Scotia dulse) provides essential minerals.

• Vitamins A, B complex, C, E, selenium, and zinc are also important. Be sure and eat greens every day.

• Nicotine, sugar, and caffeine all weaken the eyes.

• Tinted sunglasses often cause eyestrain. Only use polarized sunglasses, if you use them at all.

• Margarine and vegetable shortening are not good for the eyes.

• To strengthen the eyes, especially in weakness resulting from diabetes, use chaparral tea internally. Vitamin A is also important.

• Place a washcloth, dipped in ice water, over your eyes for 15 minutes, once or twice a day. Or cold cucumber slices can be put on your eyes.

• A number of medicinal drugs are not good for the eyes. This would include aspirin, ACTH, anticoagulants, corticosteroids, diuretics, streptomycin, sulfa drugs, tetracycline, allopurinol, antihistamines, digitalis, haloperidol, anti-infection drugs, quinine, marijuana, and some others.

• Anti-infection drugs, including diazepam (Valium), haloperidol (Haldol), some antidepressants, quinine, and sulfa drugs can cause ocular abnormalities.

• *Contact lenses:* Be very cautious about wearing contact lenses! They keep air from the eyeball surfaces which they cover. Infections can result. Leaving them in place more than 24 hours can produce ulcerative keratitis. The cells of the cornea are

rubbed away by the contact lens, resulting in infection and scarring, and possible eventual blindness. Research shows that this danger applies equally to ordinary daily wear contact lenses or extended-wear lenses.

EYE INFLAMMATION (J.H. Kellogg, M.D., Formulas)

EXTERNAL INFLAMMATIONS—Light weight Fomentations for 15 minutes, every 2 hours; frequently renewed cooling compress during intervals between.

INFLAMMATIONS OF EYEBALL—A Fomentation covering the eye (while the eye is closed) and extending to the forehead, for 15-20 minutes or until the skin is well-reddened. Repeat as often as necessary, to relieve pain. Employ the frequently renewed (5-15 minutes at 60^0 F.) Heating Compress during the intervals between hot applications.

EYESTRAIN

SYMPTOMS—The eyes seem to be straining to see what they are trying to look at. After some time of doing this, you acquire a general feeling of eyestrain.

CAUSES AND TREATMENT—

• Is the area in which you do much of your eyework properly lit?

• Flickering tubes can bother the eyes. Try not to use computers too long at a time; do not watch television too long. Both are hard on your eyes. Keep the screen somewhat darkened. Shade your screen by placing a hood over the front.

• Every so often, shut and rest your eyes. Try "palming." To do this, place the palms across your open eyes, without touching them. This cuts out all light and enables you to momentarily rest them from all light.

• Make sure you blink often enough. Each blink cleanses and refreshes them.

• Refuse to strain your eyes. Keep them relaxed at all time.

• Sunglasses cause eyestrain for some people; they help others. Only use Polaroid glasses.

• The evening hours are the worst time to read and use your eyes intensively for anything. The natural daylight is gone.

• Go outside for the last 30 minutes before bedtime, walk around, relax, breathe deep, and do not read anymore before you retire.

• Get enough rest at night.

• You may need reading glasses. If your only eye problem is nearsightedness, you can purchase eye glasses at your local pharmacy for $10 or $20. Always select the weakest, least powerful ones. .

NEARSIGHTEDNESS (Myopia)

SYMPTOMS—A person only clearly sees those things which are close up.

CAUSES AND TREATMENT—There is both an occupational and nutritional cause for this.

• Constantly using the eyes, to see that which is fairly close, causes them to adjust better to near vision. Every so often, rest your eyes by looking at something at a distance.

• A lack of vitamin D and calcium is also involved. Increase the amount of vitamin D taken, and take sunbaths.

• Do not strain the eyes, thinking that will help you improve your eyesight! Doing so only weakens the delicate muscles, and will result in still more vision problems. .

FARSIGHTEDNESS (Hyperopia)

SYMPTOMS—A person's distance vision is good, but his near vision is blurry.

CAUSES—The six muscles pulling on the eye do not function properly or the eyeball is abnormally short. As a result, light rays focus behind the back wall of the eyeball, which is the retina.

TREATMENT—

• Maintain a nourishing diet which includes a vitamin/mineral supplement. Be sure you are daily obtaining the entire B complex, especially B_6. Calcium is also important.

• Do not try to strain the eyes. If they seem tired or unable to focus properly, rest them from time to time. Straining the eyes to see better only aggravates the problem.

AMBLYOPIA (Inability to focus eyes)

SYMPTOMS—This condition exists when the eyes do not seem to focus clearly on anything, near or far. It can be serious enough to constitute a type of blindness.

CAUSES—Certain nutritional and environmental problems tend to be the causes.

TREATMENT—

• Lack of vitamins B_1 and B_{12} appears to be a primary cause. Smoke from cigarettes and cigars is another significant cause. These problems need to be solved.

• B_{12} intermuscularly at a rate of 1,000 mcg/day for a total of 20,000 mcg generally solves the problem, along with an adequate supply of vitamin D and calcium. But get the tobacco out of the house and office.

YELLOW EYES (Icterus; Jaundice)

SYMPTOMS—The whites of the eyes (sclera) have a yellow cast.

CAUSES—The bile duct system develops a blockage, which produces gallstones, possibly tumors, and hepatitis. Red blood cells may also be destroyed in the process.

Those taking large amounts of carrot juice will develop a yellowish cast to their skin (which is in no way dangerous). But their sclera will not turn yellow, which is the sign of jaundice.

TREATMENT—

• Treatment of jaundice includes ultraviolet light exposure in order to increase elimination and liver flush. For 3 days, drink apple juice, followed by a cup of olive oil and a cup of lemon juice. Also obtain vitamins C, A, and E.

KERATOMALACIA (Xerophthalmia)

SYMPTOMS—The cornea is the domed clear bulge on the front of the eye. It becomes hazy and dry, and then ulcerated. The eyes feel extremely dry. Blinking increases, but does not seem to properly moisten them. Conjunctivitis and night blindness occurs.

Fat-like spots (Bitot's spots) appear on the sclera (white of the eye). These are white, foamy, elevated, and sharply outlined patches on the whites of the eyes.

CAUSES—This is a nutritional problem. If it is not solved, permanent blindness can result.

TREATMENT—

• Take vitamin A (25,000 units for children, and at least 50,000 units for adults) per day as beta carotene. Increase the amount of zinc and protein consumption, and improve the general nutrition. Take a vitamin/mineral supplement twice daily.

• Bitot's spots are caused by a vitamin A deficiency. Vitamin D and adequate protein are also needed.

• Avoid eyestrain and smoke-filled rooms. .

RED EYES

SYMPTOMS—Red lines in the whites of the eyes.

CAUSES—This can be caused by dust, pollen allergies, bright sunshine, cigarette smoke, other irritants, overwork, and staying up late at night.

People over 40 commonly experience this problem to some extent. But if it is excessive, or if you are younger, you may wish to give it closer attention.

TREATMENT—

• Get more rest at night. Pause and rest a little more during the day.

• Do not use "drops" from the pharmacy. They have an agent in them that constricts the blood vessels. This may make your whites look whiter for awhile, but no problems have been solved. Do not tinker with your precious eyes! When the drops wear off in a couple hours, the redness generally appears redder than before.

• Lay a cool, wet washcloth over your closed eye. The cold constricts the blood vessels naturally, and the moisture helps your eyes.

• Be sure and drink enough water, so you will have an adequate amount of fluid in your tear ducts.

• If the eyes are red when you wake up, the problem may be your eyelids. This is a low-grade infection of the eyelids. Treat it by washing your eyes with warm water at night before retiring.

• Any problem in the eyes should be taken seriously. Infection can be treated with a small amount of boric acid mixed with sterile water.

• Helpful herbs include eyebright, fennel, and cornflower. Eyebright is remarkably helpful for a number of eye conditions.

COLOR BLINDNESS

SYMPTOMS—It is difficult to distinguish one color from another.

CAUSE AND TREATMENT—

• Take 50,000 units of vitamin A daily.

NIGHT BLINDNESS

SYMPTOMS—You do not see as clearly in the dark as do others. When you go out into the dark, your eyes seem to adapt slowly to it.

CAUSES—This does not mean you are going blind. The primary problem is a lack of vitamin A, which the body uses to make visual purple and to help you see in the dark.

The lack of vitamin A in the system can be caused by an inferior diet. But it may also be traced to one of the following: The body has a fat malabsorption syndrome, and does not absorb oil-soluble vitamins properly. A zinc deficiency will cause the liver to poorly convert carotene to vitamin A. Cystic fibrosis, celiac disease, and various food allergies can produce intestinal changes which would affect fat-soluble vitamin absorption.

TREATMENT—

• Get enough vitamin A (50,000 units daily) and 15-50 mg of zinc.

• Some people wear a stronger prescription of glasses when they must drive at night. Keep the headlights and windshield clean. Do not wear sunglasses at dusk. Drive slower at night. Better yet, only drive during the day.

ITCHY EYES

SYMPTOMS—The eyes seem tired and itchy.

CAUSES—Enervation, poor diet, lack of rest.

TREATMENT—

• Do not overwork or overeat. Eat a nutritious diet. Get enough rest at night.

• The diet should include the entire B complex, with an emphasis on B_6. Be sure your diet includes adequate calcium.

• Do not strain the eyes.

• Eyebright is a good herb for the eyes, which may help this.

DRY TEAR DUCTS

SYMPTOMS—The eyes seem dry all the time.

CAUSES—There is a small tear duct which keeps each eye moist, yet it does not seem to be working properly.

TREATMENT—

• Be sure and obtain adequate amounts of vitamin A (50,000 units daily). A lack of it causes small openings to close down. Also include enough essential fatty acids in your diet, along with more calcium.

• Do not eat junk or processed foods.

ENCOURAGEMENT—Those who love God are changed from being rebels against the law of God into obedient servants and subjects of His kingdom. They live to help and bless others.

BLACK EYE

SYMPTOMS—The area around the eye turns black, following a blow to it.

CAUSES—Blood tends to pool around the delicate eyeball, in order to hasten healing.

TREATMENT—

• Boxing trainers deal with black eyes all the time. They apply an extremely cold piece of iron (something like a small tire iron) to the area. This reduces the swelling. An alternative is to hold a clean, cold soda can against the cheek (but not against the eye itself) for several minutes. Do not place any pressure on the eye itself.

• Do not take aspirin. Because it is an anticoagulant, the blood will not clot as well. Instead, the bleeding will continue longer.

• Do not blow your nose! If you received a severe strike, blowing your nose could cause blood vessels to burst beneath the skin in a much wider area! Sometimes the injury fractures the eye socket bone, and blowing your nose could force air out of your sinus adjacent to the socket. The air is injected under the skin—making the eyelids swell even more. This can increase the likelihood of infection.

ULCERATED EYE AND LID

SYMPTOMS—The eye has become inflamed, resulting in an ulcer on the eyeball.

The problem could then extend to the eyelid.

CAUSES—This happened because the normal covering of the eye was damaged in some way. The infection is generally caused by a virus.

TREATMENT—

• Obtain adequate rest, improve the diet, and take large doses of vitamin C (2,000 mg, 3 times a day).

• Apply warm yellow dock tea, in a poultice, to the eyelid. You can also drink it.

MUCOUS IN EYE

SYMPTOMS—The eye seems be filled with mucous.

CAUSES—The cause may be a combination of an inadequate diet, poor working conditions, and an airborne infection.

TREATMENT—

• Improve the diet, and take a vitamin/mineral supplement twice a day. Obtain adequate rest. Work in a clear environment that is not overly dusty.

• Wash each eye with goldenseal root tea. But do not use goldenseal in large amounts if pregnant.

CATARACTS

SYMPTOMS—The lens of the eye becomes clouded, so that the eye is unable to properly focus on objects. In advanced cases, the lens is becoming opaque, so that blindness is setting in. Only part of the eye is generally cloudy or opaque, but this can gradually extend to the entire eye.

CAUSES—The most common cause is senility.

Congenital cataracts occur if the mother had rubella during the first three months of pregnancy, or if the infant has galactosemia (inherited inability to digest galactose [a type of milk sugar, resulting from lactose] properly). These cataracts generally do not get worse. Not using milk products at all can help prevent this in adults.

Traumatic cataracts result from blows which rupture the anterior lens capsule, harmful chemicals, intense infrared radiation, or X rays. Radiation causes free radical damage in the eyes. This causes the lens to absorb aqueous humor. The lens becomes cloudy and must be removed, to restore eyesight. People living closer to the South Pole (which has part of its ozone layer stripped away) are more likely to develop cataracts.

Other causes include hypoparathyroidism, Down's syndrome, and atopic dermatitis. The longer one has diabetes, the greater the risk of cataracts.

Hair dye has been shown to cause cataracts. Only 23% of those not dying their hair get cataracts; whereas 89% of those who dye their hair develop them.

Complications of tumors, detached retina, iritis, glaucoma, and severe myopia can also bring it on.

Other studies reveal that people with stress, allergies, or who eat seafood (thus ingesting methylmercury) are more likely to develop cataracts.

It is now known that a reduction in vitamin C or B_2 in the diet can help produce cataracts. High blood sugar levels and low calcium levels can also bring it on.

TREATMENT—

• Cataracts are the most common form of blindness in older people, and should not be ignored when beginning to develop.

• Obtain adequate rest at night. Do not sit up watching television till late at night! You are tiring your eyes and irradiating them with X rays at the same time.

• Maintain a good nutritious diet! Do not drink milk or eat cheese, ice cream, seafood, or grease. Get enough vitamins E, C, B complex (B_2 is very important!), selenium, zinc, bioflavonoids, 1-glutamine, 1-arginine, 1-cysteine, and glutathione. If diabetes is involved, add chromium supplementation. Avoid excess cholesterol, sorbitol (artificial sweetener), unsaturated fatty acids, and mercury tooth fillings (amalgam).

• Higher blood sugar levels in diabetics and hypoglycemics causes the cells in the lense to absorb large amounts of glucose. This is converted into sorbitol, an insoluble form of sugar. This gradually crystallizes in the eye—forming a cataract.

• Take chaparral tea internally. Place a drop of honey in the corner of the eye at night. This will help absorb the crystals.

STY

SYMPTOMS—What appears to be a small pimple develops on the eyelid.

CAUSES—The oil gland has become infected, inflaming the tissues of the eyelid.

TREATMENT—

• Do not delay solving this problem. If it does not quickly heal, it may need to be drained by a professional. Do not squeeze the lump; this may result in spreading the infection more widely. Sties can be dangerous, so do not be casual about them.

• Take adequate vitamin A; more so, if you have sties frequently. Go on a 5-day fruit fast, plus carrot and celery juice. Keep the bowels clean with an enema every morning.

• Do not eat refined, fried, and processed foods; meats; unsaturated oils; salt; alcohol; tobacco; dairy products; or white flour.

• Chopped and diced carrots or mashed potatoes (raw or cooked) can be made into a poultice and applied over the area. They can be left on for an hour and repeated 3 times a day.

• Hot compresses on the area are sometimes recommended; but keep in mind that it was a very hot compress which blinded young Fanny Crosby.

• Partially hot compress, alternated with cold, will help draw the pus to a head and then break it open.

• Drink 3 cups of goldenseal tea or eyebright to help clean the liver. Fennel or myrrh may be substituted.

• In tenacious cases, antibiotics may be necessary.

SCOTOMA

SYMPTOMS—The person seems to see "spots" or a spot in front of the eyes.

CAUSES—An unnatural blind spot exists on the retina.

TREATMENT—

• Increase the amount of vitamin A in the diet; and, of course, decidedly improve the general diet. Throw out all junk and processed food. Obtain adequate rest at night.

ENCOURAGEMENT—You cannot control your impulses, your emotions, as you may desire; but, in the strength of Christ, you can control the will, and you can make an entire change in your life.

PHOTOPHOBIA

SYMPTOMS—Light hurts the eyes.

CAUSES—This may occur occasionally or gradually increase. The cause is a lack of vitamin A in the diet.

TREATMENT—

• Take 50,000 units of vitamin A daily for a short time.

CHALAZION

SYMPTOMS—This appears to be a sty on the eyelid, but it is not. After several days, the swelling and pain disappears, but a slow growing pea-sized nodule on the lid remains.

CAUSES—A chalazion is the result of plugged meibomian glands in the eyelid, and results from nutritional deficiency.

TREATMENT—

• Take vitamin A (at least 50,000 units per day, as beta carotene, for a number of days. Also take zinc (50 mg, 3 times a day).

• Apply warm poultices of 3% boric acid on the closed lid. A boric acid ophthalmic ointment may be obtained without prescription from the pharmacy.

CONJUNCTIVITIS **(Pinkeye)**

SYMPTOMS—The membrane lining of the inner part of the eyelid becomes inflamed. The eyes may appear swollen and bloodshot, and are often irritated and itchy. If there is pus, eyelids often stick together after being closed for a period of time.

CAUSES—There may be a discharge from the eye. The origin may be viral if the discharge is thin and watery. If it is white and stringy, the cause may be allergenic. If there is pus, it may be bacterial in origin.

When caused by a virus, conjunctivitis is highly contagious. The cause is generally viral or bacterial infection or physical or chemical injury.

Causes include injury to the eye, bacterial infection, allergens, dust, contact lens solutions, fumes, smoke, chemicals, makeup, or other foreign substances in the eye. Be careful about swimming pool water; it can cause eye and ear infections.

When caused by allergens, the infection may reoccur at a certain time each year. In young children "viral conjunctivitis" can occur from spring till fall.

Viral conjunctivitis is often found among groups of school children. Conjunctivitis is the most common form of eye infection in Western civilization.

TREATMENT—

• Apply warm poultices of 3% boric acid on the closed lid. A boric acid ophthalmic ointment may be obtained without prescription from the pharmacy.

• Apply charcoal poultices overnight. Mix enough water in, to make a thick paste and spread it over a piece of cloth that is larger than the inflamed area. Hold it in place with an ace bandage and leave on overnight. Use only enough pressure to hold it in place—but not so tight that pressure is placed on the eyeball. To avoid spreading the infection, carefully dispose of the cloth in the morning; do not save and use it again.

• During the day, slurry charcoal water can be applied: Add ¼ tsp. salt and 1 tsp. powdered charcoal to a cup of water, boil, let cool, and strain through several layers of cloth.

• With a dropper, put 4-5 drops of the clear fluid on the affected eye every 2 hours.

• Wash hands carefully after each treatment.

• Do not place a patch on the eye, for it can cause bacterial infection and weaken the eyelid (so it will later droop).

• Ice-cold compresses can be laid on the eye during the acute stage. For half an hour, apply a wrung-out washcloth to the eye; change it every 2-3 minutes. Stop for 30-60 minutes, and then repeat for another 30 minutes.

• Hot and cold applications can be applied every 4 hours. But the water should never be too hot (that is what blinded young Fanny Crosby). Apply a cloth wrung out of slightly hot water for 2 minutes, then a cold cloth for 30 seconds. Do this for 15 minutes.

• Saline irrigations are also good. Add 2 level tsp. of salt to 1 quart water, to rinse discharges out of the eyes.

PREVENTION—

• When something gets in your eye; get it out. Grasping the eyelash and pulling the upper lid over the lower lid, induces tears and helps wash out foreign bodies.

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GLAUCOMA

SYMPTOMS—Early symptoms include eye pain or discomfort mainly in the morning, blurred vision, halos around light, inability to adjust to darker conditions, and peripheral (side) vision loss (resulting in tunnel vision).

Higher than normal pressure within the eyeball (called intraocular pressure), it is more common in blacks than whites, tends to run in families, is more common in women than men, and especially affects people over 40.

CAUSES—Fluid is continually produced in the eyeball; and, just as continuously, it is draining out. The balance is called intraocular pressure. Normal pressure is 15-20 millimeters of mercury, but glaucoma levels may reach 40 or more. The increased pressure, unless it is relieved, will damage the optic nerve and produce blindness. Glaucoma is the second leading cause of blindness. There are several types of glaucoma.

TREATMENT—

• There appears to be no evidence that restoration of vision, lost through glaucoma-caused nerve degeneration, can be restored. But there are things which can be done to slow or stop the advance of this problem.

• Dietetic problems are among the most common causes of glaucoma. This includes overeating, eating the wrong foods, and not eating the right ones. Emphasize a raw, vitamin C rich, diet.

• Food "allergies," eating foods which do not agree with the system, can be a frequent cause of the disease. Do a pulse test and find out which foods may be causing you problems. In addition, a tonometer can be purchased, which you can use to test your eyeball pressure.

• The diet should include betaine HCl, vitamin C, a good vitamin/mineral supplement, vitamin A, vitamin B_2, and nourishing, natural food—but not too much of it.

• Moderate, daily out-of-door, exercise helps reduce pressure.

• Warm fennel herb, alternated with chamomile and eyebright, is helpful. Apply as eyewash in an eyecup or three drops to each eye, 3 times a day.

• If anxiety seems to be a cause, increase the B complex intake. Avoid stress, worry, fear, and anger. Cultivate a tranquil, restful lifestyle. Great temperature changes (as found in the north) are a source of stress.

• Higher blood sugar levels increase pressure.

• Avoid heavy lifting, pulling, etc. Avoid constipation, for straining at the stool increases eye pressure (as does diarrhea). Maintain a slight, mild laxative effect. Avoid sitting or standing still for long periods. Lying face down significantly increases pressure. Standing on the hands astoundingly increases pressure.

• Increased blood pressure brings increased pressure within the eyeball. Keep your blood pressure down!

• Do not use the eyes intensively for long periods of time (TV viewing or excessive reading).

• Avoid coffee, tea, tobacco, alcohol, and all junk and processed foods. Smoking damages eyes which have glaucoma. Tobacco in the system increases intraocular pressure. Avoid spicy foods.

• Avoid excessive fluid intake (juice, water, milk, etc.) at any one time. Drink only small amounts, and only an hour apart.

• Motion sickness medication patches increase eyeball pressure.

• Those with glaucoma do well to remain under the care of a professional. Every time the pressure increases, a little more eyesight is permanently lost.

Smell and Taste

ANOSMIA **(Loss of sense of smell)**

SYMPTOMS—One does not detect odors. This can occur either temporarily or regularly.

CAUSES—This occurs when one has a cold or rhinitis (nasal inflammation, resulting from colds or allergy).

But when it is chronic, then it has one of several causes: a lack of zinc in the diet, an injury, a tumor, or a stroke. Zinc will not help in those cases.

TREATMENT—

• Take 30-60—generally 50 mg—of zinc, 3 times a day.

NASAL CATARRH—1 **(Rhinitis; Runny, stuffy nose)**

SYMPTOMS—Rhinitis is the inflammation of the nasal passages, producing nasal congestion and increased secretion of mucous. The nose is runny or stuffed up. When

a person drinks enough water, the nose is runny; when not enough has been taken, the nose is stuffed and one has to breathe through the mouth.

CAUSES—This condition accompanies a variety of problems, including the common cold.

TREATMENT—

• Obtain adequate rest, an adequate fluid intake, and a well-balanced diet. Increase the amount of vitamin A, as well as the other vitamins.

• Eucalyptus oil is an old-fashioned treatment, long in use. Other helps include German chamomile, scotch pine, and cayenne pepper.

• An important aspect is not to blow hard—and unintentionally force phlegm up the eustachian tubes. This can lead to ear infection.

• Beware of decongestants; they can hurt the nasal lining.

NASAL CATARRH—2 (J.H. Kellogg, M.D., Formulas)

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(1) ACUTE Catarrh (Acute Coryza) —

GENERAL TREATMENT—Sweating bath at bedtime, followed by a short cold application: Wet Sheet Rub; Cold Towel Rub; Cold Douche; Hot Foot Bath, with very hot compress to the face; Steam Inhalation; and water drinking.

TO PREVENT—Cold Bath daily or twice a day; out-of- door life; avoid excessively warm clothing and warm living, or warm sleeping rooms, in the winter. Wear linen next to the skin in summer and winter.

(2) CHRONIC CATARRH —

BASIC CONSIDERATIONS—Avoid taking cold. And when an acute catarrh is contracted, eliminate it as soon as possible.

INCREASE ACTIVITY AND TONE OF THE SKIN—Short sweating procedures, especially the Radiant Heat Bath and Wet Sheet Pack continued until the sweating stage, followed by short cold applications: Wet Sheet Rub; Shallow Bath or Cold Douche; Neutral Bath at bedtime, 20-30 minutes, 3 times a week; daily Cold morning Bath; Cold Towel Rub; Cold Shower or Shallow rubbing Bath. All sweating baths ought, if possible, to be taken just before retiring at night.

IMPROVE NUTRITION AND LIFESTYLE—Avoid indigestible, spicy, foods and meats. Eat simply of wholesome food. Obtain needed out-of-door exercise, sunbaths, and swimming.

RELIEVE NASAL CONGESTION—Alternate Compress to the face; Alternate Sponging or Compresses to the upper spine; Cold Foot Bath under running water if the extremities are cold.

GENERAL METHOD—Build up the general health by tonic measures, employing Friction Tonics, at least twice daily. Avoid Hot Baths and too warm clothing. Expose the body, as much as possible, to the open air, but use great care to avoid taking cold by undue exposures; gradually train the body to the point of enduring exposure without injury. (Drink enough water to keep the mucous in the nose thin, so it can easily flow out without clogging the passageways. Do not blow your nose, lest mastoid infection occurs).

NOSEBLEED (Epistaxis)

SYMPTOMS—The nose bleeds.

CAUSES—Physical injury, excessive dryness causing the nasal surface to crack, scratching with the fingernail, blowing the nose hard, sudden change in atmospheric pressure.

TREATMENT—

Anterior nosebleeds (from the nose itself) are most common:

• Blow out the clots, then sit in a chair and lean forward without tilting the head back. (If you lie down or lean backward, you will swallow blood.) Put a small piece of wet cotton (or cloth) in the nose and pinch lightly on it for 5 minutes. Then apply cold washcloths or an ice pack to the nose, cheek, and neck. (Another suggestion is to have him lightly sniff cold water with a little salt or lemon juice added.)

• Then apply vitamin E oil (or petroleum jelly) to the inside of the nose. Lie back and rest for a time. If the nosebleeds are serious enough to warrant it, rest as much as you can for two days.

• The rupture in the blood vessel that caused the nosebleed requires 7-10 days to completely heal. When the bleeding stops, a clot forms and then becomes a scab. Do not pick it loose.

• Make sure you are getting enough vitamin K in the diet. It is found in all dark greens. Put lactobacillus acidophilus in the colon. It will synthesize, and thus increase, the amount of vitamin K in your body.

• Be sure to take enough vitamin C. Calcium, magnesium, alfalfa, and vitamin E are also important.

• When the nose dries out excessively, nosebleed can occur. Try increasing the humidity in the room. Consider purchasing a humidifier. Smoking dries out the nasal membranes.

• Medicinal blood thinners can cause nosebleeds. Blood thinner drugs are what you find in D-Con rat poison.

• White oak bark (or bayberry or ephedra sinica) tea is an astringent. It can be snuffed up the nose before inserting the cotton.

• A little cayenne can be swallowed in some water. This will draw blood away from the head to the stomach.

The other type is the *posterior nosebleed:*

• This occurs in the elderly, and is caused by high blood pressure. The bleeding starts in the rear of the nose, and runs down into the throat. The blood pressure must be lowered! Increase water intake and see a physician.

• Keep in mind that a posterior nosebleed is far better than having a blood vessel rupture from high blood pressure—inside the cranial cavity. Then you have a stroke!

Whichever type of nosebleed may occur, here are additional suggestions:

• Those with frequent nosebleeds should take extra iron. It is needed to make hemoglobin. Rutin is also needed.

• Avoid oral contraceptives. Anything that changes estrogen levels can make you more prone to nosebleeds.

HYDRO—

• Contrast Bath to the Hand or Arm. Two very deep pails may be used. The hot water should be as hot as can be borne *(p. 114).*

• Hot Foot Bath. This can also be used to stop a nosebleed *(p. 116).*

• Cold Plantar Douche. This is a cold water spray to the bottom of the feet *(p. 166).*

• Ice Bag to back of the neck; short hot Fomentations to the face *(p. 218).*

• Ice to the back of the neck; Hot Compress over face; ice to hands; elevate hands to vertical position, if necessary; Hot Foot Bath or Hot Leg Pack; very Hot Nasal Douche *(p. 224).*

NASAL CUTS AND INFECTIONS

SYMPTOMS—Efforts to pick at the inside of the nose, to clean it out, will occasionally result in cuts inside which sometimes become mildly infected for a time.

CAUSES AND TREATMENT—

• It is easy to get into a habit of picking at the nose, even when there is no reason to do so. People sometimes feel driven to pick at the nose, imagining they will somehow make it super clean.

• But unwashed fingers in the nose can result in cuts which infect for a day or two. (Infection from contaminated hands is even more likely if you have a dog or cat in the house.)

• The solution is simple enough: Routinely wash your nose out with water in the bathroom every morning. This only takes a few seconds, but it will remove the sometimes sticky mucous in there. The urge to afterward pick at the nose will be lessened.

• Teach yourself, whenever possible, to leave your nose alone.

Ears

EAR CONGESTION

NOTE—This section deals with methods of reducing blood congestion in the middle ear and inner ear, and was taken, with slight adaptation, from Dr. William L. McKie's book, *Scientific Hydrotherapy*, page 55.

DRAINING THE MIDDLE EAR—Applications should be made to the whole side of the head and face, diverting blood from the internal carotid and internal maxillary blood vessels. If the Hot Compress extends below the jaw, the common carotid will be dilated (enlarged), which you do not want. An Ice Bag should be placed below the jaw at the same time. This will increase the effect, by contracting the carotid.

DRAINING THE INNER EAR—The internal ear, receiving its blood supply from the vertebral artery, a branch of the subclavian, is not affected by heat over the ear. But the inner ear problem may be relieved, when congested, by warm applications to the arms and cold applications to the head and back of the neck, thus diverting the

blood into the arms from the vertebral arteries by a proximal compress or an ice bag to the back of the neck.

EARACHE and INFECTION; MASTOIDITIS (Otitis Externa and Media)

SYMPTOMS—One or both ears ache. This is frequently accompanied by infection in the middle ear. The pain will be worse at night because the body is prone (flat) and it is more difficult for the eustachian tubes to drain out the phlegm.

Sometimes the ears will ache because there is trouble with the teeth (referred pain), but this is not common.

CAUSES—Infection of the outer or middle ear causes pressure to build up. This pressure on nerve endings causes pain. But, if there were no pain, there might be no warning that a serious ear problem existed.

Otitis externa is infection in the outer ear. The eardrum through the length of the eustachian tube becomes swollen and inflamed. There is a slight fever, discharge from the ear, pain (which increases when the ear is touched or pulled), and temporary loss of hearing.

Otitis media is infection in the middle ear, and is especially common in infants and children. The infection is located behind the eardrum, where the small ear bones are located. There is earache, fullness, pressure in the ear, and a fever as high as 103^{o} F. or higher.

Here is an ear test: if you can wiggle your outer ear (the part you can see) without pain, you probably have a middle ear infection; if there is pain, the infection is in the eustachian tube.

Going into higher altitudes can push phlegm, already in the eustachian tube, into the middle ear. Never sleep on your ear if you have a head cold and the vehicle is moving upward to a higher elevation.

Infection in the inner ear generally results from meningitis or from the spread of a middle-ear infection. Symptoms include loss of hearing, nausea, dizziness, vomiting, and fever.

Earache is a common childhood infection. Most children experience it. It is easier for a child to have an ear infection, since his eustachian tube is shorter than that of an adult. Causes include childhood diseases, allergies, colds, and respiratory infections.

If they are frequent, ear infections can lead to loss of hearing.

Chronically enlarged adenoids may cause blockage of the eustachian tubes, leading to congestion and fluid buildup in the middle ear.

There is a tendency for people who have ear problems to be heavy earwax producers. To reduce the amount of earwax made, eat less unsaturated fatty acids. Unsaturated fatty acids are not a problem.

TREATMENT FOR INFECTION—

• If you seem to have pain in the ear, pull on the earlobe. If the pain increases, then you probably have an ear infection. If the pain does not increase, you may have a dental problem.

• Keep the ears warm and the person resting in bed, preferably with his head and, perhaps also, his trunk slightly elevated (to assist natural drainage of the eustachian tubes). Surgical draining might be necessary. The fever increases the need for vitamins A and C. Keep the feet warm. Heat applied to the feet will draw blood from the head and improve circulation.

• Sit up when practical to do so, to decrease the swelling and start the tubes draining. Swallowing will help ease the pain. Yawning really helps open up the eustachian tubes.

• Blow warm air from a hair dryer 18-30 inches from the ear, and blow air toward it.

• Warm some oil to body temperature, and place a drop or two in the ear. This will help lessen pain. But do not do this if you think the drum has burst!

• A helpful method, used by many for a long time is this: To alleviate pain in the ear, use a little olive oil or garlic oil in the ear, then add a drop or two of lobelia tincture.

• Another way to reduce pain is to make a paste, using onion powder or clay packs. Then apply this to the outside of the ear.

• Bake a large onion until it becomes soft, and tie it over the ear; this will often give great relief when pain is severe.

• Avoid sugar, dairy products, meat, and heavy meals until the crisis is past. Herbal teas are helpful in assisting the healing process. This includes peppermint, echinacea, goldenseal, pau d'arco, and slippery elm.

• Because they increase sticky mucous in the body, dairy products increase ear infections. Excessive sweets and starches lower resistance and intensify ear problems.

• People with a tendency to ear infection should avoid all cow's milk products. But, in addition to producing so much mucous, it is reported that milk allergies can produce earaches (and even a burst eardrum), simulating otitis media—without an ear infection actually existing.

• Avoid cigarette smoke, for it can irritate the eardrum.

• Place drops of hydrogen peroxide in the ear, to help clean it out. Then rinse out with water. Do not leave the peroxide there. It can sink through the eardrum and produce a fizzing sound which can last for several years.

• Take garlic enemas. These will help disinfect the body of higher levels of toxins that are building up from the infection. Signs of this are chills, fever, general aches, and pain increase.

TREATMENT FOR RUPTURE—

What should you do if the eardrum ruptures? Causes include a severe ear infection, sudden pressure inward on the ear, resulting from diving, slapping, a strong kiss to the ear, or a nearby explosion.

During an ear infection, pus builds up and causes pain in the ear. *If this pus starts leaking to the outside,* then the eardrum has ruptured.

• In case the eardrum ruptures, put nothing in the ear until the eardrum is healed. A fomentation on the outside of the ear can be helpful.

• Once the infection increases to acute pain, you may need antibiotics.

• An alternate method is: When the ear has abscessed and broken, use warm peroxide to wash the ear out. The peroxide will loosen the putrefied matter and bring it out of the ear. This method is probably good for cleaning out the ear; but keep in mind that hydrogen peroxide is best used on outside body surfaces, where oxygen can cause it to fizz into harmlessness. When it gets inside sensitive body parts, it can continue there for quite some time. We know of one individual who had peroxide in his ear for several years thereafter; and, every so often, he could hear it lightly fizzing.

• When using water therapy on the ear, be guarded. Hot applications over the area under the ear could cause trouble!

HYDRO

Irrigation of the Ear: A lean rubber tube is used to gently (gently!) introduce a flow of water onto the outer ear. The water is *never* applied with any pressure! It flows to the ear and out to the side. The temperature may be from 100^{o} to 120^{o} F., depending upon the effect desired. The source of water should be on a level with the top of the head (to maintain only a slight pressure). Never use force, because perforation of the ear often exists; and serious injury could result from introduction of water, with any degree of force, into the middle ear. The head should be inclined to the side as the water is applied.

The canal of the ear should afterward be carefully dried and covered with a cloth or a warm hand for a few minutes. In cold weather, the ear should not be exposed out-of-doors for at least an hour after warm ear irrigation is applied; and, even after that, a small piece of cotton should be placed in the outer passageway.

This measure affords great relief in the pain of acute otitis media and earache due to other causes. In chronic suppurative disease of the ear, this measure is indispensable as a means of cleansing and disinfection *(p. 151).*

Draining the middle ear: Applications should be made to the whole side of the head and face, diverting blood from the internal carotid and internal maxillary blood vessels. If the Hot Compress extends below the jaw, the common carotid artery will be dilated (enlarged), which you do not want. An ice bag should be placed below the jaw at the same time, and will increase the effect by contracting the carotid.

Draining the inner ear: The inner ear problem may be relieved, when congested, by warm applications to the arms and cold applications to the head and back of the neck, thus diverting the blood into the arms from the vertebral arteries by a proximal compress or an ice bag to the back of the neck *(p. 194).*

Inflammation of ear: Fomentation over affected part; derivative treatment to legs: Hot Leg Bath, Hot Foot Bath, Prolonged Leg Pack *(p. 210).*

Inflammation of middle ear: Ice to throat of the same side, Fomentation over ear *(p. 221).*

Earache: Ice Bag to the neck of the same side; Fomentation over ear; Hot Ear Douche, if necessary. Protect the ear with warm cotton, to prevent chilling by evaporation after treatment *(p. 224).*

Eustachian tube inflammation: The Heating Throat Compress is an application of a cold cloth, covered with flannel, which then heats up and results in improved circulation and a better flow of healing blood into, and out of, the afflicted area. Wring the cotton cloth from cold water and place it around the neck. This should be about 2-3 thicknesses about the neck. Cover it well with flannel (singly or doubly, depending on the thickness). Fit the flannel snugly but not too tightly that it will be uncomfortable. Pin it securely. Remove it the next morning. It should be entirely dry. In eustachian tube inflammation, the compress should extend upward about the lower part of the ear. You may need to hold up this part of the compress (the part by the lower part of the ear) with a bandage that is fastened to it and goes over the top part of the head and back down to it on the other side *(pp. 51-53).*

PREVENTION—

• Never dive below 3-4 feet below the surface of the water.

• Never sleep in a plane or vehicle when it is descending—or ascending. If you are in a car, climbing up or down the mountains—do not sleep, especially on your side. You do not swallow as often when you are asleep; and, if you have phlegm in your sinuses, it can go up into your ears.

• Be careful when scuba diving. The greatest air pressure changes occur within the first 33 feet below the surface. Avoid earplugs and hoods which are too tight-fitting, so you cannot equalize air pressure in the ears.

• Avoid the above three situations, when your head is stuffy with phlegm.

• Breast-feeding reduces a baby's chances of having ear trouble.

• Do not smoke.

EARWAX

SYMPTOMS—Hearing is becoming duller, and the person suspects he may be losing his hearing.

CAUSES—The problem may a hard plug of earwax in the ear canal. Some people have constant ear pain until the excess wax is cleaned out.

If you do not chew your food thoroughly, earwax can build up. The chewing tends to break it down.

Saturated fats contribute to excess production of earwax.

TREATMENT—

• Never put anything sharp in the ear! That includes bobby pins, paper clips, and pencil tips. They can puncture the eardrum.

• Do not use cotton-tipped swabs either, because they merely ram the wax down deeper and impact it the more.

• Place something in your ear which will soften it. This can be hydrogen peroxide, mineral oil, or glycerin. Add a drop or two of this to each ear. Let the excess run out. The liquid left inside will soften the wax. Do this for a couple days.

• Fill a bowl with body-temperature water. Suck it into a rubber bulb syringe; and, holding your head over the bowl, gently squirt the water into the ear. Use very, very little pressure. Turn your head and let the water run out.

• Do not rub the ears, to dry them. Either use a hair dryer (18-20 inches away) or drop a little alcohol in each ear. Do not wash out the ears in this manner more often than every couple months. You need some earwax to protect your ears.

• There is a tendency for people who have ear problems to be heavy earwax producers. To reduce the amount of earwax made, eat less unsaturated fatty acids. Unsaturated fatty acids are not a problem. It is the over-balance of unsaturated fats which causes the earwax problem.

• An alternate method of cleaning out the earwax is this: Using an eyedropper, place either a solution of 1 part vinegar to 1 part warm water or a few drops of hydrogen peroxide in your ear. Allow it to settle for a minute, then drain it. Do this 2-3 times a day. If the wax is hard and dry, apply garlic oil for a day or two, to soften it. Then wash out the ear with a steady stream of warm water, under no pressure. Patiently continue irrigating the ear canal, flushing with warm water. The wax buildup will come out.

• Yet another method is using "ear candles," available at health food stores. Someone will have to help you use them. Instructions come with the candles. Afterward, you may be bothered by the fact that an excess of wax has been eliminated. You may need to put cotton in each ear for a time.

SWIMMER'S EAR

SYMPTOMS—An ache and/or infection in one or both ears, after swimming in a pond, creek, or public swimming pool.

CAUSES—*Swimmer's ear* occurs when pool water remains in the outer ear canal too long. Bacteria or fungi in the water increases the chance of infection. When swimming in contaminated water, keep your head out of the water.

The pool water, having repeatedly wet and softened the earwax, caused it to become an ideal place for bacteria to grow.

But the most common cause is infection from the nasal passages and throat, having been pushed into the eustachian tube when the nose was blown too hard.

Constant swimming throughout the summer can result in infestation of the external ear canal by candida albicans. Constant dampness (in water that is not entirely clean) throughout the summer swimming season is thought to be the cause.

TREATMENT—

• Hydrogen peroxide ear drops.

HEARING LOSS

SYMPTOMS—One's sense of hearing is lessening.

CAUSES—It may be that the sense of hearing is being lost. But it also may be that the ear has too much impacted earwax.

A manganese or tin deficiency in the diet can result in a hearing loss. Putting these back into the diet can reverse this, and restore the hearing.

Other possible causes would include: Milk allergies, poor ear circulation, and vitamin A deficiency.

The ear drums might be hardened with age. This generally accompanies hardening of the arteries.

Catarrhal deafness could be the problem. This starts when an acute infection (such as a cold or the flu) is suppressed and not allowed to run its course and be properly eliminated. A low level infection continues in the ear, and gradually ruins the hearing.

When acute diseases are treated with aspirin or quinine, partial or complete deafness can result. Other drugs which cause this effect are aureomycin, streptomycin, barbiturates, cocaine, opium, and their derivatives.

Smoking and caffeine cause spasms and narrowing of blood vessels.

Other substances to avoid would include lead, mercury, and cadmium.

Excessive amounts of noise injures the fine structures in the inner ear and gradually produces deafness.

Some people have occupational hazards which eventually lead to deafness. This includes piloting small planes and running chain saws or heavy equipment.

TREATMENT—

• Consider the above factors.

• Clean the ears, make sure manganese and tin are in the diet (take Nova Scotia dulse or Norwegian kelp). Take pulse tests and gradually eliminate food allergies. If milk is the problem, cut out all milk products from the diet. Avoid medicinal drugs, chemicals, and loud noises

• Eat a wholesome, nutritious diet, with vitamin/mineral supplements. Drink fresh vegetable juices.

• Eliminate processed, sugared, and junk foods from the diet.

• *In case there is an inflammation in the ear which causes the hearing loss:* Mullein oil can be put in the ear as ear drops. 2-4 drops of warm (not hot) garlic oil or liquid extract is also good. Do not use the same dropper in both ears, as it may spread the infection. Eat fresh pineapple.

• If you seem to have pain in the ear, pull on the earlobe. If the pain increases, then you probably have an ear infection. If the pain does not increase, you may have a dental problem.

PREVENTION—Always wear ear protection when using appliances or equipment which produce loud noises. This would include power tools, chain saws, lawn mowers, table or portable saws, and target practice. Use ear plugs rated for at least twice as many decibels as you need, to ensure protection.

When listening to music, it should never be so loud you cannot hear the ring of the doorbell or the telephone. If you use earphones, no one else should be able to hear sound from your earphones. If they can, you are playing the music too loud for the safety of your ears!

The average rock concert or stereo headset at higher levels (100 decibels, plus) can damage your hearing in 30 minutes. Two hours in a video game arcade can do the same thing. By comparison, an air hammer is 120 decibels.

Wear ear plugs when swimming in public places.

Reduce your cholesterol level. Those with high cholesterol have greater hearing loss as they age.

Do not get German measles while you are pregnant. If you are vaccinated for it, do not become pregnant for 3 months afterward. The ensuing birth defects to the child could include hearing loss.

Beware of medications during pregnancy.

Make sure your infant has good hearing. If not discovered, he or she will miss much instruction in a variety of speaking skills. Generally, you will be the first one to learn if such a problem exists, not the doctor.

ENCOURAGEMENT—The Bible reveals how we can be saved. From Eden lost to Eden restored, it tells the entire story of salvation in Christ. Read that precious book, and you will be blessed and be a blessing to others.

MENIERE'S SYNDROME

SYMPTOMS—A disease of the inner ear, characterized by recurring episodes of ringing in the ears (tinnitus), loss of balance, and severe dizziness (vertigo). There is progressive deafness and a sensation of fullness in the ears. Sudden movement during an attack can induce nausea and vomiting. Sometimes there is an uncontrollable horizontal jerking of the eyeballs.

The condition may affect one or both ears. It generally occurs in adults (most often in women, 50-60 years old). The onset is sudden. It may last for hours or weeks, and then return soon again, after years. In most instances, it is experienced only in one ear, and can result in complete deafness in that ear.

Vertigo is the sensation that the world is turning around you. Meniere's syndrome accounts for 10-15% of all vertigo (and 5% of all dizziness).

CAUSES—This often results from a metabolic problem, resulting from a disturbed carbohydrate metabolism, such as is found in hypoglycemia.

Impaired blood flow to the brain may be a causative factor. Those experiencing Meniere's syndrome often have a history of vasomotor rhinitis, ear trouble, and allergies.

Autopsies reveal an edema in the membranous labyrinth.

