# HEALTHY FAT LOSS

# FOR A LONGER LIFE

In the pages of this book you will learn:

***what foods to eat to improve your mental powers, step up your vigor***

***how to use today's 3 sensational food supplements***

***harmful food cravings and how to overcome them***

***how to take the nuisance out of calorie counting***

***7 ways to lose weight and keep it lost—automatically***

***how going on and off diets does more harm than good***

***how to figure how long you'll live***

***why you may be wasting money on vitamin pills***

***what the "easy, fast" reducing formulas don't tell you***

***how your eyes, heels, elbows warn of arteriosclerosis***

***how to "cook in" the good in foods you eat***

***fantastic health miracles performed with the new wonder food—lecithin***

***foods that keep older people from feeling their age***

***how a low-fat intake keeps you off the sick list***

***how food supplements guard against virus infections***

***food secrets of people with outstanding vitality***

***why getting fat is worse than being fat***

***how alcohol can be beneficial in your diet***

***how to survive a heart attack to a ripe old age***

***the truth about tobacco and health***

***how much fatty food is safe for you***

***5 "golden rules" of nutrition worth more than all the gold in the world***

We deem it a privilege to have the opportunity to disseminate this important health-giving information through the medium of this book.

The Publishers

# THE SIX THINGS THIS BOOK WILL DO FOR YOU

I he reader may well ask—"What will this book do for me?" or to paraphrase Ben Franklin, "Can it bring me health (which is really wealth), happiness, and wisdom?" It can, for many reasons.

A growing number of books for laymen on the subject of health have appeared in the past decade. Never before has there been such widespread popular interest in medical science.

Much of this interest has been motivated by the unprecedented advances in medical research that have been made in our time. One discovery has led rapidly to another and many old views are radically changed. New information, new diagnostic tools, and new drugs have provided new answers to many old problems that were believed to be without solution.

Even the practicing physician cannot always keep abreast of these swift developments in medical progress. He cannot take time from treatment of his patients to evaluate all reports of new findings and new products that daily flood his office.

At the same time, he cannot shirk the traditional responsibility of the physician to teach the public how to prevent illness and how best to treat it when it occurs.

The answer, therefore, seems to lie in a division of labor

among doctors. Each should contribute to the nation's health literature information on the particular phase of medicine about which he is best qualified to speak. Such information, whether derived from research or from his daily practice, should be as reliable and as safe as a prescription.

Not all books appearing today—even those written by physicians—come up to this high standard. Many are written merely to entertain, to exploit some medical novelty, or sometimes to enhance the prestige of the author.

In preparing the following work for the general reader, the author has aimed at a twofold objective: to prolong your life and to save you from crippling or fatal heart disease resulting from hardening of the arteries.

The information offered here is based upon the writer's 25 years of medical practice, extensive research, and clinical experience.

The low-fat diet, weight reduction, and nutritional program presented in this book are not a panacea for all illnesses. They are not a get-healthy-quick nostrum or cure for everything that ails you.

However in the opinion of the author and a large number of scientists and physicians, these measures are the most effective known to prevent and treat hardening of the arteries or atherosclerosis, today's greatest cause of sickness and death.

There are unquestionably other still unknown causes of hardening of the arteries in the heart, brain, and other vital tissues of the body. Not only is there little or nothing known about them, but there is no effective remedy other than those presented in the following pages.

At this very moment, countless research scientists and physician-investigators are searching the unknown in the life-or-death quest for the various causes and the cure for atherosclerosis. If this miraculous discovery should come to pass, the way of eating and living described in this book may become of historical interest only.

But, until that day of more perfect knowledge arrives, I believe we should, in all good conscience, use the most perfect tools that we now have, namely the dietary and nutritional tools set forth in this book. The mounting evidence that they can save the lives and health of countless victims is now too powerful to allow us to stand by and wait for the perfect cure or the therapeutic millennium.

If you will read this book carefully, *and apply the simple, easy-to-follow directions given,* it is the author's sincere belief that it will enable you to accomplish the following:

### 1. ADD YEARS TO YOUR LIFE

How many years depends upon your present age and weight. If you are under 20, for example, you can increase your lifespan by as much as 15 years. Even if you are over 60, you can still enjoy more than two golden, "bonus" years. These figures are based upon actual Metropolitan Life Insurance tables, included in this book.

### 2. KNOW WHAT FOOD TO EAT

In addition to prolonging your life by controlling your weight, correct diet can also save you from heart and blood vessel disease. Almost all heart researchers agree that when people who have defective fat metabolism eat a high-fat diet, heart disease often results.

In the following pages you will find instructions, in detail, on what to eat to maintain a well-balanced diet and at the same time to avoid fat-rich foods that may undermine your health.

Complete daily menus for a period of several weeks are included.

### 3. DISCOVER NEW VITALITY THROUGH DIETARY SUPPLEMENTS

Medical research has discovered a number of important dietary supplements that not onlv improve the body's general effi-

ciency and well-being but help prevent hardening and blocking of the arteries—the condition that sets the stage for heart attacks and strokes.

The nutritional supplements combined with vitamins that are described in the following pages can help you overcome fatigue, nervousness, and loss of energy.

Medical science has effectively demonstrated that millions of Americans eat three meals a day but are poorly or badly nourished ; many are overweight. Yet they suffer from the symptoms of malnutrition or borderline, subclinical illness. This is often expressed by feelings of tiredness, nervous symptoms, and loss of vitality.

The author will describe the results of controlled studies into new products that he and his associates have conducted to prove their effectiveness and safety.

### 4. KNOW WHAT TO DO ABOUT SMOKING

The role that cigarette smoking plays in various diseases has been the subject of intensive research. The discussion of tobacco will answer many of your questions concerning the effect of smoking on the heart and blood vessels.

### 5. KNOW WHAT TO DO ABOUT USING ALCOHOL

The question of alcohol, although not so important to the prevention and treatment of heart disease as it is to some other physical disorders, is also discussed, and professional advice given for using it safely.

### 6. PUT SUNSHINE INTO YOUR AUTUMN YEARS

It would be only a limited gain if the years added to your life were years of unhappiness or ill health. Therefore, the author has included advice for meeting the special problems of the older years.

The writer believes that a longer, happier life will be yours

if you make a whole-hearted effort to absorb and follow the directions given here.

Like most worthwhile undertakings, it will take patience and time. But the results are so vital to you and to your loved ones, that your utmost efforts can reward you with a rich harvest of health and extra years of happy living.

# CONTENTS

CONTENTS

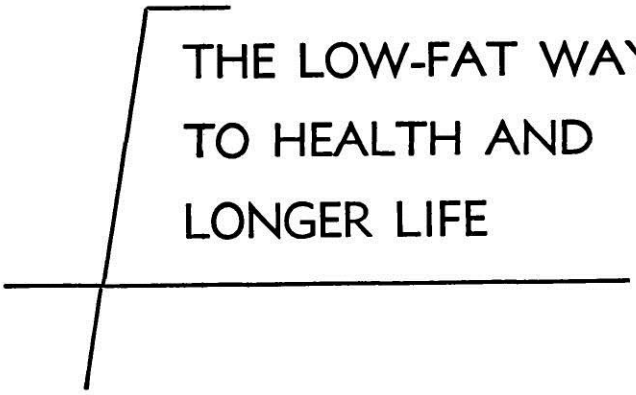
CHAPTER PACE

## LOW-FAT MENUS (Cont.) :

***Soups. Meats. Vegetables. Desserts.***

CHAPTXB PACE

CONTENTS


THE LOW-FAT WAY
TO HEALTH AND
LONGER LIFE

Chapter 1

# CLOGGED PIPES TO THE FOUNTAIN OF LIFE

WHEN A SPANISH-SPEAKING FRIEND wants to wish you the very best that life can offer, he will often lift his glass with the following toast:

"To health and wealth — and time to enjoy both."

Embodied in this simple salute are the three basic desires common to people everywhere in all ages.

***Why can't we live longer?*** Everyone wants to live longer. It is one of the most deeply rooted instincts of mankind. Everyone wants to live a life of usefulness and abundance, free of disease and unhappiness. As we grow older, we look forward even more anxiously to increasing our lifespan. We want time to enjoy our achievements, time still to make plans. By the time we reach 60 we realize with the great French painter Gauguin that "life is a split second." We begin to think about all the things we still want to do before we reach our seventieth year. If we are fortunate enough to pass our seventieth birthday, we wonder whether we can't live even longer—perhaps to be 80.

Well, why can't we? We *are* living much longer than did our ancestors a century ago. We have added 20 years to the average life expectancy in America since 1900.

***Advances in medical science have outlawed many diseases**** These golden years are ours because of advances made by tireless research in medical science. They represent a decisive victory over the contagious and infectious diseases which sometimes wiped out whole sections of our population a generation ago.

Thanks to the new knowledge provided by recent research, we no longer need fear the ravages of such diseases as diphtheria, scarlet and typhoid fever, syphilis and—to a great extent—tuberculosis. All these pestilences, however, were caused by those invisible but ever-present enemies of health—germs.

Today the picture has changed. With the victory over deadly microorganisms, a new threat has emerged in clearer and more frightening perspective.

***The 20th Century epidemic.*** **A** single, fundamental disease of the human body can now be held accountable for much of the illness and more than half of all deaths occurring each year in the United States It is a disorder known by the general term of "arteriosclerosis," which means a hardening and thickening of the arteries.

It is now so widespread that Dr. Paul Dudley White, the noted heart specialist, recently described it as "a modern epidemic."

As the disease progresses—sometimes over a long period of time—the vessels that carry the blood from the heart to the body's tissues become stiff, and their inner surfaces roughened and thick. These conditions lay the groundwork for the three most common causes of death and disablement in America: heart attack, heart failure, and stroke.

Is there anything that can be done to vanquish this number one killer, whose favorite victims are men in their middle span of life, and even the very young, sometimes those in their twenties? The answer is "yes"—provided you will take the time and the trouble *now* to learn a few simple rules.

Much of the exact nature of arteriosclerosis is still unknown.

But during the past 10 years we have learned a great deal in the fields of pathology, chemistry, biology, and nutrition that has provided us with clues to the mystery, and a practical approach to treatment for the first time.

Widespread popular interest in the heart and in the aging process has helped immeasurably in the conquest of disease. But at the same time, it has been responsible for a good deal of fear and confusion among lay people. Some of these misconceptions are reflected in the questions my patients ask after reading articles of the kind that now appear in many newspapers and magazines.

Take diseases of the heart and blood vessels, for example. Terms such as atherosclerosis, coronary thrombosis, and cholesterol are today fairly commonplace, even in publications for the general reader. But few non-medical people know exactly what these words mean.

***What is the cause of this new epidemic?*** Before taking up our discussion of ways to forestall a heart attack, it might therefore be well to understand more clearly the basic physiology involved.

Let us start with a closer look at the arteries, the vessels that carry fresh blood from the heart to the billions of cells in our bodies that are in constant need of nourishment. Upon careful examination, we find that the arteries are not the simple tubes we have pictured them to be. Viewing them in cross section, we see that their structure is more like that of a garden hose, containing three layers of tissue in the walls.

The inside layer or lining of the artery, which doctors call the *intima*$_9$ consists of a slippery membrane somewhat similar to the mucous membrane on the inside of your mouth. The in-between layer, known as the media, is formed of muscle fiber. This enables the blood vessel to expand and contract with the heartbeat, to facilitate the flow of blood through it. The outer layer, called the *adventitia*, is composed of coarse strong fiber& which provide added strength to the artery.

In both the outer and the intermediate layers, there are tiny intrinsic blood vessels which nourish the artery itself. The thickness and exact composition of the three layers vary, depending upon an artery's size and location.

Of the changes that may occur in the arteries as a result of disease, there are two types which concern us here. Both kinds have traditionally been known by the general term, "arteriosclerosis," which means hardening or thickening of the arteries.

Actually, however, there are two kinds of hardening of the arteries. One occurs when calcium deposits in the middle layer of the artery cause it to become brittle and hard. For this reason, it is sometimes called a "pipestem" artery. Such calcification does not necessarily obstruct the blood flow, and is usually harmless from a clinical point of view.