Other possible causes may include allergies, viruses, infections, and hormonal intolerances.

Symptoms exactly like Meniere's syndrome can be caused by a cholesteatoma. This is a tumor-like growth in the middle ear, which gradually pushes on the central nervous system. Consulting with a specialist might be of help in diagnosing the cause.

In some instances this is misdiagnosed; and it is actually salicylism, from excessive self-medication of aspirin. That can also cause deafness, ringing in the ears, dizziness, headache, vomiting, confusion, and hyperventilation in the later stages. If that is the cause, stop all taking of aspirin immediately.

Fluid retention in the semicircular canals might be putting pressure on the delicate nerves of the inner ear.

TREATMENT—

• A general cleansing routine is often met with excellent results. This would include fasting for 3-7 days on vegetable juices, which would be repeated every six weeks. In between, a solid nutritious diet, composed of lots of vegetables, seaweed, seeds, nuts, beans, etc., should be eaten.

• Vitamins A, B complex (including B_6, niacin, pantothenic acid), and especially vitamin C. Calcium is also needed. A lack of manganese can cause deafness, dizziness, and ear noises. A lack of magnesium can produce nerve twitching and sensitivity to noise.

• Drink enough water.

• Eliminate white flour products, white sugar, unsaturated fats, excess salt intake, caffeine, nicotine, and alcohol. An oil free diet may improve circulation in the tiny capillaries. Smoking induces constriction and spasm of the blood vessels. In one study, 9 out of 10 patients improved, when placed on a low-salt diet.

• In another study, allergies to milk, eggs, corn, wheat, and yeast sometimes caused Meniere's. Eliminating them essentially terminated the problem. Stop using all of the above foods; then gradually reintroduce one at a time, and see which might be bothering you.

• Variations in glucose levels can prompt Meniere's. A New York study indicated that, when insulin levels are normal, the patient seldom has tinnitus, vertigo, fullness in the ear, or variable hearing loss.

• Gradually increase the amount of out-of-door exercise. Breath deeply as you do it. This will help the circulation in the head.

• Use one bowl for hot water and one for cold, once or twice a day, and take a hot and cold head bath. Immerse the head in the hot, for 30-60 seconds, and then plunge it into ice cold. (If elderly, weakened, or with a heart condition, begin with less extreme temperatures.)

• Herbs which may help include cayenne, gotu kola, butcher's broom, ginkgo biloba, and ginger.

• At the time of an attack, lying quietly on the affected side, with eyes turned in the direction of the affected ear may help reduce the immediate crisis.

• If helping someone with this problem, let him move about at his own rate. Avoid jarring him. When speaking to him, stand directly in front so he will not have to turn his head (which can add to the vertigo).

TINNITUS

SYMPTOMS—Sounds in the ear: ringing; whistling; roaring; hissing; chirping; buzzing; and whining cricket sounds, when there is no outside physical source for these sounds. At first, they come and go; in advanced stages, the sound is constant. No one else hears them.

There are reported instances in which others have heard the sounds from as much as 4 feet from the person's ear. "Tinnitus," in Latin, means "to tinkle," or a "bell-like ring."

The frequency of tinnitus increases with age. The left ear seems to produce the sounds more often than the right ear. About 75% of deaf people report tinnitus.

CAUSES—There are several possible causes, including an irritation of nerve endings in the ear by loud noises. Chemicals and drugs can injure the internal ear. Prescription drugs can produce tinnitus or hearing loss (beware of quinine and aspirin). Nicotine constricts blood vessels and may be the cause. Other causes are lead; aluminum; mercury poisoning; impacted wax; hormonal problems; high blood pressure; severe

blows to the head; anemia; perforation of the tympanic membrane; fluid in the middle ear; epilepsy; migraine; food allergy; Meniere's disease; hypothyroidism; multiple sclerosis; as well as repeated and prolonged exposure to loud noises. Whatever the cause, stress sometimes adds to it.

Tinnitus is not a sign of a more serious problem or a precursor of any serious disease

TREATMENT—

• Surgical success rates are very low. Beware of "tinnitus maskers." These products can cause hearing loss.

• Do the pulse test to check on problem foods. Have a hair analysis made. Find the cause and eliminate it. A 1981 medical study pointed to coffee, tea, tonic water, red wine, grain-based spirits, chocolate, and cheese as the most common dietary causes of tinnitus.

• Mix 1 tsp. salt and 1 tsp. glycerin in 1 pint warm water. Several times a day, using a nasal sprayer, spray each nostril until it begins draining into the back of the throat; also spray the throat.

• Get a nourishing diet, and include trace minerals (Norwegian kelp or Nova Scotia dulse), vitamin A, calcium, magnesium, and betaine HCl.

• A lack of manganese can cause deafness, dizziness, and ear noises. A lack of magnesium can produce nerve twitching and sensitivity to noise.

• Changing and correcting the diet, reducing stress, and getting more exercise out-of-doors has been helpful in dealing with tinnitus. Stress causes more adrenaline to be produced which, in turn, constricts blood vessels and keeps waste products from being as quickly eliminated.

• Remember that fatigue increases the problem. An important help is to go to bed and get up on a regular, healthful, schedule.

• Avoid loud noises and noisy situations. Alcohol makes tinnitus worse. Caffeine is a common cause. Marijuana and cocaine intensify the problem. Aspirin is a known cause of tinnitus, also blood pressure and arthritis drugs. Also beware of steroids, anticonvulsive medications, vasodilators, and anticholesterol drugs. Nicotine damages the hearing.

• Make sure the colon is working well. An enema will help with this.

• Worthwhile herbs would include bugleweed, garlic, gotu kola, cayenne, and prickly ash.

CHAPTER TWENTY-FIVE
THE GOLDEN YEARS

Today's society is growing rapidly in the over sixty-five population. More than twenty three million Americans have passed retirement age. Every day an additional 5,000 men and women join this elite group. While only 3,600 seniors die each day, we see the addition of 1,400 elderly every single day. Our average length of life is now seventy two. However, the figure is likely to rise as social and medical forces combine to increase numerically the individuals who reach old age. There exists already a sizable group of "old, old" people, those over seventy five. And, it is no longer rare for senior citizens to have a parent still living.

The **quality of life** for many old people has greatly improved. The 5,000 newcomers celebrating their 65th birthday each day are, as a rule, relatively healthy and vigorous, increasingly well educated, better off economically, active politically, and seeking new ways of self-fulfillment. In general, they are reaping the benefits of a longer life span, and truly enjoying their leisure years. Collectively, they have exploded the stereotype of the older person as unproductive, institutionalized, unable to adapt, sickly, frail, forgetful, confused, and senile. Most of the elderly, in fact, live at home. Only *5%* live in institutions or nursing homes.

Often older people are looked upon as being in the tranquil and inactive phase of their life span. Actually, old age can be as full of **stress** as adolescence. Although the aged is a hardy group of survivors, they are also a vulnerable group. They get sick more often than younger people do and their lives are burdened with many new problems that they must confront and handle.

The elderly are not a homogeneous class, any more than are children. Their reactions to stress run a wide gamut. Some seek it; others avoid it. Some are undermined by the aging process; others are resistant. Some exaggerate its significance, others minimize. Nonetheless, regardless of their wide range of responses, stress of some kind or other is experienced to some degree by most of our elderly friends.

In general these stresses are more taxing when people grow older, than when they were youthful. Because of numerous physiologic changes of aging, a little bit of stress can go a long way toward causing illness. After a stressful experience, the prolonged autonomic arousal takes longer for the body to return to basal hormone and nervous levels. There is moreover a strong social component to these reactions. For example, a life-long investment or family relationship may be threatened, such as the loss of a loved one, the family home, or a cherished career. Given these stresses, what is really remarkable is the strength and capacity to deal with them that is displayed by so many aged individuals.

SLOWING THE AGING PROCESS

Aging is not a disease. Nevertheless, as the years pass, major changes in the body become apparent. Chronic health conditions develop, and mortality increases. Simultaneous with these changes, stress frequently builds up. Actually, the process of aging takes place more gradually, throughout our entire life. According to some specialists, there is a steady decline of about

1% per year in adult functional capacities of the numerous organ systems. This decline takes its toll by reducing the quality of life in the elderly. Hearing and visual impairment are high on the list of chronic conditions that plague them. Sensations of taste and smell may likewise diminish, detracting from their enjoyment of life. Sleep problems frequently develop, which can affect the elderly individual's capacity to function normally during the day. Breathing efficiency substantially diminishes, while muscle strength deteriorates. There is a gradual replacement of muscle cells by fatty and fibrous tissues. Our hormones protecting immunity responses decrease. Those hormones that remain do not do the job as adequately as before. The efficiency of mechanisms that control posture and locomotion may be impaired. As a result, older people fall more often, and are decidedly at greater risk of fractures. Additionally, the quality (hardness) of bone declines, especially in women, so that breaks are more likely to occur. Fractures, furthermore, take longer to mend.

On top of these "normal" functional changes, there are pathological changes due to disease. High blood pressure, coronary heart disease, pulmonary disease, allergic reactions, abnormal functioning of the gastrointestinal tract, arthritis, and many other degenerative conditions, increases with age. All too often, they lead to chronic disability. These diseases and disabilities are stressful in themselves. They seriously challenge a senior's ability to cope.

As we look at the factors that promote aging, it becomes apparent that time plays a major role. The Scriptural picture of Moses is fascinating to contemplate. At the venerable age of 120, *"his eye was not dim, nor his natural force abated,"* (Deut. 34:7). This shows the remarkable influence of his communion with God, a lifestyle of outdoor living, together with a simple diet. All these factors helped in promoting this superb level of health. Studies of the Hunzas, living high in the Himalayan Mountains have similarly shown the importance of active outdoor exercise, fresh air, pure water, and a simple diet in retarding the aging process. It is not unusual in that land of tall mountain peaks to see octogenarians still working in their fields, climbing the steep mountains paths to and from their gardens. Women and men not uncommonly reach one hundred years of age. Many live even longer. Other populations in southern Russia and Vilcambamba, Peru likewise testify to the significance of a simple lifestyle in their ability to live a long, fruitful, and productive life.

As a rule, these distinguished people who live to a ripe old age are content with their ultra-simple lifestyle. Their diet is ungarnished, largely vegetarian, with varied combinations of fruits, grains, nuts, and vegetables. Traditionally, they are simply prepared. These people use a minimum of refined modern foods, such as sugar and free fats. These, as you know, have been shown to accelerate the progress of degenerative diseases. Outdoor living is the norm. Their chosen pastoral, rural life is lower in stress, though seeming primitive by Western standards. Habits such as tobacco smoking and alcohol imbibing are rare, for their pleasures are found in a traditional, family centered social life that brings both satisfaction and peace of mind.

Many of these healthy populations of centenarians continue active physically, taking their daily walk, working in flower beds, or cultivating fruits and vegetables. Memories are well preserved, with a keen sense of humor.

Many enjoy telling stories that span many decades of history, giving a rich insight to the culture of a people that have learned how to live.

MIDDLE AGED FOR LIFE

Researchers of biological aging have found that one sign of good aging is the quality of each person's attitude toward the past. People living in nursing homes, especially, have a time perspective primarily concerned with the past. Perhaps this reflects their lack of sense of future outlook for themselves. The elderly invalid' s escape to the past may produce less stress than facing the next inevitable step, death. In contrast, reviewing the past but not dwelling on it can play an important role in adapting healthfully to old age. One esteemed author has said it well; *"We have nothing to fear for the future, except as we shall forget the way the Lord has led us and teaching in our past history."* (Ellen G. White, *Life Sketches,* page 195.)

There is a great capacity for growth in most older people. However, it is too often buried in the sad stereotype of the elderly as being very rigid. Rigidity is not a function of age. Rather, it is part of one's own personality structure. The capacity for curiosity, creativity, surprise, and change does not invariably decline with age. In fact, the desire to change and grow can be heightened by the realization that life is drawing to a close.

Many elderly folk will experience a substantial loss of independence. Having a determining role in the scheme of things is important for our mental health. By exercising creatively the brain, this decision making power may even help protect against senility and eventual mental deterioration. One key to keeping older people independently involved in the decision-making process affecting their own lives and affairs is a well preserved, strong family tie. In many situations, the elderly are apart from their family, but maintain regular contact through daily visits or phone calls. The majority of our senior population in the U.S.A. lives near at least one child, and sees their grandchildren regularly.

Most older Americans prefer to be independent of their families, which they frequently achieve until they can no longer manage for themselves. Then, they expect their children to come to their aid. Not only are such expectations realistic, but they are usually fulfilled. Eight percent of the older persons receiving home care get it from family members. The older and sicker the individual, the more likely he or she will have to live with a child. This in harmony with the 5th Commandment given on Sinai: *"Honour thy father and thy mother: that thy days may be long upon the land which the Lord thy God giveth thee."* (Exodus 20: 12).

Although **independence** is a highly desired goal, capacities and desires for it vary widely among older people. One indomitable person will be able to maintain his or her own home for decades. However, a fearful, timid neighbor may have to move to a more protective setting. Thus, the older individuals have as many variations in their needs, desires, and abilities to find fulfillment as do people of any age.

One very **basic need** that each senior citizen expresses is the continued desire to be productive. Helping to maintain his or her home, contributing to the family's financial support, sponsoring charity projects in churches or social agencies—all these bring joy to those who have spent a lifetime serving others. How good it is when a person who has accumulated some wealth, a

retirement income, or a valuable property can have the satisfaction of seeing it used for the good of their church, the welfare of beloved family members, or to advance missionary enterprises at home or abroad.

The years of middle age are usually considered most productive ones. Nonetheless, those who retire early often do their best work at that time. Being free from prior distractions, and with the accumulated wisdom and knowledge of many experiences, these senior citizens frequently prove valuable as statesmen, counselors, authors, and guides to the younger generation. Creativity and rugged individuality may characterize the senior citizen, which has well earned the respect of both their family and the surrounding community. Still vigorous and active in mind, these valuable members of society, both men and women, may with proper care of their health and cultivation of the spirit exemplify our vision of "being middle aged for life."

HEALTH PROBLEMS OF THE ELDERLY

One of the greatest threats that our elderly friends face is the possibility of premature senility, sometimes called **Alzheimer's disease**. It is the only total disability that cannot be coped with in some creative way. Senility virtually marks the early "death" of our organ of personality, the forebrain. Senile people lose their individuality; their behavior becomes progressively disorganized.

Fortunately, most senior citizens never become senile. However, a substantial minority, about 30% of those over the age of 80, show evidence of forgetfulness and confusion. This, nonetheless, usually constitutes an unoffending side effect of the normal slowing down that comes with age. Many diseases occur at younger ages, but in the elderly apparently minor illnesses sometimes produce symptoms of disorientation.

Physicians sometimes fail to realize that older people sometimes react differently to their manifestation of disease than do younger people. Neglecting to recognize the peculiarities of older people, including their sensitivity to certain drugs, their noncompliance with therapy, or the way they sometimes mask symptoms such as pain and fever, may lead to misinterpretation by the patient' s family doctor. This could deprive an elderly patient of care that would restore him or her to optimally useful life. As many as 10 to 20% of the three million elderly diagnosed as senile are in actuality grossly mislabeled. They suffer, not from dementia—progressive loss of memory and brain function— but rather from conditions that could be treated, if properly diagnosed and managed.

For example, some old men and women who appear confused may simply be dehydrated, since the sensation of thirst diminishes with age. Other conditions that cause brain dysfunction include metabolic diseases, such as diabetes and thyroid problems, nutritional deficiencies caused by faulty diets, and discrete physical illnesses, such as anemia, brain tumors, or kidney failure.

Depression in the elderly individual is easily misdiagnosed as senility because of the similarity of symptoms— poor memory, confusion, and a somber melancholia. The elderly are more prone to depression because of their multiple and irreversible losses, the social isolation, and feelings of uselessness that characterize too many lives. In fact, depression is one of the most common indicators of stress among the elderly.

Providing practical alternatives to loneliness can ameliorate much

depression in the aging person. A residence in the child's home, meaningful worship experiences, being included in the social activities of the family, these can bring the elderly relative back to the mainstream of really living. The inadvertent misuse of drugs may cause mental instability and depressive side effects. People over sixty-five use 25% of all medications prescribed, yet many physicians are unaware that the elderly have a lowered tolerance to drugs. It is possible for some of the thirteen different drugs customarily taken per year by the average senior citizen, to interact adversely with each other. Often the best treatment a physician can offer is simply to decrease or halt entirely the use of these chemical agents.

Aging is characterized by a multitude of losses—loss of vigor, loss of lifelong career, eventual loss of a spouse of many years, death of good friends, etc. These multiple losses can produce major stress, and are a common basis for depression. Consider the conflict that retirement evokes. After decades of deriving (ideally) great satisfaction from work, most men and an increasing number of women are eligible to retire by the age of sixty-five. It is usually difficult to give up that older familiar occupational role for a new, seemingly lesser one. Having or acquiring a hobby offers a wonderful safeguard to the joys of retirement. Enjoying helping in the neighborhood, caring for lawn and garden, using skills in sewing, arts, or craftsmanship can with minimal expenditure of finances— and even the possibility of a supplemental income— bring joy and satisfaction to the retiree. Individuals who are affected by the emotional impact of retirement often complain about headaches, loss of sleep, irritability, gastrointestinal symptoms, and nervousness. Anticipating these retirement years and preparing for them psychologically will make the ultimate adjustment easier.

One patient, an active white-haired lady in her early eighties, told me that she had determined years ago what she was going to do as she reached this old age. When in her forties she looked around and noticed that many elderly individuals were always welcome in their children's home, sought after as counselors by friends, and generally welcomed wherever they went. Others, on the other hand, were not so welcome, for they had acquired characteristics that made them a trial to their family. A sour disposition, chronic complaining, and ill temper had developed through the years, decreasing their acceptance in their children's homes. My patient determined then, as a middle-aged woman, to cultivate those characteristics that would make the elderly welcome. Finally, in her eighties, this goal was realized.

The loss of a lifelong companion is one of the greatest stresses faced by the elderly. While widowhood is not usually anticipated, as is retirement, women are more prepared for it than are men. Widowhood for men is initially much more disruptive and disturbing. Many men have relied upon their wives for meeting people, and maintaining continuing relationships with friends. Moreover, during the senior years, most older men live with a wife. Only one third of older women live with a husband. Yet, all may achieve if they will, the spirit of contentment so conductive to peace of mind. *"Thou will keep him in perfect peace, whose mind is stayed on thee: because he trusteth in thee."* (Isaiah 26:3).

SIMPLE TREATMENTS FOR COMMON SYMPTOMS

We have already discussed many emotional problems affecting older people. Depression, worry, fear, and loneliness often have specific causes.

These can be remedied with a determined will and a strong faith in God. There are, besides, physical symptoms that express themselves more commonly in senior citizens. These may involve nearly any system in the body. Most commonly, they affect the cardiovascular, gastrointestinal, and urinary systems.

Pain seems to be a not uncommon companion of the senior citizen. Chapter Two presents many causes and treatments of pain patterns. However, some appear more commonly in older individuals. **Arthritis** in the spine can produce chronic pain. This is particularly common in the neck, and may lead to degeneration of the bones, with formation of spurs that could compress one of the spinal nerves. Headaches are regularly caused by these arthritic manifestations. The symptoms may be aggravated by certain positions. The application of a cervical pillow shaped like a bolster, and the use of intermittent neck traction, heat, or massage gives considerable relief to such patients. Often with aging comes a shortened height, the bones gradually losing their calcium and mineral content as the spine settles. There may be some bowing of the upper back or a twisting of the spine into an "5" configuration *(scoliosis).* This frequently makes it more difficult to ambulate, carry heavy loads, and may later even create difficulty in walking. Careful posture is important, as well as caution in working around the house to prevent accidents and falls.

Arthritis affects the joints of the feet and hands, or the large articulations in the hips, knees, or elbows. Arthritic degeneration is usually of the type characterized in Chapter Five as *degenerative joint disease.* First, the cartilage wears out. Then, the resultant rubbing of two non-padded bones together creates a painful response, frequently associated with weather changes. Many aged sufferers from this so-called "rheumatism" can predict accurately an approaching storm, because the aching in their joints seems to track barometric changes.

If possible, the arthritic individual should be encouraged to take warm tub baths, or use heating pads and moist hot compresses to relieve the local joint pain. Clothing the extremities adequately will help to prevent painful suffering, particularly in women, who seem more intolerant to cold. Especially, keep the knees, ankles, and feet warm, while protecting equally in colder weather the upper extremities. This includes wearing warm gloves.

Common cardiovascular symptoms that frequently affect the older patient are palpitations, dizziness, fainting spells, and periodic shortness of breath. **Congestive heart failure** causes most of these manifestations. It is commonly caused by arteriosclerosis. **Angina pectoris** may appear with minimal activity if the disease is particularly advanced. **Heart attacks** are not uncommon in the elderly, producing characteristic changes in the electrocardiogram and carrying risk of sudden death. Frequently, the heart attack lacks the crushing chest pain that characterizes a massive heart attack in a younger individual, thus making it harder to diagnose. Blood pressure tends to rise with advancing age, paralleling progressive hardening of the arteries. Chapter Four outlines several symptoms and their rational treatment approaches whenever heart disease is suspected.

The **appetite** may decrease in older individuals. Quite often, this is linked with depression. Loneliness or physical handicaps makes the healthful preparation of food more challenging. Profound weight loss sometimes

occurs. As always when the causes are elusive, medical investigation should exclude other causes, such as silently developing tumors, heart disease, or a side effect of medication.

Constipation appears frequently in the elderly. Declining physical activity and a failure to drink adequate amounts of water are common causes. The diet may be too refined, due to the person's inability to prepare a variety of natural foods. On the other hand, he or she may lack sufficient teeth to permit thorough mastication. Laxative abuse is common; using enemas, herbal laxatives, and over—the—counter medicines becomes a way of life. Nevertheless, this substitutes poorly for a proper natural diet, including plenty of fiber, drinking an abundance of water, and exercising in the out—of—doors. All this takes time, but it will yield great dividends.

Foot care may pose a problem. Arthritis in the larger joints makes it difficult to reach your feet to properly clean and trim the nails, or care for painful callouses. Shrinkage (atrophy) of subcutaneous tissue may make bony prominences prone to rub on loose-fitting shoes. I recommend the use of a flat foot file, made either of pumice or metal. Get one with a sturdy handle that is easy to grasp by an older individual. File the callouses and corns, and wear protective moleskin pads to decrease the foot trauma that makes walking painful.

With the increased wrinkling of aging skin, the subcutaneous tissue is lost. Then, the risk of circulatory impairment becomes another health hazard, almost exclusively seen in bedfast older patients. **Decubitus ulcers,** or "bed sores," can be painfully debilitating. They are occasionally found in nursing home patients, especially where inadequate care is given. Prolonged pressure over a bony prominence, usually the hip bones, the sacrum, or the heels breaks down the skin to invite infection. Decubitus ulcers grow rapidly as infection undermines the adjacent tissue, even extending to the bone. Meticulously cleanse such ulcers with hydrogen peroxide or a disinfectant soap. Then, follow this with hygienic protective measures to promote recovery. Pad the susceptible part with sheepskin, foam rubber, and frequently shift the patient' s position. These home nursing routines are important to prevent pressure over vulnerable areas of skin breakdown. Pack deeper ulcers with granulated sugar, and wash it out after four to six hours. Change the dressing several times a day to stimulate the formation of granulation tissue and decrease the multiplication of germs. The sugar concentrate prohibits germ multiplication while gradually cleaning up infected areas. Special enzymes may also help to clean the area. These are marketed in an ointment base (such as *Elase).* On the other hand, they can be compounded from papaya or fig preparations containing similar protein dissolving ingredients *(papain* and *ficin,* respectively).

Increased bruising may present a problem, as well as slow healing abrasions. Protect the elbows and forearms with long-sleeved pajamas, or wear special pads over the elbows, heels, or knees. This is definitely advisable in debilitated patients to lessen the likelihood of skin trauma. It can really hurt.

Urinary symptoms may predominate. Incontinence is the most common and distressing. It is discouraging to have to wear a diaper or other protection in order to prevent involuntary urine leakage. This occurs often in older women as the bladder's muscle tone relaxes, or in men as a complication of

prostate surgery. Careful evaluation by urologist may be necessary. Be sure to test the urine for possible infection when there is any difficulty in urination. Infection does not always produce the symptoms of burning, frequency, and urgency so typical in younger people. Many senior citizens therefore carry a bladder infection without knowledge that these infecting germs are harbored there. Usually, all one needs to do is increase the fluid intake, drinking ten to twelve glasses of water daily. Consider using supplements of Buchu tea, cranberry juice, or Vitamin C (two grams/day) to combat the resistant bacteria causing infection.

Although many disease conditions occur in our aging population, their clinical courses and treatment are not significantly different from those at other ages. Specific chapters dealing with each type of disease and body system can be consulted (see Table of Contents) to better understand the meaning of symptoms and help find the simplest remedy that may be employed right at home. Periodic medical consultations may be required to pinpoint the diagnosis and provide a needed laboratory diagnosis. Although aging is inevitable, sickness is not. With proper attention to the laws of health and strict obedience to their principles, the sunset years can be full of glory—ever changing, always beautiful. *"The hoary head is a crown of glory, if it be found in the way of righteousness."* (Proverbs 16:3 1

CHAPTER TWENTY-SIX
OVERCOMING UNHEALTHFUL HABITS

All of us are creatures of habit. From earliest childhood we have repeated many actions, until distinct habits are fixed in our lifestyle. These make up the character of a man or woman. Some habits are good, while others are obviously harmful. A few habits are destructive to society, as well as to the individual. Remember now, *there can be change without improvement; but there can be no improvement without change.* It is for specific aid in this facet of getting well that I focus on some current habits in the American lifestyle. May the information gained in this chapter bring temperance, sobriety, and peace of mind to any reader who is troubled in mind, or enslaved to some poison.

ALCOHOL

Knowledge of chemical alcohol by science and industry is only about 100 years old. However, the production of fermented beverages goes back to antiquity. As early as 2,300 B.C., the patriarch Noah overindulged. Alcohol was the sad downfall of two priests, Nadab and Abihu, during the time of the exodus. About 1,00GB .C. the wise king, Solomon, said, *"Wine is a mocker, strong drink is raging: and whosoever is deceived is not wise"* (Proverbs 20:1).

In the process of fermentation, starches and sugars are converted by yeast enzymes into ethyl alcohol and carbon dioxide. Grain is fermented to produce **beer**, which usually contains 4 to 8% alcohol. Grape juice is the major source of fermented wine, which is 6 to 8% alcohol. This is called **wine** (Hebrew—yayin; Greek—oinos) in the Bible. When sugar is mingled with the grape juice, fermentation continues further, producing a 14% concentration of alcohol in the wine (sometimes called "strong drink" in the Old Testament, Hebrew—shekar). Enzymes in most types of yeast are naturally inhibited by this much alcohol. To produce liquors with higher than 14% alcohol (maximum fermentation), distillation must occur, or pure alcohol may be added.

By definition, alcohol is classified with organic chemical compounds, containing carbon, oxygen, and hydrogen. Several different alcohols are known. **Methanol** (CH_3OH) is wood alcohol, a very toxic poison to the body, producing blindness when ingested. **Ethyl alcohol,** or ethanol, (C_2H_5OH) is the so-called beverage alcohol, produced by the fermentation of grain. **Isopropyl alcohol** (C_3H_7OH) is used as a disinfectant (called *rubbing alcohol).* More complex alcohols are all highly toxic. Adding oxygen to ethyl alcohol can produce antifreeze *(ethylene glycol).* This is also harmful to the body. Glycerol, the molecule backbone of fats, and many waxes is closely related chemically to ordinary alcohol.

To understand better the naming of alcoholic beverages, let's consider their origins. By grain fermentation one obtains beer (4 to 8% alcohol), and ale (14% alcohol); distillation produces whiskey, gin, and vodka (40 to 50% alcohol). It was the custom in olden days to *prove* that the amount of alcohol on their label was correct by igniting it. Fifty percent alcohol will burn with a light blue flame. Thus, one hundred "proof" whiskey contains 50% alcohol.

Fermentation of fruit juice produces wine, as mentioned above, and brandy (30 to 50% alcohol, after distillation). Since the government tax is very high on ethyl alcohol, it is “denatured” for use in laboratories. This is accomplished by the addition of a bitter alkaloid or foul-smelling substance *(pyridine),* rendering it unfit to drink.

Unlike food nutrients, alcohol can be absorbed directly from the stomach into the blood. Approximately 20% of that ingested enter the body in this way. The remainder is absorbed into the small intestine. The simultaneous ingestion of food decreases this absorption rate. Only a small amount, less than 5% of the ingested alcohol is excreted in the urine or expired air. Ninety percent of this toxin must be removed from the body by chemical oxidation. This is done by a liver enzyme called *alcohol dehydrogenase.* The rate of oxidation varies in individuals. Ordinarily about ten to fifteen ml. of alcohol can be oxidized per hour in the liver, a rate which is relatively constant. This reaction gradually decreases the alcohol blood level after ingestion. Oxidation of alcohol produces seven calories of heat energy per gram; however, this is of practically no nutritional value.

The level of alcohol in the blood can be measured. The legal limit for defining intoxication is 0.1% in most states. This can be reached by the drinking of four to five “shots” of whiskey, six cans of beer, or the same number of glasses of wine. The difference of concentration in these various beverages accounts for the fact that approximately the same number of any alcoholic drink can produce equivalent intoxication.

A number of diseases are associated with alcohol use. Attacks of **gout** occur when the alcohol consumption increases blood *lactic acid,* which in turn suppresses the secretion of uric acid by the kidney. Alcohol-induced increases in liver enzymes may cause fatty change of that vital organ, particularly when alcohol intake is combined with an inadequate diet. There is an increased secretion of zinc and magnesium in the urine of drinkers, tending toward liver damage, nerve impairment, and eventual psychosis. The “**empty calories**” obtained from alcoholic beverages contribute toward obesity in many, and malnutrition in other individuals. Cardiac damage, with sudden rhythm disturbances, has recently been associated with the heavy, chronic use of alcohol.

If all we had to do in medicine were study the chemistry of alcohol, the challenge would interest many. However, we are left with the stark realization that alcohol is destroying more than health! Much of our present erosion of moral values, the decline in governmental integrity, increasing tension in international relations, deterioration of the family unit, and growing statistics of suicide, most can be traced directly to alcohol consumption. The risk of becoming an alcoholic is currently thought to be about 5.6%, or 1 in 18, for all who drink. However, this figure is rising. Today, over ten million people in the United States are classed as *alcoholics.* Eight million more signify their dependence on this substance, demonstrating the disruption to their lives and families with divorce, delinquency and death.

Mortality rates among alcoholics increase annually. Alcoholism is the 10th leading cause of death in California, number six among those aged 35-54. In general, life expectancy of an alcoholic is 10-12 years less than the national average. Information from our National Institute of Mental Health shows a steady trend toward increased alcohol-related admissions to state mental

hospitals. One in seven inmates in such hospitals is an alcoholican
18% rise in the last ten years! This is definitely serious.
Looking at crimes and accidents, we again see alcohol taking its toll.
Nearly half of the arrests made each year are for drunkenness, public intoxication, or disorderly conduct related to alcohol. The cost of alcohol-triggered crime runs into the millions. Industries pay also, with a price tag over $4,000,000,000 (four billion dollars) annually. Four to five percent of most company employees are involved in problem-drinking, irrespective of their income level. Increased absenteeism results, as well as decreased work performance, and the gradual loss of special industrial skills.
The number of problem drinkers among **women** and **teenagers** increases rapidly. According to a recent survey, 68% of American adults use alcoholic beverages—77% men and 60% women. Twelve percent of all adults are heavy drinkers.
Motor vehicle accidents markedly increase under the influence of alcohol. Approximately *50%* of vehicle fatalities have been associated with alcohol. All too often, innocent people are thus murdered. Pedestrians as well as motorists are affected. One large insurance company (Preferred Risk Mutual) even gives preferential rates on auto insurance to nondrinkers.
Household accidents are affected, with 14% of the male and 20% of our female deaths by home accidents associated with alcohol. Such diverse causes as drug overdose, motor exhaust, fires, falls, drowning, and exposure to cold may appear on the death certificate. Nonetheless, alcohol is often the real culprit.
However, more serious than all we have mentioned above are **alcohol's effects on the nervous system of man.** Dr. Cyril Courville has thoroughly documented many forms of long-term damage associated with drinking. Permanent shrinkage of the brain, with actual loss in its volume as well as functional disorders have been described. Studies by Dr. Melvin Kniseley at the University of South Carolina showed how this brain destruction takes place. As beverage alcohol ingestion increases, the blood flow through small vessels begins to stagnate. Clumping of blood cells then occurs, with sludging and decreased oxygen delivery to vital areas. Doctor Kniseley demonstrated how one drinking bout could irreversibly damage *hundreds* of brain cells. How many can we afford to lose?
Not only does alcohol injure adults and teenagers, but also the unborn child is affected. The **fetal alcohol syndrome** is receiving increased attention in current medical literature. This syndrome is characterized by growth retardation, mental retardation, with a characteristic facial appearance that the child carries for life. A pregnant woman who drinks alcoholic beverages is, without question, jeopardizing the social success, intellectual growth, and physical prowess of her offspring.
All of this information should lead people to choose the path of total abstinence. Yet, our problem of alcoholism looms ever higher. Millions of teenagers are caught in its clutches, seeking a vain escape from the pressures of real life. Millions of dollars are spent for research each year, following the alcoholic around, checking his or her whims and fancies, and studying their environment. Then we watch this growing army of over ten million alcoholics increase, only to eventually drop by the wayside. Most of these research studies center on the *effects* of alcohol consumption. Some focus on

rehabilitation. Notwithstanding, we believe it obvious that two things are required to produce an alcoholic, the **drink** and the **drinker**.

Perhaps we should focus more on the harmful beverages. This concept is right in harmony with most dedicated temperance advocates, who have known for years that "alcohol makes alcoholics." Actually, the problem is like a jigsaw puzzle, where **all** pieces need to fit together to make a perfect picture.

Fortunately, more efforts are being made each year to rehabilitate the *victims* of intemperance. In seeking to cure alcoholism, let's first consider the **physical** dimension of man. Usually, in attempting to change the alcoholic's life pattern, we first must give attention to his or her physical needs. Improper eating habits have too often set the "stage" for compulsive drinking. Therefore, proper **nutrition** is fundamental to a successful transition from habitual intoxication to sobriety.

One beneficial effect of improved nutrition appears when vitamins and minerals are replenished. The liver rapidly responds, with healing and regeneration of its tissues. Disease of the nerves is frequently related to an alcohol-induced deficiency in **B complex** vitamins. One study, for example, showed how laboratory animals (white rats) that were given only white bread voluntarily drank much more alcohol than those who were on a whole grain cereal ration did. Similar studies at Loma Linda University's School of Nutrition demonstrated that voluntary alcohol drinking of laboratory rats is accelerated on a diet of "junk food," a menu similar to that of the average U.S.A. teenager. With heavy dietary priority on sugar, spices, fried foods, and pastries, a rapid increase of alcohol consumption was observed. When coffee was added to the diet, the drinking behavior reached alarming proportions, showing caffeine to be a powerful stimulant for thirst of alcohol.

Rich diets tend similarly to create a desire for strong drink. An overabundance of meats, sweet confections, and excessively salty foods all tend to promote the abnormal thirst for alcohol, especially in susceptible individuals. To rehabilitate an alcoholic, then, the diet must be of the most simple kind. It must provide maximum nourishment to the system with a superior content of natural nutrients. Whole grains, rich in the B—complex vitamins, with naturally prepared vegetables and fruits, contain these elements. Also, the necessary trace minerals help foster a calmness to the nervous system. This serenity decreases any abnormal stimulation to the animal passions, thereby lessening an innate propensity toward alcoholism.

Exercise is extremely vital for the alcoholic. His or her occupation should be satisfying and steady, contributing directly toward eventual financial independence. Preferably, the occupation should be out-of-doors, where an abundance of pure air and sunshine can be obtained.

Adequate rest at night and frequent periods of recreation are beneficial. Mental attitudes can be distorted, with unnatural physical cravings stimulated, by excessive fatigue. Unless these habits are soon corrected, exhaustion will eventually sabotage the nervous system. Thus, many physiologic factors are related to the all-too-frequent falls from sobriety that plagues each victim of alcoholism.

Secondly, but much more primary, are the **mental** factors. Temperance advocates for many decades have encouraged alcohol users to sign a *pledge of total abstinence.* This document has proved a safeguard to many in times

of sudden temptation. The true force of our **will power** must be understood by any person struggling with temptation. The will is the governing power in the nature of man—the power of decision, of choice. **Everything depends on the right action of the will.** Notwithstanding, this power of choice must be exercised in order to grow strong. Through the proper use of your will power, an entire change may be make in the life.

Many view alcohol dependency as a learned behavior pattern. In order to overcome its clutches, your will must be enlisted to make a strong effort to form better health habits. The "conditioned response" to drinking must be replaced, never again allowed to predominate over more desirable behaviors.

Social aspects of alcoholism create enormous problems. The apostle Paul said, "*none of us liveth to himself*" (Romans 14:7). We are gregarious beings, meant to live in communities. Sadly, our culture still fosters social drinking, and has thus set the stage for alcoholism.

The role of hospitality is significant. In some social circles, a guest who does not drink is considered out of place, simply not a part of the social group. Party hosts play their roles, pressing drinks upon each guest. One who does not participate is regarded as stingy, and runs the real risk of becoming a target of malicious gossip. Thus, dubious social factors that encourage alcohol abuse must first be curtailed, and drinking behavior de-emphasized. Then our society may improve in its efforts to combat the growing trend toward alcoholism.

Thirst is a normal physiologic reaction. Usually it indicates a need for water. If this most precious beverage is preferentially used as a thirst quencher, with fruit juices or herb teas as alternates, satisfactory host-guest relationships can continue, while sensible sobriety survives.

We must never overlook the powerful forces of commercial interests in aggravating the problem of alcoholism. Consistent propaganda bombards our minds from billboards, TV, radio, and magazines, all appealing to the weaknesses of humanity. Advertisers hold alcohol up as great and grand, while hiding the inevitable emptiness, poverty, and disease that follow. The entire brewing industry devotes millions of dollars to promoting their beverages. They do this, not as benefactors of the human race, but, like a *wolf in sheep's clothing,* to its destruction. Liquor peddlers have purely commercial interests in mind. Legislators tend to shift the emphasis, and allow continued promotion and sale of alcohol poisons. Even now liquor is making inroads into schools and churches, corrupting our unguarded, uninformed, unsuspecting youth.

Freudian psychology must carry its share of the blame. Sigmund Freud's doctrine teaches that in childhood nothing is to be restrained or denied. Every whim or wish is to be met. Thus, we see modern society "doing its own thing." Humanism's scholarly breakdown of moral values paved the way for a new type of liberation, falsely termed *freedom.* It is **not** just "your own business" what you do when drinking behavior disrupts the home, causes accidents, increases crime, and puts people into the hospital, as well as the local morgue.

This brings me to one of the most basic aspects of alcohol and a costly clue to successful rehabilitation. No lasting or strong impression can make our world decent through intellectual power alone. Conscience, heart, and soul must be enlisted if your life will be channeled in the way of salvation. **Alcoholics**

Anonymous recognizes the importance of this spiritual dimension. Of their twelve steps, the first one states, *"We have come to believe that a power greater than ourselves could restore us to sanity."* The second step follows, *"We sought through prayer and meditation to improve our contact with God as we understood Him, praying for knowledge of His will for us and the power to carry it out."*

Therefore, while we give first attention to the physical condition, providing wholesome food, clean clothing, and an opportunity to work, we must never neglect the **spiritual power** found in personal prayer. Open your Bible and read the promises of God to each struggling one. This will bring power like *leaves from the tree of life.* As you choose to serve God and give Him your will, He will work in us *"to will and to do according to His good pleasure,"* (Philippians 2:13). Thus, your whole nature may be brought under the control of God, the One who always has your best good in mind.

Little by little the alcoholic becomes restored in health. Next, his or her regained sense of self-respect will lead them to work for others. This ministry should be encouraged. In association with experienced, God-fearing servants, the rehabilitated one may help in lifting others from the pit of destruction where they themselves were rescued. Some of the redeemed will stand nearest to the throne of God in the final days, loving their Savior the most because they have been forgiven most.

TOBACCO

No generation has received more scientific light on the use of tobacco than ours. When the first Surgeon General's report, *Smoking and Health,* came off the presses, Americans realized that the mounting research pointed a long accusing finger at the substance called tobacco. Nevertheless, in spite of the over 100,000 doctors who quit smoking and the numerous adults who gave up the habit in response, a new threat now emerges.

For two decades since 1964 the pernicious smoking habit has risen sharply among girls. Furthermore, tobacco addiction remains virtually at the same level among women. They have really "come a long way"! Surgeon General Richmond' s 1979 report revealed 100,000 children twelve years old or younger smoking, with six million teen puffers under the age of twenty. Unfortunately, women become hooked more readily than men and they are finding it harder to quit.

Because of these facts a recent H.E.W. (Department of Health, Education & Welfare) secretary called smoking a "national tragedy." All modern scientific data simply echoes the hundred-year-old assertion of Ellen G. White, a prominent temperance lecturer, who declared, *"Tobacco is a slow, insidious, but most malignant poison,"* That warning was decades ahead of modern medical research
worldwide.

The fight for clean air was spurred on by research in the 1970's. Scientists discovered that **side-stream smoke** rising from each cigarette when the smoker is not puffing contains a heavy concentration of poisonous substances. Thus, the thoughtless smoker's gift to his or her immediate environment is about like automobile exhaust in a closed garage. High concentrations of **carbon monoxide** pollute the *passive smoker's* blood when he or she sits or works in an unventilated room blue with smoke. Alas, this could be your living room, a conference room, an automobile, or even your

bedroom. It does not just apply to the local bar.

Carbon monoxide (CO) is one of the three leading killers found in tobacco smoke. It ties up the vital hemoglobin in our red blood cells, inhibiting their ability to carry oxygen. Carbon monoxide, moreover, injures the delicate lining of coronary arteries, opening "holes" in their *endothelial* lining cells, thereby permitting cholesterol to enter. Low levels of CO can disturb our senses, including vigilance, color discrimination, peripheral vision, and the complex processing of information. These proficiencies are crucial for driving, flying, and really living.

Children of smoking parents are really in for trouble. Pneumonia and bronchitis during the first year of life appear twice as commonly in children, if both parents smoke. Even the baby's risk of sudden infant death increases. Additionally, the example of parents is sadly tarnished by the smoking image projected. "Like father, like son" is more than a trite cliche.

Lung cancer is the leading killer in smokers, caused principally by chemical *carcinogens*, substances that produce cancer. *Benz-O-pyrine* and numerous similarly potent chemicals are inhaled in the mainstream smoke. Involuntary (second-hand) smokers are affected, too. Because the acceptance of female smokers has matured, lung cancer in women is five times greater today than in 1964, and is still rising. Some analysts predicted that if modern "liberated" women continued this trend, lung cancer would become the number one malignant killer for them, as it has been for men. That prediction is now fulfilled.

Unfortunately, surgery and other high-priced healing measures still fail to save people from death. Only 30% of those who get lung cancer survive even one year. Five years later less than 10% are still alive. The longer you smoke, the more you smoke, and the more you inhale, the worse becomes your cancer risk. Using more than one pack per day will give any smoker **ten times the risk of lung cancer,** compared to the nonsmoker!

Moreover, on its way to your lungs, tobacco smoke goes through the *larynx*, or voice box. As a result, there is three times more cancer of the larynx among smoking women, even when they smoke filter tips. But if a woman smokes more than one pack per day, this risk jumps to twenty-one times more!

Babies born to smoking mothers weigh about one-half pound less than the average full-term infant. The nicotine poison in tobacco constricts the delicate uterine arteries, supplying nutrients to her womb. Smaller chests and smaller heads are seen in these tiny "smokers of the womb." Mental retardation in such children lasts for years. Damage becomes most severe in the unfortunate children born to mothers that have smoked the most. Stunted height, retarded growth, and decreased learning ability all appear in the offspring of smoking mothers. In animal studies, even subsequent generations have been affected by maternal tobacco use.

Scientists calculate that smoking kills more than 346,000 people per year in the U.S.A. alone! Sixty-five percent of these deaths come from heart attacks and strokes. This means one funeral every minute, ten hours per day, all year round. Tobacco's chemicals; carbon monoxide and nicotine, are both poisonous to the heart and major arteries. Blood pressure rises, pulse rate increases, and the calcification of cholesterol plaques advances rapidly. When alcohol is combined with tobacco the calamity increases. Smoking just one

cigarette makes some of your blood cells *(platelets)* sticky. Clots form more readily in heart *(coronary)* and brain arteries.

Thus, current evidence shows tobacco smoking as a major world health problem, not only for men and women, but also for unborn children, and for the rest of us who cannot avoid the smoker's poisonous breath. Tobacco smoking is a horrible habit, as well as a powerful addiction. Fortunately, for the smoker who wants to quit, there is a better plan.

Most addicted smokers know that they would be better off if they could kick the habit. Some pause to wonder, "Should I taper off or stop cold turkey?" For several reasons, it is best to quit immediately. Quitting, actually, is not as hard as you might think. Over forty million Americans have done it already. Here is a simple program to make it easier:

First, determine to quit. Then, **stop all at once.** It is much easier on your system to have a few rough days and be through with it, than to drag the quitsmoking torture out for weeks and months. Set a goal of ten days to completely restructure your life. The *ten day plan* worked wonders for Daniel.

When a person quits smoking the hardest part comes during the first three days. However, by the end of the fifth day, most individuals find the craving just about gone. Repeat often the words, "**I choose not to smoke."** Firmly maintain your decision from morning till night. Be sure you really mean it. Many people discover with the hourly repetition of this decision, a growing positive resistance develops to the physical craving for tobacco.

Remember the effect of **will power** on your mind and body. Therefore, use the power of choice to strengthen your resolution. Through a proper use of your will, you can gradually bring other habits under the control of your newly enlightened reason. Claim divine help every day. Besides, pray for heaven's power; for this victory is God's best plan for you, too.

Water will help you in flushing out the poisons. Drink at least 6-8 glasses of water, especially between meals. Remember; take no alcoholic beverage, absolutely nothing that could weaken your will power. Try drinking a glass or two of hot lemon water upon arising each morning. You can make it with lemon juice (bottled) or squeeze one or two teaspoonful into a glass of hot water. Then drink another glassful now and then throughout the day. Warm tub baths also will help you relax.

The cold mitten friction is a powerful natural stimulant that helps soothe jangled nerves. It will really speed up your circulation. After taking a warm to hot shower, turn on the cold water. Immediately rub your skin briskly with a wash cloth until it glows, As blood vessels on the surface dilate, a healthy pink skin color predominates. This tonic effect will make you feel wide awake and stimulated, without triggering the craving for another smoke.

Adequate rest becomes important, as well as a regular relaxed time for meals. Conserve your nervous energy, and retire early. Fatigue, in many ways, is an enemy to the will power.

Stop-smoking meals should be simple. A **fruit diet** for a day or two is wonderful for cleansing the system. Fruits, grains, vegetables, and nuts may be used abundantly after that, but **nothing between meals**. Avoid highly spiced foods, fried or rich foods, too. Condiments should be bypassed, such as hot sauce, mustard, black pepper, chili, and horse-radish. If it's *"hot when it is cold,"* please avoid it. Give your body a chance to readjust to the new

diet. Increased amounts of **B-complex vitamins,** particularly thiamine, will help keep your nerves calm. Be sure to start every day with a good **breakfast.** After meals take a walk. Exercise is a wonderful tranquilizer. Avoid sedatives and stimulants in order to build up your nervous reserve. Skim milk, buttermilk, fruit juices, and water should be your main beverages. **Do not drink any alcohol, coffee, or cola drinks!** Caffeine can trigger an explosive craving for the very tobacco that you are trying to quit! A longestablished habit pattern, moreover, may link your cup of coffee with a cigarette, sabotaging the whole stop-smoking plan.

Special tablets and smoker's aids are highly advertised. While some people receive supposed benefits, others find them a waste of money. Group therapies in live-in stop-smoking programs are usually the most successful.

Finally, here is my most important advice when kicking the tobacco habit. **Get help from God!** Make Him your partner. Ask, and you will receive. Our heavenly Father has assured us of His power to aid in overcoming *any* defiling habit. Never hesitate to ask for strength. But, as you ask, believe that you will receive it, and you will have your request. As the "irresistible urge" comes, pause and say, "**I choose not to smoke."** Then get a drink of water, take some deep breaths, and breathe a prayer. The craving will gradually lessen.

Maintain these simple habits for a lifetime, if you want to really succeed. Many become careless in their habits of eating, drinking, working, and sleeping. Then they find their will power drifting into inactivity. If your guard drops, the enemy may sneak right in. Your job now is to **establish the habit of *not* smoking** just as firmly, or more so, as before when you had the smoking habit. It may take time, but with God's help, a determined will, and the simple measures mentioned above, you will succeed.

DRUG ADDICTION

Recent changes have occurred in the types of people who use drugs. Addiction at one time was considered limited to the slums, and affecting principally our lower socioeconomic classes. Today, all classes of people are included— university students, the children of wealthy parents, even "good" people coming from religious homes. All drug addicts, however, have certain basic characteristics. Primarily, they are unstable, impulsive, often emotionally disturbed. Their antisocial behavior is the outgrowth of a fundamental character defect— where purpose in life, respect for parents, and love for their fellow men is deficient. They are often demanding, defensive, and selfsatisfied.

We will look at several types of drugs abused today. But first, let us consider the hallmarks of addiction.

Drug **addiction** is definitely a chemical dependency. There is usually a **physical dependence** on the addicting drug, with physiologic **withdrawal** effects when the drug is not available. **Tolerance** develops in the user's body. Then, the consumer needs an increased dose regularly in order to obtain the same desired effect. A **compulsion** to continue the use of the intoxicating agent is seen. There is obvious physical, mental, and social **harm** to the individual from the use of addicting agents. A **mental dependency** may also be present.

Opium and its derivatives, most of which come from the Middle East and the Orient, are the most heavily used addicting drugs. Opium's derivative compounds, such as **morphine,** are among the most highly addicting substances known to man. Synthetic "relatives" have been prepared in

laboratories. Some were initially used by physicians to relieve the pain of surgery or terminal illness, as their addicting potential was not recognized when they were first developed. **Heroin** finds widespread use by urban addicts. It is illegal, of course; and heavy penalties are attached to its use. Notwithstanding, heroin flourishes in most large cities, and not only in the ghettos.

The user of heroin may often have "needle tracks," small puncture marks, usually over a vein on the arm or leg. Abscesses or boils frequently develop at the site of injections. Contamination of shared needles used to inject these depressant drugs may produce blood poisoning (septicemia), infection of the heart valves *(endocarditis),* **hepatitis**, and the frightening possibility of **AIDS** *(HIV).* The death rate from these infections is very high.

A person abusing narcotics will usually have a pallid complexion. Careful scrutiny of the eyes will reveal "pin point" pupils. A craving for sweets and liquid foods is sometimes seen.

The cost of **heroin** addiction is enormous. Several hundred dollars a day may be required to support the habit. Illicit money is frequently obtained by stolen goods or through prostitution. Drug abuse costs society millions of dollars every day. The rehabilitation of a narcotic addict is extremely difficult. Confinement and isolation are usually necessary. The **withdrawal syndrome** is painful,

with abdominal cramps, tremors, nausea and vomiting, There is rapid change of mood, with violent behavior at times. During this detoxification period, which peaks within 24 hours and fades over five to seven days, there is a watery discharge from the eyes and nose and profuse perspiration, as well as painful abdominal symptoms. Fortunately, the withdrawal of heroin or morphine seldom threatens life. Nevertheless, this syndrome often drives the addict back to his or her source of the nearest "fix." Because of the medical difficulty in rehabilitating addicts permanently, our government instituted maintenance programs supplying a "legal" drug, *Methadone,* in carefully supervised centers. This is, however, merely a substitution of one addiction for another. The total rehabilitation of an addict—spiritually, physically, and mentally—can be obtained only when he or she is off all drugs and the lifestyle is changed.

Another class of commonly used depressant drugs is the **barbiturate** compounds. These are all dangerous prescription drugs, and are usually prescribed as sleeping pills. They depress the central nervous system. Most barbiturates are highly addictive. Marketed in red, yellow, and blue capsules, and as colorful (rainbow) combination drugs—Nembutal, Seconal, etc. — barbiturates cause rapid drowsiness and eventual sleep. Overdose with barbiturates, particularly in combination with alcohol, is a common method of high-society suicide.

Any sudden withdrawal of barbiturates from an addict can be hazardous. The person will feel better in twelve to sixteen hours, but later may develop tremors and twitching behavior. Severe convulsions could occur up to the third day during detoxification. Rarely, rapid barbiturate withdrawal has caused sudden death!

Barbiturate addicts are *mentally* "hooked," psychologically dependent, as well as addicted physically. The body rapidly builds up tolerance, as it does with heroin. Then, increased doses are required for the same effect. The best

safeguard against barbiturate addiction is the avoidance of sleeping pills entirely. However, when addiction has occurred, the dosage should be tapered slowly to avoid seizures.

We turn now to several **stimulant drugs**, commonly termed "uppers." **Amphetamines** are the most dangerous stimulants, and are too often prescribed as diet pills. They all stimulate the central nervous system. The hapless user of amphetamines is usually overactive, unusually talkative, and frequently argumentative. After taking an amphetamine a person is temporarily unable to eat. He or she has no appetite, and seldom can lie down and rest. Unusual behavior appears as the inhibitions are released. There may be mental confusion, unpredictable and irrational behavior, or even violence. Severe fatigue develops in the over stimulated body, destroying reserves of nervous energy. This depletion makes the user extremely vulnerable to disease.

Psychological dependence upon amphetamines is common. Users regularly return to stimulant abuse, some becoming so uncomfortable that they are unable to manage without their ‘‘upper."

One stimulant is customarily injected. **Methamphetamine,** nicknamed "speed," is usually given intravenously, During a so-called "run," the user is in tremendous danger to themselves and their associates. He or she becomes extremely confused, and their behavior irrational and unpredictable. Violence is common, with acute paranoia. Some abusers collect weapons, because they are convinced that people are plotting their death. A "speed freak" may suddenly believe that he or she must "kill before being killed." Visual changes *(hallucinations)* cause people and objects to loom up immediately before the user, then disappear, and alarmingly reappear. "Speed" aggravates any heart condition. It can cause strokes. All amphetamines are harmful to the circulation, increasing the heart rate, as well as the blood pressure.

The "come down" or "crashing" occurs when the abuser stops taking injections. Usually this is unintentional, resulting from his or her exhausting all reserves of energy. He or she then goes into hallucinations, and a deep sleep or coma that lasts from 18 to 48 hours! Profound depression and extreme fatigue will make him or her susceptible to numerous infectious diseases.

Another popular and powerful stimulant is **cocaine**. Its effects upon the body and mind may possibly exceed those of "speed." Cocaine is an extremely hazardous drug, classified as a narcotic by law. It is taken in various ways. Some individuals "snort" the cocaine. This can destroy the delicate lining inside the nose. Addiction rapidly occurs, and mental stability is lost.

Recently, a new cheaper type of cocaine appeared. In the crystalline forms, called "crack" and "ice," cocaine can be smoked *(vaporized)* or snorted. Much harm to young people has resulted from the illicit use of cocaine. Drug cartels and hardened criminals make millions from their victims, then discard their prey like broken glass. Citizen groups, government, and churches must do all they can to stop this criminal distribution of cocaine in all its forms.

Some drugs are taken to disorganize the mind. These are called **hallucinogens**. **LSD** is a common one, "blowing the mind" with a very destructive and dangerous "trip." Many hallucinogenic plants and synthetic chemicals are also abused, including **STP, peyote** *(mescaline),* and certain species of seeds. Both auditory and visual hallucinations occur, with changes

in the level of consciousness. The user of LSD has very unpredictable and irrational behavior. The suddenly disoriented mind may panic. Physical harm results from the bizarre behavior evoked. Some victims have looked at the sun and gone blind. Others have committed suicide under the severe mental changes of a bad "acid trip."

Certain unfortunate sufferers have become psychotic, even permanently insane. Typical abusers can emerge with severely altered personalities. Recurrence, called "flashbacks," may occur up to three years after the last use of LSD! The effects of LSD type drugs can last for extended periods, the socalled "freak out." A terrifying drug experience, "the bummer," may occur. During this "bad trip," the LSD abuser sometimes believes that their face is melting, that they are dying, or already dead, or that suicide has resulted. Obviously LSD is a route to someplace worse than nowhere, an extremely dangerous substance that should *never* be used.

Birth defects have resulted in offspring of parents who took LSD. This is true as well for other mind-affecting drugs. The chromosomes are damaged. The poor child may be mentally retarded, physically deformed, and destined to a life of hardship, just because of some foolishness in a reckless youth.

The use of **marijuana** was briefly discussed in Chapter 18. For completeness, now, I will give an overview of its mind-altering effects. The intoxicant in marijuana is called **THC** *(tetrahydrocannabinol),* It is a very unpredictable and hazardous drug. **Hashish** is the marijuana plant's *resin* (powder). It causes severe harm to both mind and body. In a person under the influence of any marijuana product, THC disorganizes and confuses many parts of the central nervous system.

The user of marijuana—nicknamed "grass", "pot," or "weed" —may have dilated pupils. The eyes appear large and wide. Dark glasses are often worn to hide their dilated, blood-shot appearance, and also to combat the excessive sensitivity to sunlight. The marijuana abuser exhibits a craving for sweet foods and liquids. Emotional extremes may appear, from drowsiness and depression to anxiety or even hysteria. A false sense of well-being may result, even in the face of real danger. One may develop a very talkative disposition, and be much more vulnerable to suggestion. Thus, the abuse of marijuana often paves the way for the first narcotic drug experience.

Marijuana products have a heavy, musty odor. This odor clings to the user, their clothing, and the surroundings. Typically, the self-achievement level of a marijuana abuser will rapidly decline. School dropouts are common among those who smoke "pot." It is solemn to contemplate how much our society is possibly being shaped today by minds altered by marijuana. Fortunately, its sale is still illegal.

Intravenous injection of marijuana causes nausea and bloody diarrhea. A high fever usually develops, with hemorrhage, shock, or even coma. The withdrawal of marijuana use, however, does not produce any specific syndrome. For this reason it is not considered addicting. Nevertheless, marijuana certainly can produce psychological dependency. This terrible distortion of reality is one of its principal objections. Real life is so much better.

HOW TO OVERCOME

The first prerequisite to overcoming any of these drug habits is **personal determination**. You must want help before you can ever receive it. Desires

for health, peace of mind, and a successful future are right in so far as they go. But, without the decision of the WILL all such dreams will be to no avail. Since character and even life are endangered by the use of stimulants, the only safe course is to **touch not, taste not, and handle not.**

Anyone who attempts to leave off these drugs will for a time feel a loss, and perhaps will suffer without them. Notwithstanding, by persistence and time, a person can overcome the craving and cease to feel the lack. Nature will require a little time to recover from the abuse she has suffered. But, give her a chance. Your body will again rally and perform nobly and well. Health can be restored in most cases.

Provide a diet of wholesome food, with simple, nonstimulating meals, free of spices, coffee, tea, and excessive sugar. On occasion, a period of fasting with the use of fruit and plain cereals will aid the recovery of damaged mental powers. An abundant intake of water will flush out the system and assist in the elimination of impurities.

Steam baths and hot sweating treatments are helpful to aid in the excretion of poisons. Heavy smokers, for example, when wrapped in a sheet and sweated in the steam bath, can find yellow stains on the wrapping. A characteristically unpleasant tobacco odor comes right out of their pores! The skin, the kidneys, and the liver can all be assisted by the proper use of water, externally and internally, to detoxify poisons and excrete impurities.

Proper diet and a determined will, however, **must** be linked with the supernatural healing power of God! Without heaven's help in resisting temptation, our determinations and promises are like ropes of sand. Here is a precious scripture promise from the Lord: *"There hath no temptation taken you but such as is common to man: but God is faithful, who will not suffer you to be tempted above that ye are able; but will with the temptation also make a way of escape, that ye may be able to bear it,"* (I Corinthians 10:13).

Yes, friend, there is power in prayer, and strength in the Word. These Bible promises can be like leaves from the tree of life, which are *"for the healing of the nations,"* (Revelation 22: 2). This higher experience is possible, as my next chapter will show.

CHAPTER TWENTY SEVEN

CANCER AND ITS PREVENTION

CYSTS AND POLYPS

SYMPTOMS—*In the nose:* chronic difficulty in breathing through the nose.

In the colon: Bleeding or a mucous drainage from the rectum are common symptoms.

In the bladder: Blood in the urine.

In the cervix: A heavy watery, bloody, discharge from the vagina. Bleeding may occur after intercourse, between periods, and after menopause.

CAUSES—Polyps (polyposis) are growths of various sizes, and are especially found in certain portions of the mucous membranes: the nose, large intestine (colon), bladder, and cervix. They are especially common in the rectum and the portion of the colon just above that (the sigmoid).

These growths are benign (that is, not cancerous) and, growing on stalk-like structures, look something like narrow mushrooms. They tend to be hereditary.

Nasal polyps: Generally when the nose is clogged, the cause is a heavy cold or possibly chronic catarrh. But it can be nasal polyps. These are a special kind of tumor, which usually form as a result of a chronic infection in a sinus or in persons having allergies. Surgical removal is done to remove them.

Colon and rectal polyps: These growths in the outlet end of the colon can become cancerous. A colectomy is the surgical removal of these polyps, but is generally done, not by cutting out the polyps, but by removing part of the colon! Sometimes the rectum is left in place and the small intestine is connected to it. But, whether this drastic operation is performed or not, the polyps generally return. Bleeding from the colon can be a sign of polyps or of cancer.

Bladder polyps: The medical route is removal of the bladder. Unless they are removed, by natural methods or unnatural, bladder cancer may result.

Cervical polyps: These polyps line the inside of the cervix of the uterus and are more common in women who have not had children. They rarely return after being removed.

TREATMENT—

• A Wisconsin research team discovered that the polyps in most of their patients either lessened or disappeared entirely, when they were placed on a high vitamin C diet. The body is attempting to get rid of various waste products; it needs help doing the job. Vitamin C; more water drinking; nutritious food; a high-fiber diet; and the elimination of processed, fried, and junk foods greatly helps. Take some type of supplemental fiber daily. Be sure to increase your water intake at the same time you increase your fiber intake.

• Stop eating meat products. They load the body with impurities which must be eliminated. Only eat wholesome food. Stop using caffeine, tobacco, and alcohol.

• Those who eat the most saturated fat are twice as likely to develop polyps.

• Use those natural substances which tends to cleanse the body of toxins: garlic, burdock, goldenseal, red clover, etc.

• Surgical removal of the polyp is often relatively safe, a minor procedure, and done on an outpatient basis.

TUMORS (including Fibroids)

SYMPTOMS—Tumors, swellings, or growths on the body. They seem to contain solid or semifluid material and be abnormal in their growth.

CAUSES—When something has no apparent reason to be growing, it is growing abnormally. These structures are called tumors. They can be either benign or malignant (cancerous). Malignant tumors spread to other parts of the body; whereas benign ones generally do not spread.

Fibroids are tumors which most often occur in the uterus. Hysterectomies are done to remove them. But the effect of a hysterectomy on a woman's hormonal system can be devastating. Avoid them, if at all possible.

Diet and environment are special causes of tumors. Changing both can reverse the process, and even eliminate these strange growths.

It is best to eliminate them, whenever possible. Even the benign ones, although small, may later become cancerous.

TREATMENT—

• The body uses tumors as containers to store toxic waste collected throughout the body, when the system's natural ways of elimination are overloaded: the lungs, bowels, kidneys, liver, and skin. But when these channels of elimination become

clogged or inadequate to care for the excess refuse, then the body starts manufacturing garbage cans (tumor cases) and placing the waste products in them.

• A physician can cut, burn, chemical, or radiate away the garbage can and its contents; but soon the body will manufacture more of them!

• The solution is to change your way of life. A complete change of diet is needed, along with improved ways of eliminating waste from the body.

SKIN CANCER (Melanoma)

SYMPTOMS—Identification is especially important in dealing with skin cancer. Here are official warning signs of skin cancer:

1. An open sore that bleeds, crusts over, and will not heal properly.

2. A reddish, irritated, spot that is usually on the chest, shoulder, arm, or leg. It may itch, hurt, or cause no discomfort at all.

3. A smooth growth with an elevated border and a center indentation. As it becomes bigger, tiny blood vessels develop on the surface.

4. A shiny scar-like area that may be white, yellow, or waxy with a shiny, taut, appearance.

5. An enlarging, irregular, "angry" appearing lesion on the face, lips, or ears.

Here is a description of one of the more common types of skin cancer: large flat, tan, or brown spots, with darker black or brown areas dotted on its surface. The edges may, or may not, be clearly defined. The spot may appear mottled.

Moles should also be watched—especially those that change in size or color, are irregularly shaped, have ridges around the edges, widen, bleed, itch, or seem to be continually irritated by clothing.

Here are still more identifiers of skin cancer—the so-called "A-B-C-D checklist":

Asymmetry: Both sides of the mole should be shaped similarly. If the overall shape is irregular, then it might be skin cancer.

Border: The edges of moles should be smooth, not blurred or ragged.

Color: It should be tan, brown, and dark brown if it is normal. If it is red, white, blue, or black, it is not.

Diameter: Any mole that is larger than ¼ inch in diameter, or whose diameter seems to be increasing, should be treated with suspicion.

Spots which are dry, red, and scaly (most frequently found on the face, neck, or backs of hands) may be actinic (solar) keratoses. These are lesions which result from years of overexposure to the sun. They can be precancerous. Later they may become hard to the touch and grayish or brown in color.

CAUSES—Skin cancer is also called melanoma, or lentigo-maligna melanoma, and appears on body surfaces which are most frequently exposed to the sunlight: the face, neck, arms, and trunk. It can also occur on the lips and even eyelids.

The best thing about skin cancer is that it is often slow in spreading and invading the deeper layers of the skin. As long as the cancer is only on the surface, it can easily be removed.

There are three types of skin cancer; the first two are the most common, and the third is the most dangerous. Yet all three types can be eliminated if treated early. The medical route or natural methods can be used to eliminate each of these. But, either way, be sure it is gone. As long as it is treated early, you can easily see if it is gone.

Basal cell carcinoma: This is the most common type, and the slowest growing. It does not spread until it has been present for a number of years. It is an ulcer-like growth which spreads very slowly. The first sign is a large pearly lump, generally on the face, nose, or area around the eyes. About six weeks later it becomes an ulcer with a moist center and a hard border which may bleed. Scabs continually form, then drop off, but with no healing of the ulcer. Another form is flat sores which slowly widen. Treatment is the same as for squamous cell cancer.

Squamous cell carcinoma: Due to damage to lower-skin surface, a lump forms on the skin. Looking like a wart or a nonhealing ulcer, physicians cut it off, freeze it off, chemical it off, or irradiate it off. A skin graft may be applied afterward.

Melanoma: This is the most dangerous of the three, and can run in families. It often begins as what appears to be a mole. Most people have moles, but be especially beware of those which appear after the age of 40. Any mole that is unusual or that changes in size or color should be eliminated. If in doubt, see a physician!

A melanoma mole arises out of the deeper pigment layer of the skin. For this reason, it spreads more quickly. Melanomas most frequently occur on the upper back and legs. But they may also occur on mucous membranes or under the nails.

A fourth type of skin cancer might be noted here. It is the rare *mycosis fungoides.* For years there will be itching skin lesions. Eventually they become firm and begin ulcerating. Later they involve the lymph nodes and produce cancer of the lymph (lymphoma).

Over 600,000 Americans develop skin cancer each year, and 10,000 die of it. More than 90% of skin cancers can easily be eliminated, if done so early.

TREATMENT—

• Exposure to the sun is vital to good health. Unfortunately, the ultraviolet rays also cause wrinkles and 90% of all types of skin cancer. (It can cause cataracts too.) Yes, continue to get out in the sunlight, but try not to overdo it. Keep in mind that, in the early stages, it is not difficult to remove skin cancers; but you have to have a certain amount of sunlight for general physical health. Be especially careful between 10 a.m. and 2 p.m., when sunlight is strongest.

• Those with a family history of skin cancer should obtain their sunlight more sparingly.

• In the summer, wear light-colored clothing which has a tight weave. Consider using a sunscreen of at least 15.

• Tanning salons are more dangerous than sunlight, because people tend to overdo them.

• As the ozone layer is gradually destroyed over the north and south poles, those living in the temperate zones throughout the world become more susceptible to skin cancer—without even being in the sun.

• Every month or so check over your body carefully and look for signs of skin cancer. Then do something about it.

Suggestions for eliminating the skin cancer:

• You can go to your physician, and he will excise it with a knife or an ointment which will burn it off. If you delay, surgery will cut more deeply and, as with all cancer surgery, there is the very real danger that not all the cancer will be removed.

• Or you can use natural remedies. Fortunately, with skin cancer, as long as it is treated in the early stages, you can tell if it is gone!

• Garlic is a faithful standby. Cut a thin slice of garlic and carefully tape it over, what you consider might be, a skin cancer. Try to avoid contact of the garlic on good skin. (If you can't avoid it, the skin will redden and burn somewhat.) Russian research, from back in the 1950s, revealed that garlic is more powerful than antibiotics in destroying bacteria. It also causes moles and skin cancers to fall off.

• Put the garlic on in the morning; take it off and carefully wash the area in the evening before bedtime. Put on a new application. Remove it in the morning, and repeat the process. Do this for about 3 days. The mole or ulcer will dissolve and slough off. Let the area heal. If part of it remains, repeat the process at a later time.

• If you keep applying the garlic for more than 4 days, it will begin burning deeper into the skin (you will know, because the area will become very painful.) Such deep burning is not necessary to slough off the cancer, and could be harmful.

• The herb, chaparral, works well for skin cancer. Take it as a tea or in tablet form.

• According to a 1988 medical article *(British Journal of Surgery)*, eating an adequate amount of essential fatty acids helps protect the body against skin cancers. It even helps eliminate them, once they form.

• Eat a nourishing diet; go off meat and processed, fried, and junk food. Get enough rest. Right living helps your body resist and throw off cancerous lesions.

• Take vitamin C to bowel tolerance; also take vitamin A and selenium.

• Carcelim is a cream which you can purchase, which requires 30 days to remove the melanoma.

BREAST CANCER

SYMPTOMS—*In the most common types:* Lumps are firm, do not go away, and are generally pain free. Lumps which do not move around may be malignant or may not be.

In another type: There is itching, redness, and soreness of the nipple.

In yet a third type: The breast becomes extremely tender and appears infected with something.

These three are explained in more detail below.

CAUSES—Breast cancer is a leading cause of malignant death among women in the United States. Women over forty are more likely to develop breast cancer than younger women. Lung cancer kills about 56,000 women in America each year, and breast cancer is responsible for the death of about 46,000.

It is vital that early detection be made. Discussions of how to carry out breast self-examination are readily available elsewhere and need not be repeated here. As you conduct it, watch for subtle changes in the breast. You are looking for special types of lumps in the breast. These lumps are firm, do not go away, and are generally pain free. Lumps which do not move around may be malignant or may be caused by normal fibrocystic changes during the menstrual cycle. The experts say a biopsy will detect what kind of lump it is.

But you should know that biopsies can be dangerous. A biopsy is a slice of the tissue which is then sent to a lab for microscopic examination. The problem is that slicing any suspected tissue—immediately releases its cancer (if any is present) into the body, where it can more rapidly spread. You may or may not choose to have biopsies made, but you should be aware of this fact.

You will often hear it said that "1 in 9" women will contract breast cancer—but that is sometime within a lifetime. The average 30-year-old white woman has a 1 in 5,900 chance of getting it; at 50 years, it is 1 in 430.

There are several different types of breast cancer. Most of them are similar, producing lumps described above. But a few are different:

Paget's disease of the nipple affects the nipple, and cannot be detected by a self-examination. Cancer cells have migrated to the nipple. The symptoms are itching, redness, and soreness of the nipple. This form of cancer only occurs when a different form of cancer is present elsewhere in breast tissue.

Inflammatory carcinoma is a different type. The skin thickens and turns red. The breast becomes extremely tender and appears infected with something. The lymphatic system and blood vessels have become clogged because of a tumor. This type of cancer spreads very rapidly. Professionals recommend a biopsy; but, if you choose not to do so, you must be planning to go on an intense natural remedies cleansing, to eliminate the problem. Whatever you do, you had better set to work and do it.

TREATMENT—

• It is well to keep in mind that people have undergone the orthodox cancer routine of surgery, chemotherapy, or radiation and have survived while others have died. There are those who have taken the natural remedies route, with the same end results. No one can, or ought to, decide for you; the decision is yours.

• In the late 1980s, researchers discovered that women develop breast cancer far more frequently in certain localities than in others. Analyzing those locations, it was discovered that they are those areas where there tends to be less sunlight throughout the year. For example, northwestern California, the western slopes of Oregon and Washington, and the Northeast had a far greater number of breast cancer cases than did Florida, Texas, Arizona, and southern California. The solution: Take sunbaths whenever you can, throughout the year; sunlight is important for maintaining good health, purifying the body, and resisting infection.

• Breast cancer more often occurs in women who started menstruation early in their youth, had a late menopause, gave birth later in life, had a family history of breast cancer, developed obesity after menopause, and had a history of alcoholism and eating a high-fat diet.

• Research indicates that those who take oral contraceptives are 3 times more likely to develop breast cancer. Silicone (used in breast implants) causes cancer in test animals. Those who develop breast, and other, cancers have less vitamin A in their bodies.

• Eat a nutritious diet centered around fresh fruits and vegetables, whole grains, and nuts. Eat garlic and onions. Drink distilled water and fresh fruit and vegetable juices. Get extra fiber.

• Do not eat too much soy or peanut products.

• Avoid meat; dairy products; alcohol; caffeine; nicotine; and processed, fried, white-flour, and junk foods. Do not take supplements containing iron.

• You should examine your breasts regularly. Procedures for doing this, and what to watch for, are discussed in many other books. You will be able to detect initial changes better than anyone else. If you experience itching, redness, and soreness of the nipples—especially if you are not currently breast-feeding a baby—check with a physician. You might have Paget's disease of the nipple, a form of cancer.

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PROSTATE CANCER

SYMPTOMS—Possible pain or burning sensation during urination, frequent urination, a decrease in the size and force of urine flow, an inability to urinate, blood in the urine, and continuing lower-back or pelvic discomfort just above the pubic area. But there may be no symptoms until an advanced stage or until the cancer spreads out beyond the prostate.

Many, many, times the above symptoms point to a benign enlargement of the prostate and is not cancer in that organ.

CAUSES—The prostate is a walnut-sized gland at the base of the bladder and encircles the urethra, the tube through which the bladder voids urine. The prostate makes prostatic fluid which nourishes the sperm.

Prostate cancer is the second leading cause of cancer deaths in Americans. Poor diet, exposure to environmental toxins and cancer-causing chemicals, and overactivity of the sexual organs are possible causes. There is a link between a high-fat diet and prostate cancer. It is believed, by some, that a vasectomy may increase the likelihood that this problem will later develop.

Men over 65 have 80% of the cases of prostate cancer, and 80% of 80-year-old men have it.

The younger a man is, when he is diagnosed with prostrate cancer, the worse the outlook. Those with recurring prostate infections are at greater risk. Men whose ancestors had prostate cancer are more likely to develop it. African American men have the highest rate, and Asiatic American men have the lowest.

A careful, but relatively simple, rectal examination can reveal if cancer is developing in this organ. There are also other screening methods, and PSA (prostate-specific antigen) appears to be the best. The PSA test should be taken twice if there is an indication of cancer.

—For much, much, more discussion and suggestions on this, and other, malignancies

TREATMENT—

• Contact your physician.

• Go on a program with a nourishing diet, vitamin and mineral supplementation, and out-of-door exercise.

• Do not eat meat. There is a definite correlation between red meat consumption and prostate cancer.

• Drink fresh fruit and vegetable juices daily.

• Avoid processed and junk foods.

CANCER

SYMPTOMS—*The most common symptoms of cancer:* any sore that does not heal on the skin, mouth, tongue, or lips. Any irregular or unusual bleeding or discharge from any body opening. A persistent change from normal in the action of the bowels or bladder. Any persistent lump or thickening in breast or anywhere on the body. Hoarseness or nagging cough. Difficulty in swallowing. Persistent indigestion or loss of appetite, especially if accompanied by loss of weight. Sudden or rapid changes in the form, appearance, or rate of growth of a mole or wart or if it bleeds. Fatigue.

To the basic eight cancer signs, listed above, we are adding three others which are important: any condition which does not respond to treatment, inflammation from blood clotting (thrombophlebitis), and putrid intestinal gas.

Skin cancer: A lump under the skin, moles which change color or size and have raised edges, an ulcer which does not heal, flat sores, lesions which look like moles.

Mouth or throat: Chronic ulcer of the mouth, tongue, or throat which does not heal.

Larynx: Persistent cough and hoarse throat.

Lung: Persistent cough, bloody sputum, and chest pain.

Breast: Lump which is hard, does not go away, and does not move; inflammation or thickening of the skin.

Leukemia: Whiteness of skin, weight loss, fatigue, repeated infections, easy bruising, nosebleeds.

Stomach: Indigestion and pain after eating.

Bladder and Kidney: Blood in urine and increased urination frequency. Bloody urine is generally not a cancer symptom, but it can be.

Ovaries: Usually there are no obvious symptoms until later stages.

Endometrium: Bleeding between menstrual periods, unusual discharge, painful periods, heavy periods.

Cervical and Uterine: Bleeding between periods, unusual discharge, painful periods, heavy periods.

Prostate: Weak or interrupted urine flow; continuous pain in lower back, pelvis, and/or upper thighs.

Testicles: Enlargement of a testicle, lumps, thickening of scrotum, sudden excess of fluid in scrotum, mild ache in lower abdomen or groin.

Colon: Blood in stools, rectal bleeding, changes in bowel habits (diarrhea and/or constipation).

Lymphoid Tissue: Enlarged, rubbery, lymph nodes; itching; night sweats; unexplained fever and/or weight loss.

CAUSES—In this article, you will find an overview of many research studies and data.

Cancer is now the second most common killer in the United States and is increasing. One in every three people will die from some form of it. Over 1,400 Americans die each day with it.

Cancer cells are wild, irregular, and different from other body cells. They grow rapidly and gradually invade and fill surrounding areas. They rob neighboring cells of nutrition, resulting in a gradual wasting away of the patient. They can migrate to new locations and multiply. Wherever they go, there are abnormal growths and tumors.

Cancer cells are classified by the organs they initially invade (liver, breast, colon, lung, lip, etc.). There are more than 100 different varieties of cancer. Each varies in its symptoms and how fast it spreads.

There are four main types of cancer: *Carcinomas* affect the skin, mucous membranes, glands, and other organs. *Leukemias* are blood cancers. *Sarcomas* affect muscles, connective tissue, and bones. *Lymphomas* affect the lymphatic system.

Early detection and treatment is vital. One person dies every 3 minutes from cancer.

Dr. Otto Warburg, Nobel Prize winner, stated: "More is known about the cause and prevention of cancer than most any other disease."

Dr. Ronald Raven, Chairman of the Royal College of Surgeons in London, said: "Seventy-five percent of all cancer can be prevented if we utilize the facts we now possess."

At the Eighth International Cancer Congress, Dr. Kavetsky said: "It is essential in the treatment of tumorous disease, not only to act on the tumor, but to endeavor to strengthen the compensatory and defensive reaction . . of the entire system."

When a cancer becomes noticed, it is already far advanced. At this stage, it is important that the one with it place himself under the care of a competent physician who understands and uses nutritional therapy. However, the patient needs to understand, for himself, what is required and what he must do. There are situations in which a cancer victim has no one to help him, and he must carry out such a program entirely on His own.

But, whether helped by others or going it alone, unless the individual fully cooperates with right principles, he cannot be successfully helped. He must cease his violations of the natural laws, given by God to mankind, and live fully in accordance with them.

The type of food we eat, the way we live, and environmental factors gradually build up or weaken the body. If the organs of elimination cannot keep up with the amount of toxic waste we are producing, in desperation the body eventually turns to the formation of tumors and cancers. Soft cancers are cells gone wild because of the excess waste in the system. Hard tumors are garbage cans prepared to hold the toxic waste.

Cancer generally has a lengthy incubation period of years. Nourishing the body, building up the immune system, and avoiding excess and debilitating substances enables the body to resist cancer.

Because of intemperate living, eating, sleeping, combined with stress, the body is weakened over the years. This produces a chronic autointoxication—poisons have accumulated in the body. Vital organs, whose job it is to purify and eliminate wastes (such as the skin, lungs, liver, kidneys, and bowels), become less active and efficient. The system becomes poisoned. These poisons accumulate around the weakest organs or where the body has been injured by a bruise, fall, or blow. The accumulated poisons from years of tea, coffee, tobacco, cola, meat, liquor, fried food, etc., especially accumulate in such an area. Then the body either tries to build garbage cans (tumors), to hold the waste products or the cells in that area go wild from the irritation; so cancer cells form and spread. It is well-known that irritation, such as always picking at a certain spot, can cause cancer.

Unfortunately, there are also toxic substances in the air, water, and soil. This makes it the more crucial that we live as carefully as we can.

Prevention of cancer requires effort; yet many people give more attention to caring for their prize dogs or their new cars. The human body requires careful attention also.

Drs. Hans Nieper and Dean Burk stated that, by the time the tumor is present, a patient’s malignancy is already far advanced. As noted earlier, a tumor is something of

a strange parasite, which has as little as 2% of normal blood circulation. Its cells are living on sugar fermentation instead of oxygen as normal cells do. It is more like a plant or fungus.

Here are two interesting facts: (1) The U.S. Government declares that the five-year survival rate from taking the officially authorized cancer remedies (chemotherapy, surgery, or radiation) has not changed over the past 20 years. (2) Statistics reveal that patients who do not take officially authorized therapy will, as a group, survive longer than those who do.

A problem with the cut, burn, and poison routes is their deadly nature. Chemotherapy, for example, produces hair loss, extreme nausea, vomiting, fatigue, weakness, sterility, and damage to the liver, kidneys, and heart. What should you do? That is your decision. On one hand, you can take the officially recommended remedies at your local hospital. Or you can try natural remedies. Your choice.

Some of the natural folk remedies are listed here. There are many others.

However, you should know that the government and the medical association advises that you should never treat yourself for cancer. Their counsel is that you consult a medical doctor (M.D.), and follow his advice explicitly. Not to do so, they say, could result in your death.

TREATMENT—

• Cancer is a systemic disease, affecting the entire body and caused by conditions in the entire person. So it cannot be treated by specifics. An entire change in one's way of life is required.

LEUKEMIA

SYMPTOMS—Weakness, easy fatigue, a remarkable whiteness of the skin, difficulty in breathing, spells of fever, sweats, palpitation, rapid heart, loss of weight, soreness or ulceration of the throat and gums, and a tendency to hemorrhage.

In one type, the spleen is enlarged; in another, the lymph glands are also enlarged.

CAUSES—This is called cancer of the blood, but it is actually cancer of the bone marrow, where the blood is made.

Leukemia (which means "white blood") produces a defect in the production of white blood cells, resulting in large numbers of immature WBCs in the blood stream. WBCs are vital to physical health; and, without them, the body deteriorates. The bone marrow continues to produce an excess of them; yet many of those produced and dumped into the blood stream are essentially useless.

A blood test reveals anemia (not enough red blood cells), low platelet count, increased lymphoblasts (an excess of immature WBCs), and an elevated total WBC count.

Chronic cases run an up and down course for several years. Acute cases generally end fatally in a few weeks.

As a rule, leukemia ends in death. A person can choose to go the medical route or try natural remedies. There will, of course, be a risk and the very real possibility of death, whatever his decision may be.

TREATMENT—

• Treatment may include DMSO IV (which matures the immature cells in circulation), laetrile, germanium, selenium, vitamin A, and vitamin C to bowel tolerance.

SPECIAL RISK FACTORS

Here are the special risk factors for each of the fifteen main types of cancer:

Skin—Exposure to the sun, especially for those who have fair skin; history of moles (malignant or otherwise); moles on the feet or in areas irritated by clothing; scars from severe burns and scars or sores that won't heal; family history of skin cancer.

Lung—Smoking; exposure to asbestos, chromates, nickel, or radioactive materials; history of tuberculosis, chronic bronchitis; exposure to certain chemicals, such as pesticides and herbicides.

Breast—First childbirth after age 35; having no children; family history of cancer; high alcohol and/or caffeine intake; high-fat diet; diabetes. Estrogens and oral contraceptives have been linked to breast and uterine cancer. There appears to be a link between sugar intake in older women and breast cancer.

Stomach—Pernicious anemia; lack of hydrochloric acid and dietary fiber; high-fat diet; chronic gastritis; stomach polyps.

Colon—Lack of dietary fiber and calcium; polyps; family history of colon cancer; continued constipation and/or diarrhea; a buildup of toxins in the colon; a high-fat diet.

Leukemia—Hereditary factors; radiation exposure; chronic viral infections.

Cervical and uterine—More than 5 complete pregnancies; first intercourse before age 18; a history of gonorrhea or genital warts; multiple sex partners; infertility.

Ovarian—Not having had children; high-fat diet.

Laryngeal—Heavy smoking; alcohol consumption.

Lymphoma—Hereditary factors; immune system dysfunction. Some cases are linked to a viral cause.

Mouth and throat—Use of chewing tobacco; smoking; irritants inside the mouth, such as a broken or sharp tooth, or ill-fitting or broken dentures; excessive alcohol intake.

Endometrial—Never having been pregnant; being past menopause; family history of cancer; diabetes; obesity; hypertension.

Bladder and kidney—Exposure to certain chemicals, such as benzidines, aniline dyes, napthalenes; smoking; excessive consumption of caffeine and/or artificial sweeteners; history of schistosomiasis (a tropical disease); frequent urinary tract infections.

Testicular—Undescended testicle.

Prostate—Recurring prostate infection; history of venereal disease; diet high in animal fat; high intake of milk, meat, and/or coffee; use of male hormone (testosterone) in treatment of impotence; vasectomy; being over age 50.

MISCELLANEOUS PREVENTATIVE FACTORS

• **Venereal disease** can lead to breast, cervical, uterine, and prostate cancer.

• The following can also lead to cancer: **too much sunlight** (skin cancer); **mechanical, physical, or chemical irritation**; prolonged **irritation of warts, pimples, or sores** (skin cancer); and **radiation** (leukemia).

• The clothes should have **no constricting bands** and should **keep the neck, head, arms, legs, and feet warm**. As many layers of clothing should be worn on the extremities as are worn on the trunk. This is especially important in cancer of the breast or skin.

• A **biopsy** is a thin slice of tissue, taken to examine it for possible carcinoma (cancer). But, when the slice is made, the cancer (if any) stored in that area, can immediately begin spreading throughout the body.

• **X-ray**, **radium**, and other forms of **radiation therapy**, along with **chemotherapy**, weaken the body and intensifies the toxicity and weakened conditions initially producing the cancer. The cancer generally returns with 6 to 12 months in greatly strengthened form.

• Here is a brief list of some of the significant factors leading to cancer: **Chemical additives in food, refined and fragmented food, use of nicotine and/or alcohol, a heavy protein diet, excessive use of dairy products, commercial oils and fats (especially when heated and reheated), all grease, hydrogenated oil (added to many foods), diethylstilbestrol, hormones, contraceptives, nitrates (often added to food), medicinal drugs, hard drugs, monosodium glutamate (in food and tobacco), refined sugars, saccharin and other artificial sweeteners, biopsies and other forms of surgery, pollutants (occupational and environmental), X-rays and radium exposure, cosmetics, detergents and soaps, water (chlorinated, fluoridated, or contaminated), and aluminum.**

GENERAL PREVENTATIVE FACTORS

• Jethro Kloss said that his cancer cure was **correct food, herbs, water, fresh air, massage, sunshine, exercise, and rest.** Yet some famous medical dictionaries say nothing about diet in cancer treatment, except to keep the diet under 2,000 calories. The truth is there is a close relationship between the food we eat and what happens in our bodies.

• Meals, bedtime, periods of study, etc. should be according to a **regular schedule**. **Avoid noise, smog, television, worry, stress, and confusion. Do some reading every day. Reading in God's Word, accompanied by simple trustful prayer** brings healing to heart, soul, and body.

• Dr. Josef Issels' cancer clinic, in Germany, is an example of a well-rounded program. In addition to other things mentioned in this book, he prescribes **plenty of rest, complete freedom from worries and mental stress, and plenty of fresh, pure air day and night**. To the degree the patient is strong enough for it, and as he improves, there is **lots of exercise and walking**.

• Some, in a position to do so, may wish to move to a **warm, unpolluted climate** (any left?) where fresh air and sunshine is continually available. Build up the system with **good food, exercise, and rest**.

• **Continual overwork** and **exhaustion** can lay the groundwork for the development of cancer.

• **City living, with its hurry, noise, confusion, and air and water pollution**, can also provide the inferior living conditions which lead to malignant conditions.

WORRY, DEPRESSION, AND STRESS

• **Stress** is also considered a significant factor. More and more research indicates that, as Dr. H.F. Dunbar says, "only certain types of people succumb to cancer."

• Two Soviet researchers (Serov and Troskin) demonstrated that **negative emotions** reduce the white blood count in an alarming manner, hindering a major body defense against disease.

• Researchers at the Rochester Medical Center in New York have found that people are more likely to contract cancer if, more than others, they have a harder time dealing with **severe emotional conflicts and stresses**, have **uncontrolled anxieties and worries**, experience **traumatic emotional experiences or losses**, have **strong feelings of loneliness, inadequacy, hopelessness, and desperation**. It may not be

that such **negative attitudes** cause the cancer, but they keep the person from resisting and conquering it.

• Maintain a **strong sense of purpose**. **Find something to do** with yourself. In one church which the author once pastored, a woman bedridden for years before her death would phone people at random and encourage and pray with them. Between calls, she would pray for them. She was a radiant sunbeam.

• A **strong trust in God and peace in Him** is the solution. Man innately knows that he cannot solve his own problems; he needs God! Only in Him can we find the strength and courage to press forward. Only then can we be genuinely happy amid life's problems.

• **Read God's Inspired Word—the Bible**—every day, and **be happy, contented, thankful, and helpful to others**. This is a powerful inducer to healthful conditions in the body.

SORROW OF THE HEART

• As far back as the second century A.D., the Greek physician Galen noted that melancholic women were more likely than others to develop cancer.