The other type of change, on the other hand—and it is the more frequent one—has serious consequences. It consists of a thickening of the inner wall of the artery by deposits of fats: cholesterol (a fatty alcohol), fatty acids, and the like, together with calcium.

As these deposits grow, the passageways or canals of the arteries become narrower, much in the same way as the drain from your kitchen sink becomes clogged with grease deposits. The result is that less and less blood can flow through the narrowed opening to the tissues or organs that depend on it for life. Your "pipes" have become clogged.

At the same time, the swelling of the lining cells and roughening of the inner surface provide sites for formation of blood clots inside the narrowed artery. If the blockage is complete in vital arteries that feed the heart muscle, a heart attack—or as we physicians call it, a coronary thrombosis—occurs. If this disaster occurs in the cerebral arteries of the brain, a "stroke," sometimes called a heart attack in the head, results. When the small arteries of the kidneys are affected, Bright's disease, formerly called "dropsy," and other diseases ensue.

But whether the thickening and blocking process takes place

in the heart, head, or kidneys, it is essentially the same disease. Doctors refer to it as *atherosclerosis.*

About a century ago, during an autopsy, a German pathologist named Rudolph Virchow laid open an artery to examine its interior wall. Along the lining he observed deposits of mushy fat that he called *atheromata,* a Greek work meaning "porridge." It was from this word that we derived our term, atherosclerosis.

Embedded among the cells of the artery wall along with the fat, Virchow observed some glistening crystals. These turned out to be cholesterol. But how did these fats get into the artery walls? This question has puzzled scientists for the past 100 years, and it is still being pursued in various fields of research. The first theory advanced by researchers was that of "imbibition," which held that fat droplets were absorbed directly from the blood stream through the lining of the artery walls. When a weakening of the "ground" substance or actual structure of the artery wall occurred, cholesterol—the main offender—and its related fats were deposited in the artery wall. This theory has been supported by the recent discovery that these fatty deposits, especially cholesterol, exist in the same proportion in the artery wall as in the bloodstream itself.

Another theory that seeks to explain the way in which the fatty deposits get into the artery walls held that they did not come from the blood stream primarily, but were manufactured within the cells of the vessel wall.

It has also been claimed that fat molecules are normally absorbed by the artery wall without leaving a harmful residue of acid crystals. But some abnormal condition, such as high blood pressure, may force an excessive amount of the fat molecules into the wall. Then the artery cannot absorb the full amount, and deposits gradually build up.

Other researchers have believed that the fat droplets find their way into the artery wall through the tiny vessels that supply blood to the artery itself. According to this theory, a hemorrhage or series of small hemorrhages may occur in these tiny vessels.

A clot is formed, which deposits fat particles in the artery wall when the small vessels break down.

My own conclusion, based upon years of animal, laboratory, and human research, plus experience with innumerable patients, is this: Atherosclerosis results from an impairment of the body's ability to utilize (or metabolize) normally not only the fats eaten in the diet, but also those that are in the body itself. This impairment is further aggravated by the body's inability to withstand stress or tension; and by deficiencies in the supply of hormones from vital glands such as the thyroid, the adrenals, and the sex glands.

In addition, there are other factors that influence the individual's susceptibility to atherosclerosis, or death from a heart attack or stroke. These include such things as inherited or constitutional factors, and the coagulability of the blood.

It is easy to see how complex the problem really is. The danger of oversimplification is great. However, one causative factor that stands out continuously above and beyond all others, important as they are, is fat in the diet. And it is this factor that we can control.

These fats from our foods enter our blood stream where, like sharks cruising about, they seek out the weak or vulnerable spots in the arteries. Here they attack, enter, and deposit or nest themselves. These fatty deposits then acquire calcium, and the hardening process begins in the arteries. Each particle becomes a captain around which rally the silent "Men of Death," who wage a relentless struggle. Soon they begin to throttle our life flow.

Our blood vessels then engage in a vain effort to halt the armada of killers we now harbor within our arteries. Special fat-eating cells are rushed to these spots, where the fats and cholesterol have breached the barrier or wall and entered the artery. In the life-and-death struggle that ensues, the fat-eating cells try to engulf the cholesterol and fat particles, and may succeed temporarily in the "counter-attack."

Dr. Timothy Leary, the distinguished Boston pathologist, in

1933 first devised ingenious methods of lighting up, refracting, and photographing this deadly drama. It was seen that inevitably the special fat-fighting cells are themselves engulfed by the repeated tidal waves of cholesterol and fats washed into the blood and artery walls by fat-containing foods such as butter, eggs, cream, milk, meat fats, and other animal fats in our diet.

*Why is the epidemic particularly strong in the U.S.A.?* If you are a typical American, whether you know it or not you consume an unbalanced, obesity-producing diet. Drs. Louis Katz and J. Stamler, prominent researchers in this field, called it "a pernicious combination of overnutrition and undernutrition —excessive in calories, carbohydrates, lipids and salt; and frequently substandard in certain critically important amino acids, minerals and vitamins."

It is not surprising that this situation exists. The science of nutrition, a comparative newcomer to the medical field, has up until recently been concerned almost exclusively with undernutrition. People have been urged to "eat the right foods" and to provide plently of meat, eggs, milk, and cheese for their children.

In most areas of the world, this problem of getting enough nourishing food to eat is still of primary importance. But it is not the problem in America. Our problem is somewhat the opposite: "living too high on the hog." Our diet is too rich in fat as well as calories, refined sugars, starches, and oils. At the same time, it is low in essential nutriments, minerals and other vital requirements.

The exact relationship between the amount of fat you eat and the production of cholesterol in your body is still a very complex question. Investigators differ on some points.

Concerning one aspect of the problem, though, we are all agreed: the cholesterol found in the blood is made largely in the liver from fats in the diet.

It is also believed that cholesterol is produced in the arterial walls themselves.

But the main source and the one that we can to a great extent control is fat in our food.

***What is the situation in other countries of the world?***

We have evidence that a prime factor for the great difference between Americans and peoples in various other countries is diet.

For example, let us see what happened in Norway during the war years of 1940-1945. Consumption of butter, milk, cheese and eggs (all of them high in fats) had to be sharply curtailed. Did the reduction of fat content in the national diet have any effect on the number of deaths from heart attack? The Norwegian Ministry of Health, which kept accurate records, answered that question with an emphatic "yes." With the reduction in fat consumption, the death rate from coronary attacks declined also. The Norwegians reported that heart deaths were reduced by 31 percent during each year among the urban population. At the same time, there was a 22 per cent drop in heart deaths among the rural population.

France, which also had to tighten its belt during the war years, had similar evidence to offer. Mr. Marcel Moine, of the French Ministry of Health, reported to me that from 1941 to 1945, when Frenchmen were on a low-fat diet, the death rate from heart disease was reduced to 20.6 for each 100,000 persons. In the postwar years, when normal fat consumption was resumed, the death rate rose to 25.5 per 100,000 population, or a return to the old, prewar death rate.

Italy provides another example. There studies were made recently in two neighboring provinces. In one area, where the daily diet included pork products rich in fats, the incidence of coronary and generalized artery disease was found to be much higher than in the adjoining province where the population followed the comparatively low-fat pattern of the country as a whole.

Similar studies have been made in various parts of the world—countries such as Finland, Denmark, South Africa, China, and Japan. Statistically the results all point in the same direction: high-fat diet means a high rate of heart deaths.

Figures, as Mark Twain and Marilyn Monroe have shown,

sometimes have a way of misleading us. This is admittedly true of interpreting cause and effect relationships where the health of whole populations are concerned. The long arm of coincidence can sometimes reach around corners or do a juggling act. For example, you might claim, an the basis of statistics, that since the use of soap was also sharply reduced in some countries during the war, with a corresponding drop in death rate from cardiovascular disease, it was the soap (which is a fat) that caused the disease. In a more scientific view, however, the evidence weighs heavily on the side of fat as a prime factor in causing atherosclerosis.

***Is the epidemic confined to older people?*** What has happened to our way of life to make men between 30 and 45 the preferred victims of the "silent killer" that strikes without warning? And why are more and more young women, long believed to be virtually immune to this disease until after menopause, now falling prey to it?

We do not know the entire answer to this enigma, or even whether there is a single answer. But research that has been carried on by my colleagues throughout the world, and by myself during the past 10 years, has provided some valuable clues.

Only recently, we discovered to our amazement that over 90 per cent of our adult population has, to a greater or less degree, a degenerative disease of the arteries that doctors call atherosclerosis. That, as you know, is the term meaning the thickening and narrowing of certain vital blood vessels. It is the way in which the stage is set for heart attacks and strokes.

Medical people once thought that it was a result of aging, but the disease is now being found in infants and children. As children, however, we have the power of absorbing the fatty deposits that attach themselves to the artery walls. As we grow older, we seem to lose this power of absorption. That is when the real trouble begins. At what age does this happen? Much earlier than we might expect.

For example, my associates and I made a study of the arteries of 600 patients who had died of various diseases. About 100 of

them had met sudden death from accidents or acute illness. To our amazement we found that atherosclerosis, a disease of the arteries, was present in many of the young people before they had reached their thirtieth year.

By the time they were 40 to 50 years of age, the fatty deposits and embedded crystals of cholesterol were inside the artery walls. Such thickening and narrowing of the blood vessels interfered with the nourishment and vitality of the tissues in the heart, brain, or kidney.

Striking evidence of how widespread the disease is among our younger people today came also from Korea. There Army doctors autopsied 300 American soldiers who had died while serving in Korea. It was the first time such a study had been made of a cross section of the country's youth; their average age was only 22. A report of the mass autopsies contained startling information that *77 per cent of the young U.S. servicemen already had atherosclerosis!* Balanced against this shocking total was a mere 11 per cent incidence of the same disease among Koreans and Orientals who had died on the same battlefield under the same conditions.

***Does heredity have anything to do** with **the problem?*** At this point you are probably wondering: why do some people have more cholesterol in their blood than others? At present we do not know the whole answer to that question. We do, however, know some of the predisposing factors.

One of them is heredity. Some families are affected by what physicians call hereditary familial hyper-(excessive) cholesteremia. In such a family the tendency to high levels of cholesterol in the blood is passed on for several generations. Among members of such families we usually find a large number of individuals who suffer heart attack and strokes. If no heart attacks or strokes have occurred in your own family line, you have at least one protective factor in your favor from the beginning.

The second factor is one that is pretty much up to you. It concerns what you eat and how much you eat.

Unfortunately, it is too late for us to choose our parents.

But it is not too late to choose our diet. By learning how to avoid food excessive in fat and cholesterol content, we can help minimize the effect of heredity.

***Women have better natural protection against atherosclerosis.*** If you are a woman, you are less likely to suffer from a heart attack or stroke until well after you pass the half century mark. That is when your protective female hormones give out, and you become as susceptible to the disease as men.

Can't men take female hormones to protect themselves? They can, but if they do, they will "cross the border" and develop a high voice, full enlarged breasts, and other feminine characteristics. So that approach to the problem is not practical.

Anything else? Yes, there is something everyone can do without great inconvenience, and with the added reward of improved health in general. It is this: select a diet that will keep your blood fats down to normal levels.

***Can you reverse damage done to your arteries by excessive fat?*** Only within the last few years have medical research teams produced reliable evidence showing that excessive fat in our diets may lay the groundwork for heart disease. If you are already past 30, it naturally occurs to you to wonder whether the damage done to your arteries is permanent, or whether it is reversible.

At the present stage of our research, we doctors cannot answer the question with certainty. We can cite the hopeful fact that experiments with animals have shown that the condition is reversible in animals. We have evidence that the cholesterol in the arteries is absorbed in children, as shown by Dr. Russell Holman and others. However, this metabolic gift seems to be lost as we grow up. There are many authorities in the field who do believe that since atherosclerosis is reversible in animals, it can also be eliminated even after it is established in humans as well. However, we must proceed cautiously in basing our conclusions solely upon studies of laboratory animals, because their metabolism is different from that of humans.

Another question that patients often ask me is: "Can you

tell me whether I am already a victim of degenerative artery disease?" Unfortunately, we do not as yet have a test that can predict with certainty whether you are susceptible to coronary disease, or are likely to have a heart attack.