• Today, the effect of emotions and stress (or rather the attitude toward stress) is recognized even more. Over the past 75 years a number of studies have linked stress to susceptibility to cancer *(R. Ader, Psychoneuroimmunology, 1981).* Strong stress in a child can also lead to it *(B.L. Bloom, et. al., Psychological Bulletin 85 no. 4, 1978).* Adults who who had recently lost a loved one, or were widowed, divorced, or separated, have the highest cancer rates *(B.L. Ernster, Journal of the National Cancer Institute, 63, no. 3, 1979).*

• Ronald Grossarth-Maticek, M.D., a European researcher, spent 20 years working along a line of study which has been rejected by orthodox medicine. His concept is called Creative Novation Behavior Therapy, and it concerns people with certain personalities; that is, having certain mental-emotional attitudes, are the most likely to contract cancer.

• Grossarth-Maticek is a Yugoslavian oncologist (cancer specialist) who used mortality data in Heidelberg, Germany.

• People who view life in a certain way are more prone to develop cancer.

• **Type C** persons are unable to solve problems in relationships with other persons, situations, and goals. When relationships are crushed, circumstances go back, or goals become unachievable, these people react by sinking into a depression, characterized

as feelings of helplessness and hopelessness. Type C people are highly prone to cancer.

• **Type H** persons also have the same difficulties named above, but they react quite different to such problems. Instead of feeling hopeless and helpless, they become angry and frustrated. Type H people tend to develop heart disease.

• **Type F** persons learn how to roll with the punches. They are free of fears and worries, for they give them into God's hands to care for. Although they encounter problems as others do, they trust in God, recognize their own limitations, and, when difficulties arise, keep moving forward cheerfully. This type tends to die of other causes, such as accidents. They tend not to die of cancer or heart or circulatory problems.

• These people are not living under stress, with aroused hormonal flow, such as type 1 and 2 personalities have. They are at peace with life. They accept what has to be, change whatever they can change, and, with God's help, keep cheerfully on their way, helping others as they go.

• Still other researchers have found other aspects of this Type C (cancer-prone) personality.

The main aspect they have noted is loss, either loss of a loved one, or loss of hope. Many cancer patients feel a profound sense of helplessness and despair, particularly about the meaning of their existence. Frequently, they need peace with God.

• A second characteristic is the suppression or repression, of emotions.

• The third factor is loneliness. Such people tend not to have close friends. *(H. Dreher, Your Defense Against Cancer, 1988, 246-247.)*

• All three factors could be nicely resolved if such individuals would come to God and find in Him the encouragement, the forgiveness, and strength they need to meet life's difficulties.

DEEP BREATHING AND EXERCISE

• Cancer is less prevalent in physically active people, so **exercise** is important.

• Obtain plenty of **exercise**. **Fresh air** has remarkable healing, strengthening properties. God gave it to us for a purpose. Let it cleanse the lungs, purify your blood, and tone up your organs.

• Do **deep breathing exercises**. Take 20 deep breaths, hold each one for several seconds, and then slowly exhale. Exhale to full compression, and then inhale again.

Do this several times a day—always outdoors. This, along with **outdoor walking**, will help clean the lungs.

• Soviet scientists demonstrated that a complex link exists between cancer and not breathing deeply enough or breathing stale air too much. One researcher in the Western world said that forced deep breathing, out of doors, at least 3 times a day to the point of dizziness, will help furnish an ample supply of oxygen.

• It is well-known that cancer cannot live in an oxygen-rich environment.

• (Many researchers seem not to be aware of the negative ion factor. Breathing deeply out of doors supplies both oxygen and **negative ions** to the body. Negative ions provide a much-needed electric charge needed by the nerves.)

• If at all possible, **sleep in a room that receives sunlight during the day**. It has been scientifically proven that patients' rooms on the north side of a building have more disease germs on the floor and furnishings.

• The bedroom should be **properly ventilated** at all times.

ORGANS OF ELIMINATION

• **Keep the eliminative organs active**. The five primary ones are the **lungs, the skin, the liver, the kidneys, and the bowels**. Add to this a sixth: the **lymphatic system**. Add to that a seventh: the **immune system**, working together with the white blood cells, the T-cells, and vitamin C. (Vitamin E also purifies and detoxifies, but it carries on this function in the liver.)

• The first step is to cleanse the blood by relieving **constipation**, making all the organs of elimination active, and keeping them active. Take **herbal laxatives or enemas**.

• A **daily bowel movement** is essential, even if an enema or colonic is required. All foods which ferment in the bowel should be avoided. Absolutely **no meat or fish**!

• Bowel movements need to be **complete evacuations**, even if enemas are necessary. The cleansing program is releasing so many toxins, it is important that they be flushed out. Enough **water must be drunk** every day.

• If necessary, keep the bowels clean with **herbal laxatives or enemas**. When the body is toxic, the bowels become sluggish; waste matter is reabsorbed by the blood and lymphatic system, which is circulated throughout the body and stored in tumors or other trash sites. It is best that you not use these over a long period of time.

• Many aspects of cancer therapy, including chemo and radiation therapy, pain killers and sedatives, reduce muscular contractions in the intestines, resulting in constipation. Sometimes physical assistance is needed. Using the flat side of your fist, gently massage with rocking motions, pushing about 1-2 inches. Be gentle and slow! This not only helps reduce constipation, but increases muscle tone.

CHEMICAL FOOD ADDITIVES

• **Coal tar dyes** are highly carcinogenic. **All artificial colors, flavors, and odors** are made from coal tar. You will find them in all **soft drinks, cosmetics, and many medicines**. **Foods which have bright colors, strong flavors, or odors** often have coal tar in them. (The FDA lists thousands of approved food additives. The more natural and unprocessed the food is, the less likely it is to have additives. Junk foods are the worst.)

• Research has shown that **cyclamates**, an artificial sweetener, will in later years cause cancer of the stomach and other digestive organs. Ditto for saccharin.

• **Food additives like MSG, BHT, BHA, DES**, and others are poisons. Read the labels carefully. Keep in mind that many harmful food additives are not listed on the labels because the FDA considers them to be "Generally Regarded as Safe" Those chemicals you will find in the FDA GRAS List. But that does not mean they *are* safe!

• **Diethylstilbestrol** (Des) has been shown by the FDA to cause cancer of the uterus, breast and other reproductive organs. This is an artificial sex hormone widely used in food production. Dangerous residues of stilbestrol are in 85% of all the meat sold in the United States. This is the main reason why 15 countries around the world now refuse to import American meat; 21 nations have a total ban on the use of stilbestrol in food production or processing.

• **Nitrosamines** cause cancer of the liver, stomach, brain, bladder, kidneys and several other organs. Dr. William Lijinski, of the University of Nebraska, says they are "perfect carcinogens." When chemical preservatives and color enhancers are ingested, they cause the body to produce nitrosamines. Another source is nitrates and nitrites, which are heavily added to meat during processing. Runoff of nitrates and nitrites from fields sprayed with chemical fertilizers get into aquifers and wells and, when the water is drunk, can lead to cancer.

• Yes, **aluminum cookware** is a type of "food additive!" Throw it all away. It is poisonous to your body. It is outlawed in Sweden; outlaw it in your kitchen. Aluminum is a poison, and also a relatively soft metal. Particles of it gradually melt into the food you are cooking. That is why it remains so shiny inside!

• Use only **stainless steel or glassware** for cooking.

• Be very careful that you rinse all the **soap** off your dishes and pots, or you will have added an additional chemical "food additive" to your next meal.

OTHER CHEMICALS

• Avoid chemicals such as **hair sprays**, all other **aerosol products**, **fresh paints, garden pesticides, cleaning compounds and waxes, insecticide strips, mothballs and crystals**, etc. Anything unnatural.

• Dr. Max Gerson would not allow his cancer patients to **dye their hair** while recovering from cancer.

• Old-fashioned soap is all you need to disinfect, but when **hexachlorophene** is added to that soap, the soap becomes more deadly. Widely used in maternity and other hospital wards, as well as in cosmetics and deodorants, "hex" is a powerful cancer producer.

• **Chemicals** encourage the formation of free radicals in the body, which may lead to cancer. Do not be around or use chemicals. The body has to work to throw off the chemicals, when it should be attacking the cancer cells.

• Exposure to certain chemicals, such as **benzidines, aniline dyes, and napthalenes**, tends to promote development of bladder and kidney cancer.

• Exposure to **asbestos, nickel, chromates, pesticides, herbicides, and radioactive materials** induces lung cancer.

• **Aflatoxins** (found especially in **peanuts and soy sauce**) must be avoided.

• Avoid **amines** (which are in **cheese, meat, and unrefrigerated foods**).

• **Antibiotics** predispose to cancer. This would include tetracycline, penicillin, aspirin, diuretics, immunosuppressants, Azolid, Butazolidin, Presamine, Tofranil, Sk-Promine, Tapazole, Methotrexate, antihistamines, amphetamines, Atromids, etc.

• **Aspirin** inhibits lymphocytes (white blood cells) which are crucially needed in immunological defenses.

• No **medicinal drugs** ever healed anything; it is nature which heals. Drugs are given to shock the body into healing itself. A poison is introduced, and this rouses the body to a supreme effort to throw off the poison. The result is generally a weakening of body organs, a transfer of the site of disease to a different location, and sometimes a smothering of symptoms—till a later, more deadly, form emerges.

• The taking of **birth control pills, estrogen, and other female hormones** is damaging to the body. A later result can be cancer. One anticancer physician (Gerson) found that the only cancer patients he could not recover were those who were taking hormones or who had damaged livers.

• The Cleveland *Plain Dealer* reported (May 1972) that pregnant women who take **hormones** can result in cancer in their daughters when they enter their teens. The rate of leukemia rate is highest in affluent areas, where medical help can be afforded and lowest among poorer people.

• **City living** is depressing. It is also unhealthful. The **carbon monoxide, nitrogen dioxide, ozone, and other photochemical pollutants** in city smog definitely cause cancer of the lungs. Smog is somewhat present in rural areas, but the thickest in the cities where it is especially produced.

• **Automobile exhausts** and **phosphate fertilizers** produce **cadmium**. This trace mineral is very toxic in larger amounts and produces various diseases, including cancer. Cadmium is concentrated in animal livers and shellfish. Avoid both of them.

RADIATION

• **Radiation** is a cause of leukemia.

• You may be thin and need an **electric blanket**. But avoid them if you can. There is the possibility that they might impose an electrical current on the body. That can happen the easiest if your skin is sweaty and directly next to the blanket. Research also indicates that it is changes in currents from blankets which may be the most deleterious.

• **X-rays**, even diagnostic ones (the types used by dentists and physicians) can lead to later leukemia or other cancers.

• **Strontium 90 and Iodine 131** are radioactive element fallouts from distant nuclear bomb tests. Both are especially found in milk products. The first causes bone cancer and leukemia; the second causes thyroid cancer.

• Stay eight or more feet from **television sets**. Because of possible leakage, do not use **microwave ovens**.

WHAT ABOUT SUNLIGHT?

• Nearly all physicians and nutritionists agree today that sunlight is harmful, even dangerous. But is this really true?

• It is not easy to arrive at clear-cut answers in this debate, but certain facts should be mentioned:

• First, some sunlight on your skin is extremely important as a purifying agent. An entire book has been written about the physical benefits of obtaining some sunlight on your body.

• Second, you need some sunlight in order to obtain enough vitamin D for your bones. The oils just below the surface layers of skin are irradiated by sunlight and vitamin D is produced.

• Third, the author of that special book, *Sunlight*, by Zane Kime, M.D., is the recognized world authority on the subject—and in a special section on cancer, he provides 25 pages of detailed information about suntans in relation to skin cancer.

• Kime declares that sunlight *does not* cause skin cancer, if the diet is correct! Here, briefly, are several of his points:

• Sunlight can change cholesterol near the skin surface into free radicals, which can cause cancer. But a good diet will eliminate the free radicals.

• A high-fat diet increases the likelihood of skin cancer. This includes too much oil of any kind in the diet—grease, hydrogenated oil, trans-fat, and vegetable oil.

• Trans-fat (fat which is not polyunsaturated) stops oxygen utilization by the cell, and leads to cancer. Liquid vegetable oil can be up to 6% trans-fat, margarines up to 54%, and solid shortening up to 58%.

• If you are on a low-fat diet, sunlight hitting your skin actually inhibits cancer.

PROTEIN

• Our actual daily **protein** requirement is 20-30 grams a day, but many eat over 100 a day. **Almonds**, well-chewed, are a good protein source for those recovering from cancer. **Brewer's yeast** is also.

• Proteins should be in the form of **seeds and nuts**. Almonds are excellent, so are **sesame** and **sunflower seeds**. Chew them well. Eat 10 raw almonds daily. They are high in laetrile, an anticancer agent (although not as high as **apricot seeds**).

• Do not eat **peanuts**. Limit, but do not eliminate **soybean products**. Soybeans contain enzyme inhibitors, so are not the best until you are well.

• Eat all **concentrated protein** at only two meals (breakfast and lunch or lunch and dinner). Do not eat them at the third meal. In this way there are no proteins being digested for a 15-hour period, and the pancreatic enzymes are able to focus their attention on digesting cancer cells present in everyone.

• **Overeating on protein** leaves no extra pancreatic enzymes to digest cancer cells throughout the body.

• Make sure you have enough **hydrochloric acid**, so the protein you do eat is being properly absorbed.

MEAT

• Avoid **meat in all forms**. It is dead matter, low in minerals, and produces uric acid in excess which is a waste product. The incidence of cancer is in direct proportion to the amount of animal proteins, particularly meat, in the diet.

• However it is true that **devitalized, processed, and sugared food** can also cause cancer—even in vegetarians. But far more often, when cancer strikes, those eating the junk foods are also eating meat.

• Nations and groups which consume less meat have less cancer. Hospital records show that Seventh-day Adventists, who eat little or no meat, suffer far less from cancer than the average meat-eating American. Dr. Willard J. Visek, research scientist at Cornell University, stated that the high protein diet of Americans is linked to the high incidence of cancer in the U.S.

• Another cancer physician, who also worked with hundreds of cancer patients, said that anyone who does not eat **meat**, eats only good food, and does all he can to protect his **liver**, may never get cancer.

• Cancer is less a disease than a condition existing in the whole body. Cancer would be almost unheard of if no devitalized food or meats were eaten. Cancer cannot exist where there is a pure bloodstream.

DAIRY PRODUCTS

• Do not eat animal protein. Never eat luncheon meat, hot dogs, or smoked or cured meats. Restrict consumption of **dairy products**.

• **Milk and milk products** are harmful, so they should be avoided. Milk contains a growth hormone for growing calves large in a few weeks and months. It will stimulate tumor growth. The pasteurization of milk destroys the phosphatase enzyme needed for assimilation, and many allergies and digestive problems result. Calves fed on pasteurized milk die of heart attacks in 8 months, yet we still give it to our children.

• The **synthetic vitamin D** added to milk is one of the most toxic food additives known. Some of it unites with undigested calcium, forming calcified deposits which can be focal points for developing tumors.

• Those with cancer should not use milk, with the possible exception of two tablespoons of yogurt daily.

• Eggs can cause cancer. Many chickens die of carcinoma (cancer). It is known that the cancer germ can pass from the chicken into the egg.

FATS AND RANCID OIL

• Keep the **weight** down. Obesity is another factor linked to cancer, especially in women. Overweight women more frequently have cancer of the uterus, and do not recover as easily from breast cancer.

• **Accumulated fatty tissue** in the body affects female hormones. The more that is present, the more estrogen is produced and converted into a special type of endocrine substance which stimulates cells to divide in the breast and reproductive system. Overweight men and women are more likely to develop cancer.

• A **high-fat diet** dramatically increases the occurrence of colon, breast, endometrium, and ovarian cancer, as compared with a low-fat diet. Eating a lot of fat encourages the development of cancer in both men and women. Colon cancer is more likely to occur in men.

• Those who eat the most saturated fat are twice as likely to develop polyps.

• Dr. Ott Warburg, made that discovery in the 1920s. He demonstrated that the metabolism of cancerous tissue differs radically from that of normal tissue. A regular cell is nourished by oxygen which it uses to break down nutriments; without oxygen it dies. But a cancer cell lives by using chemicals to break down nutriments—not oxygen—and needs little or no oxygen to exist. The tumor, being a parasite, has a restricted circulation of blood, sometimes as low as 2% of normal, hence it lives on fermentation of sugar, like a plant or fungus, instead of oxygen. Later experiments by Warburg revealed that normal living tissue will become cancerous, **if deprived of oxygen**. It was this research which brought Warburg the Nobel Prize.

• Since the blood provides the cells with oxygen, Warburg concluded that the **condition of the bloodstream** played an important part in the development of cancer. This is substantiated by the fact that malignant tumors are frequently found near scars, at the sides of ulcers, in atrophied organs, or wherever the blood supply is poor.

• **Rancid oils** and **heavy protein diets** thicken the blood, and weaken its ability to transport food and oxygen to the cells.

• Unlike other cells, cancer cells do not need oxygen. **Rancid oils and fats** are dangerous, for they decrease oxygenation and weaken normal cells while strengthening cancerous ones.

• **Rancid food and oils** are unsafe and can produce cancer. Even health foods which have been on the shelf (not refrigerated) for too long can be rancid. Try to make sure that the **wheat germ, wheat germ oil, sunflower seeds, sesame seeds, flaxseed oil, and whole wheat flour** are fresh. Natural, unprocessed foods are extremely perishable. Refrigerate as soon as possible after purchasing them. **Wheat germ** is a special problem; it turns rancid a week after it is made. Vitamins E, A, and F are totally destroyed in rancid foods. During the process of turning rancid, very harmful chemicals, such as peroxides, are produced. Because they are strong chemical irritants, after being ingested they can cause cancer. Research on this was done in Germany by Dr. H. Anemueller, and, in the University of Pennsylvania, by Drs. Rownee and Barrett.

• **Heated fats (animal or vegetable)**, when heated to a high temperature, become carcinogenic. Never fry food, never eat **fried food**. Instead **add no oil to your cooking**, but place measured amounts on your food after it is served at the table. In this way, you will be better able to control your oil intake.

• Oil in the **coffee** bean turns rancid when heated; do not drink coffee because of that and several other reasons. Coffee has been shown to produce cancer of the bladder.

DIET AND NUTRITION

• Researchers in Sweden estimate that 40% of cancer in males and 60% in females is caused by **dietary deficiencies** and **wrong eating**.

• **Chew your food** four times as long, thus making it four times as digestible. Cancer is often caused by mineral deficiencies. How can you get enough, if you are not chewing your food properly? When you chew your food well, you do not need to eat as much to satisfy both hunger and body needs.

• As noted elsewhere, **do not use dairy products, fried foods, heavy starches, or high protein foods. Keep the diet simple and use cleansing foods**.

* Rats fed simple, natural food were far less likely to develop cancer than rats fed "purified" foods (i..e, processed foods).

• Do not eat **tainted or partly-spoiled food**: fruits, vegetables, grains, etc. Definitely do not eat spoiled protein foods (such as nuts)!

COOKING

• **Modern food processing, canning, and cooking** destroys enzymes vital to digestion and body needs. When food is heated to 106^{o} F., some of these enzymes are damaged; many are destroyed when 120^{o} F. is reached. Try to keep foods, which have been subjected to heat, to below 25% of the diet. Too much **cooked foods** throw an extra burden on the pancreas. It must try to produce additional enzymes to detoxify that cooked food, which tries to produce a normal output of the same enzymes used throughout the body to destroy cancer cells.

• When you do cook, **measure the water and keep track of the time** needed to cook the food—so that you will know exactly when to turn off the fire, and there is only a very small amount of **water** remaining in the pot. Then be sure and drink that water.

• It has been reported that cancer which has been controlled, starts returning **if over 25% of the food is cooked and processed**. This is probably due to the extra demand on the pancreas to replace enzymes destroyed by heat. This paragraph is worth remembering later on.

• Cook all **sprouts** slightly to eliminate a certain enzyme. But do not heat **alfalfa sprouts**; eat them raw.

PROBLEM FOODS

• Eliminate **fats, salted foods, fried foods, smoked foods, pickles, soft drinks, caffeine, alcohol, chocolate, and all processed, fried, and junk foods** from the diet.

• A high **alcohol** and/or **caffeine** intake is cause of breast cancer. The use of alcohol or **tobacco** leads to cancer of the larynx. **Smokeless tobacco** produces cancer of the lip, mouth, tongue, and throat. Smoking **cigarettes** or **cigars** produces lung cancer and is a factor in bladder and kidney cancer.

• Do not eat too much **salt**. Research in Japan disclosed that the frequency of stomach cancer is definitely related to the quantity of salt eaten.

• **Caffeine** also interferes with production of those enzymes.

• Cancerous **tumors require sugar** in order to grow. Older women who use generous amounts of sugar are much more likely to contract breast cancer. Do not use any **cane sugar products, such as cake, pie, jelly, ice cream, candy**, etc.

• In animal studies, progressive increase in **sucrose** in the diet leads to a dose-dependent decline in antibody production.

• An epidemiological study of 21 countries revealed that **high sugar intake** is a major risk factor toward breast cancer.

• **Artificial sweeteners** are cancer-causing drugs.

• Do not use **China tea** (the regular tea you buy in the grocery store); it contains tannic acid. Only use herbal teas.

• Some natural-remedy cancer therapists say never use **tomatoes** at all, if you have cancer. There is something about tomatoes that tend to aggravate the situation for those with active cancer.

• Others say that those with cancer can eat **tomatoes** by themselves, not with other foods. Some say it is all right to make a meal of them if you wish—eaten alone. Some say they can be eaten with fresh-baked zwieback (bread which has then been toasted in the oven until it is hard and chewy). Probably the best decision is avoid tomatoes entirely if you have a malignancy.

• Do not take supplemental **iron tablets**. The body tries to withhold iron from cancer cells, because the inorganic iron helps the cancer grow. People with excess iron levels in the blood tend to have an increased risk of developing cancer, according to the *New England Journal of Medicine.* Excess iron suppresses the cancer-killing function of the macrophages and interfere with T- and B-cell activity. The richest source of good iron is blackstrap molasses.

• Cancer thrives on **glucose**. They produce a 3- to 5-fold increase in glucose uptake compared to healthy cells. Studies of cancer patients revealed that they tended to eat more **sugar** than healthy people. It was also found that high sugar intake increases the likelihood breast cancer.

• **Simple sugars** (glucose, fructose, sucrose [white sugar]) honey, and orange juice significantly impaired the capacity of *neutrophils* to engulf bacteria, but starch ingestion did not have this effect. However, you still need simple sugars, so eat them in moderation.

GOOD FOODS

• The average Westerner eats 1,500 pounds of food per year. The food we eat is an important factor in health or degeneration. **Only nutritious foods should be eaten, and in moderation**.

• **Overeating** is associated in 35% of all cancers.

• One group of mice were allowed to eat as much as they wanted (about 3 g per day); the other was restricted to 2 g. Over half the mice on the unrestricted diet developed cancer after 90 weeks. Later experiments repeated this result, producing all types of tumors (lung, liver, skin, etc.). In every experiment, the more the diet is restricted in calories, the less incidence of cancerous growths.

• **Carotenoids** and **bioflavonoids** are both free radical protectors. Both stimulate the immune system, while there is evidence that carotenoids may be directly toxic to tumor cells. Carotenoids are the yellow coloring matter in green and yellow vegetables. Deep green leafy vegetables and fresh carrot juice are the best sources. Bioflavonoids are found in citrus, whole grains, honey, and other plant foods.

• Animals fed **cruciferous vegetables** had markedly lower cancer rates matched controls. This family of vegetables includes **broccoli, brussel sprouts, cabbage, and cauliflower**. Of them, **broccoli** has been found to be the best. Since that 1970 discovery the University of Minnesota, the active ingredient, called *indoles*, have been isolated from the vegetables is provides unusual protection against cancer. Scientists at Johns Hopkins found that lab animals fed cruciferous vegetables, and then exposed to the deadly carcinogen aflatoxin, had a 90 percent reduction in cancer rates.

• **Greens and the green foods** have every known vitamin, except Vitamin D and, possibly, B12. In addition, they have high levels of beta-carotene, potassium, glutathione (an amino acid) and other crucial nutrients which reduce tumor growth.

• A diet high in beta-carotene, especially beta-carotene, has been found to protect against cancer *(International Journal of Cancer, September 1984).*

• **Green powders**, such as Greenlife, Barley Green, etc., are invaluable. Eat a spoonful with your food or in juice.

• Emphasize **raw food** to the degree you are able to do so. It is best that most of the food be raw, especially **fruits and green leafy vegetables**.

• **Phytosterols** are natural chemicals in plants which reduce the risk of colon cancer.

• **Abscisic acid** is a plant dormancy hormone and vitamin A analog found in plants; it has profound anti-cancer activity. Abscisic acid is a carotenoid factor and is especially found in green leafy vegetables.

• While cleaning the body (such as during a fast), breakfast can consist of fresh fruit and fruit juices. **Use lemon, orange, grape, carrot, beet, and apple juice daily**. All juices should be fresh, with no sugar added.

• But in other foods, a small amount of **blackstrap molasses, pure maple syrup, or honey** can act as a natural sweetener in place of sugar.

• Use **whole wheat or rye** in place of **white flour**. ***Whole grain products, well-baked***, are good. Do not use **sourdough bread, sugared bread, or fruit breads**. They are too indigestible.

• **Raw fruit and vegetables** are best; **lightly cooked** or **steamed** are second best. **Salt-free frozen** are next. Then comes salt-free canned; but such food should only be used if the first three choices are not available.

• **Raw fruit and vegetable juices** are needed to clean the system and help rebuild it. Use **red beet juice (from roots and very little if any from tops) and juice from carrots, celery, grapes, and other darker vegetables and fruits, such as black cherries, black currants**, etc.

• Fruit juices are best taken in the morning and vegetable juices in the afternoon and evening.

• Drink **spring or steam-distilled water** only!

• Dr. Hans Nieper, a cancer researcher, uses **fresh raw cabbage and carrot juice** with excellent results.

• Some recommend four 8-ounce glasses of freshly squeezed juice daily. Max Gerson, M.D., prescribed 13 glassfuls a day. Along with a scientific program of other remedies, that juice pattern is still followed today at the Gerson Institute in northern Mexico.

• **Never mix fruit and vegetable juices** in the same meal. It is all right to mix vegetables juices together, but **do not mix fruit juices** (orange, grapefruit, pineapple, lemon, or grape). Some (including the Gerson Institute) recommend a combination of **carrot and apple juice**.

• Fresh **lemon juice** should be squeezed on all greens, salads, or lettuce that are eaten. This enables the calcium and minerals to be better absorbed by the system. **Dark green vegetables** are better than light-colored lettuce.

• **Lecithin** should be included in the diet to keep cholesterol in the blood stream emulsified (so it does not harden on the walls). This will improve blood circulation to the site of the tumor. Lecithin helps regulate metabolism, break down fat and cholesterol, and prevent malignancies.

• **Wheat germ oil** is an extremely rich source of vitamin E, and should be taken daily. Only use cold-pressed (Viobin), and keep it refrigerated until you are ready to use it during the meal.

• **Omega-3 fatty acids** may inhibit cancers, especially breast cancer *(Cancer, October 1986).* **Flaxseed oil** is, by far, the best source!

• According to a 1988 medical article *(British Journal of Surgery)*, eating an adequate amount of **essential fatty acids** helps protect the body against skin cancer. It even helps eliminate them, once they form.

• Take a teaspoon of **blackstrap molasses** at the end of the vegetable meal. This will provide additional amounts of iron, calcium, and important B vitamins.

• Never eat fruit and vegetables at the same meals. Exception: **lemon juice can be squeezed over greens** to help you better absorb and calcium and minerals in those greens.

• Use plenty of **soaked figs, prunes and raisins**.

• Eat **garlic** daily. Studies done in Japan suggest that taking garlic supplements may help reduce the size of tumors. It has been used for medicinal purposes for 4,000 years.

• **Garlic** is a faithful standby, and protects against cancer in general *(Acta Unio. Intern. Contra Cancrum, 20 no. 3, 1964)*. Cut a thin slice of garlic and carefully tape it over, what you consider might be, a skin cancer. Try to avoid contact of the garlic on good skin. (If it does, the skin will redden and burn somewhat.) Russian research from back in the 1950s revealed that garlic is more powerful than antibiotics in destroying bacteria. It also causes moles and skin cancers to fall off.

Put the garlic on in the morning, take it off and carefully wash the area in the evening before bedtime. Put on a new application. Remove it in the morning, and repeat the process. Do this for about 3 days. The mole or ulcer will dissolve and slough off. Let the area heal. If part of it remains, repeat the process at a later time.

If you keep applying the garlic for more than 4 days, it will begin burning deeper into the skin (you will know, because the area will become very painful.) Such deep burning is not necessary to slough off the cancer, and could be harmful.

• Be sure to incorporate **dietary fiber** in each regular meal.

• **Fiber** in the diet helps maintain regularity and avoid colon cancer. But it also helps the colon absorb toxins and carry it out of the body. This is important. Be sure to eat at least 3 tablespoons of bran at each regular (non-juice only) meal.

• Try to have a **vegetable, fruit, and berry garden** of your own, using natural fertilizers, seaweed, etc. You are what you eat. Purchase food where organically-grown food is sold.

• We do not generally think of mushrooms as the best food, for they are in the fungus family. But it has been found that three types (**Reishi, Shiitake, and Maitake mushroom**s) have decided anti-cancer factors. Oral extract of Maitake provided complete elimination of tumors in 40% of test animals, while the remaining 60% had a 90% of their cancers eliminated. Maitake contains a polysaccharide, called *beta-glucan*, which stimulates the immune system and even lowers blood pressure.

• **Legumes and seed foods** (such as soybeans) have **protease inhibitors** (PI). These tend to protect the seeds from being digested. As such, they were thought to be a problem. But recently it has been discovered that they tend to reduce tumor growth. The National Cancer Institute that some of these substances (*isoflavones* and *phytoestrogens*) have potent anti-cancer properties. However, eating a lot of beans is not something you will want to do at home! Too much protein helps feed the cancer cells.

• Certain other foods show an ability to slow tumor growth in some way. This includes **apples, apricots, barley, citrus fruit, cranberries, fiber, figs, ginger, spinach, and seaweed**.

• There are a variety of **digestive enzymes**. Take them with a meal to improve digestion, or on an empty stomach if the need is to help fight cancer (first thing in the morning, an hour before breakfast; or the last thing at night, at least two hours after supper.)

• **Rice bran**, pressure cooked, is rich in tocotrienols. (2-3 tablespoons a day).

• **Aloe vera** extract (or, better, fresh aloe vera leaves) contains the active immune stimulant *ace mannan*.

• Scientists have found that the active culture of **bacteria in yogurt (lactobacillus)** can fortify the immune system. In both humans and animals, yogurt in the diet tripled the internal production of interferon, a powerful chemical compound used by the immune system against cancer cells. It also slows the level of natural killer cells. Yogurt slows the growth of tumor cells in the gastro-intestinal tract, while improving the ability of the immune system to destroy active tumor cells. It also helps block the production of carcinogenic agents in the colon. Women eating yogurt were found to have less breast cancer. It is well-known that milk is one of the worst allergenic foods, and can carry disease germs from the cows. So you would do well to obtain lactobacillus cultures from health food stores, rather than eating yogurt.

• Other **intestinal microflora products** can be used, instead of yogurt (which can be allergenic and contain cow diseases). Some broad spectrum products contain *lactobacillus, bifidus, streptococcus faecium*. Others contain only *lactobacillus*, which is milk- and yogurt-free.

FASTING

You should be aware of the fact that, by the time symptoms of pain accompany cancer, it is in the advanced stages. At that point, the body urgently needs good nourishment, as well as cleansing; it should not be given fasts. For further information on this, see the Gerson Therapy, later in this book.

But, as a cancer preventative, occasional fasting is helpful. Cancer prevention is theme of this entire Part One section of this book.

• **Fasts on fruit and vegetable juices** of 1 to 3 days can be taken. If under the care of someone who knows what to do, and you are not thin, a longer fast may be undertaken.

• Go on a **fresh fruit diet** for several days. If the patient is thin, after a few days of fruit diet, give him an alkaline nourishing diet. This would consist of **vegetable broth** (simmer thick potato peelings, carrots, and beets; strain; drink the water on top), **mashed half-inch thick potato peelings, brown rice, carrots, greens of all kinds, red cabbage, parsley, and other vegetables**.

• Eating **good food** treats malnutrition, and many people develop cancer because of a lack of the protective, nourishing food needed to resist it.

• There is a theory that you can starve cancer to death. This has been proven untrue. Cancer does better in a malnourished body. One study revealed that pure malnutrition (cachexia) is responsible for at least 22% and up to 75% of all cancer deaths.

VITAMINS

IMPORTANT: Throughout this study, when dosage amounts used in research are given, the amounts are always for "per day" (mg per day, etc.) G means grams, not grains.

IMPORTANT: According to the literature surveyed, when overdosage was possible, this was indicated. (See vitamins A, B6, niacin, selenium, cysteine, arginine.) Of course, vitamin D overdose can also be toxic, but it is not listed here as an anti-cancer factor. For a variety of reasons, beware of taking much, if any, iron supplements.

IMPORTANT: Fish oils have also been recommended in the literature as possible anti-cancer agents. But we do not list them here for three reasons: Large amounts must be consumed to be beneficial. Fish oil has a known history of damaging the muscle of the heart. Some forms inhibit blood clotting

Take the supplements, which seem distasteful and hard to swallow, and put them in a fruit or other drink and swallow them all together. If necessary, briefly whiz the mixture in a blender.

When possible, chew the tablets. Break open the capsules and pour the powder onto your food or into a spoon. Crack liquid capsules in your mouth, and spit out the capsule. Do not crack vitamin C in your mouth—the acidity can hurt your teeth. Just swallow it whole.

• It is well-known, by biochemists, that most cancer victims have a **deficiency of not only all vitamins, but also hydrochloric acid, potassium, magnesium, iodine, and many trace elements**.

• **Vitamins** are very important. Do not trust yourself to the official standardized amounts of needed vitamins and minerals. The actual nutritional requirements are much higher. In addition, living in our chemicalized, polluted age destroys a number of vitamins and minerals.

• For example, **vitamin C** is destroyed in its effort to combat auto exhaust fumes and mercury in the food. **Vitamin E** destroys itself in the process of detoxifying cadmium (which nonsmokers breath in when they are in the same room as smokers). The list goes on and on. The world is not as safe now as it used to be. We can be thankful that we are aware of vitamins and minerals and how to obtain them in sufficient quantities.

[Special note: The following data on vitamin A was compiled from information gleaned from sources which had not yet discovered that **beta-carotene** (**pro-vitamin A**) was the more active agency in cancer prevention, and far more powerful than vitamin A.]

• Vitamin A is crucial in cancer therapy, but can you get too much of this oil-soluble vitamin? High doses of **vitamin A** (500,000 IU) can have acute reversible effects. Toxicity may start as low as 25,000 IU in those with impaired liver function (caused by drugs, hepatitis, or protein malnutrition) Otherwise, it begins at several hundred thousand IU.

• Toxicity of **vitamin A** can be reduced by taking vitamin E at the same time. This mitigates lipid peroxide effects.

• Toxicity of beta-carotene **(pre-vitamin A**, as found in greens and carrot juice) has never been found. One 15-year study involved immense beta-carotene intake.

• Experiment after experiment has revealed that when **vitamin A** is missing, cancer can be started in animals; but, when it is present in abundance, not even fast growing implanted cancers will not survive in test animals. Vitamin A inhibits the induction and retards the growth of both malignant and non-malignant tumors. Taken over a short period, vitamin A can greatly aid in recovery of cancer. Take large doses (up to 150,000 units per day or you may wish to remain with smaller doses: 50,000 units, twice a day). Later you can reduce this to a smaller amount.

• Take **vitamin A** in emulsified form to minimize liver involvement. Alternate, taking it 2 weeks on and 1 weeks off. Blurred vision and a soapy feeling in the mouth are signs that the body has too much A. (Vitamin A and D, which are oil soluble, can be taken in excessive amounts, so one must always be careful. Never take large amounts of either for too long a time.)

• In some instances, a person needs to take as much as 300,000 IU of vitamin A. When this must be done, taking 3200 IU of vitamin E will help reduce the risk of vitamin A toxicity.

• **Vitamin A derivatives (retinoids**) reverse bronchial metaplasia.

• **Vitamins A, C, E and beta-carotene** reduce the risk of cancer by radiation and chemical carcinogen exposure. **Vitamins A,D. and E** inhibit oncogenes activity.

• Varying amounts of **Vitamin A** were given to different patients with bladder cancer. Those receiving the smallest dosages were the most likely to have recurring cancer (i.e., the cancer return later).

• The **B-complex vitamins** help prevent cirrhosis of the liver. This is important because a damaged liver has a 60% greater chance of becoming malignant. Dr. Max Gerson found that to be consistently true. Take a B-complex supplement. Also take **3-4 tablespoons of brewer's yeast** each day. Do not eat baker's yeast; it contains live yeast and is not good for you.

• Dr. Otto Warburg, Nobel Prize winner and director of the Max Plank Institute in Berlin, declared that there is a lack of one or more of three B vitamins (**riboflavin, niacin, and pantothenic acid**) in tissue which becomes cancerous.

• In various countries, nearly 200 scientists have reported on the importance of **niacin (vitamin B3)** in preventing and treating cancer.

• 2 grams of **Niacin** (B3) daily is recommended as an anti-cancer factor.

• **Niacin** has been recommended by the NIH in amounts up to 3000-6000 mg, for lowering cholesterol. But time release niacin is more suspect of causing liver damage; amounts which might do this were not given.

• **Vitamin B6** (pyridoxine; pyridoxal with pyridoxal-5-pyrophosphate (P5P) is helpful in reducing damage from radiation therapy and slowing cancer growth from polyamine synthesis of the tumor. Especially good when a B6 ointment is applied to surface melanoma tumors. It helps prevent respiratory and cervical cancer *(Nutrition and Cancer, June 1984).*

• **B6**-deficient mice exhibited enhanced tumor susceptibility and increased tumor size. In another experiment, animals fortified with B6 and then injected with melanoma (skin) cancer cells, showed a greater resistance to this deadly form of cancer. Studies on humans revealed similar results.

• Less than 500 mg of **vitamin B-6** in humans appears to be safe.

• **Vitamin B12** dramatically augments the tumor kill of vitamin C.

• A combination of **folate** (folic acid, a B vitamin) and **B12** has been found to reverse bronchial metaplasia (pre-malignant lesions). Folic acid protects against cervical cancer *(American Journal of Clinical Nutrition, January 1982).*

• **Pangamic acid is vitamin B15**. Many scientists *(Warburg, Goldblatt, etc.)* believe that chronic oxygen deficiency in cells leads to cancer cell formation. Pangamic acid increases the body's resistance to oxygen deficiency. Remember that cancer cells do

not use oxygen and that poorly oxygenated cells are the most likely to become malignant.

• **Laetrile (also called amygdalin, nitrilosides, or vitamin B17)** is another substance used to eliminate cancer. It is derived from apricot pits (seeds). Take two 500 mg tablets of laetrile 3 times a day. It is also found in all fruit kernels, except those of citrus. Other food sources, which contain lesser amounts, include lima beans, lentils, mung beans, crab apples, peaches, plums, apricots, cherries, cranberries, sprouted seeds, and apples (chew up the seeds as well as the apple).

• Several **apricot kernels** (i.e., apricots seeds or pits) should be eaten at each protein meal. Six per day may be sufficient. They should be eaten with food or, better yet, with fresh, frozen, or dried apricots. The slightly bitter ones contain more **laetrile (also called nitriloside or amygdalin)**, and are better for you than are the sweet ones. Do not mix the sweet and bitter varieties; there may be an interaction. If available, **100 mg of oral Amygdalin** may be substituted.

• If people regularly ate the seeds when they eat apples, peaches, apricots, they would get enough **laetrile**. Starting to do this earlier, will help prevent cancer from forming later on.

• But when cancer is already developing, **500-590 mg of Amygdalin**, in solid tablet form, should be swallowed at the two larger meals. They should not be taken on an empty stomach.

• **Vitamin C** is a powerful aid in resisting cancer and other diseases. Swedish studies, at Karolinska and Umea Hospitals, revealed that vitamin C in large doses can be an effective agent in fighting cancer.

• **Vitamin C** blocks the carcinogenic effects of most poisons, including nitrates. Vitamin C can be taken to bowel tolerance. This means you can take as much as you can, until you begin to have diarrhea. When the body tissues reach saturation on C, the remainder of this water-soluble vitamin is sent into the bowel, which reacts to the acidity by somewhat runny bowels till the C is gone. Take large doses of 5,000 mg or more a day. It is the most powerful antitoxin known, and can neutralize or minimize the damaging effect of most chemical carcinogens entering your body from the air, water, or food.

• Cancer of the bladder can occur when the amino acid tryptophan is not properly metabolized, resulting in oxidation of its metabolites. **Vitamin C** prevents that oxidation process, and thus blocks cancer development. It is a preventative agent against a variety of cancers *(Journal of the National Cancer Institute, 73, 1984)*.

• **Vitamin C** is such a potent cancer fighter, that it is well to here provide additional information: Deficiency symptoms include slow wound healing, pain in joints, immune suppression, bleeding gums, irritability, and increased risk of cancer. If you take too much at a time, it will cause mild diarrhea within 30 minutes. Intake: RDA: 60 mg. Usual U.S.: 114 mg. Prophylactic: 500-2000 mg. Therapeutic: 500-100,000 mg.

• Taken in larger doses, **Vitamins A and C** inhibit *hyaluronidase*, an enzyme found in cancerous tissues.

• **Vitamins A, C, and E** are antioxidants. When accompanied by the minerals, selenium and zinc, they help protect against malignancies.

• Low serum levels of **vitamin A and E** were common in patients receiving, and responding poorly to, chemotherapy. The great danger in using chemotherapy and radiation is the damage, introduction of a poisonous conditions, and destruction of anti-cancer vitamins.

• **Vitamin C and beta-carotene** (pre-vitamin A) have been found to be effective in reversing cervical dysplasia and oral leukoplakia in humans.

• **Vitamins C and K** separately showed anti-tumor activity against human cancer cells in vitro, but became synergistically effective at 2% the regular dosage when used together.

• A substance in **vitamin D**, known as *1,25 dihydroxycholecalciferol* has been discovered to be an anti-cancer factor. But, due to toxicity of vitamin D overdose, must be used only under the care of a professional. For most of us, it is best to avoid using too much vitamin D, although some is needed. Sunshine is the best source. (Fish oils can cause heart trouble.)

• **Vitamin E, working with C**, inhibits the activity of a growth substance (catalyst) found in cancerous tissue. Take up to 1,000 units a day. Vitamins C and E help the body inhibit the activity of the enzyme hyaluronidase, found in cancerous tissue.

• A lack of **beta-carotene (pro-vitamin A), vitamin E, and B complex** in lung tissue may be related to lung cancer.

• Injections of **vitamin E, beta-carotene, canthaxanthin (a carotenoid) and algae extract** dramatically bolstered levels of tumor necrosis factor alpha, and reversed hamster buccal pouch tumors.

• Human prostatic cancer cells in vitro were markedly reduced when **vitamin E** was added. It helps protect against bowel cancer *(Journal of the National Cancer Institute, 73, 1984)*.

• **Vitamin F is the essential fatty acids**. Add 1 tablespoon of cold-pressed vegetable oil to each food meal (not juice-only meals). Wheat germ oil and flaxseed oil are the best. Corn oil and soy oil are second best. Safflower oil is not so good. Make sure the oil is fresh and kept refrigerated when not in use. Never use cottonseed oil (it can cause blindness), hydrogenated oils, lard, greases, or animal products. The oil in the nuts is good, if the nuts are fresh.

• **Vitamin K** helps protect the body against certain cancer-causing substances. Take it with vitamin C to increase its cancer-reducing strength.

• **Quercetin** (one of the bioflavonoids which, together, are called **vitamin P**) increased the cell kill rate in cancer cells, which were exposed to hyperthermia (heat therapy) with no negative effect on normal healthy cells.

• **Quercetin** reduced cancers in animals exposed to two carcinogens.

MINERALS

• A Cancer Control Convention, meeting in Japan, reported that the trace mineral, **germanium**, in the diet is a significant factor in preventing and eliminating cancer.

• One cancer researcher, who studied in-depth into cancer remedies over the past 150 years, declared that every effective anticancer formula (Glyoxylide, which is the Koch treatment; the Hoxsey herbs; Hypotonic therapy; laetrile; the Gerson method; Krebiozen; and Carcalon) involves extra amounts of **potassium**. This is very important.

• Be sure to include a significantly higher intake of **potassium**. Potassium deficiency is considered by Gerson, Scott, and others as a primary contributing cause of cancer.

• **Potassium foods** include almonds, apples, dried apricots, bananas, beans, beets, broccoli, carrots, dulse, grapes, kale, olives, pecans, rice bran, sunflower seeds, wheat bran, and germ. These foods help the body resist and overcome tumors, cysts, and malignancies.

• Center your diet around potassium foods. Here are more of them:

• Dried apricots, asparagus, pearled barley, dried navy beans, fresh lima beans, raw beets, sprouted bread with no salt, Brussels sprouts, cabbage, cantaloupe, caraway seed, cauliflower, celery seed, small leaves of chard, dark raw cherries, dandelion greens, dill seed, endive, unsulphured figs (dried or raw), garlic, concord or emperor grapes, grapefruit, fresh horseradish, fresh lemons, lentils, fresh limes, nectarines, okra, onions, oranges, fresh parsley, dried or raw peaches, Bartlett pears, dry or fresh peas, persimmons, raw pineapple (never canned), raw plums, dried or raw prunes, raw quinces, raisins, wild or brown rice, sage, rolled oats, spinach, squash (acorn, Hubbard, yellow summer), tangerines, raw tapioca, raw turnip leaves, and watermelon.