One fact, however, is certain: if laboratory tests show that you have an excessive amount of cholesterol in your blood, your chances of avoiding heart and blood vessel disease, which can lead to heart attack or stroke, are much smaller. You are then much more susceptible. If you are over 30 years of age, you ought to have your physician include such a measurement of cholesterol level in your routine check-up.

Too many men in the dangerous middle years are so busy playing for high stakes in the fast-moving game of life, that they forget that "hearts are trumps."

***What is the solution for us?*** The many studies that have been made do not prove conclusively that heart disease is caused solely by diet. But they do heavily underscore much of the information that I have gathered from my own quarter of a century of practice and laboratory research.

Taken together, the evidence points strongly to this fact: If everyone in the United States would reduce his fat intake by 25 per cent, we would cut the number of heart deaths in half within another 20 years. Moreover, the low-fat diet will add immeasurably to your general health and well-being.

"But," you ask, "how can I go about reducing the fat in my diet? Where do I begin?" In the following pages you will find a safe guide; it includes low-fat menus and directions for using simple and inexpensive nutritional supplements that I employ in my own practice to help my patients forestall heart attack, and to treat those who have already had one or more.

If you follow these directions carefully, you will not only add years to your life, but life to your years.

Chapter 2

# PHYSIOLOGY OF FAT: FAT, FOOD, FACTS AND FICTION

IS FAT NECESSARY? IS LIKE ASKING "IS Crime Necessary?" or "Is it Necessary to be Fat?" The implication alone is bad, like asking "How Often Do You Beat Your Wife?" Of course, the answer to all of these questions is "no."

***Is fat essential in a healthy diet?*** Some nutritionists and scientists believe that a small amount of fatty acids or components of certain fats are essential to human nutrition. This has never been demonstrated for humans, although apparently it is true in rats. There is the incontrovertible fact that countless millions of human beings in Asia, Africa, South America and elsewhere do not consume fat in their diet. And yet they live to a health-normal or beyond-normal life span; their physical or nutritional development is not infrequently far superior to the people on a high-fat or average American fat dietary intake.

Most certainly it is known now that these same people on a low-fat or fat-free diet are virtually free from heart attacks and strokes, which are so common among people on a fat diet.

Many have wondered whether the Eskimos have a high rate of heart attacks and strokes as a result of their high fat diet. First it should be remembered that the Eskimo days of existing

on blubber and whale alone are mostly over. Several years ago physicians working with the National Geographic Society found that the Eskimos who lived in the more modern settlements and ate and lived like other Canadians or Americans in country villages, were subject to the same degree of atherosclerosis, high blood pressure, and heart conditions.

On the other hand, in those Eskimo cases where fish and whale fats constituted the basis of the diet, blood tests revealed that cholesterol and fats in the blood were very low. This surprising fact was later found to be due to the high concentrations of unsaturated fatty acids in the large amount of fish and whale oils consumed by these Eskimos. As will be shown later, these unsaturated fatty acids have the unique power to lower the blood levels of cholesterol and other fats, thus protecting the Eskimos from the complications of atherosclerosis in the heart, brain, kidneys, and other organs.

***What is fat?*** First let us look at food in general. As long as we are alive, breathing, with our hearts pumping, our bodies are at work burning up energy—which is supplied by food.

Food or foodstuffs consist of six groups, all of which are basic necessities essential for normal health. These are proteins, carbohydrates, fats (which are also manufactured by the body), vitamins, minerals, and water.

***Protein is the keystone of human nutrition.*** It is essential for every form of life for growth, pregnancy, formation of blood, bone, and every vital tissue. It is essential for the healing of wounds, the warding off of infection, the maintenance of body weight, and the conduct of vital organs and glands in the body.

Meat is the greatest source of animal protein for human consumption and man can live in good health on virtually an exclusive fresh meat diet. Animal sources of proteins are meat, fish, poultry, milk, eggs and cheese. These foods contain high sources of protein, as well as carbohydrates and fats. Vegetable sources of protein are wheat, beans, peas, lentils, soybeans, nuts,

corn, rye and yeast, although these also contain elements of carbohydrate and fat.

Normal adults and growing children require one gram of protein for every 2.2 lbs. of body weight. This means that the average man or woman weighing 125 to 175 lbs. needs from 60 to 80 grams of protein daily for normal nutrition. This would be contained in the equivalent of 1/2 pound of steak, one chicken, a pound of fish or a pound of cottage cheese. Each gram of protein supplies four calories of energy, as shown in Chapter 6.

***Carbohydrates are a main source of energy.*** Carbohydrates include the two main classes: starches and sugars. They are one of the primary sources of energy of our diet. One gram of carbohydrate yields 4 calories of energy. The amount of carbohydrates necessary in the daily diet is very variable and also depends on the amount of it eaten with the protein in meals. The average American adult consumes anywhere from 150 to 400 grams of carbohydrate daily. It takes about 500 grams to make a pound. Usually more than half the calories in the diet (from 50 to 70 per cent) are supplied by carbohydrate.

Unfortunately, these carbohydrates are usually refined to excess, as in the case of flours and sugars. Essential vitamins and proteins are lost in this way and certain nutritional deficiencies may result. If excessive carbohydrate is eaten in the diet, many individuals will experience symptoms of gassy distress, flatulence, belching, or bloating. Bread, flour, milk, cereals, potatoes, cornstarch, cakes, rice, and puddings are examples of dietary starch as are moat vegetables, although these contain lesser amounts of both carbohydrates and protein. Sugars are represented by cane sugar, corn syrup, honey, maple sugar and syrup, milk sugar, malt sugar, jams, jellies, and most fruits.

Two of the most common symptoms or sensations that humans feel daily are dependent on carbohydrate metabolism: that is, hunger and fatigue. Certain endocrine glands in the body control the level of blood sugar in the body and are linked to the

feelings of hunger, fatigue, and exhaustion. When the blood sugar falls abnormally low, one feels headaches, nervousness, dizziness, or weakness.

Many of my patients combat these tendencies to hypoglycemia or low-blood sugar in the following simple ways: in between meals take fresh fruits, preferably bananas or apples, or canned fruit juices or fruits; English "tea" with whole wheat cookies or crackers, graham crackers, arrowroot cookies and if needed, some lean meat or fish in sandwich form; skim milk thickened and fortified with generous servings of skimmed milk powder; bread and jam; fat-free sherbet or ices; dietetic or low-fat ice cream; fruit jellos are refreshing; hard candies or chocolate bars are often very handy but not as desirable as the natural, healthful in-between meal "snacks," suggested above, as they often damage the teeth and may have too short-lived action on the blood sugar. Not infrequently sugar itself will cause a "rebound" reaction resulting in an even lower blood sugar fall one-half to one hour after the sugar has been eaten.

Countless business people and factory workers find their efficiency and capacity for work greatly increased by following the above dietary aids. It is not necessary to wait until the symptoms of low-blood sugar already signal the breakdown of bodily health.

The habit of drinking coffee alone at the coffee-break is like whipping the tired old horse harder to get it to climb up the hill. The artificial stimulant, caffeine, can never possibly substitute its artificial stimulant drug action for the flow of energy that comes from healthful, natural foods.

Vitamins and minerals are discussed later, in Chapter 5. The necessity of water for the maintenance of life is known to all. This brings us to fats.

***Fats—What they are and what they do to you.*** The outstanding fats eaten daily in the United States and Europe are butter, eggs, whole milk, cream, meat, fish and poultry fats, and cheese in various combinations. These fats, at 9 calories per

gram, contain more than twice the amount of calories than protein or carbohydrate does at four calories each per gram. As we have noted and shall describe in later chapters, excessive intake of fats leads to the shortening of life, premature death by heart attacks and strokes, obesity, and numerous crippling illnesses.

Fats (or lipids) contain the elements of carbon, hydrogen, and oxygen in various combinations of animal and vegetable fats. Examples of animal fats are butter, lard, cream, milk, eggs, and the fat in meats. Vegetable fats are soyabean oil, olive oil, cottonseed and corn oils, and peanut oils; these are found in nuts, coconuts, avocados, margarines and other vegetable fats used in cooking.

Fats do not dissolve in water, and when pure they are odorless and tasteless. They are found in most bodily tissues, particularly in combination with other elements, proteins, or minerals. Fats or lipids act as vehicles for the absorption of the natural fat-soluble vitamins such as vitamins A, D, and E.

In order for fats to be utilized by the body, they must first be digested and broken down into constituent parts before being absorbed. They are absorbed in the following manner: After the food is masticated and enters the stomach, the digestive system supplies its first fat enzyme called lipase, to begin the digestion of the fat. Enzymes or ferments are unique chemical compounds manufactured by the cells of the tissues. In the digestive tract they are vital for the chemical breakdown of all foods before they can be absorbed.

***How are fats digested?*** The fat enzyme of the stomach, lipase, begins its job on the fats eaten. However, it is a rather weak enzyme, leaving most of its work to be carried out by steapsin, the fat enzyme manufactured by the pancreas, and by bile manufactured by the liver. In the bile are found bile acids and salts which, together with steapsin, split the fats ingested into the smallest molecules and particles possible. These can then be absorbed through the lining of the small intestine and

pass either into the liver or directly into the blood stream as chyle, a milky or creamy serum.

***How fats are absorbed.*** When the fat particles are brought to the liver, they undergo further chemical breakdown and metabolic changes before they enter the blood stream in the form of cholesterol, phospholipids, fatty acids, neutral fats (which are neither acid nor alkaline), lecithin, and other fat derivatives. Much of the fat is broken down by the liver cells into cholesterol, which is excreted into the bile and goes back again into the intestine in various chemical forms. Once in the intestine, some of the cholesterol is reabsorbed again along with other fats and some is excreted from the body in the bowel movement. If the proportion of the cholesterol in the bile becomes too high, then it precipitates out of the bile and forms gallstones, which can produce attacks of pain and indigestion, and so often keep the surgeon busy.

Now that the fats or lipids have entered the blood stream, they circulate and are deposited in the various bodily tissues and in the great body storehouses called fat depots. These are located in the abdomen, on the hips, the chest, around muscles, under the skin, in the liver, and elsewhere. The fats consumed in the diet are called exogenous fats. The liver and other tissues, however, manufacture equally important quantities of fats or lipids normally found in the blood stream. These are called endogenous lipids.

These lipids are manufactured from proteins and carbohydrates through certain remarkable processes inherent in vital bodily tissues and glands such as the liver or the adrenal glands. Energy and vital cellular constituents for the body result from these lipids. When present to excess, their effects become devastating to humans, as shown in the chapters on overweight and atherosclerosis. (See Chapters 7 and 3.)

We now come to the fats circulating freely in the blood stream. Let's see how they get into the artery walls to actually damage or destroy the artery with atherosclerosis.