• Drink **potassium broths** daily. Prepare them from half-inch thick potato peelings, which are then cooked. Draw off the water and drink it.

• You want foods which are **high in iodine and potassium, low in sodium, protein, and fat**.

• **Potassium ascorbate** (12-20 g) can be taken as a partial potassium supplement. This product includes vitamin C.

• **Potassium and magnesium** are among the more crucial minerals for cancer recovery. Magnesium helps to stabilize cell membranes and elevate immune activity while potassium plays a critical role in membrane permeability. (Magnesium, 400-800 mg daily from aspartate, citrate, or orotate.)

• **Magnesium** protects against cancer in general *(Medical Hypotheses, August 1980).*

• **Calcium and magnesium** have a beneficial effect in helping the body resist colon cancer. **Natural iron** supplements help prevent thyroid cancer. (But many iron supplements are dangerous! Take blackstrap molasses instead of iron pills.)

• The *New England Journal of Medicine* reported that **calcium** may prevent precancerous cells from becoming cancerous. Calcium protects against colon cancer *(American Journal of Epidemiology, September 1988).*

• **Calcium** supplements (2000 mg) provide a marked suppression of rectal cancer proliferation. It inhibits early stages of colon cancer in genetically vulnerable individuals.

• **Iodine and trace minerals** are crucial. You can obtain them by each day eating some Nova Scotia dulse or Norwegian kelp. Both are special seaweeds which have a wide spectrum of trace minerals. Food grown on the continents does not have all those trace minerals; rainwater has gradually depleted the soils.

• **Iodine** protects against breast cancer *(Lancet, April 1976).*

• It is very important to keep the **iodine** level of the blood normal, so both the thyroid and body tissues will have proper cell oxidation. Eat a sufficient amount of dulse, or kelp, each day. (Do not use California kelp.)

• People with **myxedema**, or **underactive thyroids**, are more prone to developing cancer. So keep your thyroid in good condition with seaweed.

• Japan and Iceland both have low goiter and breast cancer rates. This may be because their diets are rich in **iodine and selenium**. Breast cancer has been linked to an iodine deficiency. Japanese women have almost no breast cancer. Colon cancer rates in Japan are also low.

• Studies at the University of Zurich and in London Polytechnic revealed that **brewer's or food yeast** gives improved resistance against cancer development. Brewer's yeast is one of the best sources of **selenium**, an important anticancer mineral.

• **Selenium** made the headlines, at the end of 1996, as a special trace mineral which could dramatically reduce cancer in the human body. It completely inhibited tumor growth in mice inoculated with tumor cells.

• **Selenium** helps eliminate cancer in five ways: It improves detoxification, bolsters immune function, directly toxic to tumor cells, and may is a valuable anti-proliferative factor *(Lancet, July 1983)*. Selenium intake should not exceed 2500 mcg (2.5 mg) per day.

• Using **selenium** as a sole therapy, there was a 38.8% favorable response rate in patients with oral cancer.

• High doses of **selenium** (equivalent to 54 mg in humans) resulted in 83-90% reduction in rate of tumor growth in mice.

• Long-term usage of 5000 mcg of **selenium** may result in fingernail changes and hair loss. Selenite is more toxic than selenium bound to amino acids (i.e., selenomethionine). Ingestion of 1-5 mg/kg body weight of selenite will produce toxic side effects. This is equivalent to 65,000 mcg in a 65 kg adult.

• **Chromium** as picolinate is very helpful in working with carcinoma. (400-800 mcg.)

• **Zinc** as zinc picolinate (30-100 mg) is also a significant help. It protects against prostrate cancer *(British Journal of Urology, October 1983).*

• **Cesium** is neither essential nor toxic in cancer reduction. But it slightly alters the pH of cancer cells, rendering them more vulnerable to immune attack.

OTHER NUTRIENTS

• **Chlorophyll** is an anticancer agent which slows the growth of cancerous tumors. It creates an environment unfavorable to bacterial growth.

• A diet rich in chlorophyll is therapeutically effective for both external and internal infections, including malignancies.

• **Blue-green algae and chlorophyll** clean and protect the blood

• **CoQ10 (co-enzyme Q10) and germanium** provide oxygen to the cells. So does **vitamin E**, working in the liver. (Cancer does not use oxygen in the cells.)

• **CoQ10** increases aerobic (oxygen) metabolism and immune function. Cancer cells thrive where there is a lack of oxygen.

• **CoQ10** sometimes reduces hair loss in those who choose to take chemotherapy.

• Scientists, at UCLA, have found that **sodium linoleate, which contains linoleic acid (an essential fatty acid)** has the ability to fight cancer cells. **Lecithin** is a good source.

• **Gamma linolenic acid (GLA)** can be taken as oil of borage, evening primrose, or black current seed. In purified form, up to 1.5 grams per day can be taken.

• **Alpha linolenic acid (ALA)** from flaxseed oil (1-2 tsp. daily). Make sure that it was stored in the refrigerator at the health food store you purchase it from. Flaxseed oil becomes rancid very quickly, so purchase small bottles.

AMINO ACIDS

• **Glutathione** (200 grams), functions in the body as an antioxidant and helps destroy free radicals and the toxicity remaining if you already have received radiation treatments and chemotherapy. **Cruciferous vegetables** (**broccoli**, especially) increases the body's own production of glutathione peroxidase (GSH).

• **Cysteine (N-acetylcysteine)** (1-2 grams) is an amino acid which enters into various detoxification systems in the body, helps bolster glutathione peroxidase activity, and can be converted in the body to glutathione, which may become GSH, a potent broad spectrum anti-oxidant enzyme system. Cysteine supplementation promote glutathione synthesis.

• Although safe up to 10 g, the nauseating taste and smell of **cysteine** can cause vomiting.

• Several studies confirm that **arginine** reduces tumors and tumor formation. It increases T-cell function, stimulates the thymus and thyroid, and enhances activity of killer cells, as well as interleukin-2 receptors and general immune improvements.

• At therapeutic levels (above 5 g) of **arginine**, growth of certain viruses may be activated.

• **Methionine** reduces the uptake of mercury, which is a cancer-causing agent.

• Malnourished cancer patients improve when **branched chain amino acids (leucine, isoleucine, and valine)** are given. Protein and albumin synthesis are heightened.

PREVENTING CANCER

The information in this section is primarily for medical researchers, but it is also invaluable for those who want to prevent cancer from gaining a foothold in their bodies.

Because of modern nutritional, environmental, and living conditions, cancer rates are rapidly increasing. In this chapter, the thoughtful reader will have learned a number of things which can help prevent the occurrence of cancer.

• You have been a toxic waste site! And now, before the cancer has a chance to start, you are beginning waste disposal operations. With prayer, diligent work, and the blessing of God, you can have success.

• While some are concerned with treating symptoms, you must be concerned with getting at the causes of cancer and eliminating them. Only then can the problem be permanently solved.

The Gerson Therapy seems to do the best job of eliminating the toxins. You will find it discussed later in this book.

• Well, there you have a number of possible suggestions. What you have just read may seem like a lot of work. *But, since cancer will generally mean the end of you, are you sure you do not want to work?*

• It is extremely important that you care for and rebuild the liver, kidneys, lungs, skin, bowels, and other organs. Dr. Max Gerson maintained that he could eliminate cancer in anyone if the liver was in good condition. Take care of your liver.

• *If you have cancer,* we recommend that you locate a physician and place yourself under his care. A careful, systematic regime of healthful recovery is needed, and you may not know what to do. Regardless of which doctor you go to, while waiting for appointments get started doing the right things! Doctors may be busy, but your life depends on changes which need to start right now. Essentially everything, listed here in Part One of this book, you can do at home to improve health and help prevent malignancies.

• Do not fear. Trust your life to God; obey the Ten Commandments by faith in Christ; and step forward, living your best and doing your best. Entrust the outcome to God.

• America alone spends $800 billion yearly on physicians and hospitals; yet it is 23rd in the world in level of health, vitality, and longevity. Surely, it is time that we start thinking for ourselves.

• **All information in this section, and throughout this book, is offered purely for educational, research, and experimental purposes—as an objective report, not as a recommendation or endorsement.**

CHAPTER TWENTY EIGHT
POISONS

URTICARIA **(Nettle Rash)**

SYMPTOMS—Small, pale swellings on the skin, with severe itching and burning which come and go, to be replaced by others. Each lesion lasts a few hours, and is succeeded by new ones in other places.

CAUSES—One cause is contact with the nettle plant, which pricks a poison into the skin. Other causes include wheat, milk, eggs, chocolate, and other food allergens.

HYDRO

Sponging with very hot water, Hot salt or alkaline Sponge, Prolonged Neutral Bath

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INSECT STING

SYMPTOMS—Redness, slight swelling, and possibly some itching.

Reaction to the sting can sometimes be more pronounced: hoarseness, labored breathing, confusion, difficult swallowing, and severe swelling.

Sometimes the reaction can be severe: possible closing of the airway and perhaps shock (cyanosis and a drop in blood pressure).

CAUSES—Certain stinging insects in North America can cause reactions (honeybees, bumble bees, African bees, hornets, scorpions, fire ants, yellow jackets, wasps, spiders, centipedes, and ants). Of these, the honeybee, yellow jacket, and African bee are the most dangerous.

Bee venom contains formaldehyde.

Note: Each year, bee stings cause more deaths in America than snake bites.

TREATMENT—

• Pull out the stinger, if any remains. (Honeybees leave their stinger in the wound. It must be pulled out immediately, for it keeps pulsating venom into the skin.) Avoid removing the stinger with your fingers; use a knife blade to scrape it out, to avoid squeezing in more poison.

• Apply a paste of baking soda and water on the area or a compress that is wet with ammonia water (more useful for scorpion stings).

• Wet a little calcium gluconate and put it on the area.

• Crush a charcoal tablet and place in the area, and cover with cloth. This will reduce pain and swelling. Put some wet powdered charcoal in an cloth and tie it on for 3-4 hours.

• Charcoal has an amazing adsorptive (not absorptive) ability to pull into itself toxins and poisons, thus neutralizing them. This is due to its large chemical surface and the fact that charcoal is pure carbon. The carbon molecules are eager to unite with other substances.

• Clay or mud can also be used, especially if you are out in the woods. Put some mud on it as soon as possible and leave it on for a half hour. Try to select the mud from a clean place, not from a mud hole, where animals may have polluted it. If pain persists, apply charcoal.

• An enzyme-based meat tenderizer breaks down the proteins that make up insect venom, but you have to use it right away for it to be effective.

• To avoid infection, do not scratch the area.

• Also helpful are calcium chloride, hydrochloric acid, or ammonium chloride on the area.

• Apply poultice of white oak bark and leaves, comfrey, and slippery elm.

• Pain gels, DMSO, or Caladryl lotions can be applied.

• Calamine lotion often reduces the itching.

• Drink as much yellow dock tea as you can or take echinacea (tea or in capsule form).

• Ironically, either hot or cold will lessen the pain.

• A lengthy hot tub bath will help relieve abdominal pain that often develops after a bite.

• A cold pack or ice pack on the area will help relieve pain.

• Those sensitive to stings should avoid situations in which they might get stung. If they have to be in such localities, they are wise to carry adrenalin (epinephrine) with them and be accompanied by a friend who can go for help. Reactions can occur within minutes or hours. Contact a physician. Death can result if treatment is not sought.

• If you have a known allergy to a certain venom, you can have a physician prescribe an emergency treatment kit which you can keep with you.

• Purchase a small venom extractor and keep it with you.

• Squashing a yellow jacket releases a chemical that causes other yellow jackets to attack. When one stings, that also causes the others to become excited. If bit, run. Go indoors or jump into water. Insects have a hard time following a person through a thicket of woods.

• Insects are repelled by the odor of turpentine.

• Stinging insects prefer dark colors. So wear white or light-colored clothing.

• Do not wear perfumes of any kind.

• Insects are attracted to people who are deficient in zinc. Take at least 60 mg a day.

• Sometimes brewer's yeast or garlic rubbed on the skin deters insects.

• Drinking alcohol or eating an excess of sugar attracts biting, and other, insects.

CHIGGERS

SYMPTOMS—A red spot that itches intensely for about 3 days.

CAUSES—Chiggers, also called red bugs, are extremely tiny insects in the class (arthropoda, eight-legged creatures) which includes scorpions, spiders, and mites. They prefer grassy, weedy, fields, but are also found in wooded areas. They are active from May to September, and especially during June and July.

Moving slowly, a chigger crawls along until he finds a tight spot in a body crease or where the clothing is tight. Then, about 2 hours after hitching a ride, he digs in by injecting fluid which dissolves tissue and produces a welt. About 3-6 hours later the itching begins and continues for about 3 days.

TREATMENT—

• Remove the chigger by scratching off with a fingernail, or apply castor oil or Vaseline. Another method is to apply clear nail polish to the spot; this smothers the creature.

• A charcoal poultice can be a help.

• Banana is reported to soothe chigger bites.

• Hot baths help control the itching. .

ITCH MITE

SYMPTOMS—Itching occurs, but seems to travel from place to place on the skin.

CAUSES—Beware of bird nests close to your house! Many birds are infested with mites, and these can enter your home and get on you.

TREATMENT—

• Wash the affected part with tar soap. Wash clothing in boiling water or press them with a hot iron.

• Steep a tablespoon each of burdock root, yarrow, and yellow dock root in a pint of boiling water for half an hour. Strain, add a pound of cocoa fat, and keep boiling and stirring until it is a salve. Use this for an itch of any kind.

MOSQUITO BITE

SYMPTOMS—A mosquito bite with its attendant itching.

CAUSES—The culex, aedes, and anopheles mosquitoes are in Wetsren world Malaria can sometimes occur The treatment below is for non-malarial bites.

TREATMENT—

• To relieve itching: Rub with raw garlic or fresh lemon juice; repeat as often as possible. Rub with damp salt. Rub with vitamin C tablet or powder.

• To prevent bites from occurring: Eat lots of raw garlic. Avoid sugar and white flour in all forms. Include vitamin B complex and/or brewer’s yeast in the diet.

LICE (Pediculosis)

SYMPTOMS—Itching of the skin, often on the head, trunk, or pubic area. Lice eggs can be seen on one's hair. The person will feel like he is overheated or has a slight fever.

CAUSES—There are three types of lice which infect people: the head louse (pediculosis capitis), the body louse (p. corporis), and the crab louse (p. pubis). Crab lice (also called crabs) are spread by sexual contact.

Lice can be spread by hanging coats, scarves, and caps together or using someone else's comb, brush, etc. They live on the clothing (especially in the seams), travel to the skin once a day for a meal, then back onto the clothing.

Lice live about 30 days, and the female lays about ten eggs a day. The tiny eggs (nits) are laid at the base of a hair shaft. As the hair grows, the nits are carried upward and can be seen. They look like tiny black or rust-colored spots at, or near, the base of the hair. They can even be found on the chest, beard, and eyelashes.

TREATMENT—

• No drugs are needed to eradicate lice. Instead use one or more of the following methods:

• Heat combs and brushes to 151^{o} F. for 5-10 minutes; soak for an hour in 2% Lysol solution or freeze for 30 minutes.

• Launder clothing and bedding in hot water. Non-washable items should be sealed in a plastic sack for 10 days.

• Soak the place on the body for 30 minutes in very warm, soapy, water.

• The hair can be doused in kerosene and then wrapped in a towel. Garlic compresses can be placed on the scalp for 2 hours. Hot vinegar (or a 50-50 vinegar/water mixture) applied to the scalp will loosen eggs, so they can be vigorously combed out of the hair with a fine-toothed comb. A 50-50 mixture of kerosene and olive oil can be put on the scalp to get rid of the nits.

• Be careful what you place on the eyebrows; you do not want to damage the eyes. Petroleum jelly has been recommended to suffocate the lice.

• Use, as a hair wash, either labrador tea or field larkspur.

• Vacuuming carpets is as effective as spraying them. Do it frequently.

• Scrub toilet seats regularly.

• Whatever method you use, keep in mind that there is a 14-day cycle; you must work intensely for a little over 2 weeks on your body, clothing, and home if you are to have success.

JELLYFISH STING

SYMPTOMS—A strong stinging feeling on the legs or arms while swimming at an ocean beach.

This may afterward be followed by headache, muscle cramps, coughing, shortness of breath, nausea, and vomiting.

CAUSES—Jellyfish and Portuguese men-of-war are found in warmer marine waters. The eastern beaches of Florida are one example.

Their long tentacles contain stinging cells which, touching you, pierce the skin and release poison. Even severed tentacles can poison just as intensively.

TREATMENT—

• Immediately rinse the wound with salt water. Do not use fresh water, because it activates any stinging cells which have not already burst. For the same reason, do not rub the skin.

• Neutralize the area as soon as possible by splashing on one of the following, and do it again as needed: Use rubbing or ethyl (liquor) alcohol, vinegar, ammonia, or meat tenderizer. Travel tip: Take a bottle of vinegar with you to the ocean beach.

• If any tentacles remain on your skin, apply a paste of sand and seawater; then wrap your hand in a towel and wipe them off or scrape them off with a knife or credit card.

SPIDER BITE

SYMPTOMS—Pain, swelling, nervous reactions.

Black widow bite: Within a short time the victim feels agonizing pain throughout the body, especially in the abdomen, which may be rigid as a board. Cold sweats, difficulty in breathing, nausea, vomiting, and sometimes delirium and convulsions occur.

CAUSES—*Spider, scorpion, and centipede bites:* These can sometimes be dangerous; most are very painful. In case of spider bite, see a physician; it might be a black widow.

Black widow bites: Black widow venom is more potent, drop for drop, than the poison of a pit viper (rattlesnake, copperhead, or cotton mouth); but an extremely small amount is injected in each spider bite.

TREATMENT—

• The bite of a black widow should be treated like a snake bite except that it is not necessary to give antivenin.

• If there is swelling or pain after a spider bite, keep calm and apply a constricting band 2-4 inches above (above) the bite. Loosen the band for 15 seconds every 10 minutes. Do not let the extremity turn blue! Do not move the affected area, and keep it below the heart level, if possible. The victim should lie down. Pack ice around the wound.

• The objective, throughout the above paragraph, is to slow the blood and reduce spread of the poison.

• Drink as much yellow dock as possible or take 2 capsules every hour till symptoms recede. Swallow echinacea. Apply white oak bark poultices. Slippery elm, plantain, or comfrey are also good.

• Massive doses of vitamin C may save a life.

SNAKE BITE

SYMPTOMS—One or two tiny bite holes which cause intense pain; frequently there is nausea, vomiting, and unconsciousness.

CAUSES—There are two types of poisonous serpents in North America:

The pit viper (which includes rattlesnakes, copperheads, and cotton mouths [also called water moccasins]) has a deep, heat-sensitive, pit on each side of the head. Pit vipers lunge forward, bite, and immediately pull back. Their venom contains a blood poison.

The coral snake does not jump and, when it catches hold of the flesh, must hold on and chew awhile for the poison to sink in. Its venom is a nerve poison.

More on identifying coral snakes: They are found only in the southernmost areas of the United States, as well as south of the border, and have brightly colored rings.

There is a non-poisonous snake which looks similar, but the colored rings are arranged differently. Remember it this way: "Red by black, friend of Jack; but black by yellow, kill a fellow."

The danger from snake bite occurs when the poison reaches the heart, and, secondarily, the effect of that poison on the blood and nervous system.

The action of the venom is rapid, regardless of the type of poisonous snake. There is rapid swelling and inflammation.

If treatment is not immediately given, the poison may cause death. If not death, then, after the initial effects of pain and shock begin to wear off, extensive tissue damage begins. There is suppuration, gangrene, sloughing, and hemorrhage. If this happens, recovery time is greatly slowed.

TREATMENT—

• The best single remedy you can keep on hand is a small hand-suction extractor for immediately pulling the poison out of the wound. Continue this for half an hour. (This suction is less useful for coral snake venom, but use it on all snake bites anyway!) If there is no other way to extract the poison, another person should suck it out, continually spitting out the blood, for half an hour.

• The person doing the sucking should not have any sores in his mouth.

• Suction can also be done with a pop bottle heated and applied. As it cools a vacuum is formed.

• Another alternative is to cut off the end of a plastic injection syringe at the bottom of the large end, apply to the bitten area, and pull back on the plunger.

• Have the patient lie down, keep him calm and warm, apply a tourniquet above the limb where the wound is. This constricting band should be tight enough to shut off the venous blood, but not so tight that it stops the arterial circulation. Loosen the band 15 seconds every 10 minutes.

• The instruction formerly was to cut across between the two bite holes, so you could suck out more blood and poison. The current theory is that no cuts should be made, but only sucking. It might be the best to suck and spit for a couple minutes; this will clean the surface as well. Then cut across, so you can suck even better. But, when you are in the crisis, do what seems best.

• Do not give liquor to the person, thinking that this will help him. It does not!

• Specific antivenin serums are in stock for various species of snakes. Learn to identify the various snakes in your locality. (Coral snakes are primarily found only in the southeastern states.)

• Massive doses of vitamin C may save a life.

• Keep calm and work carefully. Excitement speeds up the blood flow to the heart.

• In most cases, the person does not die. But pray and get yourself prepared for whatever may happen.

• After the suction process is over, take charcoal from the campfire, mix it with water and drink it, as follows: a half glassful of water with 1 teaspoon of charcoal, and drink another one every 15 minutes until the danger is past.

• If able to do so, a couple hours later, take a steam bath or something similar, to sweat out the poison.

• Throughout all this time, you should eat no food.

• If, after several hours, the bite area is still swollen and painful, put kerosene on a cloth and apply it, keeping it wet for several hours. This will help neutralize the poison. An alternative is to grind up raw onions and apply to the area. Leave them there until an offensive odor, not of onions, is noticed. Remove; bathe the area; and apply more raw, crushed, onions until the pain is gone.

Transmitted Diseases

TYPHUS

SYMPTOMS—Sudden onset of chills, high fever, prostration, and general pains. The patient is excited, mentally alert, and has a flushed face and bloodshot eyes.

Delirium frequently occurs early. Small pink spots on neck, chest, abdomen, and limbs appear about the fifth day. They change from pink to red, then to purple, and finally turn brownish.

Heavy bronchitis, with cough and sputum. Pulse is rapid, but blood pressure is low.

In its early stages, typhus is like Rocky Mountain spotted fever, but the home treatment for both is essentially the same.

CAUSES—There are three main types of typhus fevers (louse fever, flea and tick fever, and mite fever), but they are all treated about the same and are caused by similar bacteria carried by lice, fleas, ticks, or mites.

Typhus occurs where people are crowded together under unsanitary conditions.

TREATMENT—

• Typhus is a tropical disease, and occurs rarely in the northern climates. Call a physician.

ROCKY MOUNTAIN SPOTTED FEVER (Tick fever)

SYMPTOMS—Symptoms begin 7-12 days after being bitten: headaches, chills, weakness, fever, muscle pain, and dry cough. There is a skin rash on the wrists, ankles, palms, soles of the foot and forearms; this then spreads to the neck, face, axilla, buttocks, and trunk.

Next comes liver enlargement and pneumonitis. If untreated, circulatory failure brings death.

CAUSES—When symptoms first appear, do not wait for a positive blood test identification before instituting treatment. Death may occur as soon as 4-10 days after appearance of symptoms. Contact a physician.

Spotted fever is caused by a similar bacteria (rickettsia) that causes thypus but spotted fever is transmitted by a tick. Of the reported cases, 90% occur along the eastern seaboard and 10% in the Rocky Mountains. But it can be contracted anywhere in between those regions.

May through October is when people, who are out in the woods, are especially bitten. You can also get it from your dog, which has been roaming the woods and picking up ticks as though he were a vacuum cleaner.

TREATMENT—

• Call a physician;.

• If a tick is biting you, pull it off slowly so as not to leave part behind; then rub on a little alcohol, vinegar, or lemon.

PREVENTION—Before going on a walk in the woods or fields, mix 50-50 powdered sulphur and talcum powder, and dust it on your legs and around your waist. An old-timer suggests putting a little turpentine around your ankles and one drop on your tongue, to discourage them.

Avoid sleeping where cattle graze or near your dog. .

LYME DISEASE

SYMPTOMS—Between 2 and 32 days after the bite, symptoms appear: fatigue, flu-like symptoms, stiff neck, backache, headache, nausea, and vomiting.

Ultimately, enlargement of the lymph nodes and spleen may occur, along with irregular heart rhythm, arthritis, and brain damage.

Some of these symptoms slowly pass away over 2-3 years. But sometimes symptoms recur later without having been bitten again.

Because this disease is now so prominent, and because it can occur so mysteriously, here are more detailed symptoms on its usual 3 stages (which not everyone goes through):

1 - Small raised bumps (and/or a rash) appear on the entire body for 1-2 days or several weeks and then fades. Fever, chills, nausea, and vomiting may also occur.

2 - Weeks or months later, facial paralysis may occur. Frequently, enlargement of the spleen and lymph glands occurs and/or severe headaches, enlargement of the heart muscle, and abnormal heart rhythm.

3 - This can develop into backache, stiff neck, joint pains in the knees, swelling and pain in other joints, and even degenerative muscle and joint disease.

Physicians especially look for these symptoms, before treating with antibiotics: a small red bump at the site of the tick bite; a bull's-eye rash surrounding it; and flu-like symptoms such as fatigue, chills, and joint pain. If treatment is postponed until more advanced symptoms develop (heart, brain, or joint problems), drug medications do not work as well.

CAUSES—The bite of a tiny tick *(Ixodes dammini)* is primarily carried by deer; but it is also carried, in the eastern states, by white-footed field mice and, in the west, by lizards and jackrabbits. In California it is also transmitted by the black-legged tick, carried by wood rats.

Both deer ticks and black-legged ticks are very tiny: An adult is less than 1/10th of an inch, and the nymph is a pinhead in size. They are much smaller than a dog tick.

Lyme disease most frequently occurs where the white-tailed deer is most abundant, which is the northeastern states. Eight states report 90% of the cases: Connecticut, Massachusetts, California, Minnesota, New York, Rhode Island, Wisconsin, and New Jersey. But it has occurred in every state except Alaska, Arizona, Hawaii, Montana, and Nebraska. The disease was first identified in the mid-1970s in Lyme, Connecticut.

Dogs and cats can collect these special ticks out in the woods and bring them into your home.

Tick bites are generally painless and unnoticed; so the symptoms may not at first, or later, be correctly diagnosed. But in advanced stages, when correct diagnosis finally occurs, the situation may have become critical. .

A test now exists which can detect the bacteria *(Borrelia burgdorferi)* which causes Lyme disease. Antibodies are present from 3 days to 3 weeks after infection.

The majority of cases occur in the summer and fall. After a tick bites, it waits several hours before it begins to feed on the host's blood; and, once it does, it feasts for 3-4 days. The longer the tick remains attached, the greater the risk of Lyme disease.

Lyme disease is treatable and almost always curable if correctly diagnosed in the early stages. But, because the bites are usually painless, the incubation period so long, and the symptoms so varied, the problem may go unrecognized for weeks or months.

If you develop a bull's-eye type of rash anywhere on your body, see your health-care provider right away.

TREATMENT—

• The longer the tick is attached, the greater the risk of Lyme disease.

• Remove the tick with tweezers. Put the tweezers close to the skin and slowly pull straight out. Do not twist. You want the entire tick out, without leaving part of it in the skin or injecting bacteria from its broken body into the skin. You may pour rubbing alcohol on the tick before pulling him out. Do not touch the tick with your hands. Do not apply kerosene, turpentine, or petroleum jelly.

• Wash your hands and the bite area. Apply rubbing alcohol to the bite area. Do not use a match to get the tick out.

• Save the tick in a jar. Call a physician if you want it tested immediately. Watch for symptoms over the next 3 weeks.

• Put suspicious clothing in the dryer for 30 minutes, to kill ticks by dehydration. Washing clothes, even in hot water and bleach, does not necessarily kill ticks.

• Heat relieves pain. Hot baths are helpful.

PREVENTION—The best solution to this problem is prevention. Avoid going out in the woods in the summer months, when ticks are the most active (especially June to August). Stay on the center of the trails. Check yourself and your children carefully afterward.

Wear long pants and tuck them into your socks. Wear a long-sleeved shirt with a high neck or scarf, plus hat or gloves. If the clothing is light-colored, you can see the ticks better.

You may choose to use an insect repellent containing deet (diethyl toluamide). It lasts longer than others, and is said to be safe on the outside. But it is deadly if taken into your body, and dissolves plastics and synthetics.

Not everyone bitten acquires the disease. A high sugar and fat diet attracts insects! The skin eliminates toxins, which attract bugs when the diet is unnatural.

When the blood is pure and the body clean, there is far less likelihood of tick bites and lice infestation.

A diet high in fiber and natural food will help keep the body clean and protect against infections. Sugar attracts insects.

Herbs useful in preventing infections include: echinacea, goldenseal, garlic, and burdock. Rubbing with lemon juice will disinfect the area. Aloe vera on the area will aid in healing.

Vitamins A and C protect against infections. B complex vitamins help keep the blood clean. Eat lots of greens.

A test is now available, but false positives occur sometimes. So, if you are being treated for Lyme disease and are not getting better, consider having a second test made. One study of nearly 800 people, diagnosed with Lyme disease, revealed that half of them did not have it! Physicians blame false-positive tests for this.

BUBONIC PLAGUE **(The Plague)**

SYMPTOMS—Following an incubation period of 2-10 days, the disease begins suddenly with a high fever, severe headache, great weakness, and pains in the back and limbs. There may be vomiting and diarrhea.

The fever may go up to 104^{o} F. the first day, accompanied by intense thirst.

Buboes (swollen places) begin to appear the second day in the groin, under the arms, and in the neck.

The disease causes great weakness, and death often occurs sometime between the third and sixth day.

CAUSES—In the bubonic form of the plague, the lymph glands swell; when swollen, they are called "buboes."

This is a disease carried by the Norway rat. The bacteria are in its droppings, which it leaves in the food stuffs it has broken into and partly eaten.

In earlier centuries, several outbreaks of the plague occurred; during one of which one-sixth of the people of Europe died.

There is also a pneumonic form of the plague, which is far less common. The symptoms are about the same as pneumonia, but it is transmitted through the air and is extremely contagious.

The plague essentially never occurs in the Western world today. We mention it here so you will be aware of the symptoms.

TREATMENT—

• Call a physician. Living cleanly and eating right is the best prevention. Healthy, rested, people can resist infection better than others.

DOG OR ANIMAL BITE

SYMPTOMS—You are bitten by an animal.

CAUSES—A dog or other animal has bitten you; is it dangerous?

The first question is has the skin been broken? If the tissues have been merely squeezed, then the matter is of little importance. There may be soreness and a black-and-blue appearance, but it will soon disappear.

But if there has been penetration—an actual wound—then action must be taken. The animal may be perfectly healthy, but of that you cannot be certain.

The animal's teeth may cause the spores of tetanus germs to enter the body or the animal may be rabid. Such bites, if not promptly treated, can result in death.

TREATMENT—

• If you have been bitten, remove the animal's saliva from the wound by washing the area thoroughly with warm water, and then with soap and water. Rinse with plain water. Either catch the dog and confine it or know who the owner is. Notify health authorities, so they can observe the animal.

RABIES **(Hydrophobia)**

SYMPTOMS—Symptoms begin appearing within 1-4 months after the bite, but sometimes longer. They include numbness, soreness, and tingling where the bite occurred.

These sensations spread, and it becomes difficult to swallow, breathe, and talk.

Then more extensive muscle spasms begin, and the victim gradually becomes maniacal. The final stages are depression, exhaustion and sometimes paralysis, coma, and death.

If the symptoms of rabies have already begun to appear, the person will probably die.

See end of this article for symptoms in a rabid dog. Rabies can also be transmitted by the bite of infected bats, foxes, skunks, and other animals.

CAUSES AND TREATMENT—

• A backwoodsy nature doctor, who has treated all kinds of things with remarkable success, says to do this: Wash the wound with water right away and then mix with half and half vinegar and warm water, and wash the wounds with it. When dry, apply 1-2 drops of muriatic acid (hydrochloric acid) to each wound. Do this even if, what appears to be, a rabid dog only licks a previous wound on you.

• For extra precaution, you may apply a tourniquet and a rubber vacuum cup as for a snake bite If acid is not available, you may burn the wound with a magnifying glass in the sunlight. Or use a red-hot iron. Then treat as for a regular burn until it is healed. This treatment usually prevents further worry. So says this backwoodsman.

• Jethro Kloss has a lengthy article on this in his book, *Back to Eden* (pp. 490-495) He also says to put hydrochloric acid on the wound, to neutralize the rabies poison in the saliva. Then, after discussing a number of herbal remedies to also use, he quotes a scientific paper by an M. Buisson, read to the French Academy of Arts and Sciences. M. Buisson had accidentally contracted rabies from a women suffering with it. By the time he discovered he had it, the disease was advanced and he knew he was soon to die. Kloss quotes a London newspaper which reported on the scientific paper:

"Concluding from these various symptoms that he was suffering with hydrophobia, he [Buisson] resolved to make an end of himself by suffocating himself in a vapor [steam] bath. With this view, he raised the heat very, very, hot, but was delighted, no less than surprised, to find that all his pains disappeared. He went out of the bath completely cured, ate a hearty dinner, and drank more freely than was usual with him. He adds that he has treated more than fourscore persons who have been bitten by mad dogs in a similar manner, and they all recovered, with the exception of a child seven years old, who died in a vapour bath he was administering."*—Kloss, Back to Eden, p. 493.*

• Water therapists normally work with a steam bath temperature of 115^{o}-120^{o} F.

Kloss also quotes a German newspaper which discussed an incident which happened in Saxony:

• "A Saxon forester named Gastell, at the age of 82, unwilling to take to the grave with him a secret of so much importance, has made public in the *Leipsic Journal* the method which he used for fifty years, and he affirms he has rescued many human beings and cattle from the fearful death of hydrophobia. Wash the wound immediately with warm water and vinegar; let it dry, and then pour upon the wound a few drops of hydrochloric acid, and that will neutralize and destroy the poison of the saliva."—*Op. cit., p. 494.*

We included the above as a matter of historical interest. Now we return to modern physiologic and medical theory on rabies:

• Nearly all human rabies cases result from dog bites. The animal can transmit disease before it shows symptoms of rabies; but, except in rare instances, the symptoms will appear within 10 days if it is rabid. The disease is always fatal, unless it is halted by a series of Pasteur treatments, which are started before symptoms first appear.

• If at all possible, it is crucial to confine the animal which inflicted the bite so it can be observed. The course of the disease runs so fast that the animal should show symptoms of rabies before they begin to appear in the person. If the animal is rabid, it will show clear signs within 2 weeks, then the person bitten should begin the Pasteur series of rabies shots (unless circumstances are clear that the animal was not rabid).

• If the animal got away and cannot be found, then the person should immediately take the rabies vaccine series.

• If the series has already been started, and the animal is then found not to have rabies, the Pasteur treatments can be stopped.

• About 10%-12% of persons bitten by a known rabid animal, and not treated, will contract rabies and die. If the Pasteur series is started within 2 weeks or less after the bite, about one-third of 1% of those bitten will die.

• It is not widely known that rabies is sometimes transmitted accidentally in hospitals. Rabies in humans is sometimes misdiagnosed as a stroke. After death, some of that rabid tissue may be transplanted to another person.

• If your child's pet hamster bites him, do not think the child needs to start rabies shots. Know that, if you have had that hamster for 3 weeks or more and it shows no symptoms of rabies, the hamster does not have rabies.

• Rabies shots last 10 days and are so difficult to take that the person often goes to the hospital for respiratory support while they are in progress.

SYMPTOMS IN THE DOG—Initially, there is a marked change in its disposition. He will become very friendly or very snappy; the bark becomes hoarse.

Paralysis may soon develop—first the lower jaw, then the hind legs, and gradually the rest of the body.

But, instead, the dog wants to run away. It may run for miles, snapping at any creature which comes near it.

Finally, it becomes exhausted and paralysis sets in.

If a dog shows signs of rabies, it must be chained (not roped), and observed for 2 weeks.

TULAREMIA (Rabbit fever)

SYMPTOMS—The first indication is a local ulceration at the infection site. About 1-7 days after infection occurs, chills, headache, prostration, and general pains suddenly begin. The disease is characterized by high fever and recurring chills with drenching sweat. A shallow but ongoing ulcer develops at the site of the original wound or bite. Lymph glands draining that area become swollen and painful (but they should not be lanced!).

If not treated, the fever generally lasts 3-4 weeks, and generally is not fatal. But convalescence is slow. Physical and mental depression can last for months.

CAUSES—One cause is the bite of an animal, generally a rabbit. A more frequent cause today (87%) is cutting oneself while skinning and dressing infected rabbits or ground squirrels. Often these are wild rabbits.

If you notice the appearance of symptoms—and you have been working with rabbits, especially wild ones—then have the condition immediately diagnosed. Sputum samples are highly contagious, so the lab should be warned about your suspicions.

TREATMENT—Go to a physician.

CAT COCCIDIA (Toxoplasmosis)

SYMPTOMS—Symptoms can mimic the flu, cause headache, high fever, rash, swollen lymph nodes, meningitis, hepatitis, pneumonitis, myocarditis, blindness, and diarrhea.

If a pregnant woman contracts this disease, it will cause birth defects in the fetus (brain defects, blindness, and/or mental retardation).

CAUSES—Those who keep cats should be aware of this danger. Cat coccidia is caused by a tiny protozoa (Isospora bigemina) which lives in the intestines of cats. Apparently, it is in many cats!

This disease is acquired by inhaling or swallowing dust from contaminated kitty litter boxes or outdoor sand or dirt piles. But it can also come from eating rare beef. While that protozoa is in an intermediate stage, it is outside the cat's intestines—and can enter the human body.

TREATMENT—

• See a physician. Diagnosis is made from a positive blood test or skin test.

PREVENTION—Women should avoid cats just prior to, and during, pregnancy. They should only eat well-cooked meat. Better yet, stop eating it entirely, since many diseases are transmitted through eating meat, poultry, fish, and shellfish.

ALLERGIES

SYMPTOMS—*Digestive (after eating) symptoms:* Dry mouth, food intolerance, stomach ulcers, canker sores, excessive tiredness, palpitations, swelled stomach, sweating, mental fuzziness, stinging tongue, metallic taste, heartburn, indigestion, vomiting, nausea, diarrhea, constipation, food cravings, pains, intestinal gas, gall bladder trouble.

Muscular and skeletal symptoms: Arthritis; aches in neck, back, or shoulders; fatigue; spasms; joint pain.

Respiratory and throat symptoms: Cough, asthma, frequent colds, postnasal drip, wheezing, hay fever, nosebleeds, chest tightness, hoarseness, shortness of breath, dry or sore throat.

Nervous symptoms: Tachycardia (fast heart rate), palpitations, depression, anger, anxiety, confusion, irritability, hyperactivity, restlessness, learning and memory problems.

Skin symptoms: Blotches, acne, flushing, hives, dark circles under eyes, itching, eczema, psoriasis.

CAUSES—An allergy is a sensitivity to some particular substance, known as an allergen. It may be harmless to some while causing problems for others. The allergen may be a food, inhalant, or chemical. It may be smoke, molds, pollen, perfume, formalin, etc.

Causes vary widely: There can be urticaria (skin rash with itching) from fish or strawberries; paranoia from sugar; headaches from perfume; or asthma-like symptoms from sulfite (a preservative in sulphured raisins and apricots). The list goes on and on.

Mold is a special problem. It can be in the house, in the food, in the drugs (that is what the penicillin-type drugs are: mold!). Avoid dampness in, or around, your home.

It is estimated that 35 million Americans, alone, have some type of allergy.

Unfortunately, we live in the chemical age. The body cannot handle all the problem substances entering it, and it rebels.

TREATMENT—

• Take vitamin C to bowel tolerance (the amount you can take before diarrhea results from the acidity in the C).

• Take vitamin A and zinc, and be sure and get enough essential fatty acids and vitamin B complex.

• Eat a balanced, moderate, nutritious diet and drink enough water—and you will find that many things in your life will improve.

• Try a fruit and vegetable juice fast for 1-3 days. If you are not thin, repeat it every month.

• Here is a good liver flush to take during the fast: 1 teaspoon of olive oil, one-half teaspoon of fresh ginger, 1 teaspoon of fenugreek, 1 teaspoon of ground dandelion, the juice of 1 fresh lemon, and a pinch of cayenne. Mix it in juice and drink every morning during the fast.

• Building up the body and avoiding the offensive substances is what you want. Regarding the second, what should you avoid? The simplest solution is to do a pulse test. Include one test item in each meal; take your pulse after each meal, and see if that item raised your pulse a little. Some people are disturbed each time they ride in a car. Keep searching for causes.

Here are other ways to have avoidance:

• Vacuum the house and car more often. Air-condition the house and car. Install an air cleaner in your bedroom or get one which connects to your central air conditioner. Buy a dehumidifier.

• Wrap your bedding in plastic. Use a synthetic pillow or none at all. Wash mattress pads more often.

• Get rid of the old carpets, clean the floors, and either install new carpets or stop using them. Use throw rugs instead.

• Clean damp areas in your home, such as under the sink and around the bathtub.

• If you have animals in the house, keep them clean, well groomed and healthy. Frequently change cages or wash their bedding. Animals are not involved in allergy as frequently as people think. They seem to be the 'allergy scapegoats'.

If you have absolute unmistakable evidence that a pet is the source of an allergy, try bathing it and keeping it well groomed. If this fails, be sure to find a good home for the pet. It is a living thing also and its needs should be respected. As a child with asthma I several times suffered having my pets taken from me when I would go to certain 'allergy specialists'- it never helped my asthma- and it sure didn't help my emotional development! (temcat edit)

• Set aside one room which you keep air-filtered.

 # PULSE TEST, HOW TO DO

WHAT IT IS—The Pulse Test is mentioned in this book occasionally. It was devised by Arthur Coca, M.D., and is discussed in detail in his book, *The Pulse Test.* It is a simple home method, to determine which foods you are allergic to.

HOW TO DO THE PULSE TEST—Identifying specific food allergens can improve your health. Each test is simple enough, but they must be continued over a period of time.

First, how do you take your pulse? Place your finger on an artery somewhere on your body that you can easily feel. Nurses check the pulse at the inside of the wrist. The author has found that it is much easier to check it on the upper front side of his neck, at the carotid artery. Have a stopwatch in your other hand and time the beats for one minute.

To perform this test, you take your pulse. This is called your basal pulse or base pulse rate.

Then you eat a single food, and check your pulse rate in 15, 30, and 60 minutes afterward.

An elevation in pulse rate of more than ten beats; that is, it beats more than 10 beats faster per minute than your base pulse. This means that you are allergic to that food.

A problem is that you may wish to eat more than one food at a time. You can take your base pulse, then sit down and eat your entire meal and keep checking your pulse 15, 30, and 60 minutes after you finished. In this way you will obtain an inkling that everything was all right at that meal or that something was wrong. Gradually, over a period of time, you can narrow it down, and then work on specific foods. Eating only one at a time and checking your pulse on those.

OTHER TESTS—Here are several other tests:

The Elimination Diet: Eliminate certain foods from your meal for several days, and see how it affects your pulse. This is a good pattern to use in connection with the Pulse Test.

Food Rotation Diets: This is said to be a good method. Grains, proteins, and other suspected foods are arranged in the diet so that their consumption is not repeated more frequently than every 4-5 days. This helps you figure things out a little more quickly with your pulse test.

The Fast Test: Fast for five days and then add individual foods and test each one with your pulse. This is far more accurate, but who wants to eat like a mouse all that time? The theory behind this method is that many reactions take 5 days to settle down and another 3-5 days to begin again. But following that theory, you will not be eating much for a good long time.

Skin Patch Test: This is something you can buy at your drugstore. Perhaps it will tell you something.

The Diet Diary: This method helps when offending foods seem to afterward bother you emotionally, give you headaches, etc. You keep an ongoing meal diary, at which you note what you ate, and afterward write down how it affected you. Within minutes or hours after eating an offending food, there may be indications of problems.

The RAST Test—This test costs about $15 per food item, and you may want to use it, after narrowing the range with the other tests. The Radioallergiabsorbent Test (RAST Test) identifies specific antibodies in the blood to certain foods or other substances. Usually common allergenic foods, such as wheat, milk, eggs, yeast, and citrus are tested. But any food can be a problem. Most good laboratories do RAST tests. However, because it is extremely selective (only showing up positive Ige-mediated allergies), many false-negative reactions occur.

The Cytotoxic Allergy Test: This test exposes some of your white blood cells to a fraction of the suspected food or substance. A battery of 38 to 40 tests of common foods are routinely tested for only $80 to $90, so it is less expensive and more convenient than RAST. Even inhalants, food dyes, or other chemicals can be tested! But the test is only done at large medical centers; and, again, many false-positives occur. Some experts question the reliability of this test, since human interpretation is required to analyze the results.

Unfortunately, results of RAST and the cytotoxic tests rarely agree. (It is said that each test locates different "systems" of allergies.) Frankly, it seems that you would do best just checking your pulse at home, and saving the money.

Once you have identified specific allergenic foods, you then eliminate them from your diet.

HAY FEVER (Allergic Rhinitis)

SYMPTOMS—Itching in the nose, throat, and eyes. Runny or stuffy nose, headaches, pain in the head and sinuses, blurred vision, red and itchy eyes, postnasal drip. A clear, watery, discharge from the nose and eyes occurs. There is sneezing and nervous irritability.