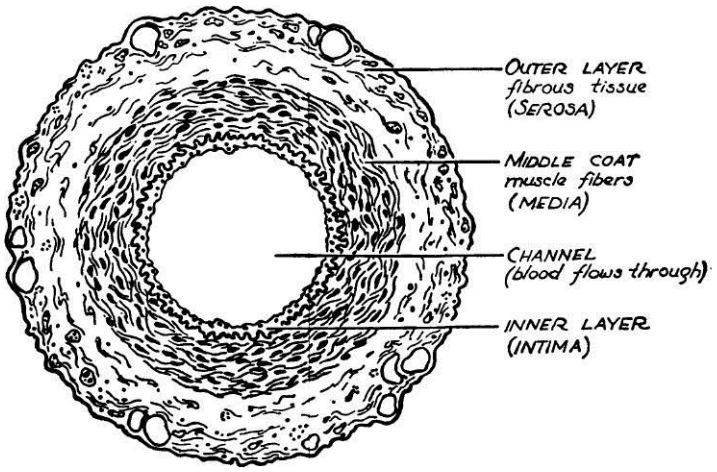



**Fig. 1. Cross Section, Coronary Artery.**

*This diagram shows the three coats of the coronary artery and the channel through which the blood flows to nourish the heart muscles.*

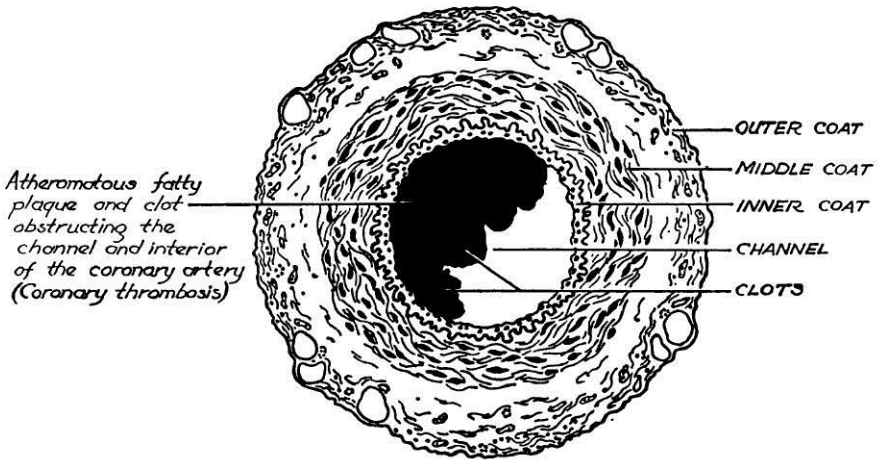



**Fig. 2. Cross Section of Coronary Artery in Coronary Thrombosis.**

***How fats damage or destroy your arteries.*** Extensive research in experimental animals has been able to demonstrate how these lipids can leave the bloodstream and enter the artery wall within 24 hours. The atherosclerosis produced in these animals becomes indistinguishable from the atherosclerosis seen in human arteries. However, the exact details of the mechanism whereby fats actually enter into the wall of the artery are not yet known. What is known and what is important is that there is a definite ratio or relation between the amount of fats in the blood stream and in the artery wall, and this is surprisingly predictable in most cases. Also, the relationship of the fats in the artery wall itself is very close to that in the bloodstream. This direct relationship between the two seems to be in fairly constant balance.

As described in the first chapter, the artery wall consists of three different layers. If the reader can picture a garden hose as representing the artery, it presents an innermost layer called the intima, a middle layer called the media, and an outer layer called the serosa. (See Fig. 1).

The fats circulating in the blood stream are of course closest to the innermost layer of the artery, with which they are in direct contact. When conditions are right for atherosclerosis, the fats attach themselves and enter the inner or intima layer of the artery. A kind of wart or excrescence on the artery is then formed, called a plaque of lat. When the plaque grows larger, it encroaches upon the passageway of the artery. As it grows larger and larger, it may finally block or obstruct it partly or completely. When this clogging or obstruction of the artery takes place in the vital coronary arteries of the heart, then a coronary thrombosis or heart attack assails the victim. If the blockage from these fatty or atheromatous plaques occurs in the brain, then a stroke strikes down the victim. (See Figure 2.)

However, if the artery is only partly blocked by this accumulation of fatty plaques, then the vital organs supplied by the arteries suffer from a lack of the necessary amount of blood and

nutriments contained in it to sustain normal function and health.

Along with the fatty deposits of cholesterol, fatty acids, neutral fats, etc., which make up these atheromatous plaques, calcium and other minerals are also deposited. These make the artery feel hard, giving rise to the term commonly in use—"hardening of the arteries." Actually we see a softening of the arteries which takes place first because of these fatty deposits.

It is often noticed in many individuals that this free fat will be floating in the blood stream for hours after a meal containing fat has been eaten. The blood is then called lipemic, which means loaded with fats. When these fats are easily visible to the naked eye, scientists speak of such neutral fats as chylomicrons. These fats in the blood are regarded by many scientists to be as dangerous as is cholesterol, in entering the artery wall.

A great proportion of these fats in the blood is combined with proteins, called lipoproteins, which also have been the subject of research by many investigators. Scientists have only recently discovered by new tools of investigation that in these lipoproteins two separate portions can be measured: the alpha and the beta lipoproteins. The first have been shown to be protective against the development of atherosclerosis. They are found predominating in infants, children, and young women who have no evidence of atherosclerosis.

On the other hand, the beta-lipoproteins have been found universally in excessive amounts in most cases of active atherosclerosis and so are called atherosclerosis producers or "atherogenic." The protective alpha-lipoproteins are spoken of as "anti-atherogenic."

The problem of preventing atherosclerosis and its human ravages is the search for ways of increasing the protective alpha-lipoproteins. Chapter 5 discusses lecithin and other nutritional supplements and shows how to use these protective substances against the development of atherosclerosis.

One of the greatest factors influential in the current epidemic of heart attacks has unquestionably been the startling increase in fat intake. In the United States alone, the fat content of our

diet has just about doubled in recent times. Where fat formerly constituted some 15 to 20 per cent of our meals 50 years ago, it now has jumped to 30 and 40 per cent or more.

***Fat may be your "poison".*** Many individuals have now developed an intolerance to fat. Some of my patients can't seem to handle any fat at all. As an example, one plump 40-year old mother of three develops severe gas and bloating after eggs or any other fatty food. Mrs. R. is often embarrassed to dine out for fear of overflowing right out of her girdle if friends supply her with a fatty food at their homes. At other times she has been embarrassed by solicitious friends who have delightedly congratulated her upon her "unexpected" and "surprise" pregnancy after eating some fat food!

Other patients of mine develop actual attacks of gallstone colic following a meal containing fat. Some 20 years ago, I studied the causes and effects of gallstones in humans by passing rubber tubes through the mouth and down into the digestive tract and then draining off the bile or gall manufactured by the liver and stored in the gall bladder. At that time I examined and found the cholesterol and fat content of the bile abnormally high in most patients who suffered from gallstones, liver, and gall bladder diseases. A fat-free diet was able to eventually reduce and restore the bile to its normal cholesterol and fat content, not to mention the well established fact that most patients felt vastly improved and often free of pain or distress.

Of especial interest to me is the case of a 46-year old automobile dealer, Mr. C, who used to have disabling and terrifying attacks of pain over his heart. (We call such pain angina pectoris.) The pains began only after he had eaten breakfast and was preparing to leave for his business. His breakfast was a hearty one. It consisted of bacon and two scrambled eggs, fruit juice, some delicious coffee cake with two pats of butter, plus two cups of coffee containing generous portions of cream. He was a husky, strapping ex-athlete and burned up a great deal of energy in business activities.

When Mr. C. changed his breakfast habits and ate a good

breakfast on the low-fat diet (as explained and described in later chapters) his anginal pain stopped as if by magic. Clearly he was one of the many individuals whose circulation could not tolerate fats.

This was again just recently shown in most convincing and dramatic ways by Doctors Peter Kuo and H. Joyner of the University of Pennsylvania Hospital and Medical School. These investigators studied the effects of fat meals in a series of heart cases and others afflicted with atherosclerosis over a several year period. One group of their patients suffered severe heart attacks every time a fat meal was administered to them. Studies of the heart and the blood were made during actual heart attacks by Electrocardiographs and other scientific instruments. It was found that when the blood stream contained its peak load of fat content, the heart attacks were most severe and threatened the very life of the patients. Such striking studies and findings were also the experience of other research physicians.

***How much fat are you stowing away?*** Look at the following sample daily menus for fat content that the average American consumes, as taken from the front page of the *New York World Telegram.*

| | *Fat Content* | *Calories* |
|---|---|---|
| ***Breakfast:*** | | |
| One-half grapefruit | | 70 |
| Two eggs | 12 grams | 150 |
| Two slices of bread | | 130 |
| Two pats of butter | 12 grams | 120 |
| One cup of coffee with % tablespoonful of cream and two teaspoons sugar | 3 grams | 100 |
| ***Lunch:*** | | |
| Boiled ham, 2 slices | 20 grams | 200 |
| Two slices of bread | | 130 |
| Two pats of butter | 12 grams | 120 |
| Lettuce and tomato | | 30 |
| Mayonnaise, 2 teaspoonsful | 6 grams | 60 |
| Cup of coffee with cream and sugar | 3 grams | 100 |
| Danish bun, prune filled | 8 grams | 150 |

***Dinner:***

| | | |
|---|---|---|
| Melon slice | | 20 |
| Steak or beef with gravy, 4 ounces | 40 grams | 500 |
| Potato and peas, or salad | | 100 |
| Two pats of butter (or oil dressings) | 12 grams | 120 |
| Cup of coffee with cream and sugar | 3 grams | 100 |
| Ice cream | 12 grams | 250 |
| Cherry pie | 12 grams | 350 |
| | 155 grams | 2800 calories |

| | |
|---|---|
| Total fat for the day | 155 grams. |
| Total cholesterol | 800 milligrams. |
| Total calories for the day | 2800. |
| Total calories in fat | 1400. |

***How much fat can you really live with?*** **In contrast, compare the sample menu used on the low-fat diet:**

| *Meal Plan* | *Sample Menu* | *Fat Content* | *Calories* |
|---|---|---|---|
| ***Breakfast:*** | | | |
| Fruit juice | Orange Juice | | 80 |
| Cereal | Shredded wheat | | 100 |
| Skimmed milk | Skimmed milk | | 65 |
| Bread | Whole wheat toast | | 65 |
| Coffee, tea, Postum | | | — |
| Sugar | | | 15 |
| ***Noon Meal:*** | | | |
| Soup | Skimmed milk pea soup | | 50 |
| Meat or cheese | Cold roast lamb | 10 grams | 300 |
| Vegetables | String beans | | 50 |
| Salad | Sliced tomato | | 20 |
| Fruit or dessert | Canned pineapple | | 100 |
| Bread | Whole wheat bread | | 65 |
| Milk | Skimmed milk | | 65 |
| ***Evening Meal:*** | | | |
| Fruit Cocktail | Grapefruit cocktail | | 50 |
| Meat and Potato | Lean meats | 10 grams | 250 |
| | Baked potato | | 100 |
| Vegetables | Banana squash | | 25 |
| | Asparagus | | 20 |
| Salad and dressing | Fresh pear salad | | 25 |
| | Boiled dressing | 5 grams | 50 |
| Dessert | Lemon ice | | 200 |
| Bread | Whole wheat bread | | 65 |
| Milk | Skimmed milk | | 65 |
| | | 25 grams | 1800 calories |

| | |
|---|---|
| Total fat for the day..... | 25 grams |
| Total cholesterol ..... | 75 milligrams |
| Total calories for the day ..... | 1800 calories |
| Total calories in fat ..... | 225 calories |

What an extraordinary contrast these two sample menus present in fat content and calories! On the one hand, the total calorie content of a typical American daily diet is about 2800 calories, of which almost 50 per cent is fat. The low-fat diet provides approximately 1800 calories (1000 calories less), which is the normal healthy amount for the average adult housewife or light worker. Here the fat content is about 15 per cent of the total dietary calorie content and is the amount found in the diets of millions of non-Americans who are virtually free of atherosclerosis or heart attacks and strokes. What a clear-cut and simple choice is given us for better health and longer life!

The question may still arise, "Isn't fat necessary for normal health and nutrition?" As mentioned previously, the need for fat in humans has never been proven, although certain essential fatty acids contained in some vegetable oils are very valuable for keeping the blood fats lowered.

In some people, fat seems to be necessary. The Hottentots are an example. These South African tribes, related to the Australian bushmen aborigines, are unique amongst humans in that their women have enormously developed buttocks, due to extraordinary deposits of fat!

At one time these huge posteriors were thought to be an interesting example of attractive, secondary sex charactertistics in women. But anthropologists later found that the excessive fat deposits had been developed through the ages by Mother Nature to protect these women from the continuous famines and droughts from which these tribes suffered. Nature gave these women and their tribes survival by developing in them fat storage depots or warehouses. In times of starvations or drought, these storage warehouses were called on to supply food and energy, enabling

the women and their young children to survive the famine and to perpetuate the species.

Nature had found that the ideal location for these storage banks of fat was on the buttocks and hips. Some of this hereditary tendency is still seen in African descendants who now live in the United States; their ancestors had been brought over in slave ships only one or two hundred years ago to this country. Curiously enough, this primitive trend seems to be becoming popular in some "quarters," particularly in the world of entertainment, such as the motion pictures!

Another interesting demonstration of the importance of body fat in a society was the old custom among Turks and Arab peoples of measuring beauty in their women by the amount of avoirdupois! Many a rich man among them proudly regarded his wealth by the number of fat wives and women in his home or harem. In times of food scarcities and daily uncertainties of living, an ample supply of food as shown by obesity was the best visible sign of affluence and prosperity. The husband's success then carried over into standards of feminine beauty as evidenced by his ability to pad and fatten his women.

This concept was very popular in the "gay nineties" of our own country. The comic "beef trust" troupes in theatrical vaudeville and burlesque occasioned both fun and admiration for so much concentrated female pulchritude in a chorus-line of 200 to 300 pounders!

***Take a lesson from the pig.*** Finally, let us look at the startling new discoveries made in swine. The hog or pig has always been associated in every mind as the epitome of fatness. The expression "to be fat as a pig" or as a hog is one of the most common expressions in our language. Fat and food from swine is one of the most frequent sources of nourishment used by humans, i.e. ham, bacon, pork, lard and so on. Yet only very recently has it been discovered that pigs are virtually the only animals subject to the natural or spontaneous development of atherosclerosis.

Several teams of researchers have published numerous convincing photographs of the development of atherosclerosis in many vital arteries of swine. This startling news was provided by Doctors J. H. Bragdon, J. H. Zeller, and J. W. Stevenson of the National Heart Institute of Bethesda, Maryland, who confirmed the original findings made in this research by a team of Wisconsin scientists headed by Doctors H. Gottlieb and J. J. Lalich.

The amazing facts were that about 50 per cent of the swine examined carefully showed the natural development of atherosclerosis in the main arteries of the body. This disease in the arteries was virtually the same as atherosclerosis seen in humans!

In addition, still other investigators such as Doctors Irving Page and Lena Lewis of the Cleveland Clinic found that hogs had unusually high levels of blood cholesterol and fats. There was a special increase in the swine studied of the atherogenic portion of the lipoproteins, so important in the development of atherosclerotic heart disease in humans.

It has always been thought that fat on the hog was natural and did not harm the animal, but just those humans who made "hogs" of themselves. Now all these extraordinary discoveries show us that even the pig is victim to fatty deposits in the arteries; to eat high on the hog even damages the hog. Let us "eat to live, not live to eat."

By following the instructions contained in the following pages on what to eat and what to weigh, you can learn to enjoy your food, and most important, enjoy better health and increased vitality and reap a harvest of added years to your life.

Chapter 3

# FAT, THE KILLER, ON TRIAL

IN 1911, IN MOSCOW, RUSSIA, A SCIENtist named Anitschkow made the first discovery that later led to the identification of fat as the killer in cases of hardening of the arteries. He gave us the first clue to the role that fat in the blood vessels plays in causing heart attacks and strokes. Professor Anitschkow, now a vigorous 86, fed animals with cholesterol, one of the purest of fats. He found that the arteries of these animals became blocked with fatty deposits, in a manner indistinguishable from the blocking found in human arteries. The experiment also brought about premature aging in the animals; they grew old and suffered a loss of health and general vitality long before their time. It was only after a gap of more than a generation that scientists got on the track of the killer fat, but now the pursuit is highly active all over the world. The culprit is now on trial, and evidence for his conviction is steadily mounting.

***Here is how I entered the race.*** Some 20 years ago, with research assistance from the American Medical Association, I was working on the development of a new treatment for cirrhosis of the liver caused by alcoholism. I was feeding fats, including cholesterol, to experimental animals for the purpose of producing cirrhosis in them. New chemicals were than to be tested, to see whether one of them might be useful in curing this disease.

To my amazement, I found that in feeding the fat, I not only produced the liver condition, but that the heart blood vessels of the animals became plugged with fat, mostly cholesterol. Within a short time, the animals developed heart disease, just as it occurs in humans, and suffered changes common to human beings with atherosclerosis. This was a fascinating discovery. It excited my interest in the challenging problem of fat and its effect on the heart, and stimulated me to continue searching for clues and answers to this universal illness, which causes more deaths than any other disease.

My co-workers and I decided to carry the hunt still further. We wanted to track down this killer and to discover, if we could, how to ward off his devastating attack. This is how we went about it. First, we looked for the answer to this question:

***Is cholesterol and excess fat present in the blood of everyone with atherosclerosis?*** The answer came to us after two years of work. We studied 200 patients who had had heart attacks and discovered that the great majority, and particularly those under 60, suffered from an excess of fats in their blood. Other patients who showed a normal level of cholesterol had other blood fat abnormalities. For it soon became clear that cholesterol was not the only important heralding factor announcing the approach or actual presence of atherosclerosis. Several other fat components were involved as described in Chapter 2: beta lipoproteins, fat enzymes (see Chapter 2) called cholesterol esterases, large fat globules circulating in the blood after a meal, called chylomicrons, and special large complexes of fat molecules discovered by Dr. John Gofman and his team of biophysicists.

At present we now know that excesses or abnormalities in any one or more of these five "public enemies" are directly connected with the production of a heart attack, a stroke, or other complication of atherosclerosis.

It is therefore perfectly possible to have a normal cholesterol blood level and yet have some of the other above abnormalities

in the fat chemistry of the blood that help produce a heart attack or stroke. To date, in two study groups of atherosclerosis, the cholesterol factor has been found to be the predominant one. This is due to the fact that it is a very frequent finding in atherosclerosis, and also because of the great difficulties encountered, both by physicians and scientists, in measuring the other four culprits mentioned above in the development of atherosclerosis.

***What about the factor of heredity?*** As research information piled up, another fact became clear. Of the 200 people studied, a substantial number had a family history of heart attacks or strokes. That is, members of their families were particularly susceptible to these two diseases. The patients we were working with seemed to be unfortunate links in an heredity chain.

Later, Dr. David Adlersberg and Dr. Charles Wilkinson, Jr., discovered that in some cases an excess of cholesterol in the blood was an inborn error of fat metabolism. Inability of some people to handle fat in their systems made them especially prone to atherosclerosis. This hereditary tendency could sometimes be traced accurately through the family of a patient; in those cases where the tendency was strong, deposits of fats in the arteries and skin could be predetermined, according to Mendelian, or genetic laws of inheritance.

One unforgettable case that is an example of the hereditary factor was that of Mrs. S. She was admitted to my teaching ward service in the hospital 10 years ago in a state of shock and coma from an excruciating chest pain. This young woman, only 29 years old, had been ironing clothes in her home when she apparently was seized by a sudden, lightning-like pain. In a fainting condition, Mrs. S. had collapsed to the floor. She fell with a cry, and her little girl, aged 5, also cried out and summoned the neighbors.

After only a few minutes in the hospital the patient expired, despite heroic efforts by our interne and resident, as well as physicians and nurses who were on duty at that moment.

Examination of the heart following death revealed to our surprise that Mrs. S. had a coronary thrombosis from extensive atherosclerosis. This was a rare cause of death in so young a woman, but one nevertheless that is occurring with greater frequency.

We immediately suspected a hereditary cause in her death and questioned the family, with the following results: The mother of Mrs. S. was in good health as late as age 56. However, the father had died at age 40 of a heart attack while driving an automobile. His only other brother had also died of a heart attack at age 52. Mrs. S.'s paternal grandfather had died of a heart condition in his fifties and his own brother had died of a "stroke."

Mrs. S. had no sisters and only one older brother, who was 32 years old and suffering from angina pectoris. (This is a heart condition caused, in most cases, by atherosclerosis of the coronary arteries.)

This strong family trend towards the incidence of a coronary artery disease and atherosclerosis is a striking example in the case of Mrs. S., although in this case at an unusually young age. At least one-third of the usual cases that I see in private practice, as well as those seen by other physicians of heart disease, are found to have a history of either heart attacks or "strokes" in the family.

When this atherosclerotic coat of arms has been handed down in a family, it is vitally necessary that double precautions be followed in strict adherence to the nutritional program set forth in this book.

Still another characteristic example of the powerful influence of inheritance in the development of atherosclerosis is the case of Mr. J., aged 39.

This patient suffered from pains in both calves of the legs whenever he walked for distances more than a block. He would have to stop and rest until the pains would subside, before he

could continue again. We found a typical advanced degree of atherosclerosis of the arteries affecting both legs.

The father of Mr. J., a bank official, had already suffered a coronary thrombosis when he was 56. His two older brothers, in turn, had each died of the complications of atherosclerosis—one from a heart attack, and the other from a "stroke."

Mr. J. had one sister, age 52, who was troubled greatly by swellings in the ankles of both legs, which were discovered to be caused by Bright's disease* This condition, sometimes called "dropsy" in the old days, is caused by atherosclerosis or "hardening of the arteries," in the kidneys. This is still a very widespread condition and one that accounts for much sickness and death throughout the world, although it is an insidious process, like its fellow "assassins" in the heart and brain.

Mr. J.'s case was so advanced that nutritional care, diet, and weight reduction were of no avail and surgery had to be resorted to. By an ingenious technique, a team of four vascular surgeons who were experts in blood vessel surgery, grafted or transplanted two sets of new arteries in both legs, taken from blood vessel "banks." These storage "banks" keep normal healthy blood vessels available for operations and emergencies in the same way that blood is stored in blood banks for blood transfusions.

Mr. J. almost lost his life during the eight-hour operation but is now fully recovered and walking normally again. However, he does follow the low-fat diet and nutritional program that apparently has arrested the progress of his former atherosclerosis and is well and vigorous once more.

***Is there an excess of fat imbedded in the artery wall itself?*** This proved to be a very difficult question to answer. A search through the medical literature disclosed that no one had reported any findings on this crucial question. We found that there were tremendous chemical problems blocking the answer to the mystery, but due to good luck and a brilliant chemical feat by our team, we discovered and reported the following facts.

The coronary artery that is damaged by an attack of atherosclerosis has *four times as much* cholesterol and fat content as that of the person who dies of causes other than heart attacks. Subsequent to our findings, investigators both here and abroad corroborated our findings, tracking down the "killer" fat to his lair directly in the artery itself. We also noted that high blood pressure had the special effect of driving the cholesterol and fats into the artery wall with more speed and greater destructive-ness than would normally be the case. Many patients with high blood pressure were particularly prone to heart attacks and strokes because of the extensive destruction wrought in their arteries by these fats.

This fact brings well to mind my patient, Mr. N., a 50-year old business executive, 40 pounds overweight, who had high blood pressure and angina pectoris. He complained of headaches and dizzy spells. He weighed 190 pounds and suffered from chest pain and shortness of breath on physical exertion or emotional excitement.

After a loss of 40 pounds by our nutritional methods, his blood pressure became normal and his heart aches and dizzy spells disappeared. However, whenever he had his regular twice weekly, tense committee conferences at the factory, his blood pressure would rise. Strangely enough he discovered that if he ate any fatty foods before these tense business conferences he would develop angina or chest pain and would have to take a tablet of nitroglycerine to relieve the severe heart pain.

His nutrition-minded wife astutely decided to pack his lunches herself into his brief case, along with his business papers and documents. Instead of eating the usual restaurant meals with his business associates, Mr. N. was able, thanks to his wife, to eat an enjoyable, low-calorie, fat-free meal. His heart pains left him. The great fear of death or crippling illness that had constantly oppressed him and made his life miserable disappeared completely.

Apparently, emotional stress at business would cause his

susceptible blood pressure to rise. If fatty foods were eaten in addition, excess fat would accumulate in the blood and could be driven into the coronary artery blood stream of the heart. This would then produce the life-threatening heart pains of angina.

The transformation in Mr. N., after diet, weight and nutrition were corrected, was truly remarkable. His entire facial expression (as well as his figure) was completely changed. In the place of a tense, pasty-colored, anxious-looking face was a cheerful, smiling, health-colored countenance. His step had become springy (and no wonder, with 20 pounds less to carry around), his walk buoyant, and his enjoyment and capacity for work enormously increased.

***Are there other conditions that cause heart attacks and strokes?*** To find the answer to this question we studied the hearts and arteries of 600 hospital patients who had died of various causes. After years of analysis we were able to report that in 100 cases of accidental death the great majority of men and women studied showed some degree of fatty deposits in their arteries. This was true in cases of people as young as 20, indicating that fat is a killer that has no respect for age. He often begins his work very early in a person's life.