CAUSES—Hay fever is most frequently caused by breathing in plant pollens. (Ragweed and grass pollen are the worst offenders.) The problem tends to be seasonal (spring or fall), according to plant cycles. But some may have to suffer with it all year long if they are sensitive to dust, feathers, or animal danders. Such people are said to have perennial allergic rhinitis.

Hay fever is a reaction of the mucous membranes of the eyes, nose, and air passages to such seasonal pollens, as well as to dust, feathers, animal hair, and other irritants.

Dry, windy, days; riding in an open car; and working in the garden sometimes increase symptoms.

Morning and evening hours are the most uncomfortable. Midday may be better.

Stressful situations and alcoholic beverages can trigger an attack.

Anger, resentment, or negative thoughts can increase the symptoms.

Hay fever sufferers frequently also have asthma and dermatitis.

The body is trying to clean out toxins and dust. If the diet is not nutritious; if the person is eating too much or eating foods, such as milk, ice cream, sugar, and white-flour products, the overloaded system cannot deal properly with the additional task of resisting the effects of airborne pollens.

TREATMENT—

• The most effective treatment is to avoid the irritant.

• Vitamin C in large doses of 200 mg or more daily greatly helps many with this problem.

• Vitamin A is essential for proper functioning of the respiratory system. The B complex (especially B_6 and B_{12}) help the body produce interferon, to protect the body against allergens.

• Calcium, magnesium, potassium, selenium, and zinc are also important.

• Be sure and eat green leafy vegetables. Stay on a high-fiber diet.

• Try eating unprocessed, raw, honey. It is rich in pollen.

• Water helps flush out the system. Be sure you are drinking enough.

• Because it firms up blood vessels throughout the body, exercise decreases nasal stuffiness.

• A hot footbath helps relieve nasal congestion.

• Consider these possibilities: Cold cloths wrung from ice water applied to the forehead greatly help. Change as soon as they warm up. Relief comes in about 45 minutes, but continue it for 3 hours. Then intermittently for 6 hours. In some, this treatment has stopped attacks for the season.

• Build up the immune system, and clean the blood and colon. Healthy sinuses have moist mucous membranes similar to the skin in the mouth. They are able to wash pollen and other irritants out of the nasal cavities and down the throat into the stomach, where they are neutralized.

• Guard against chilling. It constricts blood vessels in the skin, driving blood elsewhere—including the nasal cavities. This causes a swelling in the sinuses, which makes the symptoms worse.

• Fenugreek helps eliminate hard mucous from the body. Garlic kills bacteria. Goldenseal helps clear out toxins from the digestive tract.

• Cover mattress and pillows with plastic. Avoid wool bedding or furniture stuffed with horsehair.

• If you have animals in the house, keep them clean, well groomed and healthy. Frequently change cages or wash their bedding. (temcat edit)

FOOD POISONING

SYMPTOMS—Pain, vomiting, cramping, weakness, diarrhea, dizziness.

Symptoms occur quickly, 1-4 hours after eating the contaminated substance. They can last for a few hours or a few days.

Salmonella symptoms: pain, vomiting, and diarrhea can require several days to appear.

Staphylococcus aureus symptoms: diarrhea, nausea, and vomiting 2-6 hours after the meal. It is good to induce vomiting, to help rid the system of toxins.

Botulism symptoms: 12-48 hours after ingestion, symptoms appear. Extreme weakness, double vision, swallowing difficulty. Paralysis and death can follow.

Giardia symptoms: Constipation, diarrhea, abdominal pain, loss of appetite, nausea, flatulence, and vomiting.

CAUSES—Eating food containing harmful bacteria causes food poisoning. Each year more than 2 million Americans report food poisoning. Of course, the actual number is far higher. Unfortunately, we live in a poisoned age. About 2 million Americans report food poisoning each year; of that number, 9,000 people die each year. A far greater number have food poisoning, who think it is the flu.

A full 90% of botulism cases in the United States are caused by improper home canning. The safest method is to cook the jarred food in a pressure cooker rather than in a tub on top of the stove.

Two-thirds of all food poisoning cases were related to the use of poorly cooked eggs.

The types of bacteria in food which cause disease (pathogenic) or produce toxins (toxigenic) cannot be seen, tasted, or smelled in the food.

Here are the most common of these food poisoning organisms:

Salmonella (Salmonellosis): This is the most common cause of food poisoning. It has especially increased since antibiotics began being placed in animal feeds, to prevent disease in crowded, unsanitary, conditions and help them grow faster. (More than 50% of cattle, poultry, and swine are now given antibiotics.) But, doing this, promoted the growth of antibiotic-resistant bacteria in animal intestines. A third of all chickens in America have salmonella.

Salmonella is easily transmitted on hands, food supplies, knives, table tops, cracked eggs, partly raw food, etc. Mechanical methods of evisceration in slaughterhouses also spread salmonella to all the other birds being slaughtered. Cooks that handle raw meat or eggs, and then handle other food—especially raw food, such as salads—endanger many people. Vegetarians should wash their hands with soap, immediately after handling raw egg shells. Cook eggs well. (Beware of mayonnaise; it contains raw eggs.) Milk and ice cream can also be contaminated with salmonella. In 1985, 17,000 people in the northeast became ill from contaminated milk.

Outbreaks of salmonella poisoning primarily occur in the warmer months. Symptoms range from mild abdominal pain to severe diarrhea, and even typhoid-like fever. This

disease can so weaken the immune system that the kidneys, heart, and blood vessels are damaged. Arthritis can result.

Eating raw or poorly cooked chicken, eggs, beef, and pork products is the main way salmonella is eaten. But it can also be found in clams and oysters.

Of 35 food poisoning outbreaks reported between 1985 to 1987, 24 were caused by contaminated eggs, or foods containing them. Boil eggs for at least 25 minutes.

We will briefly note some other sources of food-borne illness:

Staphylococcus aureus: This is said to be the second-largest source of food poisoning (25%). This can be transmitted by coughing and sneezing on food.

Clostridium botulinum: This is old-fashioned botulism. Many restaurants and roadhouses leave food setting out at room temperature for hours. This can also be found in old mustard and other sauce jars. Although easily destroyed by cold or heat, botulism is the most deadly of all the food-borne diseases. It produces toxins which block nerve impulses to the muscles.

Heating food to 176^{o} F. for 20 minutes or 194^{o} F. for 10 minutes destroys the spores. Home-canned food, not properly cooked, can be dangerous. Never use contents of a bulging can or a rusty can! It is found in canned vegetables, meats, fish, mushrooms, and soups.

Giardia (giardiasis): This is found in drinking water from lakes and streams. It is not destroyed by water treatment, including chlorination. It can also be found in raw food which has grown in contaminated water. Giardia grows best where it is cool and damp.

Four other sources of food poisoning should be mentioned: *Staphylococcus, complobacter jejuini, campylobacteriosis,* and *clostridium perfringens.*

Each of these comes primarily from eating meat, and sometimes dairy products.

Before concluding, keep in mind trichinae *(trichinella),* which is found in pork. Also beware of mold found on food; it can produce poisonous toxins. Do not eat potato sprouts; they have concentrated *solanine* which can cause hallucinations even after recovery.

TREATMENT—

• As soon as you believe you have food poisoning, take a eyedropperful of alcohol-free goldenseal extract every 4 hours for 24 hours. This natural antibiotic will destroy bacteria in the intestinal tract. (But never take goldenseal for more than a week at a time, during pregnancy, or if you are allergic to ragweed.)

• Take 6 charcoal tablets immediately, and again in 6 hours. They will help neutralize poisons in your bloodstream. Drink lots of good water (distilled is best).

• Telephone your regional Poison Control Center. There is a different phone number for each state. Dial the operator (0) or emergency (911) and ask for that number in your state.

• Use enemas to clean out the colon.

• Someone should help the one vomiting, so he does not choke. If he does not stop vomiting within 24 hours, collect samples for analysis, to identify the poison.

• Sometimes it is best to induce vomiting. Lobelia will help or drinking water and putting a finger down the throat.

• If food poisoning may have occurred in a restaurant or roadhouse, contact the health department.

• If the condition continues, contact a physician.

• Research at the University of Wolverhamptom, in Britain, disclosed that all types of disease-producing intestinal bacteria died when garlic was present.

• A severe headache and vomiting soon after a meal may be caused by food allergies which see. Charcoal tablets will help solve that problem.

PREVENTION—It is best to stop eating meat and dairy products or, if you do, be sure they are most thoroughly cooked. Check home-canned jars carefully before opening them. Beware of restaurants, roadhouses, and salad bars. When eating out, you eat at your own risk. To help protect you, eat 2 garlic tablets before you eat anything else. Better yet, pack bag lunches and learn to buy what you need at a grocery store.

Refrigerate food you buy as soon as you can. Keep perishables refrigerated. Keep food hot or cold; food left at room temperature encourages bacterial growth. Keep the refrigerator set at 40^{o} F. or below, and the freezer set at 0^{o} F. or below.

Meat, poultry, eggs, and seafood are especially dangerous. They must be cooked thoroughly and hands washed; all utensils touching the raw materials must be sterilized. Do not use recipes calling for raw eggs which will remain raw or be inadequately cooked. Do not leave mayonnaises, salad dressings, and milk products sitting out at room temperature. Be especially careful at picnics.

Wash kitchen towels and sponges daily with a 1-20 bleach and water solution.

Do not use bulging cans or products with loose lids or cracked jars! Rusted, sticky, or bent cans should be discarded. Wash lunch boxes and Thermos bottles after each use.

Thaw all frozen foods in the refrigerator.

When reheating food, bring it to a quick boil, and cook it for a minimum of 4 minutes.

Do not give honey to a young baby below the age of one. Fed by the honey, botulism spores will grow in the infant's intestine, producing botulism toxin.

POISON IVY (Poison Oak; Poison Sumac)

SYMPTOMS—*In those only slightly sensitive to it:* One or more small round bumps with a slight pus area showing in the center. Each one is extremely itchy. It is slightly itchy until touched by something (clothing, a hand, etc.), when it suddenly becomes intensely itchy. Scratching brings momentary relief, but causes redness, rash, and more itching.

In those who are very sensitive to it: Extreme redness, rash, and large swelling of the affected area. The itch is continuous. Many large blisters develop. As the poison is spread over other parts of the body, both fever and secondary infection may develop.

Symptoms appear within a few hours to 7 days after contact with the plant.

CAUSES—The three poison plants in North America (poison oak, ivy, and sumac) contain a oily, slightly sticky, sap in the flowers, fruit, stem, bark; and roots which, when touched, produces a contact papular dermatitis on the skin. The plant has the greatest amount of this sap in the spring and early summer. The poison is *urushiol*, which has both a plant resin and a volatile oil. Even dead roots and stems contain urushiol.

Scratching can transmit the toxic substance to still other parts of the body.

Contact with the poison can be made, not only by touching the plant, but by touching an animal's fur, contaminated clothing, shoes, etc. Smoke from burning plants can, through droplets, transmit it to the skin, nose, throat, or lungs. In some cases, children have eaten the leaves or grayish berries and developed severe inflammation in the mouth.

Sensitivity to the plant varies from person to person, and even in different times in a person's life. Lightweight fabrics do not adequately protect against poison ivy or oak.

TREATMENT—

• If the possibility exists that you may have touched it, wash your hands as soon as possible. Carefully wash downward, so the water drips down off your hands rather than up your arms. Wash with soap and water; rinse in running water; wash again with soap and water. Do this several times in order to get the toxic oils off your skin. Then dry and see what happens.

• As soon as you touch the plant, try to wash the skin with water, even if no soap is available. The water tends to carry off the oil. If nothing else is available, in an emergency apply paint thinner, ammonia, or acetone to carry off the oils.

• Yellow laundry soap is best for this purpose. You want a strong cleansing soap which cuts oil and carries it away. An alkaline laundry soap or detergent is the best.

• In washing the skin, never use a washcloth; it only moves the toxic oil around.

• Wash clothing and gear in soapy water.

• Those slightly sensitive to the plant can simply avoid touching or scratching the pimples, and the itching will be only slightly noticed. If they wish, they can briefly apply compresses of hot, plain, water to the area.

• Those strongly sensitive may wish to consult a physician.

• Keep in mind that, for most people, the treatment for urushiol is to reduce the itching until the poison eventually leaves the system, at which time the rash completely clears up.

What should you put on the affected area to reduce the itching? Here are several suggestions:

• Jewelweed always ranks at the top of every list. This is a small plant with dark green leaves and red berries, which may be found in your locality. If you are sure it is jewelweed (and if you can find it), crush the leaves and rub them lightly on the affected area. Another method is to ball up the whole plant and wipe it over the area.

• Other herbs include bloodroot, echinacea, goldenseal, lobelia, myrrh, plantain, or Solomon's seal.

• Another method is to apply a tea made of 50-50 white oak bark and lime water. Place it on a cloth, cover the area, and reapply as often as needed.

• Most poisons are either strongly acid or alkaline in pH. *For an alkaline antidote to the itching*, place some form of calcium powder, mixed with water to hold it in place, on the area. Calcium gluconate (a dietary calcium supplement) is what the author uses. It nicely reduces the itching. An alternate alkaline method is to blend oatmeal into a fine powder, and add a small amount of water to make a paste. Goldenseal, a very alkaline substance, can also be used. Banana peels, rubbed directly on the area, bring relief for as long as 4 hours. Another way is to place calamine lotion on it (but beware of the antihistamine additives in some brands of it; they can produce their own allergic rash). White shoe polish (which contains calcium and pipe clay) has also been used, but it may contain additives you do not want.

• *There is also an acid approach to the problem!* Acid substances have also been used with success, to reduce itching: Wash lemon juice over the area, then pat dry. Repeat as needed. Vinegar can be used.

• Wet dressings and soaks are helpful. A physiologic saline solution (2 level teaspoons of salt to a quart of water) is useful.

• Run hot water (as hot as can be tolerated) over the area. This seems to wash off some of the oils. Itching may stop for several hours. Repeat when needed.

• When you are finished working on the affected area, you might wish to wash rubbing alcohol over the skin exposed to that area. This washes oils off your skin. (But this would appear to be a poor solution, since the oiless skin ought to have a higher affinity to the urushiol than oiled skin.)

Learn to identify the plant:

• Poison ivy is a small plant which, when a bush or tree is nearby, grows as a vine up it. Growing in the eastern states, it has three leaves with a notch in the two outer ones. The central leaf is at the end of the stalk.

• Poison oak is a bush, generally small but which can grow taller than a man. Growing in the western states, it has the same three leaf and notch pattern, but the leaves are curly and appear thicker—more like a live oak.

• Poison sumac is also a bush, and, with its compound leaves, looks very much like other sumac. It does not have the three-leaf pattern. You are less likely to ever encounter poison sumac.

• Avoid forest or other outdoor wood or leaf fires, if one of the three toxic plants may be burning

Infestations

WORMS

SYMPTOMS—Allergies, diarrhea, constipation, gas and bloating, appetite loss, weight loss, anemia, nervousness, sleep disturbances, irritable bowels, anal itching, chronic fatigue, picking at the nose, dry cough, teeth grinding, and the appearance of worms in the toilet. Worms sometimes causes spasms or convulsions.

CAUSES—Worms live in the gastrointestinal tract or burrow from that tract into the muscles.

There are several types of parasitic worms which can live in human intestines, including tapeworms, hookworms, pinworms, whipworms, and roundworms.

The degree of infestation is determined, upon examination, by the type, size, and number of worms found.

Worms tend to eat your food! They irritate your intestinal lining, and reduce even more the amount of nutrients which are absorbed into your bloodstream. The worms also produce toxic waste which is harmful to your body.

Causes include eating raw or poorly cooked meat; eating vegetation, polluted by contaminated water; improper disposal of animal and human waste; and walking barefoot on soil. Scratching the anus will transfer worm eggs on your fingers to anything else you touch.

Pinworms: Very tiny white worms, which cause rectal itching at night. Contracted by eating raw or poorly cooked vegetables which have contacted contaminated water. Scratching the anal area can also transmit them on the fingers.

Tapeworms: Flat worms contracted from eating poorly cooked meat (beef, pork, and fish). The most common one (beef tapeworm) can grow to 20 feet in length in the human intestine.

Hookworms: Found in southern soil and sand, they enter by boring into the feet, but can also enter when eating with unwashed hands.

Roundworms: Most common in children, they bore through the intestinal wall and settle in other organs.

Because of the warmth of the bed, worms tend to come out of the anus. So inspect that area on children after they are asleep.

Worm infestation can lead to arthritis, colitis, fatigue, diabetes, headaches, indigestion, lupus, nausea, sinus trouble, back and neck pain, and cancer.

TREATMENT—

Here are suggestions for purging worms from the body:

• Aloe vera, taken in any form, is especially helpful in eliminating worms.

• The following herbs help expel worms: cascara sagrada, wormwood, echinacea, goldenseal, burdock, and black walnut. Do not use wormwood during pregnancy.

• Grapefruit tea extract helps destroy parasites. Eat black walnut extract, pumpkin seeds, fig juice or figs, and chaparral tea or tablets.

• Take diatomaceous earth capsules for 3 weeks, to get rid of your worms. (Do not imagine you do not have some; everyone generally does.) The worm eats this, and it causes them to disintegrate.

• Clean the colon with enemas and colonics. Take 2 per week for 4 weeks.

• A hot water enema, with 3 teaspoons of salt to a quart of water, may get rid of pinworms.

• Eat a diet high in fiber, primarily from raw vegetables and whole grains.

• For a time, avoid *all* sugar foods, including fruits, with the exception of figs and pineapples.

• Eat figs and pumpkin seeds. This can be combined with black walnuts.

• Eat garlic, onions, cabbage, and carrots. They contain natural sulphur which helps expel worms. As you might expect, worms do not like garlic.

• Make sure you are obtaining enough water. Drink only pure water (distilled).

• To eliminate pinworms: Eat 1-2 bitter melons each day for 7-10 days. It is available in Asian markets.

• To eliminate tapeworms: Fast 3 days on raw pineapple. The bromelain in it destroys those worms.

• Drink one cup of wormwood tea three times daily between meals.

• Cut up two raw onions and soak them 12 hours in 1 pint water; strain while squeezing out the juice. Drink a cup of this 3 times a day. Along with this, use garlic enemas.

• Powdered tansy, balmony, bitterroot, and wormwood can be put in capsules. Take two capsules 4 times a day.

• For children, crush garlic in milk and drink it throughout the day. Use a garlic enema every morning.

• For children, make senna tea, strain it, add enough raisins to soak up the tea. Give the children a teaspoon of raisins 2-5 times a day. Use garlic enemas, and put a garlic clove up the rectum before bedtime.

Here are other precautionary measures which should be taken:

• Eat a nourishing diet, rich in vitamins and minerals. You need all the good nourishment you can get. The worms are robbing you of so much.

• Make sure your children, if they have worms, are getting adequate nutrition.

• Do not eat sugar and junk food.

• Never eat watercress. It grows in streams, many of which are now polluted. Watercress, which is eaten raw as a salad, can have pinworms and tapeworms on it.

• Do not eat raw or partly cooked fish, beef, or pork.

• Wash vegetables thoroughly before eating them raw.

• Wash all underclothing, bed clothes, and sheets frequently in hot water.

• Have all family members wash their hands frequently, especially after using the toilet, before meals, and bedtime. Do not bite nails.

• Clean rooms frequently, especially bedrooms. Put some ammonia on a cloth, to dampen it as a dustcloth.

• Sterilize toilet seats. The infected person should sleep alone.

FUNGUS GROWTH

SYMPTOMS—A peculiar tiny growth on various parts of the body. It appears to be moist red patches. In the vagina, it produces a cheesy discharge.

CAUSES—This substance is fungus, which is also called yeast or mold. It can grow under the nails, causing them to become raised and misshapen

Causes include a depressed immune function, taking antibiotics, or having the body damp too much of the time. Those especially affected are those who have a depressed immune function; perspire heavily; live in a damp environment; eat improperly; are obese, ill, diabetic, or use oral contraceptives.

TREATMENT—

• Eat a nutritious diet, supplemented with vitamins and minerals.

• Avoid mucous-forming foods (milk and white- flour products). Do not eat meat or processed foods.

• Keep body parts clean and dry.

• Apply crushed garlic to the affected area on the outside of the body, alternating with honey.

• Another formula for fungal infections of any kind is tea (te or tee) tree oil. Place some on the affected area for 2-3 weeks and the problem may be eliminated. Tea tree oil smells like eucalyptus, and also comes from Australia.

• *Fungus under the nails:* This is a special problem, and quite difficult to solve. It may take six months of careful work before results begin to be seen. The fungus is generally under one or more toenails, and causes them to warp out of shape.

• Potassium permanganate is the remedy used on this for decades. This is poison, yet used externally, it seems to be one of the best solutions to the problem. Permanganate is a powerful fungus killer! And fungus under the nails demands something very special. The permanganate also stains the skin dark brown, so after soaking your toes or feet in the solution, they will not look very pretty. Formula: Soak the feet for half an hour in a warm 1:5,000 solution of potassium permanganate. Dry the feet thoroughly after use. This is the same formula for athlete's foot, which is a similar fungal foot disease.

• If you need to prepare this solution at home, you dissolve a slightly rounded teaspoon of the crystals in 8 ounces of water. Keep it in a dark-colored glass bottle. A teaspoon of this saturated solution in a pint of water makes a solution of about 1:1,500 strength; a teaspoon in a quart of water makes one of about 1:3,000 strength. With this information, you will be able to prepare about any strength you might need.

• The above is one of the few powerful poisons mentioned in this book. Do not let a child drink it!

TETANUS (Lockjaw)

SYMPTOMS—Symptoms generally appear within 5-10 days. Possible discomfort at the site of the wound. Stiffness on opening and closing the mouth, and the person becomes restless and apprehensive. Muscle stiffness and spasms increase and spread to more muscles in the body. The face becomes contorted, and the slightest noise or disturbance produces muscle spasms. Pain intensifies, high fever and exhaustion develops, followed by death.

CAUSES—Tetanus is caused by the toxin (waste product) of *clostridium tetani*, which normally lives in animal manure.

Puncture wounds from stepping on dirty nails is the most likely immediate cause. The germ only grows where there is little or no oxygen. The spores (seeds) were on that nail and, entering the body, begin to grow and multiply. But the spores must penetrate deep enough; they cannot grow if oxygen is present. It is the toxin that the growing tetanus produces, which paralyzes voluntary muscle tissue, including the jaw muscle (the masseter).

Tetanus is not common; but, if contracted, it is extremely dangerous.

TREATMENT—

• Squeeze the puncture wound repeatedly to make it bleed. Keep doing this until it bleeds freely. If necessary, cut the area open with a clean, sharp, razor blade. You must get air to the wound and get it to bleed freely.

• Then wash it well with soap and water; pour in hydrogen peroxide and let it fizz. Get the blood flowing again. Then wash the area with pure water, pat dry with a sterile cloth, and cover with a bandage.

• Call a physician. If symptoms of tetanus begin appearing, call a physician at once! It is not too late.

Here is what nature healers in out-of-the-way places do, when there are no physicians available:

• Take cramp bark tea in teaspoon doses.

• Grind up some peach leaves and apply directly to the wound after washing it. Change this raw poultice twice a day.

• Heat some turpentine and apply to the wound; massage it over the jaw, neck, and spine when symptoms of lockjaw are suspected.

• Use 2 cups of wood ashes per gallon of water, and soak the limb or punctured part in it. If the wound is located where it cannot be soaked, apply the ash solution in a fomentation. Do this for an hour, and repeat if danger is suspected.

• If lockjaw actually appears and the person shows stiffening, give 10 drops of antispasmodic tincture every 15 minutes until the stiffening is gone.

The formula for the tincture is as follows:

• Into a large-mouth, glass, quart jar, put 1 ounce each of the following herbs (they should be in ground form or you should grind them first): skullcap, skunk cabbage root or seed, gum myrrh, lobelia seed (or plant if seed is not obtainable), and black cohosh root. Mix them in the jar while dry, and add one pint of pure grain alcohol of 70 to 100 proof; 80 proof Vodka works well. Let this stand for 10-14 days, tightly covered, and shaken well once a day. Then strain it through a very fine cloth and squeeze out all the sediment you can. Keep the tincture in a tightly covered jar. Put some into a small dropper bottle. It is taken internally in 8-10 drop doses.

• In addition to the above, also give the person lobelia and cayenne. Prepare it by boiling a quart of water, take it off the stove, and put a teaspoon lobelia powder and a teaspoon ground cayenne into the water. Let it stand 20 minutes and drink ¼ cup every half hour till relieved.

PARROT FEVER (Ornithosis)

SYMPTOMS—Weakness, fever, chills, and loss of appetite. Dry coughing changes into sputum coughing.

CAUSES—The primary cause is inhaling the contaminated dust from the feathers, cage bedding, or feces of infected birds. These birds can include parrots, parakeets, lovebirds, canaries, or pigeons. Think especially twice about keeping a parrot or pigeon. But there is danger with the other birds also.

The disease gives the appearance of an "atypical (unusual type of) pneumonia.

TREATMENT—

• Call a physician. Strict bed rest while he is receiving treatment.

• If left untreated, parrot fever can be fatal.

Poisoning

POISONING

SYMPTOMS—Something was swallowed, smelled, or touched that caused the person to be poisoned.

CAUSES—We live in the Chemical Age, and it is taking us down rapidly. Sometimes the ongoing poisoning becomes especially serious.

Children are especially sensitive, because they are even less careful than the rest of us.

The cause may be medicinal and street drugs, batteries, cosmetics, paints and varnishes, pesticides, cleaning supplies, cosmetics, workplace chemicals, various gases, etc.

TREATMENT—

• Contact your nearest Poison Control Center and describe the situation to them. Have labels of the product at hand. Every state and many large cities in America and Canada have their own PCC phone number. There is no nationwide number. Telephone the operator (0) or emergency (911), and they can direct you to your nearest Poison Control Center.

• Many poisons are strong acids or strong alkalies. In such cases, the antidote will have the opposite pH. But the PCC will know what the antidote should be. The PCC will have even better data on the substance than will be found on the label of the product. Then contact a physician.

• If the poison is on the outside of the body, flush with plenty of water. If inside, follow directions on the label if no other information is available.

• Many poisons can be counteracted by taking an emetic to cause vomiting. (In the case of certain caustic poisons, vomiting is not the best.) Put a teaspoon of salt in 2 cups of warm water and drink it quickly. This will usually produce vomiting. Repeat a second or third time if necessary. Tickle the throat with a finger. After vomiting has occurred, induce more vomiting.

• If the person has swallowed a caustic acid, swallow soda, chalk, lime water, milk, or vegetable oil first to neutralize the acid in the stomach; then induce vomiting.

• If the person has swallowed a strong alkali, then first neutralize it with lemon or vinegar.

• Swallow lots of powdered charcoal in water.

• After swallowing the powdered charcoal, to help heal the stomach, drink a tea of white oak bark, alfalfa, oregano, or sweet basil.

• If bits of glass from a broken bottle got into the food and some was swallowed, eat lots of soft bread. This sticky dough will tend to wrap around the glass and may help carry it safely through the intestines.

• Cleanse the body; eat nutritious food. Include lots of fiber, including pectin in apples; this helps discharge metals from the body. Have a hair analysis made. It will tell you how much you have. Whole grains are all high in fiber. A urine analysis can also identify the metal excess or deficiency.

• Vitamin A helps the body discharge poisons. Deficiency of vitamin A can cause lesions from radiation, antibiotics, and metal poisoning. The B complex vitamins protects the nervous system and help the liver detoxify the blood. Deficiencies of vitamin B_6 suppress the immune system. Vitamin E is an antioxidant and prevents free-radical damage. Calcium and magnesium are natural chelating minerals. Selenium enhances the functions of vitamin E. Zinc is a free-radical inhibitor, and helps utilize vitamin A.

• Herbs which help counteract metal poisoning include Burdock, alfalfa, chaparral, dandelion, echinacea, fennel, garlic, juniper, kelp, lobelia, and cayenne.

• Eat eggs, onions, beans, legumes, and garlic to obtain sulfur to counteract the arsenic. It helps to eliminate the arsenic. But do not take inorganic sulfur into the body! It will produce boils. Only drink distilled water. Drink plenty of fruit and vegetable juices.

CHEMICAL POISONING

SYMPTOMS AND DISEASE—A remarkable variety of symptoms can occur, among which the following are common: stuffy nose, watery eyes, diarrhea, ringing in the ears, nausea, upset stomach, eczema, depression, headache, fatigue, bronchitis, asthma, and arthritis.

WHERE FOUND—We live in a chemical age. These chemicals are in the air, water, earth, food, and drink. We find them in the materials, surfaces, and fabrics in our lives. It is impossible to escape from them, but knowledge and care can reduce the rate at which these hazards cause us harm.

Metals, such as mercury, chrome, nickel, and beryllium produce skin rashes. Aluminum is the primary cause of Alzheimer's disease.

• Lead causes anemia.

• Dental fillings containing mercury can poison the system.

• Herbicides, pesticides, insecticides, fungicides, fumigants, and fertilizers seep into the soil, ground, water, and wells.

• These poisons are taken up by the plants which animals, birds, and humans eat; it passes on into milk, eggs, meat. The toxic substances are in the fruit and vegetables we eat.

• There are food preservatives and additives. There are artificial colorings, flavorings, and odors. These come from coal tar and lead to cancer.

• Waxes are on the fruit, and added sprays are on the vegetables. There are ripening agents and defoliant chemicals.

• There are toxic fumes, dangerous chemicals, and radioactive wastes. The rivers and lakes are polluted with poisonous runoff.

• There are hair sprays, treated bedding, animal hair products, paint formulas, and exotic cleaning formulas.

• There is benzene from solvents, styrene from plastics, and formaldehyde from pressed-wood products.

• Smoke arises from cigarettes, cigars, and burning forest fires.

• We hardly have time to worry about old-fashioned dust, molds, parasites, and diseases. We now live amid an onslaught of chemicals and radiation.

ALUMINUM POISONING

SYMPTOMS AND DISEASES—Many symptoms are similar to those of Alzheimer;s disease and Osteoporosis

Other symptoms include gastrointestinal problems, colic, rickets, extreme nervousness, headache, anemia, poor kidney and liver function, speech disturbances, memory loss, weak and aching muscles, and softening of bones.

It is believed, by many, that Alzheimer's disease is caused by aluminum poisoning. Aluminum was little used until the 1940s, when an inexpensive method was found to extract it from Bauxite by running an electric current through that ore. Since then, Alzheimer's has rapidly increased.

An excess of either aluminum or silicon in the body results in reduced absorption of calcium and other minerals. Aluminum salts in the brain produces impaired mental abilities and seizures. The autopsied brains of Alzheimer's patients had four times as much aluminum as did those of other people.

Aluminum also damages the kidneys which try to excrete it from the body.

WHERE FOUND—Aluminum pots, pans, and other cookware. Aluminum foil, antiperspirants, deodorants, bleached flour, regular table salt, tobacco smoke, processed cheese, cream of tartar, douches, canned goods, baking powder, antacids, buffered aspirin, and most city water. Processed cheese is high in it, for the aluminum helps it melt when heated. Never use aluminum (or copper) cookware! Use stainless steel or glass whenever possible.

SOLUTIONS—Read labels and use nothing containing aluminum. Avoid aluminum sources and environments.

Drink plenty of fruit and vegetable juices.

ARSENIC POISONING

SYMPTOMS AND DISEASE—Confusion, headaches, drowsiness, convulsions, vomiting, muscle cramps, diarrhea, bloody urine, and gastrointestinal problems. Alopecia, constipation, delayed healing of skin problems, edema, burning and tingling, and stomatitis. The lungs, skin, and liver are primarily affected.

WHERE FOUND—Herbicides, slug poisons, pesticides, beer, water, table salt, seafood, tobacco smoke, laundry aids, smog, dolomite, and bone meal. Copper smelting, mining shafts, sheep dipping.

SOLUTIONS—Read labels and use nothing containing arsenic. Avoid arsenic sources and environments.

CADMIUM POISONING

SYMPTOMS AND DISEASE—Anemia; joint soreness; hair loss; dry, scaly skin; dulled sense of smell; high blood pressure; loss of appetite. It can lead to emphysema and cancer.

Cadmium is a trace metal; but it is poisonous and weakens the immune system by decreasing T-cell production in the body. It is increasingly found in many substances.

Cadmium stores up in the liver and kidneys, seriously weakening both organs.

WHERE FOUND—Cigarette and cigar smokers have high cadmium levels, but you can get it from second-hand smoke. Cadmium is in plastics, white paint, and nickel-cadmium batteries. It is in drinking water, pesticides, fungicides, fertilizers, industrial air pollution, and various foodstuffs, including rice, coffee, tea, soft drinks, and refined grains.

SOLUTIONS—Avoid cadmium sources and environments.

COPPER POISONING

SYMPTOMS AND DISEASE—Excess amounts of copper can result in emotional problems, behavioral disorders, mood swings, anemia, depression, kidney damage, eczema, schizophrenia, sickle-cell anemia, and central nervous system damage.

It can produce infections, heart attack, anemia, cirrhosis of the liver, mental illness, insomnia, stuttering, Wilson’s disease, and niacin deficiency.

WHERE FOUND—Beer, copper plumbing and cookware, insecticides, permanent wave kits, pasteurized milk, oral contraceptives, tobacco, swimming pools, city water, and various foods, including certain frozen foods (added to make peas greener).

SOLUTIONS—Read labels and use nothing containing copper. Avoid copper sources and environments.

DEFICIENCY—It is also possible to not have enough copper in the body. Without a balance of copper and zinc in the body, the thyroid will not work properly. Babies fed soy milk tend to have a deficiency of copper. The result is damaged nerves, bones,

and lungs. Adults lacking copper will lose protein. Excessively large doses of zinc can also produce a copper deficiency. Oral contraceptives can cause either an excess or deficiency of copper.

DDT POISONING

THE PROBLEM—We still have DDT poisoning. First introduced in 1939, into agriculture, to kill insects, and banned in December 1972. DDT is still here.

First, it has long-lasting effects on birds, fish, animals, and humans. Second, it is still in the water and soil.

Third, shipments of DDT food from overseas is not banned. Food grown in Israel is heavily DDTed, and then shipped to America because orthodox Jews will not allow it to be sold in Israel. Fourth, it is still used on fruit trees in America!

SOLUTIONS—Avoid DDT sources and environments. Special note: Do not fast on water alone; always do it on fruit juices. This is because DDT is stored in your body fat. During a water fast, its sudden release can damage various organs. Only drink distilled water. Drink plenty of fruit and vegetable juices. .

FLUORIDE POISONING

SYMPTOMS AND DISEASE—Mottled, discolored teeth. This is a permanent change which cannot be reversed.

THE PROBLEM—Dentists prescribe fluoride substances for teeth; fluoride, a trace mineral, is added to most city water in excessively large amounts. The objective is to reduce dental caries (tooth decay); but a much smaller amount does this, and only in small children. Fluoride never helps the teeth of adults. (The true cause of dental caries is eating sugar, candies, refined carbohydrates, soda beverages, and too little of fruits and vegetables.)

There was an 85% increase of cancer in Manchester, England, after the introduction of fluoride. Down's syndrome increased in U.S. cities when fluoridated water supplies began. Japanese researchers found that children with mottled teeth had a higher incidence of heart disease.

Fluoride combines with calcium to make an insoluble calcium, producing bone deformities.

Fluoride destroys iodine, thus causing thyroid problems.

SOLUTIONS—Read labels and use nothing containing fluoride. Avoid fluoride sources and environments. Only drink distilled water. Drink plenty of fruit and vegetable juices.

LEAD POISONING

SYMPTOMS AND DISEASE—Lead poisoning produces hyperactivity in children, behavioral problems, and weakened minds.

Chronic lead poisoning causes reproductive disorders, impotence in men, infertility in women, and anemia. Sudden infant death syndrome occurs more often in infants with high lead levels than those who die of other causes.

Toxic amounts damage liver, kidneys, heart, and nervous system. Those suffering from lead poisoning will have days of severe gastrointestinal colic. Gums turn blue and he may feel muscle weakness. Paralysis of the extremities, blindness, mental disturbances, protein disorder, loss of memory, mental retardation, and even insanity can eventually result. Painter's colic shows severe wandering pain in the abdomen and acute muscle spasm.

Sometimes you will find a lead line on the gum margin of the teeth.

WHERE FOUND—Lead is extremely toxic, and is widely found in leaded gasoline; lead pipes; and other piping using solder, ceramic glazes, lead-based paints, and lead-acid batteries. Lead arsenate is an insecticide used on certain plants. Burning newspapers throw lead into the air. Lead is in commercial baby milk and industrial materials (nails, solder, plating, plaster, and putty).

People also consume it when they use tobacco, eat liver, and drink domestic or imported wines. It can also be in soldered cans.

SOLUTIONS—Read labels and use nothing containing lead. Avoid lead sources and environments.

Buy only canned goods which are lead-free. These cans have been welded and have no soldered side seems. Do not use imported canned goods; no regulations cover them. Only drink distilled water. Drink plenty of fruit and vegetable juices.

Stay off the main highways whenever possible, and do not live near them. Lead fumes and other noxious chemicals and metals are still coming out of car exhausts. Do not grow family garden crops near the highways.

Do not have lead or copper water pipes in your home; use PVC (plastic) pipes instead. Copper pipes are connected with lead solder. Solder leaches a significant amount of lead into the water supply, especially during the first few years after installation. Lead solder was not banned until 1986.

Do not drink out of glazed pottery—especially if it is imported! The glaze can contain lead, which will leach into your fruit juice, etc.

Vitamin E tends to reduce the effects of lead poisoning.

Drink aloe vera gel or liquid.

MERCURY POISONING

SYMPTOMS AND DISEASE—Allergies, anxiety, metallic taste, gastroenteritis, burning mouth pain, salivation, abdominal pain, tremors, uncontrolled crying, vertigo, nausea, and vomiting.

Mercury poisoning can lead to colitis, kidney disease, dermatitis, asthma, hair loss, gingivitis, mental and emotional disturbances, and nerve damage.

It is believed, by many, that multiple sclerosis is caused by mercury poisoning.

Arriving in the brain, it is stored there and produces dizziness, insomnia, weakness, fatigue, depression, and memory loss.

Symptoms in a child include hyperactivity, irritability, depression, and behavioral changes.

WHERE FOUND—Mercury is more toxic than lead, and can be ingested or inhaled. It is stored in the brain and in the fat.

At normal temperatures, it tends to change from a solid into a gas. This means that the mercury in the amalgam fillings in your mouth are always ready, when the opportunity presents itself, to pass into saliva and be swallowed. Acids in food provide that opportunity. Amalgam is over 50% mercury. Minute amounts of methyl mercury are released from the tooth filling as you chew your food. Eventually it passes into the organs and brain.

Nearly 100 chemicals are placed in mouths by dentists—including mercury, copper, nickel, beryllium, zinc, phenol, formaldehyde, disocyanate, and acetone.

Mercury is also found in streams, lakes, fish, shellfish, and sewage. The problem is that it is added to insecticides, herbicides, and fungicides. Grains and seeds are frequently treated with it, to keep out bugs. We would rather eat a stray bug than

mercury. Gradually these substances have gone into the rivers and lakes, contaminating the fish.

Mercury is also included in fabric softeners, polishes, wood preservatives, latex, solvents, plastics, ink, and some paints. It is in cosmetics, laxatives which have calomel, some hemorrhoidal suppositories, and a variety of other medications.

SOLUTIONS—Read labels and use nothing containing mercury. Avoid mercury sources and environments.

Remove the mercury (amalgam) fillings from your teeth. Sweating helps excrete mercury. Selenium also helps eliminate it. .

NICKEL POISONING

SYMPTOMS AND DISEASE—Skin rashes, respiratory illness, and myocardial infarction. It also interferes with the Kreb's cycle.

WHERE FOUND—Nickel is found in hydrogenated fats and oils and refined and processed foods,

SOLUTIONS—Read labels and use nothing containing nickel. Avoid nickel sources and environments.

Do not pierce your ears or wear metal jewelry containing nickel. The posts placed in pierced ears are nickel, and cause nickel rash. This rash will appear everywhere in your body when you are wearing metal of any kind. The cause is the nickel in those ear posts or in the earrings. Leave your ears the way God made them.

Avoid nickel alloys in dental work.

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RADIATION POISONING

SYMPTOMS AND DISEASE—Dizziness, mental fatigue, eye fatigue, severe headache, cataracts, and nausea.

WHERE FOUND—Medical and dental X rays ,television, cellular phones, video display terminals, satellite dishes, building materials containing radon or uranium,

computers, microwave ovens, satellites, high-voltage electric lines, radar devices, electronic games, smoke detectors, and tobacco.

Radioactive substances are composed of unstable atoms which can harm the body. When radiation strikes a cell, it alters, damages, or destroys it. Whether a little or a lot, radiation is a killer.

Living tissue is damaged when ionizing radiation strikes it. This is radiation powerful enough to shift electrons from one collection of atoms to another. Such restructuring of tissue can result in disease or cancer.

A significant percentage of women inherit a gene that is sensitive to X-ray exposure. In those women, even a short exposure to X rays can lead to cancer.

SOLUTIONS—Avoid radiation sources and environments.

In order to protect the body from radioactive elements, you must eat enough non-radioactive ones. For example, if you are not obtaining enough calcium, your body will absorb radioactive strontium-90 from the air. Where did the strontium-90 come from? from an exploded nuclear bomb halfway around the world. The same is true for regular iodine vs. radioactive iodine (iodine-131), which destroys the thyroid.

Foods which protect against radiation include fresh fruits, vegetables, whole grains, and legumes.

Foods which reduce one's ability to be protected against radiation include meat, poultry, dairy products, sugar, refined food, and food with chemical additives.

GUILLAIN-BARRÉ SYNDROME

SYMPTOMS—This begins with neurological weakness in the arms, legs, and face. As it progresses, paralysis of the motor nerves can occur. This can lead to respiratory failure. As the condition worsens, there is strong anxiety, fear, and panic, and depression. Convalescence and recovery can be slow, with the possibility of permanent nerve damage.

CAUSES—This is another disease produced by vaccinations. Normally, such a condition would never occur. But when fluids, drawn from animals, are injected into the human bloodstream, terrible consequences can result.

Gerald Ford's introduction of a nationwide vaccination program, in the winter of 1976-1977, was a disaster and resulted in many cases of Guillain-Barré syndrome.

Other possible factors could be surgery, a viral infection

TREATMENT—

• There are instances in which a careful home-care recovery program nicely solved the problem.

• In one case, a young man was told he had a severe case of Guillain-Barré syndrome, and that it might require 2 years to recover.

Refusing cortisone shots, he used natural healing methods: heavy on vitamins and minerals, especially B complex, plus extra pantothenic acid, and vitamin C with bioflavonoids. In addition to other minerals, he emphasized calcium, potassium, and extra chelated minerals. Herbs included blue vervain, licorice root, chamomile echinacea, burdock, and ginkgo. He also took chlorophyll, green drinks, fruit and vegetable juices, especially carrot and beet juice. Within a month, he was well and back to work, with no residual problems later occurring.

DRUG RASH

CAUSES—It is truly surprising what a high percentage of medicinal drugs are poisonous. But it need not be, when the underlying *modus operandi* (method by which they work) is understood.

Medicinal drugs work by introducing a strange new poison into the body. The system immediately turns its attention from the debilitated area—and begins fighting the drug. The type of poison (the drug) introduced, and the way it operates, affects the reaction of the body. For example, the body was eliminating sulphur through a boil but then a drug is introduced, and the boil seemingly "heals." The body has let the boil no longer suppurate, so attention can be diverted to the radical poison which has been introduced.

Natural remedies operate in a different way: They clean out the body and restore it to a healthy normalcy. Whether it be fresh air, pure water, nutritious food, simple herbs, or water treatments, the natural remedies assist the body in carrying on its work of cleansing the body. For that is what "dis-ease" is: an effort of nature to cleanse the body of impurities and eliminate the effects of enervation.

A drug is a foreign substance of a poisonous nature. The healing herbs are not "drugs." It is true that about five of every 100 herbs is poisonous, but natural therapy only uses the safe ones. The poisonous ones can be purchased at the drugstore or grocery counter (tobacco, coffee, black tea, chocolate, black pepper, digitalis, quinine, etc.). Such things as aspirin, valium, phenobarbital, dilantin, morphine, etc., are foreign chemical substances of a poisonous nature. They all produce dangerous side effects, called "contraindications."

In contrast, the safe herbs are the ones you eat (all your worthwhile vegetables) and use for treating your ills. They were given us by the God of heaven (Genesis 1:29).

Most of the damage that drugs inflict on the body is beneath the skin, but drug rashes are effects on the skin.

Here are but a few examples of drugs which produce drug rashes:

Antipyrine: Papular, erythematous rash, sometimes accompanied by edema and much irritation.

Arsenic: Papular or erythematous rash, sometimes urticarial. Prolonged use may produce pigmentation of skin.

Belladonna: Erythematous rash, usually accompanied by intense itching.

Bromides: Usually like acne vulgaris. Sometimes erythema.

Chloral: Papular erythema.

Iodides: Usually papular erythema, sometimes with acne-like pustules.

Phenolphthalein: Macular rash, sometimes purpuric.

Quinine: Very irritable erythema or urticaria.

Salicylate: Erythematous rash, possibly morbilliform.

Serum: Usually urticaria.

Sulfonal: Erythematous or urticarial rash.

Here are some other drugs which produce skin rashes: opium compounds, acetanilide, amidopyrine, barbiturates, ephedrine, novocain, sulfanilamide, and other sulfa drugs.