In another 100 cases, diabetes was the cause of death; in another 100, underfunctioning of the thyroid gland was evident. In both instances, these patients showed excess cholesterol and fats in their blood, with a correspondingly high-fat content in their arteries. The degree of atherosclerosis of the heart and brain far outstripped that of any other condition, except one called xanthomatosis. This condition showed itself through fatty, yellow-white deposits in the skin around die eyes, hands, arms and legs. Whenever we found this condition, we also found that the arteries throughout the body, and especially in the heart, were most extensively damaged by fatty deposits.

In patients who were thin and wiry throughout their lifetime, the occurrence of atherosclerosis was generally much less than in all other cases. Women before the age of 50 also proved to be

much better protected against degenerative artery disease than men. After 50, however, women began to develop heart attacks and strokes with the same frequency as men. The conclusion was that female sex hormones played an important role in providing protection against the ravages of atherosclerosis. As soon as the change of life occurred in women, the protection of these hormones seemed lost; they then became the equals of men in suffering from heart attacks and strokes.

***The role of the liver in protecting you from*** *excess fats.* We found that the liver manufactures protective chemical substances called phospholipids. These phospholipids in the blood help to ward off the effects of too much fat and help to protect you from heart attack. They suppress the damaging effects of cholesterol upon the arteries of the heart and brain.

This encouraging fact was first discovered by Dr. Aaron Kellner and Dr. E. H. Ahrens, who conducted experiments on animals (and brought it to light). If your liver is not functioning normally and producing a sufficient quantity of these protective agents, you can find them in certain foods. Some foods that contain phospholipids in abundance are soybeans and the liver of calves, steers, lambs, and chickens. The Vitamin-B complex vitamins also have the ability to increase the blood phospholipids. Defatted soybean lecithin in particular is an ideal preparation for increasing these protective phospholipids in the blood. (See Chapter 5 for a full discussion of food supplements that can be wonderful fighters in the battle against excess fat.)

These protective agents lower the blood cholesterol and bring about a better balance between the amount of phospholipids and cholesterol in the blood. The lowering in the amount of cholesterol protects you against the development of atherosclerosis.

***Isn't there some medicine that will stop fat from causing heart attacks?*** Medical science has searched diligently for some new chemical or medicine that would provide the answer to this question. Some progress has been made, and the

full answer will come in time. Here's what we have found out so far:

In 1940 I developed an extract from the arteries of cattle. This extract was administered first, with success, to animals for a period of three years. Then for several years it was given to human patients suffering from heart and artery disease. I reasoned that if a weakness or deficiency existed in the wall of the damaged artery, then the administration of the healthy, vital substance missing in the artery might rejuvenate the diseased artery and restore its health. This same principle was used in the discovery of insulin.

Although the extract was effective, it had some drawbacks. One problem was that to be effective, it had to be injected daily for the duration of life. A group of research biochemists headed by Dr. N. T. Werthessen and specializing in atomic medicine studied the preventative and curative effects of the extract that I had developed. They used radioactive chemicals to trace the extract in the blood of experimental animals. It was found to be highly effective in preventing atherosclerosis. Nevertheless, I felt it was necessary to abandon the use of the extract, even though we had obtained remarkable results in the treatment of heart, brain, and other circulatory illnesses. The excessive costs of manufacturing and testing the extract, and the need to inject it daily, made its use impractical.

***Many other fat** preventing agents have been discovered **and found wanting.*** For example, my associates and I found, more than 10 years ago, that in various experimental animals certain members of the Vitamin-B complex were effective in preventing and treating atherosclerosis. These protective, vitamin-like agents were called lipotropic, or fat preventing. Although these findings were repeated and corroborated by many investigators, many medical scientists could not agree, and the use of such fat preventing agents never became generally accepted. Subsequently, they have been replaced by more promising medicines in the treatment of heart attacks and strokes.

Another promising substance was heparin, which is a fat-clearing, anti-clotting medicine. Dr. Hyman Engelberg and other investigators have found heparin very valuable for controlling blood fats in the treatment of heart cases. Various other physicians, however, do not agree with these results. Moreover, the necessity of injecting heparin at frequent intervals and the need for greatest care in its administration made it difficult to use it on a wide scale.

In certain cases, thyroid extract has been effective in reducing excessive cholesterol and fats in the blood. It was most helpful in those patients who had a sluggish or abnormally low basal metabolism rate, a sign of an underfunctioning thyroid gland. But unfortunately, it has not proved generally effective in all cases.

Years ago, my co-workers and I explored the potential of plant sterols as fighters of fat. These sterols, which are plant or vegtable extracts, when eaten, block the absorption of cholesterol and fats from the intestine. Some interesting results were obtained, but their action was variable at best. Many of these plant extracts were not practical because large quantities had to be consumed before each meal.

Female sex hormones have been widely explored. Many investigators have advocated their use in controlling fat metabolism in the blood and arteries. Here too, the results of treatment in cases of heart disease were interesting, but treatment was handicapped by the feminizing effects that such hormones had on men.

Thus the need for something that would be useful to all people, something that would bring definite results in fighting off the killer, fat, remained. The low-fat diet holds great promise for everyone, whether the person has atherosclerosis or not. The low-fat way of life can be followed by anyone, anywhere, and it is simple, safe, effective. Let us see why.

***How the low-fat diet proved its value.*** Throughout the world, fats and heart disease appear to be inseparable companions. When investigators found one, they generally found the other, no matter in what countries they searched. A host of reports began to pour in on the scarcity or absence of heart,

brain, and vascular disease in those populations where a low-cholesterol, low-fat diet were common. (Example: Asians, Africans, Costa Ricans, Okinawans, Chinese, Ceylonese, and Bantus.)

In sharp contrast, the exact reverse was found in those parts of the world where a high-fat diet was prevalent. A high rate of atherosclerosis of the heart, brain, and kidney was common in the countries of Europe and in the United States and Canada. Pathologists, doctors, and medical researchers, have since produced overwhelming evidence to show that when blood cholesterol and fats are high, the arteries were correspondingly high in the degree of damage or destruction by atherosclerosis. And when the blood levels of fat were low, the damage to heart and brain was also low.

I became convinced that the killer had been identified. This conviction I arrived at in the following way: I decided to see what the effects would be of stopping one group of patients from eating fats and comparing them with another group who continued to eat the usual amounts of fats found in the American diet. It was important to work with people who had proven cases of atherosclerosis. I therefore selected 100 patients who had survived heart attacks or coronary thromboses and who had been discharged from the hospital. These patients had all had atherosclerosis of the coronary arteries and were ideal for the purpose of proving or disproving the whole concept of high fat as the cause of heart attacks. The 100 cases were divided into two groups of 50 patients each. One group was placed on a low-fat, low-cholesterol diet; the other continued on a diet containing the regular fat intake that they had grown accustomed to before their heart attacks occurred.

Both groups were carefully observed for over 10 years. By the end of the third year, the answer began to grow clear. At the end of eight years of study, the answer was conclusive. Of the 50 patients who ate their regular dietary fat quota, 38 (or 76 per cent) had died of arterial or heart diseases. Of the 50

people who had followed the low-fat diet faithfully, only 22 (or 44 per cent) had died of the same illnesses. In other words, the low-fat diet had enabled heart patients to live twice as long as those who followed a regular diet and had saved a significant number of lives in the process.

***The lowfat diet proved to be effective in reducing weight and promoting general good health.*** An equally important result of this research was this: We found that a substantial weight reduction of about 20 pounds was achieved by both men and women on the low-fat diet. This took place over a period of three years, and the weight loss was safe, gradual, healthful.

Typical of this group of patients was Mr. B., a stocky, short man of 180 pounds, who had just recently recovered from his coronary thrombosis. But he now complained of great fatigue and shortness of breath on exertion. He just couldn't seem to be able to resume his work as a builder. For his height and bodily frame, he was easily 36 pounds overweight. On the low-fat diet he lost a pound each week.

At the end of the year he weighed 145 pounds. In his own words, he "felt like a million dollars." He found himself vigorously back at work again, clambering about his construction jobs and housing projects with ease and enjoyment.

The patients on the low-fat diet also gained some remarkable and unexpected health dividends. Many patients, for example, experienced a striking improvement in energy and vitality.

The case of 47-year old Mrs. R. is an excellent one in point. She had made a fairly good immediate recovery from her coronary thrombosis. But even before her heart attack, her household activities were always a series of endless chores to her. To "get through the day," became a daily and finally a monumental challenge. First, it had been the race to get her three children off to school and husband off to work without even a chance to answer nature's call to the bathroom (the new American mother's form of colonic martyrdom!).

Next the hurry to get the house cleaned and straightened up and the noon meal cooked before the children were back from school for lunch. After this kind of fire-alarm rush, the quick run over to shop, buy and prepare dinner. As the zero-hour drew near, Mrs. R. often felt like giving up; she just felt too exhausted, too miserable, and too weak; the task appeared too formidable and depressing for her dwindling strength.

The doctor who had examined Mrs. R. had not been able to find any actual disease present. She was advised to "relax" and "try to take it easy." The "change of life" is hard on some women. Mrs. R. should have watched her weight and her calories, as she was easily 25 pounds overweight. She was only 5 feet tall, a little woman. Then her heart attack had struck and stunned the patient and the family before Mrs. R. had a chance to do anything about it. But after a year on the low-fat diet and nutritional program, she made a complete recovery and had lost 25 pounds of weight. Mrs. R. was a changed person. Below the layers of fat emerged an attractive, vivacious woman whose vitality was apparent in her home. Relieved of the excess tonnage she had constantly carted around her house, Mrs. R. walked with a light* quick step. The family could not believe the transformation that had taken place; the entire home had become cheerful and a pleasure to live in.

Mr. R. privately confided to me that he had also been depressed by his wife's former miserable state. He now promptly responded to the new healthy, cheerful atmosphere. He himself came to enjoy his home and family. Previously his footsteps had dragged; he used to feel nothing but uneasiness and anxiety when he came home, when he found an exhausted and depressed wife. Now he really could barely wait to get home. It was almost like rediscovering his wife^-his wife as she had been in her youth.

Others on the low-fat diet found that they gained strength and were able to work and take part in physical activities that would otherwise be denied them.

After the loss of 22 pounds, another patient in this group, Mr. L., found that after three years on the low-fat nutritional way of life, he now got more out of his job as a carpenter, with a loss of his old fatigue and **a** greater ease in actual working then ever before.

Many patients found their whole philosophy of life changing. Those who had been depressed and discouraged came to know a surprising sense of well-being. Cheerfulness and optimism took the place of morose resignation and negative pessimism.

Mrs. T. never tired of admiring herself in the mirror after a year on the diet and nutritional supplements. And no wonder, for in the place of the unsightly bulk that made her resolve to do something tomorrow, there was a slim, attractive figure, a clear, fresh skin, and a sparkle in the eyes that had never been there before. What pleased her most, however, was the smiling face and cheerful expression that habitually greeted her in the mirror and that radiated and was reflected in the rest of her family.

Some of the patients had suffered for years from heart (angina) pain and other circulatory illnesses. Many of those who followed the low-fat diet faithfully found these symptoms gradually disappearing.

Cases like Mr. C, Mr. 0. and Mrs. W. were typical. Following the diet and nutritional changes, weight losses of 20 to 40 pounds resulted. In the place of the old chest pain, discomfort or pressure due to angina or heart pain, there was now a feeling of lightness, ease, and freedom from the frightening distress that used to come on so quickly after exercise or excitement.

These remarkable improvements in all the patients on the low-fat diet were accomplished by the healthy teamwork in body chemistry and tissues of vitamin and nutritional supplements, diet, and weight reduction. Identical findings were reported by investigators abroad, particularly in Europe. The benefits were especially strong in cases of atherosclerosis of the brain (stroke).

These cases of cerebral atherosclerosis are so widespread they are virtually universal. Chapter 11 contains a detailed ac-

count of the recent and extraordinary discoveries that have resulted from treatment of this condition by the low-fat diet and nutritional supplements.