Some of the drugs have been given very nice-sounding names, but note the chemicals in them: calomel (mercurous chloride), green vitriol (ferrous sulfate), goulard water (lead lotion), oil of vitriol (sulfuric acid), and vermilion (mercury sulfide). Most drugs are compounded from, not two but, a wide range of extremely complex and very poisonous chemical mixtures.

Let it be emphasized that most drugs work their damage in a thousand other ways in the body, without producing skin rashes.

TREATMENT—

• Stop using the medicinal drug. Take vitamin C to bowel tolerance (all you can, before its acidity causes a slight diarrhea). Take vitamins A, B complex, and E. Be sure selenium and zinc are in your diet. Eat more fresh fruit and vegetables, as well as seaweed.

• If the drug has an acid base, consider taking a soda alkaline bath Fill a bath tub with water at 95^{o}-98^{o} F. Add about a cup of baking soda or sodium bicarbonate. Sitting in the tub, dip and pour it over yourself. After 30-60 minutes, stand in the tub, partially drip dry, and pat yourself dry.

CHAPTER TWENTY-NINE
HEALTH OF THE SOUL

Our modern society is riddled with great unrest. Newspapers are filled with accounts of violence, civil war, international intrigue, and mounting economic pressures. The precious yet elusive gift of peace is sought everywhere, but in vain. Some look for peace in a pill or a drug. Others look for it in a bottle of alcohol. Some search vainly through the whole world traveling. Modern man hopes to be happy in a merry-go-round of hedonistic pleasure. Growing groups of Eastern worshipers seek peace through meditation and Oriental religions. Meanwhile, so-called intellectuals delve into the depth of modern psychology, looking for philosophic answers.

The sacred Scriptures present for our solace a "*peace of God, which passeth all understanding*." (Philippians 4: 7). This experience we desperately need; heaven's forgiveness and peace and love in the soul. Money cannot buy it; intellect cannot procure it; wisdom cannot attain to it. We can never hope by our own efforts to secure this eternal perfect peace. But it can become yours, offered as a gift "*without money and without price,*" (Isaiah 55: 1).

Jesus himself promised, *"What things soever ye desire, when ye pray, believe that ye receive them, and ye shall have them."* (Mark 11: 24). This tremendous transaction contains but one condition that we pray according to the will of God. It is our daily privilege to go to Jesus and be cleansed. He has promised to make us His children, and thus enable us to live a holy life, So we may ask for these blessings, then believe that we will receive them. Next, as the healed paralytic did, we must thank God that we have received the proffered gift.

THE POWER OF PRAYER

Through the daily deeper communion with God, the Christian receives a never-failing source of strength. It is more than a trite euphemism, "the family that prays together, stays together." The loyal family of God does likewise. There must be close communication; daily dialog. **Prayer**, by one writer's definition, is the opening of the heart to God, as to a friend. Of course, it is not necessary to make known to God *what* we are. Nevertheless, prayer enables us to receive **Him**. It is our key in the hand of faith that unlocks heaven's storehouse. The best prayer example for us was set by our Savior, who in His humanity found prayer power both a necessity and a privilege, There was comfort and joy in close communion with His Father. The same experience may be ours.

There are several **conditions** that our all-wise Heavenly Father looks to see manifested in His children. One condition is that we *feel our need* of help from Him. Those who hunger and thirst after righteousness may be confident that they will be filled. The human heart must be opened to the spirit's influence or God's blessing cannot be received (see Matthew 5:6; and E.G. White, *Steps to Christ*, page 95).

If unconfessed sins are harbored in our proud hearts, the Lord cannot hear us. Meanwhile, the prayer of a humble penitent one is *always* accepted. As soon as known wrongs are righted, we may believe and know that God will answer our petition. It is **not** the merit of man that commends us to the favor

of God. Rather, the grace of our Lord Jesus Christ and His atoning blood provides the merit that cleanses us from all sin. (I John 1:7).

Another factor in a powerful prayer life is **faith**. *"He that cometh to God must believe that He is, and that He is a rewarder of them that diligently seek Him."* (Hebrews 11: 6). We must learn to take the Lord at His word! Some people, when they do not receive immediately the very things that they asked for, or who discover that prolonged delay tries their faith, then commence to doubt God. We are so short-sighted as humans. Sometimes we even ask for things that would be no help to us. Then, our heavenly Father, in love, answers our feeble prayers by giving us that which would be for our **higher** good. It would be presumption to claim that earnest prayer *will always* be answered in the very way we desire. Our great and powerful God is too wise to err, and too compassionate to withhold any good thing from those who are His friends.

If we dwell in fear, listening to our own doubts, perplexity will only increase, We must come to God feeling helpless and dependent, as we really are. When in humble, trusting faith we make known our wants to Him, He will permit divine light to shine in our hearts. It is a high privilege to thus be brought in connection with the mind of the Infinite.

A **humble spirit** must be cultivated if we are to receive the full blessing of God. In the Lord's Prayer we all learned to say *'forgive us our debts, as we forgive our debtors.* "(Matthew 6:12). A **forgiving spirit** must be cherished and cultivated if we expect our prayers to be heard. Just as we expect to be forgiven, should we also forgive others.

Perseverance is also required. We are to *"continue in prayer"* (Colossians 4: 2), to *"pray without ceasing."* (I Thessalonians *5:* 17). This priceless unbroken union of the soul with God can then be maintained, so that life from God flows vibrantly into our daily lives. With this spiritual *recharging,* our deepened love and desire to serve flows out to others and back to God.

Although public prayer has its proper place, it is in the "closet" of secret communion that we receive the most help from God. Free from surrounding influences, the needy soul can commune in a way that calmly and humbly, yet fervently, claims Divine rays of light to strengthen and sustain. *"God is our refuge and strength, a very present help in trouble."* (Psalm 46: 1).

Spending a "quiet time" in communion each morning, any person who fears God may go about his or her daily labor, *assured* that help will come when it is needed most. There is no time or place, moreover, when it is inappropriate to send up a petition to God. In crowded streets, on planes and trains and buses, in the classroom, or in a clinic or hospital we may petition God and plead for heavenly guidance. This *closet of communion* may be found wherever we are. Our heart's door should be open continually. The invitation going up that Christ Jesus may come in and abide as a heavenly Guest. Thus, although a tainted and corrupt atmosphere may surround us, we need not breathe its spiritual "smog", but we can reside in the pure air of heaven. Like Enoch, we may "walk with God."

TRUST

Our Divine Savior asked the poignant question, *"When the Son of Man cometh, shall He find faith on the earth?"* (Luke 18: 8). The sick were frequently challenged by the words, *"According to your faith, be it unto*

you." There is definitely an abundant demand for such simple trust in God today. Instead of choosing our own way, **faith** leads us to choose God's way; believing that He loves us and knows best what is for our *good.* In place of our ignorance, we accept His wisdom; in place of our weakness, His strength; in place of our sinfulness, His righteousness. Truth, uprightness, and purity have been pointed out as secrets of life's success. It is faith that puts us in possession of these principles. (Ellen G. White, *Education,* pg. 253).

Faith grows by exercise, just as our muscles do. As we take for our guide book, the Word of God, and claim His promises, that seed of faith that God has given will increase. In order to strengthen our faith we must often bring it into contact with God's Word.

Evidence for such power inherent in the Sacred Word was found at creation. *"He spake, and it was done; He commanded, and it stood fast. "* (Psalm 33: 9). The apostle Paul, speaking of this marvelous creative power declared, *"For God, who commanded the light to shine out of darkness, hath shined in our hearts, to give the light of the knowledge of the glory of God in the face of Jesus Christ."* (II Corinthians 4: 6). It was this type of faith, true trust in God, that sustained ancient patriarchs like Enoch and Noah. Faith brought wisdom to statesmen like Joseph and Daniel. It led the apostle Paul to live a life of sacrifice for the Gospel, and faith in God inspired numerous reformers during the Middle Ages.

Notwithstanding, God's children need to trust in small things as well as the great affairs of life. From a human viewpoint, life is an untried path. In our deeper experiences, we each walk alone. How important it is, then, to hear and know the voice of God; to sense His presence constantly. Such childlike trust was illustrated by a friend who encountered a fierce tornado. Filled with fear, she huddled in the bathroom, piling pillows and blankets over herself in flimsy defense. The little four year old, sensing her mother's growing apprehension, came close to her side and whispered, "Mommy, this storm is really upsetting me! Let's talk to Jesus and ask Him to help us." As the mother gratefully responded to her child's simple trust, a peace came in to banish all fear. The storm soon passed without damage.

The abiding sense of God's presence helps also to shield us from temptation. It was this realization that protected Joseph amid the temptations of Egypt. His reply to the temptress was firm, *"How then can I do this great wickedness, and sin against God?"* (Genesis 39: 9). The invincible shield of faith, when cherished, will bring security to each of us. *"Through faith in Christ, every deficiency in character may be supplied, every defilement cleansed, every fault corrected, every excellence developed." "Ye are complete in Him."* (EGWhite, *Education,* p. 257; Colossians 2:10).

"An intensity such as never before was seen is taking possession of the world. In amusement, in money-making, in the contest for power, in the very struggle for existence, there is a terrible force that engrosses body, mind, and soul. In the midst of this maddening rush, God is speaking. He bids us come apart and commune with Him. *"Be still and know that I am God." Ps. 46:10.*

"Many, even in their seasons of devotion, fail of receiving the blessing of real communion with God. They are in too great haste. With hurried steps they press through the circle of Christ's loving presence, pausing perhaps for a moment within the sacred precincts, but not waiting for counsel. They have

no time to remain with the divine Teacher. With their burdens they return to their work.

"These workers can never attain the highest success until they learn the secret of strength. They must give themselves time to think, to pray, to wait upon God for a renewal of physical, mental, and spiritual power. They need the uplifting influence of His Spirit. Receiving this, they will be quickened by fresh life. The wearied frame and tired brain will be refreshed; the burdened heart will be lightened." (Ibid., p. 260, 261).

I CHALLENGE YOU TO TRY IT AND SEE.

GOOD FOOD FOR THE MIND

The wise man Solomon wrote of "many books" and said, "Much study is a weariness of the flesh." (Ecclesiastes 12:12). A German saying puts it this way, *"The good is the enemy of the best."* We know of thousands who spend their leisure hours watching TV, of others who feed their mind from the pages of trivial or trashy literature. Cheap novels, like the frogs of Egypt, are covering the land. Other friends, non-discriminating though sincere, spend countless hours with sensational religious fiction or the latest gospel rock cassettes, occupying precious time that could be better spent with the Word of God.

The prophet Isaiah pointed forward to the faithful servant who "stoppeth his ears from hearing of blood, and shutteth his eyes from seeing evil." To these Heaven's promise is, *"Thine eyes shall see the king in His beauty."* (Isaiah *33:15-17).* It seems paradoxical, but no less true, that those who are really seeking the wisdom from God must become practically "fools" in the sinful knowledge of this age in order to be wise. We should shut our eyes from much of the modern media that we may see and know no evil. We should close our ears, lest we hear that which is evil, and obtain that knowledge which stains the purity of thought and action. It was from the tree of knowledge of good and evil that Eve first ate. Then she shared the forbidden fruit with Adam. Seeking to be wise, the serpent's way, they lost their home in the beautiful Garden of Eden. By only one foolish act, they passed on a heritage of sin and death to all mankind (Romans 5:12).

A person whose spirit is receptive cannot read a single passage from the Bible without gaining some helpful thought. The most valuable teachings, however, are not gained by occasional or disconnected study. Many Scriptural treasures lie beneath the surface, and can be obtained only by diligent research and continuous effort. As one searches out and gathers up these truths "here a little, and there a little" (Isaiah 28:10) the message of the Bible will be found to fit perfectly. The Gospels supplement each other. The prophecies explain one another. Truths are built like a building; each part dependent on the other. The final structure so complete that no other mind than that of the Infinite could have fashioned it.

The study of the Word of God also brings mental power. At any age—childhood to adult—the Bible is more effective as a means of intellectual training than all other books combined. God can teach us more in one moment by His Spirit than all the great men of the earth. The beauty of Bible poetry, the power of the promises, the dignified simplicity of God's requirements and the sublime inspiration of its biographies, cannot but expand and strengthen the mind. As we study God's Word with a sincere and teachable spirit, there is room for infinite development of the mind and soul.

Some question whether science can be harmonized with the Bible. They point to the many conflicting theories among the scientists today, and are led to question God's Word. Nevertheless, true science brings from her research nothing that, rightly understood, conflicts with divine revelation. The book of nature and the written word each shed light upon the other. They make us acquainted with God by teaching us of His working in nature (see Nehemiah 9:6; Job 26: 7-14).

God's power is, moreover, exercised in upholding the objects of His creation. (Col. 1:17). It is not because of a mechanism set in motion long ago that the pulse beats and breath follows breath. *"In Him we live, and move, and have our being."* (Acts 17:28). Furthermore, a truth even more marvelous, is that the Hand that sustains the world in space, the Hand that holds the planets in their orderly arrangement, is the Hand that was nailed to the cross for you and me. *(Ibid.* p. 132). Under the direction of our allknowing Creator, we shall, by studying His works, be enabled to think His thoughts after Him. And, by meditating on Christ, we can be changed into His likeness (II Corinthians 3:18).

ACTIVITIES TO LIFT THE SPIRIT

Christ declared of His mission in life, *"My meat is to do the will of Him that sent me, and to finish his work."* (John 4:34). As the Son of Man, He came to dwell with us *"as He that serveth"* (Luke 22:27). Most of the time that Jesus walked this earth, He was helping others. Faithfully working at the carpenter's bench during His youth, He brought cheer and presented a radiant spirit to all who passed by. Later, when taking up His life ministry, He spent more time ministering to the sick than preaching the Gospel. His example is to be ours.

Deeds of kindness and unselfish service are twice a blessing, benefiting both the giver and the receiver of the kindness. *"The consciousness of right doing is one of the best medicines for diseased bodies and minds. When the mind is free and happy from a sense of duty well done and the satisfaction of giving happiness to others, this cheering, uplifting influence brings new life to the whole being."* (see B. G. White, *Ministry of Healing*, page *257).*

It is for lack of this spirit in many believers that love has waned and faith grown dim. "If you will go to work as Christ designs that His disciples shall, and win souls for Him, you will feel the need of a deeper experience and a greater knowledge in divine things, and will hunger and thirst after righteousness. You will plead with God, your faith will be strengthened, and your soul will drink deeper drafts at the well of salvation. Encountering opposition and trials will drive you to the Bible and prayer. You will grow in grace and the knowledge of Christ, and will develop a rich experience. *"The spirit of unselfish labor for others gives depth, stability, and Christlike loveliness to the character, and brings peace and happiness to its possessor... Those who thus exercise the Christian graces will grow and will become strong to work for God."* (White, *Steps to Christ,* p. 80). This unselfish service for the good of others is the surest way to work out your own salvation, remembering that, *"It is God which worketh in you both to will and to do of His good pleasure,"* (Philippians 2:13).

The 58th chapter of Isaiah contains heaven's prescription for sickness of the body or soul. If we desire health, and the true joy of life, we must put into

practice the rules given in this Scripture. More than once I have seen this illustrated in my own experience and that of others, the **Law of Benevolence** bringing its sure result in a renewal of strength, health, and inner peace. Meditate often on this Bible chapter.

Thousands of people today are seeking a life of respectable conventionality for themselves and for their children. Although professing to be Christians, they lack the self-sacrificing spirit of the Master. Thus they reject the only training that imparts a fitness for participation with Christ in His glory, the fellowship of service. This training gives strength and nobility to the character and a deeper sympathy with Jesus, who sacrificed and suffered for us. (I Peter 2:21).

In the soul touched by the Savior's love, there is begotten a desire to work for Him. Love and loyalty to Christ are reflected in true service, bringing a wonderful fellowship with our Master, and making us coworkers with heavenly angels. As we cooperate with them, we receive the benefit of their education, providing an experience that far transcends any university course the world can offer!

Now, touched with sympathy for our fellow men, whether they are stricken with poverty, afflicted with sickness, or ignorant of God, we can go forth to labor for souls. As we work hand in hand with the Light of the world, we will find privilege where others see only hardship, order in apparent confusion, and success in what appears to be failure. By faith, we see God at work and rejoice with the privilege of being His helping hand.

It is my desire that you, dear reader, by partaking of these promises, and by sharing in the Master's service, may *personally* experience this peace that passes all understanding. Motivated by love (read I Corinthians 13) and in response to God's marvelous grace (Ephesians 2: 8,9), you, my friend, can know God. Whom to know is life eternal (John 17:3). Won't you seek Him now?

GLOSSARY

Abrasion (ah-bra'zhun). A scraping injury in which the skin or a membrane is denuded.

Acidosis (as'i-do'sis). A pathological condition resulting from an accumulation of acid or loss of base in the body, and characterized by increase in hydrogen concentration.

Adrenal glands (ad-re'nal). Two small glands located one above each kidney. Often applied to kidney.

Aflatoxins (a'flah-tok'sin). Group of toxic substances produced by certain molds which grow on peanuts and cereals and which have toxic and carcinogenic effects in many animal species.

Alimentary canal (al-e-men'tar-e). The tract from mouth to anus through which food moves during the process of digestion.

Alkalosis (al'kah-lo'sis). A pathological condition resulting from accumulation of base or loss of acid in the body and characterized by a decrease in hydrogen ion in the body.

Allergen (al'er-jen). Any substance capable of inducing allergy.

Alveoli (al-ve'o-li). Very small air sacs in front of the lung tissue through which oxygen and carbon dioxide are exchanged.

Amino acids (a-me'no as'ids). Organic compounds containing nitrogen known as the building blocks of the protein molecule.

Amylase (am'i-las). A pancreatic or salivary enzyme that digests starch.

Amylose (am'i-los). The straight chain soluble form of starch.

Anterior chamber. Frontal space in the eyeball; bounded by cornea, iris, and lens.

Ascorbic acid (a-skor'bik). Vitamin C, of which is a causative factor scurvy.

Aspergillus flavus (as'per-jil'us fla-vus). A group of molds found on corn, peanuts, and certain grains when improperly dried and stored; source of aflatoxin.

Ataxia (ah-tak'se-ah). Failure of muscular coordination; irregularity of muscular action.

Atrium; auricle (a'tre-um; aw're-kl). One of the two upper chambers of the heart (right and left).

Auditory canal (aw'di-to-re). Channel

Antibodies (an'ti-bod-es). Substances in which the skin or a membrane is built up by lymphoid tissue as defensive response to invasion by organism, foreign proteins, etc.

Anticoagulant (an'ti-ko-ag'-u-lant). A substance that inhibits or prevents blood coagulation by interfering with the clotting mechanism.

Antioxidant (an'ti-ok'se-dant). A subendocrine gland located above each stance that prevents or delays oxidation. Often applied to vitamin E.

Anus (a'nus). Terminal portion of the intestinal tract, about 1 "- 1½" long.

Aorta (a-or'tah). Largest artery in the body; arises from the heart and courses down the body trunk.

Aortic valve. Fibrous tissue flaps or leaflets which open and close between the left ventricle and the aorta. Valve prevents backflow (reflux) of blood.

Appendix (ah-pen'diks). Blind, wormlike pouch normally found at the cecum. Has no known role in digestion.

Aqueous humor (a'kwe-us hu'mor). Watery, transparent fluid found in the anterior and posterior chambers of the eye; helps maintain conical shape of the globe and assists in focusing light rays on the retina.

Arteries (ar'ter-es). Elastic, extensive vessels which carry blood in the direction away from the heart.

Arteriole (ar-te're-ol), A very small artery

Articular cartilage (ar-tik'u-larkar'ti-bij). A special type of dense connective tissue which covers bone surfaces in a joint.

Articulation (ar-tik-u-la'shun). Junction of two or more bones; a joint.

Blood capillary (kap'i-lar-e). A microscopic vessel through which blood trayin els from arteriole to venule.

Bone. An individual part of the skeleton; osseous tissue.

Bony orbit. Rounded socket in the craerly in which the eyeball is partially sunk.

Bone shaft, The body (diaphysis) of a long bone.

Botulism (bot'u-lizm). Poisoning from the toxin produced by the organism *Clostridium botulinum.* The toxin has a selective action on the nervous system.

Bronchial tubes; bronchi (brong'ke-al;

for entry of sound from outside; extends brong'-kl). Branches of the right and
to the eardrum. left main stem passageways extending
Auditory ossicles (aw'di-to-re os'si-kls), from the trachea.
Three small bones of the middle ear
which vibrate and conduct sound.
Avitaminosis (a-vi'ta-min-o'sis). A con- **Calciferol** (kal-sif'er-ol). Vitamin D_2,
dition due to the lack or the deficiency of produced by irradiating ergosterol.
a vitamin in the diet, or to lack of absorp- **Calcification** (kal' si-fi-ka'shun). Process
tion or utilization of it. by which organic tissue becomes hardened
Axilla (ak-sil'ah). Armpit. by a deposit of calcium salts.
Axillary (ak'si-lar-e). Pertaining to the **Calcitonin** (kal'si-to'nin). A hormone
armpit. secreted by the thyroid gland which participates
with parathyroid hormone in
the regulation of calcium ions in the
blood.
Bicuspid valve (bi-kus'pid). The two- **Calcium** (kal'se-um), An element which
leaflet heart valve between the left upper occurs naturally in all body tissues and
and left lower chambers. The bicuspid fluids such as bones, teeth, and blood.
valve is also called the mitral valve. **Capillaries** (kap'i-lar-es). Minute blood
Bile. Fluid secreted by the liver, stored in vessels which connect the smallest units
the gall bladder, and emptied into the of arteries (arterioles) with the smallest
small intestine where it assists in absorp- veins (venules).
tion of fats. **Carbon dioxide** ($C0_2$). Odorless, colorless
Biotin (bi'o-tin). A member of the vitamin gas produced in tissue cells as a by-
B complex. product of metabolism. CO_2 is excreted
Bladder (blad'der). Hollow muscular or- by the lungs.
gan which serves as the reservoir for **Carotene** (kar'o-ten). A yellow pigment
unne. which exists in several forms; alpha,
Blood. Fluid which circulates throughout beta, and gamma carotene are provitamins
the body, carrying nutrients to cells and which may be converted in vitamin
removing wastes from cells. Arterial A in the body.
blood contains a heavy concentration of **Carotid arteries** (kah-rot'id). Vessels
oxygen while venous blood contains which provide the major supply to the
carbon dioxide in large amounts. head and neck.
Cartilage (kar'ti-lij). Relatively hard, into gelatin by boiling.
dense connective tissue which serves to **Colon** (ko'lon). Second portion of the
cushion jolts and bumps. large intestine which is subdivided into
Casein (ka'se-in). The principal protein of four sections: ascending colon, transmilk,
the basis of cheese. verse colon, descending colon, and sig-
Cecum (se'kum). First portion of the barge moid colon.
intestine. The ileum joins the cecum at **Congenital** (kon-jen'i-tal). Existing at or
a right angle, and the appendix is at- before birth.
tached to the cecum. **Conjunctiva** (kon-junk-ti'vah). Mucous
Cervical os (ser'vi-kl os). Opening in the membrane which lines the eyelids and
cervix (bower end) of the uterus. covers the anterior surface of the globe
Cheilosis (ki-lo'sis). A condition marked except for the cornea.
by lesions on the lips and cracks at the **Connective tissue**. Tissue which supports
angles of the mouth. and connects other body tissues; usually
Cholesterol (ko-bes'ter-ol), The most com- contains both collagen and elastic fibers
mon member of the sterol group, defined
below, It is a precursor of vitamin **Cornea** (kor'ne-ah). Transparent frontal
D and closely related to several hor- layer of the eyeball.
mones in the body. It constitutes a large **Cranium** (kra'ne-um). Skull bones which
part of the most frequently occurring encase the brain.
type of gallstones, and occurs in atheroma **cretinism** (kre'tin-izm), A chronic condiof
the arteries. tion due to congenital lack of thyroid
Choline (ko'len). A component of leci- secretion.
thin. Necessary for fat transport in the **Crystalline** lens (kris'tal-lin). That part of
body. Prevents the accumulation of fat the eye which, in addition to the cornea,
in the liver. refracts light rays and focuses them on

Chylomicrons (kl'lo-mi'krons). Particles the retina.
of emulsified lipoproteins containing **Cyanocobalamin** (si'ah-no-ko-bal'ah men).
primarily triglycerides from dietary fat Vitamin B12 a dark red com pound
and very little protein. containing cobalt and a cyanide

Chyme. Semiliquid material resulting from group.
action of digestive juices on food in the **Cyclamate** (si'kla-mat). Sodium or calcium
stomach. cyclamate, known as Sucaryl, used
Chymotrypsin (ki'mo-trip'sin). One of as an artificial sweetener. Use prohibited
the proteolytic enzymes of the pancre- by FDA.
atic juice.
Circulatory. Pertaining to movement
through a circuitous route with return to
origin. **Dehydration** (de'hi-dra'shun). Removal
Clostridium (klos-trid'e-um). A bacte- of water from food or tissue; or the
rium, *C. perfringens* (and other species) condition that results from undue loss of
a cause of gangrene. water.
Cochlea (kok'le-ah). Spiral canal hol- **Dermis** (der'mis). Deep layer of skin; also
bowed out of the temporal bone; shaped called corium.
like a snail shell and located in the ante- **Diabetes** (di-ah-be'tez). A condition in
rior portion of the inner ear. which cells of the pancreas called islets
Collagen (kol'a-jen). The main protein of Langerhans fail to produce enough
constituent of connective tissue and of insulin for proper metabolism of sugars
the organic substance of bones; changed and starches.
Diaphragm (di'ah-fram). The **Endocrine gland**. An organ which semusculomembranous
"partition" be- cretes hormones directly into the circutween
the chest cavity and abdominal latory system to influence and regulate
cavity which acts as a bellows in breath- numerous body processes.
ing. **Endometrium** (en-do-me'tre-um). Lin-
Diaphysis (di-af'i-sis). Shaft of a long ing of the uterus.
bone. **Enzyme** (en'zim). A substance, usually
Digestion (di-jest'yun). Process by which protein in nature and formed in living
ingested food is converted for absorp- cells, which brings about chemical
tion and use as nutrients for body cells. changes.
Digestive system (di-jest'iv). The group **Epidermis** (ep-i-der'mis). External layer
of structures concerned with the process of skin.
of digestion (alimentary canal and ac- **Epididymis** (ep-i-did'i-mis) (pl. -mides).
cessory organs). Small but lengthy convoluted tube which
Disaccharides (di-sak'ah-ri-das). An en- begins at its attachment to the testis and
zyme which hydrolyzes disaccharides, ends in the vas deferens.
Disaccharide (di-sak'a-rid). Any one of **Epiglottis** (ep-i-glot'is). "Lid" which coythe
sugars which yields two monosac- ers and closes the larynx during swalcharides
on hydrolysis. lowing to prevent entry of food into
DNA, deoxyribonucleic acid (de-ok' se- lungs.
ri'bo-nu-kle'ik), Found in the nucleus **Epinephrine** (ep'i-nef'rin). A hormone
of living cells; functions in the transfer secreted by the adrenal medulla and reof
genetic characteristics, leased predominantly in response to
Ductless gland. A gland without excre- hypoglycemia.
tory ducts or channels. **Epiphysis** (e-pif'i-sis). Two ends of a
Duodenum (du-o-de'num). First portion long bone.
of small intestine, about 10" long, ex- **Equilibrium** (e-kwi-lib're-um). Balance.
tending from *the stomachto* the *jejunum.* **Ergosterol** (er-gos'ter-ol). A sterol found
in plant and in animal tissues which, on
exposure to ultraviolet light, is converted
into vitamin D. (See *sterol).*
Elastic fibers. Tissue fibrils capable of **Esophagus** (e-sof'ah-gus). Tube-like pasexpansion
and contraction. sageway which connects pharynx to
Electrolyte (e-lek'tro-lit). The ionized stomach.
form of an element. Common electro- **Eustachian tube** (u-sta'kl-an). Conduit
lytes in the body are sodium, potassium, 3-4cm long from middle ear to pharnyx.

and chloride. Evaporation (e-vap-o-ra'shun). Conver-
Electrolyte balance. Distribution of ac- sion of a liquid to a vapor.
ids, bases, and salts in tissue cells, fluids, **Excretory** (eks'kre-to-re). Pertaining to
and blood plasma which helps maintain discharge of waste products from the
normal pH and control the passage of body.
water between cell membranes. **Exhale** (eks-hale'). To expel air from the
Elimination (e-lim-i-na' shun). Movement lungs.
of bowels to expel waste products from **External ear**. Pinna and external auditory
the body. canal.
Endemic (en-dem'ik), A disease of low
morbidity that is constantly present in a
human community.
Fallopian tube (fal-lo'pe-an). Tubal pas- **Homogenized** (ho-moj 'e-nizd). Made
sageway in which the egg travels from homogeneous. Usually applied to disthe
ovary to the uterus. persing milk fat in such fine globubes
Fatty acids (fat' as'ids). The organic that cream will not rise to the top.
acids which combine with glycerol to **Hormone** (hor'mon). Chemical substance
form fat. produced and secreted by an endocrine
Femur (fe'mur). Long bone of the thigh gland.
which extends from hip to knee. **Hormones** (hor'mons). Complex chemi-
Fertilization (fer-ti-li-za'shun). Union of cal substances which profoundly affect
ovum and spermatozoon. organ and body growth, development,
Folic acid (fo'lic as'id). A vitamin of the and activities. The ovaries and testes
B complex group, known also as pteroyl- produce hormones.
glutamic acid or folacin. **Hydrogenation** (hi'dro-jen-a'shun). The
process of introducing hydrogen into a
compound, as when oils are hydrogenated
to produce solid fats.
Galactose (gah-lak'tos). A monosaccha- **Hymen** (hi'men). Membranous tissue fold
ride derived from lactose by hydrolysis. which partially covers the external open-
Gastric (gas'trik). Pertaining to the stom- ing of the vagina.
ach. **Hypercalcemia** (hi-'per-kal-se'me-ah).
Genes (jens). Units of hereditary DNA, An excess of calcium in the blood.
carried by chromosomes. **Hypercholestermia** (hi' per-kal- se 'me-
Genitals; **genitalia** (jen'i-tals, jen-i-ta'le- ah). Excess of cholesterol in the blood.
ah). Organs of reproduction. **Hyperglycemia** (hi'per-gli-se'me-a). An
Gliadin (gbi'a-din). One of the proteins increase in the blood sugar level above
found in the gluten of cereal grains, normal.
Globe. Eyeball. **Hyperplasia** (hi'per-pla'zhe-a). Increase
Glucose (gloo'kos). One form of sugar, a in number of normal cells in normal
product of starch metabolism in the body. arrangement in a tissue.
Gluten (gloo'ten;-t'n). A protein found in **Hypertrophy** (hi-per'tro-fe), Increase in
many cereal grains, cell size.
Glycogen (gli-ko-jen). A carbohydrate, **Hypervitaminosis** (hi' per' vi' ta-min
similar in composition to the amylopec- o'sis). A condition due to an excess of
tin form of starch. In this form, carbohy- one or more vitamins.
drateis stored in the liver and the muscles. **Hypocalcemia** (hi'po-kal-se'me-a). Ab-
Gonads (gon'ads). Glands which produce normally low blood calcium.
sex hormones and germ cells necessary **Hypoglycemia** (hi'po'gbi'se'me-a). A
for reproduction. decrease in the blood sugar level below
normal.
Hypoproteinemia (hi'po-pro'te-in-e'mea).
A decrease in the normal quantity of
serum protein in the blood.
Hair cells. The final sensory receptors of
sound.
Hair follicles (fol'li-kbs). Glands in the
dermal bayerof skin which produce hairs. **latrogenic** (i'atro'jen'ik). Resulting from
Heart. Powerful, muscular organ which the activity of physicians.
pumps blood to all parts of the body. **Idiopathic** (id'i-o-path'ik). Self-originated;

occurring without known cause.
Incus (ing'kus). One of the three auditory **Lacrimal ducts and glands** (lak'ri-mal).
ossicles; also called anvil due to its shape. System of ducts and glands which se-
Inhale (in-hale'). To take air into the cretes and conducts tears.
lungs. **Larynx** (lar'inks). The organ of voice.
Insulin (in'su-lin). Substance produced **Lecithin** (les'i-thin). A phospholipid conby
an area of the pancreas. taining glycerol, fatty acids, phosphoric
Internal ear. Vestibule, semicircular ca- acid, and choline.
nals, and cochlea; contains end organs of **Ligament** (lig'ah-ment). Band of excepsound
perception and equilibration. tionally strong, flexible connective tis-
Involuntary muscle. A muscle not sub- sue which joins articular bone surfaces.
ject to control by human will. **Linoleic acid** (lin'o-le'ik as'id). A poly-
Iris. Colored membrane of the eye which unsaturated fatty acid essential for nutriseparates
the anterior and posterior cham- tion.
bers; contracts and dilates to regulate **Lipase** (li'pas; lip'as). An enzyme that
entrance of light rays. digests fat.
Islets of Langerhans (lahng'er-hanz). **Lipid** (lip'id), lipoid (lip'oid). Fat or
Group of cells of the pancreas which fatlike substances.
secrete insulin. **Lipoprotein** (lip'o-pro'te-in). Combination
of a protein with a fat, found in both
animal and plant tissues.
Joint. Articulation. **Lobe**. The major divisions of a lung.
Joint capsule. The fibrous sheath which **Locomotion** (loko-mo'shun), Process of
encloses articular bone surfaces, moving about.
Lung. Major organ of respiration; consists
of spongy, porous, elastic tissue.
Ketosis (ke-to'sis). A condition in which **Lymph** (limf). Substance continuously
there is an accumulation in the body of formed by filtration from tissue fluids.
the ketone bodies as a result of incom- **Lymph nodes**. Small bodies of lymphoid
plete oxidation of the fatty acids, tissue arranged in chains to filter lymph
Kidney. Large bean-shaped gland located and help prevent the spread of infection.
at each upper side of the posterior ab- **Lymphatic duct (**lim-fat'ik). One of two
dominal cavity. Kidneys extract wastes large vessels which empty lymph colfrom
blood, from urine, and discharge it lected in various parts of the body into
continuously into the ureters. the venous bloodstream.
Kneecap. Patella. **Lymphocyte** (lim'fo-site). A particular
Kwashiorkor (kwa-shi-or'ker). A severe type of white blood cell which is formed
protein-calorie deficiency disease oc- in the reticular (net-like) tissue of lymph
curing in small children. Endemic in glands.
many parts of the world. **Lysosomes** (li'so-soms). Membranous
structures in cytoplasm which contain
hydrolytic enzymes.
Lysozyme (li'so-zim). Enzyme that di-
Labia majora (la'be-a majo'ra). Two gests certain high molecular weight carouter
borders of raised, fleshy tissue bohydrates and some gram-positive bacextending
from the mons pubis down tena.
past the vaginal opening. **Malabsorption syndrome** (mal'ab-
Labia minora (la'be-a mi-no'ra). Two sorp'shun). A group of symptoms which
inner borders of tissue between the labia result from the inability to digest or
majora and the vaginal opening. absorb food in the intestinal tract.
Malleus (mal'e-us). One of the three audi- **Muscle insertion**. Point of attachment of
tory ossicles; hammer- shaped. skeletal muscle to bone most moved by
Mammary glands (mam'er-e). Breasts. its contraction.
Marasmus (ma-raz'mus). Wasting and **Myelin** (mi'e-bin). The fat-like substance
emaciation, especially in infants due to forming a sheath around certain nerve
underfeeding or disease. fibers.
Medulla (me-dul'lah). The middle, in- **Nasopharnx** (na-zo-far'inks). Upper part
most part. of the back of the throat where the nasal
Melanin (mel'ah-nin), The dark amor- cavity opens into the pharynx.
phous pigment of the skin, hair and **Neutropenia** (nu'tro-pe'ne-ah). A decertain

other tissues which derives from crease in the number of neutrophilic
tyrosine metabolism. leucocytes in the blood.
Menstruation (men-stroo-a'shun). Nor- **Niacin** (ni'a-sin). A member of the vitamal
uterine bleeding which usually oc- min B complex, formerly known as nicocurs
monthly as the endometrium is shed tinic acid. An antipeblagra factor.
by the non- pregnant female. **Nutrient** (nu'tre-ent). An organic or inor-
Metabolism (me-tab'o-lizm). The physi- ganic substance in food which is dical
and chemical processes by which gested and absorbed in the gastrointestiingested
food and fluids are converted to nal tract and utilized in intermediary
energy or body tissues, metabolism.
Middle ear. Extends from eardrum to
oval window; contains auditory ossicles.
Mitochondria (mit'o-kon'dre-ah). Small
granules or rod-shaped structures in the **Occipital lobe** (ok-sip'i-tal). Posterior
cell. section of the brain.
Mitral valve (mi'tral). Fibrous tissue leaf- **Olfactory receptors** (ol-fak'to-re). Nerves
lets which open and close between the in the upper part of the nasal cavity
left upper and left lower heart chambers. concerned with the sense of smell.
Closure prevents reflux blood. **Optic nerve** (op'tik). Second cranial nerve
Monosaccharide (mon'o-sak'a-rid), A with special sense of sight.
simple sugar which cannot be decom- **Organ of Corti**. The hair cells (final
posed by hydrolysis. sensory receptors of sound) located in
Mono-unsaturated (mon'o-un-sat'u-rat- the inner ear.
ed). An organic compound such as a **Osteomalacia** (os'te-o-ma-la'she-a). Softfatty
acid in which two carbon atoms are ening of the bone due to loss of calcium.
united by a double bond. Occurs chiefly in adults.
Motor nerves. Nerves which activate **Osteoporosis** (os'te-o-po-ro'sis). Abnormuscles
and glands by conducting im- mal porousness or rarefaction of bone
pulses away from the center (brain); due to failure of the osteoblasts to lay
efferent nerves, down bone matrix, and occurring when
Mucous membrane (mu'kus). Thin layer resorption dominates over mineral depoof
smooth tissue which lines many cavi- sition.
ties and has special ability to secrete a **Oval window**. Division between middle
slimy fluid called mucus. and inner ear.
Muscle. Groups of special cells (muscle **Ovarian follicles** (o-va're-an fol'li-kls).
fibers) with the ability to contract or Blisterlike formations on the ovary which
shorten. rupture when they ripen and release the
egg cell of reproduction in the female.
Ovaries (o'vah-res), The two sex glands **Phospholipid** (fos'fo-lip'id). A fat in
in the female which produce egg cells which one fatty acid is replaced by phosfor
reproduction. phorus and a nitrogenous compound.
Ovulation (ahv-u-la'shun). Discharge of **Photosynthesis** (fo'to-sin'the-sis). Forthe
egg from the ovary. mation of carbohydrate from carbon di-
Ovum (o'vum). Female egg cell of repro- oxide and water in the chlorophyll tissue
duction, of plants under the influence of light.
Oxygen (ok'si-jen). Gaseous element **Pinna** (pin'nah). Auricular appendage;
found in free air; essential to life of portion of external ear visible at sides of
human tissue cells. the head.
Oxygenated (ok'si-je-na-ted). Saturated **Pituitary gland** (pi-tu'i-tar-e). The "maswith
oxygen. ter" gland of the body, so-called because
of the many ways it controls and influences
organs and body processes.
Plasma (plaz'mah). Fluid portion of blood
in which cells are suspended.
Pancreas (pan'kre-as). A gland which is **Pleura** (ploor'ah). Membranous sac which
both endocrine and exocrine; located encloses the lungs and lines the chest
behind the stomach, the pancreas pro- cavity. *Parietal* pleura lines the chest
duces secretions concerned with diges- cavity andvisceralpleura adheres closely
tion, to the lungs.
Pantothenic acid (pan'to-then'ik). A **Polysaccharide**(pol'e-sak'ah-rid). Acommember

of the vitamin B complex. plex carbohydrate which contains more
Parathyroid glands (par-ah-thi'roid). then ten molecules of monosaccharides
Two pairs of small endocrine glands combined with each other.
usually attached to the back of the thy- **Polyunsaturated** (pol'e-un-sat'u-rat'ed).
roid gland. An organic compound such as a fatty
Pelvis (pel'vis). Bony structure surround- acid in which there is more than one
ing the pelvic cavity, double bond.
Peptide (pep'tid). A compound of two or **Pregnancy** (preg'nan-ce). Condition in
more amino acids containing one or more which the fertilized egg normally is impeptide
bonds. Peptides are formed as planted in the uterine lining, grows and
intermediary products of protein diges- develops for about 9 months until the
tion. infant is capable of living in the outside
Periosteum (per-e-os 'te-um). Double environment.
layer of connective tissue which covers **Prophylaxis** (pro'fi-lak'sis). Preventive
bone except at joints; inner layer can treatment.
make new bone. **Prostate** (pros'tate). Gland in the male
Pesticide (pes'ti-sid). A poison used to which surrounds the bladder neck and
destroy pests of any sort. The term contributes secretions to seminal fluid.
includes fungicides, insecticides, and **Proteinuria** (pro' te-i-nu 're-a). Presence
rodenticides. of protein in the unne.
Pharynx (far'inks). Area in the back of **Ptyalin** (ti'a-lin). The starch-splitting enthe
throat located between mouth and zyme amylase of saliva.
nose and upper end of the esophagus. **Puberty** (pu'ber-te). Onset of sexual ma-
Phenylketonuria (PKU) (fen'il-ke-ton- turity; appearance of adult secondary
nu're-ah). An inborn error of the me- sex characteristics.
tabolism of phenylalanine; phenylpyru
vic acid appears in the urine.
Pulmonary artery (pub'mo-ner-e). Vessel
which carries venous blood from right
lower heart chamber to the lung for
oxygenation. **Sclera** (skle'ra). The white outer coat of
Pulmonary valve. Fibrous tissue leaflets the eye which extends from the optic
which open and close between the right nerve to the cornea.
ventricle and pulmonary artery, prevent- **Scrotum** (skro'tum). Two-compartment
ing backflow of blood, pouch of tissue located externally on the
Pulmonary vein, Vessel which returns male body; contains the testes.
oxygenated blood from the lung to the **Sebaceous glands** (se-ba'shus). Oil-seleft
upper heart chamber. creting glands.
Pupil. Opening at the center of the iris. **Semen** (se'men). Thick white fluid which
Purine(s) (pu'ren). A nonprotein het- contains sperm and other secretions; diserocyclic
nitrogenous base. End prod- charged by the male during sexual interucts
of nucleoprotein metabolism, course.
Pyridoxine (pi'ri-dok'sin). Vitamin B_6, a **Semicircular canals**. Three bony canals
member of the vitamin B complex. of the inner ear.
Seminal vesicle (ves'i-kl). Two small
pouches attached to the bladder which
join with the seminal ducts to form the
Red blood cells. Erthrocytes which are the ejaculatory ducts.
iron and oxygen- bearing cells of the **Sensory perception**. Recognition of senblood.
sation such as pain, touch, pressure, and
Reproduction (re-pro-duk'shun). Process heat.
of creating new life by fusion of male **Sensory receptors**. Rods and cones in the
spermatozoon with female ovum, retinal layer which are stimulated by

Respiration (res-pi-ra'shun). Inspiration light rays to conduct nerve impulses to
and expiration of air via the lungs. the brain via the optic nerve.
Reticuloendothelial system (re-tik'u-bo- **Serum globulin** (glob'u-lin). A protein
en'do-the'le'al). Group of cells, except constituent of blood plasma associated
leukocytes, with phagocytic properties. with antibodies and immune substances.
Retina (ret'i-nah). The seeing mem- **Skeletal muscle**. Muscle which is conbrane

lining the inside of the posterior nected to bone.
eye where images are focused by the **Skeleton**. Bony framework of the body.
lens and cornea then transmitted to the **Skin appendages** (ah-pen'di-jes). Hairs,
brain via the optic nerve. nails, sweat glands, oil glands and ducts.
Rhodopsin (ro-dop'sin). Visual purple, **Smooth muscle**. Involuntary muscle tisformed
in the rods of the retina by com- sue which backs cross- striations on mibining
the protein opsin and vitamin A croscopic exam; found in areas such as
aldehyde. the gastrointestinal tract, respiratory tract,
Riboflavin (ri'bo-fla'vin). Heat-stable and uterus.
factor of B complex, sometimes called **Sperm; spermatozoon** (sper-mahvitamin
B_2. tozo'on) (pl. -zoa). Male germ cell.
Ribonucleic acid (RNA) (ri-bo-nu'kle- **Spermatic cord** (sper-ma'tik). Tubal pasik).
A nucleic acid replicated from DNA sageway by which the testis is suspended
and found in cytoplasm. in the scrotum.
Round window. Membrane through
which sound waves escape after passing
hair cells.
Spinal cord. The major pathway for trans- **Tocopherol** (to-kof'er-ol). An alcoholmission
of nerve impulses between the like substance, several forms of which
brain and all parts of the body. The have vitamin E activity.
spinal cord extends about 18" from the **Toxin** (tok'sin). A "poisonous" substance;
base of the brain down the spinal canal, one capable of damaging body cells.
Spleen. A large lymphoid organ located in **Trachea** (tra'ke-ah). Passageway for air
the left upper abdomen behind the stom- between larynx and bronchi.
ach. The spleen plays a role in the **Trichinosis** (trik'i-no'sis). A disease due
production, storage, and destruction of to infection with trichinae—parasites
blood cells, and in lymphocyte pro- found in raw pork.
duction. **Tricuspid valve** (tri-kus'pid). Valve with
Staples (sta'pez). One of the three audi- three fibrous tissue leaflets which open
tory ossicles; stirrup- shaped. and close between the right upper and
Steatorrhea (ste'a-to-re'a). Presence of right lower chambers of the heart to
an excess of fat in the stools. prevent backflow of blood.
Striated muscle (stri'a-ted). Muscle which **Trigone of bladder** (tri'gon). A triangular
has cross-striations on microscopic area at the base of the urinary bladder.
exam; found in skeletal muscles. **Tularemia** (too'la-re'me-ah), A disease
Synovial membrane (si-no've-al). Lin- of rodents, resembling plague, which is
ing of the joint capsule. transmitted by the bites of flies, fleas,
Synthesis (sin'the-sis), The process of ticks, and lice and may be acquired by
building up a chemical compound. man through handling of infected animals.
Tympanic membrane (tim-pan 'ik). Eardrum.