A recent scientific publication of mine in the medical journal *Geriatrics* (for elderly people) describes some remarkable changes in patients with cerebral atherosclerosis. Over 100 of these patients, some of them suffering from strokes, were treated very intensively by the low-fat diet and massive amounts of lecithin, vitamin-B complex supplements, liver extract, and soya oil (as described in detail in Chapter 6) showed remarkable changes, often within two to three months. Increased strength —as noted by mechanical measuring devices and increased muscular ability, coordination and ability to walk—were frequently found.*

Mental improvement was often seen by improved powers of concentration, greater clarity of thinking, expression, and perception.

Emotional changes were often remarkable. Depression and lack of communicativeness gradually disappeared and in its stead there frequently developed a feeling of well-being, cheerfulness, and optimism. Patients were much easier to get along with and were keenly interested in their improved nutrition and progress, where as before they had often felt only apathy and a fatalistic resignation to their condition.

These encouraging discoveries, although extremely important, do not mean that there are no other factors that play a part in causing atherosclerosis or help it to develop. As I have already mentioned, we must not forget such additional factors as heredity, sex, metabolic and glandular disturbances, local conditions within the arteries themselves, and possibly, still other undetermined causes. However, what is important for you to remember is this: diet and weight are two powerful forces for health that *you can control.* You can do something about diet, and you can follow the low-fat diet with no difficulty, without

having to suffer a bland, unexciting series of daily menus. And you can lose excess (unhealthy) weight easily, safely, and without having to starve yourself or restrict your diet to only a few foods such as lettuce and cottage cheese. You don't have anything to say about your heredity or your sex, but you can do something about what you eat and what you weigh. This book will show you how.

In the following chapters you will discover exactly how to eat and what to eat in order to prolong your life and increase your health and vitality. The low-fat program given in this book can do wonders for your general health and well-being. It may even save you or your loved ones from heart attacks, strokes, and other illnesses in which the role of the "killer" fat is unmistakable. Now that we know that fat is guilty, let's see exactly what we can do to keep this silent menace from destroying your heart and your health.

Chapter 4

# HOW TO BE REALLY WELL, THE LOW-FAT WAY

***Your diet is the key to your health.*** Diet is an important factor in the cause and cure of many ills. The wrong foods can cause allergic reactions ranging from the well-known strawberry rash to death from allergic asphyxiation. The right foods can help you clear up such allergic reactions. The wrong foods can bring on overweight, sap your energy, rob you of zest and well-being. And in the degenerative diseases of the heart and blood vessels, diet is the key; it is the difference between active good health and dangerous illness.

Not all doctors are agreed as to the exact role of the high-fat diet in the development of those circulatory disorders that account for more than one-half of the total deaths in this nation each year. But a careful and continuing study of the subject for more than 15 years, both in the laboratory and in my private practice, has left no doubt in my mind. It is diet that cocks the trigger of the deadly weapon now aimed at the hearts and brains of millions of Americans. Whether that trigger is ever pulled will depend, admittedly, on a number of other things: heredity, occurrence of other diseases in the victim, certain hormones, stresses, biochemical factors, and so on. But why play Russian roulette with your heart?

By eliminating certain foods from your diet, by including

others in the right amounts, and by the use of nutritional supplements, you can achieve at least a 50 per cent protection against heart attack. We shall consider dietary supplements in Chapter 5. Now let's see what foods are good for your health and which foods are not.

Unfortunately, as simple as proper dieting is, doctors have found it to be one of the most difficult measures to prescribe for their patients, and one of the most difficult to get them to follow consistently. Proper diet is the easiest and safest thing a physician can prescribe. But because eating habits are so firmly established with most patients, and because dietary therapy takes time, many follow a stop-and-go routine that offers little long-range benefit.

***A healthy diet does not mean starvation or*** *tasteless* ***foods.*** Yet a corrective diet does not mean either starvation or the grim necessity of eating unpalatable foods. Moreover, a little experimenting in the kitchen will soon produce meals that, from the standpoint of taste and esthetic appeal, will be equal if not superior to, the high-fat dishes to which you are accustomed.

In the following pages you will find ways and means of satisfying your appetite and of stimulating it in such a way that it can be constantly surprised and pleased. This is done by a little originality on your part plus a break with old cooking and eating habits that have grown into fixed, and often monotonous, dining patterns. Your palate will be grateful for the change. And you will experience on the low-fat diet a startling increase in vigor and vitality, a new sense of well-being.

***You do not have to lose energy—good*** *diet increases vigor.* Neither does it mean a loss of energy or a sharp reduction in poundage, unless you are overweight, in which case the excess fat is melted off. In fact, if you adhere to the low-fat, low-cholesterol diet recommended in these pages, you will feel better, have more vigor, and firmer muscles than before. If you have a faulty fat metabolism, the diet may substantially prolong your life. You will find more energy. You will be able to accomplish more and enjoy better what you do accomplish.

The low-fat, low-cholesterol diet is not intended for growing children and young persons under 20. The fatty acids contained in an unrestricted diet are apparently favorable to their growth and development.

At the same time, there is the incontrovertible fact that hundreds of millions of children in the Orient and elsewhere develop to their normal physical growth and healthy adulthood on a low-fat diet. Apparently the reason for this is that nature has endowed them with the ability to synthesize or produce within the body itself from other foodstuffs eaten, the essential fatty acids found in high-fat diets.

However, additional fats above and beyond those actually required and eaten in the diet are metabolized and discarded by children, or are absorbed without being deposited in harmful amounts on the artery walls. But after the period of growth is completed, and nature has exhausted her protective powers against fats, excess amounts are deposited in the artery walls. This tendency increases with each decade after you are 30 years of age.

***Almost everyone can benefit from a low-fat diet.*** There are, of course, some individuals whose blood is so low in cholesterol and blood fats that dietary restrictions are not necessary. But these persons are decidedly in the minority; and such a condition can only be determined by a competent physician, who will order a laboratory measurement of serum cholesterol levels in the blood. People who are fortunate enough to possess these low-cholesterol levels (fixed around a 200 milligram value) are able to handle all fats ingested. They are usually characterized by outstanding vitality and are inclined to long lives. They rarely suffer from blood vessel diseases and heart attacks.

I had such a person as a patient of mine in one of my teaching wards at the County Hospital. She was a Mexican-Indian woman whose documented age was 110 years. Despite this remarkable fact, and despite her other infirmities (which were not associated with degenerative blood vessel disease), she was

quite spry. My research laboratory took samples of her blood and analyzed them with keen interest to see how much cholesterol and blood fats it would contain. In repeated tests, we found her cholesterol levels remained consistently within the range of 100 milligrams. Her other blood fats were correspondingly low.

Compared with what we regard as "normal" values of blood cholesterol in the United States (150-250 milligrams), this patient's values appeared to be surprisingly low. However, the 100 milligram level discovered in the little old Mexican-Indian lady, who was born in 1840 and brought up on a diet of legumes, fruits, and Indian corn, was probably a more accurate example of what the ideal cholesterol level should be.

At the opposite end of the spectrum from this vivacious centenarian are many individuals who have inherited what we of the medical profession call familial hypercholesterolemia. These words are a term referring to persons who have inherited abnormally high levels of blood cholesterol. These are the unfortunate ones throughout whose families runs the devastation of heart attacks and strokes, usually coming in the prime of life.

Such a condition is often discovered accidentally during a routine checkup by an able physician. He may note such signs as cholesterol deposits in the form of whitish plaques under the eye (called xanthalasma); or as a crescent along the periphery of the pupil in the eye (called an arcus senilis). Such indications may also be observed by the alert physician in various other parts of the body, including the elbows, arms, legs, heels, and hands. Many times the condition may reveal itself in the arteries inside the eyes, when they are checked by a competent eye doctor.

Whether such danger signals exist or not, however, if you are a man over 20 or a woman over 40, a diet comprising not more than 10 to 20 per cent of fat in calories can offer some measure of protection against heart and blood vessel disease. Such a low-

fat diet can, in fact, help you to enjoy the kind of over-all good health that makes life worth living. So, for your health's sake, follow the recommendations found in the rest of this chapter and avoid those foods that may destroy your health and your heart.

### *The low-fat, low-cholesterol program:*

#### FOODS PERMITTED

#### Soups

Emphasize bouillons and consommes, as they are nutritious, filling, and low in calories and fats. They are ideal for relieving that hungry feeling quickly and picking you up in the process. Soups are great to warm you up instantly in cold weather and, in the jellied form, to cool you off in hot weather. Soups stimulate the digestive juices, start the stomach and intestinal muscles churning and "warmed up" for the job ahead, while "flushing out" the stomach and getting it ready to stoke the digestive furnace.

Use fat-free vegetable soups, vegetable broths, and soups prepared with skimmed milk.

It is imperative to remove all visible fat and grease from the soup. Here are some good ways to do this:

1. Refrigerate or chill the soup first: then carefully remove the fat and grease that has caked on the top with a knife, spoon, or other suitable utensil.
2. If there is not time for refrigerating or chilling the soup first, use bread slices by direct application to the top layer of the soup, in order to blot up or absorb the grease.
3. Place some lettuce leaves on top of the heated soup. When you see the fat absorbed onto the leaf or leaves, remove them. The lettuce leaf may also impart a slight flavor to the soup, helping to lend a little zest.
4. Blot up the top layer of grease by floating one or more paper towels on the surface of the soup. When it is fat-

saturated, discard the towel; it is a greasy reminder of escape from unhealthy calories.

Dry soup mixes are quite low in fat and are very enjoyable. Some soup manufacturers prepare canned soups that have about a half-teaspoonful of fat per serving of soup when diluted equally with water. Vegetable and vegetable-beef canned soups, however, are very low in fat content and are thus highly desirable for the low-fat diet.

### Meats

Beef, veal, and lamb are naturally high in both visible and "invisible" fat and cholesterol. However, since their protein content is most desirable for energy and palatability, and because of custom, they are basic ingredients in the low-fat diet. Much of the dietary fat allowance is contained in meat, which has its greatest amount of calories predominantly in fat. It must be kept in mind that the butcher will at all times allow a maximum of fat to remain on every cut of meat for reasons of added price and the presumption of "quality." This visible fat must be carefully cut away and trimmed while raw, before cooking. During the cooking, baking, or broiling of the meat, the fat should be drained off by keeping the meat or roast on racks. One ideal way of removing most of the fat content of meat and making it almost fat free is to partially cook it on the day before it is to be eaten. Refrigerate the meat and the broth. On the following day it is now easy to remove the layer of grease that has floated to the top and hardened.

Buy and eat lean meats. If you are having ground meat, specify to the butcher that it is to be made from trimmed, lean meat. Bear in mind that the highest fat content is present in the prime and choice grades of beef, lamb, and veal (which are more expensive too), since they originate from fattened animals. Less fat and good quality is contained in meats that bear the stamp "U.S. Good."

Do not fry meats. Pan-cook or brown without fat or grease,

if desired, by using a dry skillet; heat and salt it first before the meat is placed in it, while turning the meat repeatedly. After it is as brown as desired, cook slowly until well done or rare, whichever you wish.

A preparation called "Pantastic" (manufactured by G. N. Coughlan Company, West Orange, New Jersey) is one method of cooking with pans and reducing fat to a minimum. It prevents meats and other foods from sticking to the pan so that grease and fat-free cooking is possible.

Remember that among meats pork, bacon, and ham are highest in fat and cholesterol content. They should not be eaten on the low-fat diet other than occasionally, if permitted by your doctor or by the virtual absence of other fat-containing foods in your menus for the day. The same is generally true of sausages, and organ foods like brains, sweatbreads, and kidneys. Liver is an exception, however, as we will see later.

If gravy is desired for the flavoring of meats, it must be prepared free of its usual very high fat content. The regular brown drippings found at the bottom of the pan after meat is cooked must have the meat juices separated from the exceptionally high melted fats. Separate the fat in this gravy by chilling or refrigeration. Remove the thick layer of caked grease as described above by spoon and by blotting with bread or absorbent paper. Fat-free gravies can also be made by consulting various low-fat cookbooks.