Tendon (ten'don). Fibrous tissue structure
which serves to connect muscle to
bone and other parts.
Testes (tes'tes) (sing. -is). The two glands
situated in the male scrotum which pro- **Urea** (u-re'a). The chief nitrogenous end
duce sperm. product of protein metabolism in the
Thiamine (thi'am-in). Vitamin 1 body.
Antineuritic factor, member of the B **Ureter** (u-re'ter; u're-ter). One of two
complex. small diameter tubes extending from the
Thoracic (tho-ras'ik). Pertaining to the kidney to the bladder; conveys urine.
chest. **Urethra** (u-re'thrah). Passageway which
Thymus (thi'mus). A gland located in the extends from the urinary bladder to the
neck and upper chest which is thought to body exterior for the elimination of urine.
play a role in the immune mechanism of **Urinate** (u'ri-nate). To empty the urinary
the body. bladder.
Thyroid gland (thi'roid). An endocrine **Urine** (u'rin). Waste-containing liquid
gland located in the anterior neck at the produced by the kldneys, stored in the
trachea. Secretions of the thyroid gland bladder, and eliminated through the ureare
important in certain metabolic pro- thra.

cesses. **Uterus** (u'ter-us). The womb, a muscular
Thyrotoxicosis (thi'ro-tok'si-ko'sis). A organ in which the fertilized ovum is
morbid condition resulting from implanted and develops.
overactivity of the thyroid gland.
Vagina (vah-ji'nah). Passageway for in- **Voluntary nervous system**. Nerves which
fant birth, act in response to human will.
Vas deferens (vas def'er-ens). The excre- **Vulva** (vul'vah). External genitalia of the
tory duct of the testis; also called ductus female.
deferens.
Vascular (vas'ku-lar). Pertaining to vessels.
Vein, Vessel which carries blood in the **Wernicke-Korsakoff syndrome** (ver' nidirection
toward the heart. ke-kor-sak'of). A psychosis which is
Ventricle (ven'tri-kl). One of the two usually based on chronic alcoholism,
(right and left) lower chambers of the probably due to prolonged thiamine deheart.
ficiency.
Venule, A very small vein. **White blood cells.** Principally three types
Vertebral column (ver'te-bral). Series of of corpuscles (cells) normally present in
bones or vertebrae which make up the blood—lymphocytes, monocytes, and
bony spine. granulocytes.
Viscera (vis'er-ah). Internal organs within
the chest, abdominal and pelvic cavities.
Vitreous humor (vit're-us). Transparent
substance of raw eggwhite consistency **Xerophthalmia** (ze'rof-thal'mi-a). A dry
which fills the posterior cavity of the and lusterless condition of the conjunceyeball.
Vitreous also is called the hya- tiva of the eyes resulting from a vitamin
loid. A deficiency.
Vocal cords (vo'kal cords). Fibrous, elastic
ligaments in the larynx which func437
tion to produce voice.
Voluntary muscle. Muscle under control **Zein** (ze'in). A protein obtained from
of the conscious will.

APPENDIX 1

Formulas for Skin Remedies and other Preventive Agents

Many topical agents are in common use for the treatment or prevention of disease. Various classes of these will be listed below to guide in their proper use:

A. ANTISEPTICS

1. **Cresol** *(Lysol).* A potent disinfectant, but one which should never be taken internally.
2. **Hexachlorophene**. This is incorporated in soaps and creams, such as *Phisohex.* It should not be left on the skin or be applied for prolonged periods to a newborn, as brain damage has been reported with its use.
3. **Merbromin** *(Mercurochrome)* and **thimerosal** *(Merthiolate).* These are organic mercury-containing compounds used primarily for disinfecting the skin, and on cuts and abrasions.
4. **Silver Nitrate** ($AgNO_3$). This is used in a 1% solution on the eyes to prevent *ophthalmia neonatorum.*
5. **Tincture of Iodine** (2% iodine). This is a common antiseptic for use on the skin for surgical procedures. It should not replace simple cleansing for cuts and scratches.
6. **Halazone**. 4-8 mg./L of this compound can be used to disinfect small amounts of drinking water.
7. **Hydrogen Peroxide** ($H_2 0_2$). A 3% solution may cleanse a wound by bubbling out foreign material and by oxidizing germs.
8. **Isopropyl alcohol**. A 50% solution is used on the skin for disinfection before injection and for drying purposes.
9. **Benzalkonium chloride** *(Zephiran).* This is an antiseptic solution of the cationic type, used to cleanse minor cuts and abrasions.

B. COUNTERIRRITANTS

Counterirritants may lessen pain by distracting the patient' s attention, and redden the skin by producing reflex vasodilation. The basic mechanism is irritation. They produce warmth, but may even cause blisters.

SKIN REMEDIES

1**. Mustard** plaster has been used in past generations, applied to the chest in bronchitis, or the back in backache.
2**. Methyl Salicylate** may be rubbed over painful joints.
3. **Oil of wintergreen** is used similarly for counterirritation in cases of arthritis.

C. CAUSTIC AGENTS

These are corrosive substances that coagulate protein. They are primarily used to remove granulation tissue, excessive growths, or warts. They may also be used for a styptic effect to stop bleeding.

1. **Silver nitrate** is used on an applicator stick to remove granulation tissue.
2. **Podophyllum** is useful in removing venereal warts. Protection of surrounding normal skin with Vaseline is essential.
3. **Alum** ($Al_2[S0_4]_3$) was formerly used on canker sores. It has a *styptic* effect.

D. **ASTRINGENTS**

These agents produce mild coagulation of tissue proteins and are used to dry, harden, and protect the skin.

1. **Zinc oxide** (ZnO). In powder and ointment form this acts as a protective sun screen, also as a drying agent.
2**. Calamine lotion** (contains $ZnCO_3$). This widely used protective helps to relieve itching and is commonly used on insect bites and *poison ivy.*
3. **Compound tincture of benzoin.** This mixture of *benzoic* and *cinnamic* acids with resins and essential oils gives protection to the skin. It is also used in vaporizers and helps to toughen the skin areas sensitive to pressure sores in prolonged bed patients.
4. **Selenium sulfide lotion** *(Selsun)* is used as a detergent lotion and shampoo in dandruff of the scalp *(seborrheic dermatitis).*
5. **Benzoic** and salicylic ointment *(Whitfield's ointment).* This contains 12% and 6% of the respective acids. This has been used to treat fungal infection of the skin and tends to cause peeling.

E. PROTECTIVES

Protectives are agents which smooth, soften, and otherwise protect the skin. They are most used as ingredients in powder, ointments, and dressings.
1. **Poultices** are substances applied as a moist water base dressing. They usually are left on for several hours to hasten the "pointing" in boils. Poultices provide some comfort in relief of pain. Here are a few types:
a. *Linseed* poultice.
b. *Cataplasm* of *kaolin* (mud packs).
c. Oatmeal *(aveno).*
d. Starch.
e. Flax seed.
f. Charcoal.
These various poultices are soothing to the skin and relieve itching. They may be combined with anti-inflammatory agents.
2. **Demulcents** soothe and protect the skin by providing extra surface covering or lubrication. Starch and purified talc (magnesium trisilicate) are used as lubricating powders. They may be useful for diaper rash and oversensitive skin.
3. **Flexible collodion** *(cellulose tetranitrate* in ether and alcohol) can be used to cover sutured areas in babies or on the scalp. It is generally used for protection.
4*.* **Paraffin.**

F. EMOLLIENTS

Emollients soften and lubricate the skin and mucous membranes. They are usually ingredients in various ointments.
1. **Theobromine** oil (cocoa butter) is a base commonly used for suppositories.
2**. Olive** oil may be used as an enema.
3. **Liquid petrolatum** (mineral oil) is used for a laxative and a solvent.
4. **Petrolatum** (petroleum jelly) serves as an ointment base and a lubricant.
5. **Lanolin** (hydrous wool fat).
6. **Glycerin**.

G. ADSORBENTS

A number of chemically inert powders are used internally as protectives to the gastrointestinal tract and adsorbents. The latter term implies a surface

active property by which noxious substances, such as gases, toxins, and bacteria are attracted to the surface to which they adhere.

1. **Activated charcoal.** An odorless, tasteless, fine black powder that occupies a favored place in the treatment of dyspepsia, flatulence, diarrhea, and dysentery. It is particularly effective in the dry state and is the chief protective agent in modern gas masks. Because of its broad spectrum of adsorptive activity and its rapidity of action, activated charcoal is considered to be the most valuable single agent for the emergency treatment of certain cases of drug poisoning. In such an emergency, the usual dose of 1-8 grams can be approximated by stirring sufficient activated charcoal into water to make a thick soup. (See Chapter 18 for further discussion of the home uses for activated charcoal.)

2. **Magnesium trisilicate**. In addition to its use in antacids, it is an effective gastrointestinal adsorbent. Reacting with a patient' s gastric contents it produces the gelatinous *silicon dioxide,* said to protect ulcerated mucosal surfaces and favor healing.

3. **Kaolin.** This hydrated aluminum *sulfate* has long been used in China for the treatment of diarrhea and dysentery. It tends to adsorb bacteria and toxins in the colon and is usually given as a mixture with pectin.

4. **Pectin**. Obtained from the acid extraction of the rind of citrus fruits or from apple. Pectin is widely employed in the treatment of diarrhea. Dissolved in 20 parts of water it forms a colloidal solution. Pectin (1%) is often used in combination with an adsorbent, such as kaolin (20%). However, it may be administered simply and conveniently in the form of ground, raw apple.

These are just a few of the common agents used in the treatment of skin conditions. A wide array of mixtures can be obtained with various herbs in conjunction with some of the above vehicles.

In general, *creams* are used to soothe dry scaly lesions while *ointments,* consisting of an oily rather than a water base, are applied more commonly to moist, weeping lesions. Prolongation of the effect of any topical agent can be obtained by covering with a polyethylene film, such as *Saran Wrap* or wearing a plastic or rubber glove. Prolonged covering of the skin is inadvisable in most cases, because of the maceration that occurs in contact with prolonged moisture.

In treating skin disease remember the importance of **sunlight**, not only to kill germs, but to "tone up" the exposed skin. Bathing with soap and water and frequent changes of clothing also promote a health of our skin that can make visible the well-being we desire to possess.

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CLASSICS OF PUBLIC HEALTH AND MEDICINE

Code of Hammurabi. This code, dating from c. 2000 <B.<C.<E., is among the oldest extant medical documents. It suggests ways to stay healthy, and includes rules of behavior and fee schedules for the priest-physicians of ancient Babylon, providing interesting insights into Babylonian civilization. It is summarized in H. E. Sigerist, *History of Medicine*, Vol. 1, *Primitive and Archaic Medicine* (New York: Oxford University Press, 1951).

Hippocrates. "Airs, Waters, Places" and "On Epidemics," in *Hippocratic Writings*, ed. G. R. Lloyd (New York: Penguin, 1978). The surviving documents from the medical school of Hippocrates of Cos, located at Epidaurus c. 440–330 <B.<C.<E., reveal some of the best features of classical Greek civilization. They cover many aspects of medicine, including clinical descriptions of diseases, as well as the oath that is still used as the foundation for good medical conduct and much teaching of medical ethics. "Airs, Waters, Places" was the first text on environmental health; it includes ideas on how individuals and communities can protect good health. "On Epidemics" contains many good descriptions of contagious and other diseases of public health importance.

Regimen Sanitas Salernitarum. Translated by P. Parente as *The Regime of Health of the Medical School of Salerno* (New York: Vantage, 1967). First published in 1484, the material gathered in this text of the Salerno medical school dates from the late thirteenth century and consists of double-rhymed Latin hexameters describing many sensible dietetic and hygienic precepts, including avoidance of overeating and the desirability of personal cleanliness.

Fracastorius (Girolamo Fracastoro). *De contagione* (Venice: Lucaeantonij Iuntae Florentini, 1546). Translated by W. C. Wright as *On Contagion* (New York and London: Putnam, 1930). This is the first systematic description of ways infection can be transmitted—by direct contact, via infected items such as clothing and utensils, or by droplets, as in coughing and sneezing. Fracastorius did not, however, identify vector-borne transmission or the role of contaminated water and food. Fracastorius also wrote a mock-heroic poem, *Syphilis, sive morbis gallicus* (1530), about a swineherd, Syphilis, afflicted with the disease that ever since has carried his name. Fracastorius recognized that this disease is sexually transmitted and he suggested that diseases might be transmitted by invisible particles, and was therefore ahead of his time in hinting at a "germ theory" of disease.

Graunt, John. *Natural and Political Observations, Mentioned in a Following Index, and Made upon the Bills of Mortality* (London, 1662; reprint, North Stratford, NH: Ayer Company Publishers, 1975). Graunt was the first to use records of deaths and their causes to analyze the state of a population's health. His analysis of the London population showed that male mortality rates were higher than those of females at all ages from birth onward, revealed urban-rural differences in mortality rates, and showed the fluctuations of those rates due to epidemics, notably of the plague. Graunt's work was the founding text for the science of vital statistics.

Petty, William. *An Essay Concerning the Multiplication of Mankind; Together with Another Essay on Political Arithmetic* (London and Dublin: 1682). Petty's work emulated Graunt's. He examined records of ages and causes of death in London,

Dublin, and other cities, emphasizing the economic implications of premature deaths among those who produced the nation's wealth.

Halley, Edmund. "An Estimate of the Degrees of Mortality of Mankind, Drawn from Curious Tables of the Births and Funerals at the City of Breslaw, with an Attempt to Ascertain the Price of Annuities upon Lives." *Philosophical Transactions of the Royal Society* 17 (1683):596–610. An important advance in vital statistics, this work provided the foundation for life insurance and the work of actuaries.

Ramazzini, Bernardino. *De morbis artificum diatriba* (Modena: 1713). Translated by W. C. Wright as *Diseases of Workers* (New York: Academy of Medicine, 1964). A descriptive catalogue of the illnesses—mostly attributable to exposure on the job—commonly found among workers in many occupations. This is the first text on occupational medicine.

Lind, James. *A Treatise of the Scurvy* (Edinburgh: 1753; reprint, Edinburgh: University of Edinburgh Press, 1953). This work is often cited as the earliest example of a clinical trial. Lind used pairs of sailors who were allocated various dietary regimens to demonstrate that small daily doses of lime juice prevented the onset of scurvy on long sea voyages. Lind thus showed also that this disease was not contagious but associated with a dietary deficiency.

Frank, Johan Pieter. *System einer vollständigen medicinischen Polizey* (Vienna and Budapest: 1779). Translated by E. Lesky as *A System of Complete Medical Police* (Baltimore, MD: Johns Hopkins University Press, 1976). Frank's massive, multivolume work discusses many aspects of personal and public health and prescribes rules and laws for such practices as city cleanliness, the inspection of food premises, and the regulation of prostitution. It also contains many suggestions about diet and lifestyle. It is the foundation text for public health law and adopts a paternalist approach that has prevailed until at least the middle of the twentieth century.

Jenner, Edward. *An Inquiry into the Causes and Effects of the Variolae Vaccinae* (London: 1798; reprint, London: Dawsons, 1966). Jenner describes his successful experiment with cowpox vaccine in this short book, which may be the most important single work in the field of public health published anywhere in the past millennium. This work led directly to the World Health Organization campaign responsible for the eradication of smallpox, among the most deadly of all the contagious epidemic diseases, less than two hundred years later.

Malthus, Thomas. *An Essay on the Principle of Population, or a View of Its Past and Present Effects on Human Happiness with an Inquiry into Our Prospects Respecting the Future Removal or Mitigation of the Evils Which It Occasions* (London: J. Johnson, 1798; reprint, Cambridge: Cambridge University Press, 1992). Malthus uses simple arithmetical calculations to show that human reproductive rates would sooner or later outstrip the capacity of food supplies to sustain the numbers in the population. His method is sound, but his predictions of imminent famine are invalid because he does not allow for the increases in food production in the Americas and Australia in the nineteenth century. All that may have been wrong is his time scale: The Malthusian crisis could yet overtake humanity.

Louis, Pierre Charles Alexandre. *Recherches anatomico-pathologiques sur la phtisie* (Paris: C. Gabon, 1825). Translated by W. H. Walshe as *Researches on Phthisis: Anatomical, Pathological, and Therapeutical* (London: Sydenham Society, 1844). This work and others by Louis laid the foundations for statistical analysis of medical data and was instrumental in establishing the science of medical statistics.

Henle, Friedrich Gustav Jacob. *Von den Miasmen und Contagien* (Berlin: 1840). Translated by G. Rosen as *On Miasmata and Contagia* (Baltimore, MD: Johns Hopkins University Press, 1938). Henle's critical analysis of the characteristics of contagion is among the works that stimulated the rise of the germ theory of disease.

Chadwick, Edwin. *Report on the Sanitary Condition of the Labouring Population of Great Britain* (London: Her Majesty's Stationery Office, 1842; reprint, Edinburgh: University of Edinburgh Press, 1965). A monumental work by a dedicated civil servant, Chadwick's report describes the appalling and unsanitary conditions under which the vast majority of people lived in the new cities that grew up in the early phases of the Industrial Revolution. This work set the scene for new legislation regulating housing conditions, and was thus seminal in transforming sanitary and hygienic conditions that were the most important single contributing factor for the improvements in public health in the second half of the nineteenth century in Britain and in other industrial nations that followed Britain's lead.

Holmes, Oliver Wendell. "The Contagiousness of Puerperal Fever." *New England Quarterly Journal of Medicine and Surgery* 1 (1842):503–540. Holmes, a Boston physician, published in this paper the evidence that women in child labor who were attended by physicians who washed their hands before attending them were much less likely to get puerperal fever, which at that time caused many maternal deaths soon after childbirth. Unfortunately, most of his colleagues ignored his findings and women continued to die of this preventable obstetric disaster.

Shattuck, Lemuel. *Report to the Committee of the City Council Appointed to Obtain the Census of Boston for the Year 1845* (Boston: 1846; reprint, New York: Arno Press, 1976). This work is a comprehensive census assessment of the city of Boston in the mid-nineteenth century, a landmark in statistical census data and its contribution to public health. It includes twenty-two sections on various features of Boston's population and living conditions, including birthplace, water supply, education, health, occupation, wealth, marriages, and deaths.

Semmelweis, Ignaz. *Die Aetiologie, der Begriff und die Prophylaxis des Kindbetfiebers* (Pest, Wien, and Leipzig: C.A. Hartleben's Verlags-Expedition, 1861). Translated by F. P. Murphy as *The Etiology, the Concept, and the Prophylaxis of Childbed Fever* (Birmingham, AL: Classics of Medicine Library, 1981). Semmelweis's work is among the first uses of epidemiological methods to establish the causal relationship of behavior (e.g., personal hygiene) to occurrence of a deadly disease, puerperal sepsis, which was killing many women whose child labor was supervised by physicians who did not wash their hands. These findings, like those of Holmes, were rejected by the conservative medical establishment in Vienna. However, Semmelweis's work, published fifteen years after he wrote it, is epidemiologically excellent.

Drake, Daniel. *A Systematic Treatise, Historical, Etiological, and Practical on the Principal Diseases of the Interior Valley of North America* (Philadelphia, PA: Lippincott, Grambo, & Co., 1854; reprint, New York: Franklin Burt Publisher, 1971). A classic of early American medicine, initially published in installments from 1850 through 1854, this is a descriptive account of the findings from a survey Drake conducted to investigate the health and sanitation problems encountered by pioneering settlers as they colonized the American West.

Shattuck, Lemuel, et al. *Report of the Sanitary Commission of Massachusetts* (1850; reprint, Cambridge: Harvard University Press, 1950). The American replication of Chadwick's report, this work was likewise instrumental in leading to improved public health in the industrial heartland of the United States in the late nineteenth century.

Snow, John. *On the Mode of Communication of Cholera* (London: Churchill, 1855). This monograph describes Snow's rigorous logical analysis of the facts that led him to conduct his epidemiological investigations establishing the role of drinking water polluted with sewage in the transmission of the agent that causes cholera. It is a seminal work on epidemiology that can still be used to teach the subject today.

Darwin, Charles. *On the Origin of Species by Means of Natural Selection; or, The Preservation of Favoured Races in the Struggle for Life* (London: John Murray, 1859; reprint, Cambridge: Harvard University Press, 1990). The most significant work on human biology of the past millennium. Darwin presents evidence that establishes beyond any doubt that living creatures, including humans, have undergone prolonged evolutionary changes extending over several billion years since life first appeared on Earth. Humans have been shown by subsequent paleontological discoveries to have evolved over the past 4 million to 6 million years.

Nightingale, Florence. *Notes on Hospitals* (London: Longman 1863; reprint, New York: Garland, 1989). Nightingale, famous as the founder of modern nursing practice, was a major figure in public health and vital statistics, a member of the London Epidemiological Society, and a prominent social reformer. In this, her most important book, she describes and discusses hygienic design of hospitals and outlines the ways in which records of patient care in hospitals could be used to compile sickness statistics.

Galton, Francis. *Hereditary Genius: An Inquiry into its Laws and Consequences* (London: Macmillan, 1869; reprint, New York: St. Martins, 1978). A classic of human genetics that treats the topic with attention to mathematical probabilities, this work has become a template for later works on biostatistics, such as Karl Pearson's equally significant work, *The Grammar of Science* (New York: Charles Scribner's Sons, 1895; reprint, Gloucester, MA: Peter Smith, 1969).

Farr, William. *Vital Statistics; a Memorial Volume of Selections from the Reports and Writings of William Farr*, ed. N. A. Humphreys (London: The Sanitary Institute, 1885; reprint, Metuchen, NJ: Scarecrow Press, 1975). Farr's many contributions to vital statistics and epidemiology are scattered throughout his annual reports and other writings. Humphreys compiled them in this commemorative volume.

Pasteur, Louis. *Oeuvres* (Paris: Masson, 1922–1939). Pasteur's scientific papers appeared over many years in the mid- to late-nineteenth century. Summaries in English are found in a 1952 biography by René Dubos, *Louis Pasteur: Freelance of Science* (Boston: Little, Brown).

Koch, Robert. *Gesammelte Werke* (Leipzig: G. Thieme, 1912). Koch's prolific publications are scattered among many sources and are not readily accessible. Several summary accounts of his life and work are available. Koch made his major discoveries, including the tubercle bacillus and the cholera vibrio, in the 1880s. One good recent account in English, with summaries of key contributions, appears in Alfred S. Evans, *Causation and Disease* (New York: Plenum, 1993), pp. 18–31.

Virchow, Rudolph Ludwig Karl. *Gesammelte Abhandlungen aus dem Gebiete der offentlichen Medicin und der Seuchenlehre* (Berlin: A. Hirschwald, 1879). Translated by R. Rather as *Collected Essays on Public Health and Epidemiology* (Canton, MA: Science History Publications, 1985). This two-volume collection contains many of Virchow's most important contributions to public health, mostly dating from the last three decades of the nineteenth century.

Finlay, Carlos Eduardo. *Fiebre amarilla experimental* (Havana: Manzana Central, 1904). Translated by R. Matas as *The Mosquito Hypothetically Considered as an Agent in the Transmission of Yellow Fever Poison* (Chapel Hill, NC: Delta Omega Society, 1989). This work by the great Cuban physician and epidemiologist Finlay led to the work undertaken by Finlay and Walter Reed that elucidated the epidemiology of yellow fever.

Simon, John. *English Sanitary Institutions Reviewed in Their Course of Development and in Some of Their Political and Social Relations* (London: Cassell, 1890; reprint, New York: Johnson Reprint Company, 1970). Simon was the first Chief Medical Officer of England and Wales, a physician, and a public health specialist. Of his many books, this best summarizes his life's work and his professional outlook.

Ross, Ronald. "The Role of the Mosquito in the Evolution of the Malaria Parasite." *Lancet* 2 (1898):488–489. Among Ross's numerous publications, this is the most important, being the first description of the essential role of mosquitoes in the transmission of malaria.

Goldberger, Joseph. *Goldberger on Pellagra*, ed. M. Terris (Baton Rouge: Louisiana State University Press, 1964). This is a collection of Goldberger's papers on pellagra, a common seasonal disease in the southern United States in the late nineteenth and early twentieth centuries. Goldberger, sometimes with coauthors, wrote many papers describing his research, establishing that dietary deficiency of vitamin B_2 caused pellagra.

Sheppard-Towner Act. In passing the Sheppard-Towner Act (the Infant and Maternity Act of 1921), the U.S. Congress made funds available, to be matched by the states, to assist in developing maternal and child health programs throughout the country. Opposition by medical associations and others to this "intrusion" of the federal government into medical care led to the act's lapse in 1927, but the precedent led to its reestablishment in the 1935 Social Security Act.

Winslow, Charles-Edward Amory. *The Evolution and Significance of the Modern Public Health Campaign* (New Haven, CT: Yale University Press, 1923). A seminal work on the framework of organized public health services, this volume set the scene for public health in the industrial nations, especially in the United States, throughout much of the remainder of the twentieth century. Winslow was one of the leading creative thinkers in public health in the early twentieth century.

Sydenstricker, Edgar. *The Challenge of Facts; Selected Public Health Papers of Edgar Sydenstricker*, ed. R. V. Kasius (New York: Prodist, 1974). Sydenstricker was one of the leading figures in American public health in the late nineteenth and early twentieth centuries, during which time he brought to the discipline a renewed intellectual rigor combined with epidemiological insights.

Frost, Wade Hampton. *Papers of Wade Hampton Frost, M.D.; A Contribution to Epidemiological Methods*, ed. K. F. Maxcy (New York: Commonwealth Fund, 1977). Frost (1880–1938), the leading epidemiologist of his time, was a professor and head of epidemiology at the Johns Hopkins University School of Hygiene and Public Health.

Fleming, Alexander. "On the Antibacterial Action of Cultures of a Penicillium, with Special Reference to Their Use in the Isolation of B Influenzae." *British Journal of Experimental Pathology* 10 (1929):226–236. The paper reports Fleming's original observation, which led to the development by Fleming, Howard Florey, and Ernst Chain of penicillin, the first true antibiotic.

Watson, James D., and Crick, Francis H. "Molecular Structure of Nucleic Acids: A Structure for Deoxyribose Nucleic Acid." *Nature* 171 (4356)(1953):737–738. This is the first paper describing the molecular structure of DNA, from which the science of molecular genetics and the human genome project have developed.

IMPORTANT MODERN MONOGRAPHS, REPORTS, AND OTHER DOCUMENTS

Sinclair, Upton. *The Jungle* (New York: Doubleday, Page, and Co., 1906). A striking exposé of the grossly unsanitary conditions that prevailed in the slaughtering segment of the meat industry, Sinclair's work aroused public revulsion, prompted political action to clean up the situation, and inspired the century-long campaign in the United States for pure food.

Beveridge, Sir William. *Social Insurance and Allied Services* (London: His Majesty's Stationery Office, 1942). As chairman of the writing committee, Beveridge organized this report that became the blueprint for the British National Health Service. Much of what Beveridge recommended was implemented by the Labour government that took office in the United Kingdom near the end of World War II.

Commission on Chronic Illness. *Chronic Illness in the United States*, Vol.1, *Prevention* (Cambridge, MA: Harvard University Press, 1957). This is the first volume of a four-volume set of reports on major health problems in the United States with causes other than infectious pathogens. The first volume explains the concepts of

primary and secondary prevention and emphasizes the importance of prevention as the best way to control these conditions. Volume 2 of the Commission's report deals with long-term care, Volume 3 considers chronic illness in a rural community, and Volume 4 addresses chronic illness in a large city.

Morris, Jeremy N. *Uses of Epidemiology* (Edinburgh and London: E. and S. Livingstone, 1957). This modern medical classic summarizes the evidence on causes of many noncommunicable diseases, notably coronary heart disease, lung cancer, chronic bronchitis, and the chronic disabling disorders of bones and joints. Later editions update the evidence, but the essential ideas are all contained in this first edition.

Dubos, René J. *Mirage of Health: Utopias, Progress, and Biological Change* (New York: Harper, 1959). This book emphasizes the incompatibility of complete freedom from disease with the process of living. It was one of the early works concerning the limitations of medicine in the search for the solution of all health problems.

Carson, Rachel. *Silent Spring* (Boston: Houghton Mifflin, 1962). A foundation text of the modern environmental movement, Carson's book is a passionate plea to desist from using pesticides that kill insect species with which humans are interdependent.

Royal College of Physicians. *Smoking and Health* (London: Royal College of Physicians, 1962). The work by the Royal College of Physicians was the first authoritative report by a responsible national organization to identify cigarette smoking as a causal agent of lung and other respiratory cancers. This document drew upon all the work published up to that time and was in most respects a more cogent statement than the American one that followed it two years later.

U.S. Public Health Service. *Smoking and Health, Report of the Advisory Committee to the Surgeon General of the Public Health Service* (Washington, DC: U.S. Government Printing Office, 1964). This document is the first American report on the epidemic of cigarette addiction and its causal relationship to cancer. The report was followed by annual reports that continued for many years, reinforcing and adding to the original evidence and demonstrating that tobacco smoking is also a major risk factor for coronary heart disease, emphysema, and various forms of cancer. These subsequent reports also addressed the addictive nature of nicotine and many other harmful consequences of tobacco use in any form.

Roemer, Milton I. *The Organization of Medical Care under Social Security* (Geneva: International Labour Office, 1969). A masterly survey of how collective (generally tax-supported) payment for medical care was arranged in many nations.

President's Committee on Health Education. *Report of the President's Committee on Health Education* (New York: New York Public Affairs Institute, 1973). Appointed by President Richard M. Nixon, the committee recommended establishing a national focal point for health education. The report led to the passage of the National Health Information and Health Promotion Act of 1976, which launched health education programs in Public Health Service agencies.

Lalonde, Marc. *A New Perspective on the Health of Canadians: A Working Document* (Ottawa: 1974). An epochal report (drafted mainly by two career civil servants, Hubert Laframboise and D. D. Gellman, under the direction of Lalonde, then Minister for National Health and Welfare), this document has shaped public health policy in Canada and many other countries.

Sheps, Cecil G. *Higher Education for Public Health: A Report of the Milbank Memorial Fund Commission* (New York: Prodist, 1976). This report constitutes a prescription, written under the commission's chair Sheps, for improved teaching of the sciences and arts of public health.

U.S. Public Health Service, Office of the Surgeon General. *Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention* (Washington, DC: U.S. Government Printing Office, 1979). This comprehensive overview of the state of health of the American people was the first report by the U. S. Surgeon General on health promotion and disease prevention.

U.S. Public Health Service. *Promoting Health, Preventing Disease: Objectives for the Nation* (Washington, DC: U.S. Department of Health and Human Services, 1980). A necessary sequel to *Healthy People*, this document spelled out actions needed to improve health, with target dates by which measurable improvements could be achieved. It is a benchmark document.

Working Group on Inequalities in Health. *Report of the Working Group on Inequalities in Health* (London: Department of Health and Social Services, 1980). Known as the Black Report, the document was commissioned in the late 1970s by the Labour government of Britain, was submitted to the Conservative government led by Margaret Thatcher, and was subsequently suppressed for political reasons. It was published in 1982 as *Inequalities in Health* (London: Penguin) under the names of two of the members of the working group, Peter Townsend and Nick Davidson. (Sir Douglas Black, who had chaired the group, was unable to add his name because of the official position he held, but the report has always been identified with him.) This report was the first definitive statement of the underlying social and economic reasons that in many countries chronic illness, disability, and premature death do not affect all people equally, but disproportionately affect those in the lowest socioeconomic strata.

Barkan, Ilyse D. "Industry Invites Regulation: The Passage of the Pure Food and Drug Act of 1906." *American Journal of Public Health* 75 (1)(1985):18–26. An account of how the continuing effort in the United States to safeguard food and drugs was initiated following the disclosure of the commercial production of adulterated and unsanitary food, particularly the public outrage following the publication of Upton Sinclair's *The Jungle*.

National Academy of Sciences, Institute of Medicine. *The Future of Public Health* (Washington, DC: National Academy Press, 1988). An important review, this report is constructively critical of the way public health services were conducted in the United States.

Guinta, Marguerite A., and Allegrante, John P. "The President's Committee on Health Education: A 20-Year Retrospective on Its Politics and Policy Impact." *American*

Journal of Public Health 82 (1992):1033–1041. This article analyzes the committee's origins, methods, and impact on subsequent developments during the period in which national health policy began to emphasize health promotion.

U.S. Public Health Service, Office on Smoking and Health. *Reducing the Consequences of Smoking—Twenty-Five Years of Progress: A Report of the Surgeon General* (Rockville, MD: U.S. Department of Health and Human Services, 1989). This review of the twenty-five years since the Surgeon General's report of 1964 summarizes the voluminous evidence of and reviews the progress made in the effort to control the smoking epidemic. All the annual reports of the Surgeon General on the health consequences of smoking are worth studying.

U.S. Preventive Services Task Force. *Guide to Clinical Preventive Services: An Assessment of the Effectiveness of 169 Interventions* (Washington, DC: U.S. Public Health Service, Office of Disease Prevention and Health Promotion, 1989). This report is an evidence-based critical analysis of ways to promote good health and prevent many important common diseases, such as various kinds of cancer. It was followed by several others, including, in 1994, the *Clinicians' Handbook of Preventive Services: Putting Prevention into Practice* (Washington, DC: U.S. Department of Health and Human Services).

Airhihenbuwa, Collins O. *Health and Culture: Beyond the Western Paradigm* (Thousand Oaks, CA: Sage Publications, 1995). This book challenges some of the assumptions about health and health promotion that are a product of Western history and culture, drawing contrasts with African history and health concepts.

World Commission on Environment and Development. *Our Common Future: The World Commission on Environment and Development* (Oxford: Oxford University Press, 1987). This commission was headed by Gro Harlem Brundtland, then prime minister of Norway and later director of the World Health Organization. The report, also known as the Brundtland Report, provides the basic arguments concerning the need for sustainable development of the planet and the interconnectedness of global processes of economic and social development with the planetary biosphere.

Rose, Geoffrey A. *The Strategy of Preventive Medicine* (Oxford: Oxford University Press, 1992). A slim volume that expands on ideas first presented in Rose's 1985 paper, "Sick Individuals and Sick Populations" (*International Journal of Epidemiology* 14:32–38), this book emphasizes the importance of dealing with both individuals and groups to control public health problems.

Canadian Task Force on the Periodic Health Examination. *Canadian Guide to Clinical Preventive Health Care* (Ottawa: Minister of Supply and Services, 1994). The Canadian Task Force preceded the U.S. Preventive Services Task Force. In its first report, in 1979, the task force introduced the concept of the hierarchy of evidence, assigning the highest rank to evidence based on randomized controlled trials. This and subsequent work by the Canadian Task Force led to the development of evidence-based medicine.

U.S. Department of Health and Human Services, Office of the Surgeon General. *Physical Activity and Health: A Report of the Surgeon General* (Atlanta, GA: Centers

for Disease Control and Prevention, 1996). A comprehensive review of the evidence that physical activity helps to promote good health for most people.

U.S. Public Health Service Functions Project. *The Public Health Service: An Agenda for the Twenty-First Century* (Washington, DC: U.S. Public Health Service, 1997). At the beginning of the new millennium, the Public Health Service outlined the major public health tasks for the twenty-first century. These tasks are substantially different from those put forward at the beginning of the twentieth century.

U.S. Public Health Service. *Healthy People 2010: The Surgeon General's Report on Health Promotion and Disease Prevention* (Washington, DC: U.S. Department of Health and Human Services, 2001). This is the third such decennial planning document, following those in 1980 (for 1990) and in 1990 (for 2000), setting forth goals and specific health objectives for the United States. The 2010 statement includes two broad goals: to increase the quality and years of healthy life, and to eliminate health disparities among and between racial, ethnic, and other groups.

World Health Organization. *World Health Report* (Geneva: WHO). In addition to statistical summaries and overviews of prominent world public health problems, this annual publication is subtitled to indicate the areas emphasized each year.

WORKS ON THE HISTORY OF HEALTH, MEDICINE, AND PUBLIC HEALTH

Ackerman, Evelyn B. *Health Care in the Parisian Countryside, 1800–1914* (New Brunswick, NJ: Rutgers University Press, 1990). This examination of how the French rural population perceived and dealt with illness gives insights into the social history of health in the nineteenth century. Separate chapters deal with public health efforts, cholera epidemics, and the bacteriological revolution.

Brockington, C. Fraser. *A Short History of Public Health*, 2nd edition (London: Churchill, 1966). This good brief historical review gives more emphasis to contributions by British and European public health workers.

Brodeur, Paul. *The Asbestos Hazard* (New York: New York Academy of Sciences, 1980). In this book aimed at workers and the general population, Brodeur provides an overview of the history of asbestos use and the diseases that it causes. He discusses the pioneering work of Irving Selikoff and his colleagues at Mt. Sinai Medical School. The international scope of the problem is described, as is the resistance that needed to be overcome before the start of concerted public health efforts.

Bullough, Bonnie, and Rosen, George. *Preventive Medicine in the United States, 1900–1990: Trends and Interpretations* (Canton, MA: Science History, 1992). This review of progress through most of the twentieth century is well referenced, with emphasis on public health and some discussion of trends in clinical preventive medicine.

Chesler, Ellen. *Woman of Valor: Margaret Sanger and the Birth Control Movement in America* (New York: Simon & Schuster, 1992). Sanger persistently posed the

question: Whose body is it? She brought her nursing experience to the Lower East Side of New York City and, in 1916, opened the first birth control clinic in the United States. After several weeks, the police raided it and put Sanger in jail. She went on to spearhead the birth control movement through her writings, lectures, and international conferences.

Curtain, Philip D. *Death by Migration: Europe's Encounter with the Tropical World in the Nineteenth Century* (Cambridge: Cambridge University Press, 1989). Curtain provides an account of the interaction of susceptible populations with pathogens to which they had little or no (inherited) resistance.

Fee, Elizabeth, and Acheson, Roy M., eds. *A History of Education in Public Health* (Oxford: Oxford University Press, 1991). A comprehensive survey, this history includes an account of the rise of schools of public health in the United States and elsewhere.

Garrett, Laurie. *The Coming Plague: Newly Emerging Diseases in a World out of Balance* (New York: Farrar, Straus, and Giroux, 1994). A comprehensive survey of new and emerging infections by a first-class science reporter, this book about possible "future history" is highly recommended.

Garrison, Fielding H. *An Introduction to the History of Medicine*, 4th edition (Philadelphia, PA: Saunders, 1929). The definitive work on the history of medicine, this book is still as reliable as it was when first written.

Greenwood, Major. *Medical Statistics from Graunt to Farr* (Cambridge: Cambridge University Press, 1948; reprint, New York: Arno Press, 1977) and *Some British Pioneers of Social Medicine* (Oxford: Oxford University Press, 1948; reprint, Freeport, NY: Books for Libraries, 1970). These are two short works on the history of aspects of public health by the great pioneer epidemiologist who taught at the London School of Hygiene and Tropical Medicine in the 1930s and 1940s.

Hamilton, Alice. *Exploring the Dangerous Trades* (Boston: Northeastern University Press, 1985). An autobiography by a pioneer woman in occupational health, the work describes her personal and professional experiences during a lifetime of work in occupational health and industrial hygiene.

Hamlin, Christopher. *The Science of Impurity: Water Analysis in Nineteenth Century Britain* (Berkeley, CA: University of California Press, 1991). A history of early water science, this book places the sanitation issues of Great Britain during that formative period of public health into historical, philosophical, and social science perspectives.

Lilienfeld, Abraham M., ed. *Times, Places, and Persons; Aspects of the History of Epidemiology* (Baltimore, MD: Johns Hopkins University Press, 1980). These proceedings of a colloquium on the history of epidemiology contain addresses by many leading figures in the field.

Major, Ralph H., ed. *Classic Descriptions of Disease, with Biographical Sketches of the Authors*, 3rd edition (Springfield, IL: Charles C. Thomas, 1978). This work is a

useful anthology of the first systematic descriptions of many important and common diseases.

McKeown, Thomas. *The Origins of Human Disease* (Oxford: Blackwell, 1988). McKeown presents a thoughtful survey of biological, ecological, and behavioral determinants of infections, cancer, heart disease, and other ailments.

McNeill, William H. *Plagues and Peoples* (New York: Doubleday, 1976). This study provides an excellent brief account of the impact of epidemic diseases and food shortages on the health status of people, as well as the influence of these plagues on the rise and fall of civilizations.

Mullan, Fitzhugh. *Plagues and Politics: The Story of the United States Public Health Service* (New York: Basic Books, 1989). A well-written history of the major problems and events in the development of the lead federal health agency in the United States, this work is authored by a public health physician with a good sense of history.

Porter, Dorothy. *Health, Civilization, and the State: A History of Public Health from Ancient to Modern Times* (London: Routledge, 1999). This recent contribution to the field is more comprehensive than the work of either Rosen or Brockington.

Powell, John H. *Bring out Your Dead: The Great Plague of Yellow Fever in Philadelphia in 1793* (Philadelphia: University of Pennsylvania Press, 1993). This book is a historical account of the impact of a yellow fever epidemic that claimed the lives of over 10 percent of the population of Philadelphia and caused its virtual evacuation. The extraordinary and mostly unsuccessful measures taken to combat the epidemic were based on competing schools of thought as to the cause, none of which appreciated the importance of the mosquito vector.

Rosen, George. *A History of Public Health* (New York: MD Publications, 1958; reprint, Baltimore, MD: Johns Hopkins University Press, 1991). Rosen presents a good brief historical survey of public health, particularly for its coverage of American contributions.

—— *From Medical Police to Social Medicine: Essays on the History of Health Care* (New York: Science History Publications, 1974). This work traces the philosophical and conceptual development of personal preventive care services.

Sigerist, Henry. E. *A History of Medicine* (Oxford and New York: Oxford University Press, 1958–1961). The most ambitious work ever conceived on the history of medicine, it was intended to be a massive, multivolume scholarly treatise. Unfortunately, Sigerist, a physician, philosopher, and medical historian, died before he could complete more than these two introductory volumes: *Primitive and Archaic Medicine* (Vol. 1) and *Early Greek, Hindu, and Persian Medicine* (Vol. 2). There is considerable emphasis on public health and preventive medical aspects throughout, as well as a masterly account of the complex interactions of medicine and human society in early civilizations.

—— *Henry Sigerist on the History of Medicine*, ed. F. Marti-Ibanez (New York: MD Publications, 1960). Sigerist is a towering figure in the history of medicine. For the general reader, this is probably the most accessible work among his prolific output.

Winslow, Charles-Edward Amory. *The Conquest of Epidemic Disease: A Chapter in the History of Ideas* (Princeton, NJ: Princeton University Press, 1943; reprint, Madison: University of Wisconsin Press, 1980). This book, probably more so than the same author's history of American epidemiology, traces the development of understanding about causes, methods of spread, and control of epidemic communicable diseases.

Zinsser, Hans. *Rats, Lice and History* (Boston: Little, Brown, 1935). A classic in the history of medicine, this is an eminent bacteriologist's racy account of the impact of epidemics, especially typhus, on the outcome of wars through the ages.

I. Books/Reports/Monographs

Education for More Synergistic Practice of Medicine and Public Health. Hager M (ed.) New York: Josiah H. Macy, Jr. Foundation, 1999.

Final Report: Population-Based Medical Education: Linkages Between Schools of Medicine and Public Health Agencies. Rockville, MD: U.S. Department of Health and Human Services, Health Resources and Services Administration. July 1995.

Institute of Medicine. The Future of Public Health. Washington DC: National Academy Press; 1988.

Institute of Medicine. The Future of the Public‟s Health in the 21st Century. Washington DC: National Academy Press; 2003.

Institute of Medicine. Who Will Keep the Public Healthy? Educating Public Health Professionals for the 21st Century. Washington DC: National Academy Press; 2003.

Lasker RD and the Committee on Medicine and Public Health. Medicine and Public Health: the Power of Collaboration. New York, NY: New York Academy of Medicine; 1997.

Medical School Objectives Project: Report II Contemporary Issues in Medicine: Medical Informatics and Population Health. Washington DC: Association of American Medical Colleges, June 1988.

Peters K, Elster A. Roadmaps for Clinical Practice: Primer on Population-based Medicine. Chicago: American Medical Association, 2002. *(Original not currently available.)*

Seifer, S.D., Hermanns, K., and Lewis, J.: Creating Community-Responsive Physicians. American Association for Higher Education, Washington DC, 2000.

White, KL. Healing the Schism Epidemiology, Medicine, and the Public‟s Health. New York: Springer-Verlag; 1991.

White, KL, Connelly JE (eds.). The Medical School‟s Mission and the Population‟s Health. New York: Springer-Verlag; 1992.

II. Public health and preventive medicine: General/training issues

Allan J, Barwick TA, Cashman S. et al. Clinical prevention and population health: curriculum framework for health professions. Am J Prev Med. 2004; 27(5): 471-6.

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Lewis CE. The untimely death of preventive medicine. Am J Prev Med. 1989; 5(1): 52-4.

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