Instead of gravies, meats can be flavored and made to look appetizing by the following garnishes: watercress, parsley, celery, carrots, radishes, pimento, pickles, paprika, green peppers, cucumbers, mushrooms, and onions in various shapes and combinations. Also helpful are spiced peaches, pears, prunes, apricots, cinnamon apples, spiced watermelon rind, applesauce, cinnamon pears, pineapple pieces, broiled bananas, seasoned tomatoes, herbs, and the various relishes such as mint jellies and sauces, chili, catsup, cranberry jellies, chutney, and many others.

Also appealing are some of the following seasonings: garlic cloves, thyme, marjoram, basil, oregano, bay, and peppermint.

### Fish

As a. rule, fish are often excellent low-fat food sources. Unlike meats, very little fats will be cooked out of the fish, so attempting to drain off fish fats in cooking is unnecessary.

Some fish are especially low in fat, such as perch, haddock, flounder, sturgeon, smelts, scallops. Others like brook trout, porgy, cod, and croakers are somewhat higher in fat content, but are still quite low in fat content when compared with meats.

Shell-fish are outstandingly low in fat and cholesterol content. Lobster, shrimps, and crabs are ideal examples. Clams are next in line; oysters are a bit higher in fat content, but are still low in comparison with beef, lamb, or veal. For the connoisseurs, frogs-legs are also low in fat content.

Tuna is now packed in dietetic form called "Chicken-of-the-Sea Brand" and is particularly low in fat. Many canned fish when not packed in oil are very low in fat.

### Poultry

Chicken and turkey are excellent sources of animal proteins for low-fat, low-cholesterol content, provided lean poultry is used. The dark meat of poultry is higher in fat content than white meat. Skin should be discarded. Giblets are very high in fat content.

Guinea hen and squab are also comparatively low in fat content. However, duck and goose are extremely high in fat and should not be included unless the fat is drained off and removed by the methods recommended in the section under meats. As a matter of fact, the fat from chicken and turkey, even though much less quantitatively than that in meat, is best drained off and removed in the same manner as in the preparation and cooking of all meats.

### Eggs

Egg whites, which are proteins, may be eaten and used for cooking as much as desired. The yellow portion of the egg, or the yolk, contains one of the most concentrated forms of fat available—namely cholesterol—and therefore should be avoided.

### Milk and Milk Products

One pint or more daily of non-fat or skim milk should be taken. Use fortified milk with added amounts of vitamin A and D, as now commonly in use. Buttermilk is also a refreshing source of milk with an exceedingly low-fat content.

As an added source of fat-free or low-fat protein, skim or fat-free milk can be fortified by adding to each glass of milk one or more tablespoonsful of dried, skim milk. This "fortified" milk also has a thick creamy taste and can be flavored to suit the individual taste with various flavoring agents. Yogurt made from non-fat milk can also be used for nutritious variety.

### Cheeses

The majority of cheeses are very high in butterfat content and so cannot be used in the low-fat diet. There are several important exceptions, however. First is cottage cheese made from dry curd and non-fat milk, as specified by federal law. Cottage cheese must contain a minimum amount of butterfat to meet legal requirements.

One of the most frequent pitfalls in the use of cottage cheese is the user's failure to notice that often she is using or buying creamed cottage cheese, which of course does contain fat. Restaurants in particular use creamed cottage cheese in their menus, and this should be borne in mind when eating out. This creamed cottage cheese can be corrected by washing it out with cold water through a strainer. Various brands of cottage cheese that taste like creamed cottage cheese are available, such as "Slim Cheez"

or Ricotta Cheese made from milk whey and a favorite of Italian cooks. There are also other foreign brands of cheeses low or negligible in fat content, which are processed from non-fat milk or whey, such as the Geska type of Sapsago cheese (Swiss green cheese), certain Scandinavian cheeses, and in the United States brands of jack cheese made from skim milk or whey. Cheese spreads or dips made from non-fat or cottage cheeses are also widely used for low-fat menus.

### Vegetables

Vegetables are virtually fat free and contain no cholesterol.

Certainly the acid test or taste (!) of the good cook is in the preparation of vegetables. To prepare vegetables without butter or fat means that a little originality is required by the cook, such as by the use of herbs or seasoning. Since many of the vital vitamins and minerals in vegetables may be destroyed by cooking, the ideal use of raw vegetables is the most desirable for any menu, and especially for the low-fat menus. However, because many vegetables are cooked, it is best not to soak them, and to save and use in other dishes the water used for the cooking, to avoid using soda and to avoid overcooking or re-heating of the vegetables.

The addition of bouillon cubes as a substitute for butter in the cooking of vegetables is very helpful and palatable. The subsequent addition of herbs before serving the vegetables adds further to the natural flavor.

### Fruits

Fruits also contain virtually no fat and are entirely free of any cholesterol. Two notable exceptions, however, are the avocado and the coconut, which are both very high in fat content and thus should be avoided. Otherwise there is no restriction on the use of fruits, which are also certainly ideal for desserts.

## Salads and Salad Dressings

Use raw vegetables almost exclusively, since the vitamin value is at peak this way, and the crispness of the vegetables is most appetizing. No fat or cholesterol is concerned unless specifically added. Fruit salads are in the same category and are particularly refreshing and nutritious. Various combinations can be used with vegetables, cottage cheese, or gelatin recipes. When fresh fruits are not in season, use dried, canned, or frozen fruits. Gelatin salads are special favorites to many, especially when made with fruit juices instead of water. Aspic salads are excellent when prepared with vegetables or vegetable juices. If cottage cheese is added to gelatin and aspic salads, more protein and "body" results.

Salad dressings low in fat content are readily available from various manufacturers under such trade names as Marse Diet Rite (Lo-Calorie Mayonnaise Substitute), Diamel Diet Whip, and others. These do contain a relatively small degree of fat, however, so it is best to prepare your own fat-free dressings whenever possible, such as the one described in the recipe, page 72. Small amounts of mineral oil are preferred by some for salads, but if used more than occasionally this is not desirable, since mineral oil tends to interfere with absorption of vitamin A in the food. If allowance is made for the caloric content of the vegetable oils described in Chapter 5, soya-oil, cornseed oil, and cottonseed oil are valuable for use in salad dressings. As explained in Chapter 5, these vegetable oils are exceptions to other fatty foods in that they contain large amounts of unsaturated fatty acids. These fatty acids are very effective in reducing the fats and the cholesterol present in the blood stream. They are thus "protective" against the harmful effects upon the arteries of other fats, such as contained in butter, milk, eggs, and cream.

Don't forget eye-appeal in preparing an appetizing salad.

The

following garnishes are particularly nutritious and appealing: watercress, croutons, garlic, chives, pimiento, lemon, lime, orange or tangerine and other fruits, mint, carrots, beets, green onions, celery, radishes, cottage cheese, parsley, pickles and peppers, ketchup, vinegar, non-fat yogurt, herbs, and spices.

### Cereals

These are nutritious, energy producing, and virtually fat free. Therefore, all cooked or dry cereals are excellent carbohydrate foods, if served with non-fat milk. The taste is enormously enhanced by the addition of stewed or fresh fruits such as bananas, prunes, peaches, pears, apricots, berries, dates and figs, raisins, or baked apple.

Whole wheat and whole grain cereals are also an important source of vitamin B complex and protein in the low-fat diet. Their cooking can be done with skim milk if it is not boiled or burned. The addition of one-to-four tablespoonsful of wheat germ to the cereal is a most desirable nutritional supplement and is an ideal daily food when added to the cereal.

For those who work and feel best beginning the day with a substantial breakfast, the inclusion of the above cereal, skim milk, fruit, and wheat germ "combo" is excellent for energy, proteins, vitamins, and minerals.

### Breads

Both white and whole wheat breads contain only a negligible amount of fat (approximately 5 per cent by weight) a minority quantity of protein (about 20 per cent) ; the rest is carbohydrate.

Whole wheat bread is the healthiest, most nutritious form of the "staff of life." Bakeries customarily incorporate some lard, butter, or egg yolk in most yeast loaf bread, sweet rolls, rolls, muffins, buns, and coffee cake. Various enriched breads now on the market are also nutritious as far as vitamin B complex is concerned, and often may match 100 per cent whole wheat, rye, or pumpernickel breads in this regard.

### Desserts

Fat-free sweets are great energy producers as well as comforting for that "sweet-tooth." Excellent, but high in calories because of sugar content, are jams, jellies, marmalade, honey, molasses, maple syrup, and sugar; hard candies and candies without nuts, creams, or chocolate are also fat-free.

### Beverages

A wide choice of fat-free drinks is available to all, such as tea, coffee, coffee substitutes, skim, fat-free milk, non-fat milk cocoa, skim milk powder shakes, and egg white eggnogs. Where desired for additional nutriments, flavoring can be added to these flavored skim milk drinks in between meals or at bedtime.

Fruit and vegetable juices are also appealing and nutritious, as is fat-free yogurt. Carbonated drinks such as ginger ale, Coca-Cola, 7-Up, and others are also fat-free and popular.

## FOODS TO AVOID

### Soups

All creamed soups are high in fat content. The commercially prepared ones are particularly fat-heavy, and since the fat cannot be readily removed from them, they should not be used. It is always a good idea to read the label carefully on any packaged product from which soup is being made. The law pertaining to the labelling of foods requires a description of any fat contained in the product, so undesirable sources of fat can be avoided.

### Meats

Glandular organs such as sweetbreads, brains, kidneys, caviar, fish roe, and giblets are high in cholesterol and fat content, so should be avoided. Pork and pork products, bacon, and ham are also high in fat and cholesterol and should not be eaten, except at an occasional meal.

As already mentioned, liver is an exception to the list of glandular organs to be avoided. It is quite desirable as a valuable nutritional source of essential vitamins and minerals, and because of the "protective" content of phospholipids that counteract the action of fat and cholesterol, it is not harmful.

### Fish

Certain fish are high in fat content and are best avoided. These are: bass, bluefish, butterfish, deviled crab, eel, herring, mackerel, scalloped or fried oysters, pompano, salmon, sardines, shad, and trout.

### Poultry

Both duck and goose are very high in fat and cholesterol content and so should be avoided unless prepared in the fat-free way described under the section of "Meats Permitted," page 48.

### Dairy Products

Whole milk, cream, butter, and cheeses such as American cheddar, Swiss, cream, creamed cottage, cheese spreads, Gruyere, Edam, Limberger, Liederkranz, Parmesan, Roquefort, and Yogurt made from whole milk are all high in fats and should be eliminated from your diet.

### Eggs

Egg yolks are exceptionally high in cholesterol and fat content. They are often used by medical investigators and researchers to produce atherosclerosis and "hardening of the arteries" in experimental animals.

### Breads

Hot breads, pancakes, waffles, coffee cakes, muffins, buns, doughnuts, Danish pastry, sweet rolls—all contain some appre-

ciable amount of lard, butter, or egg yolk. Those especially interested in home baking can find recipes for these fat-free breads and pastries in low-fat cook books, if desired.

### Desserts

All those made with butter, egg-yolks, or cream, such as pies, cakes, pastries, cookies, custards, eclairs, gingerbread, shortcake, and puddings. Notoriously high in fat and cholesterol are ice-cream, parfaits, and frozen creams.

### Miscellaneous Foods

Avocados, coconuts, nuts, cholocate, cocoa, fat contained in the usual salad dressings, gravies, and sauces are all very fatty. Animal fats, including lard and suet, should particularly be avoided in cooking.

Frying should be completely eliminated in the preparation of foods, not only because of its high fat production, but also because of its unhealthy way of interfering with the normal digestion of foods and essential nutriments and vitamins, the irritating character and effect on the digestive tract of the fried fats, and the destruction of vitamins and essential foodstuffs in the food that is fried. Even vegetable fats are best not used. An exception can be made for vegetable oils such as soya oil, cornseed oil, and cottonseed oils as described on page 66.

Alcohol has no fat content, so there are no restrictions on its use other than by the dictates of common sense and self-control. Don't forget that the calories in liquors can easily mount up!

The low-fat, low-cholesterol menus found in this book, *if followed conscientiously,* will provide you with a nutritious, natural diet, one that will help protect you against heart and blood vessel disease. At the same time, it is a diet that will greatly improve your general state of health and increase your vitality.

As you will discover in Chapter 7, you can lengthen your lifespan by a definite number of years by keeping your weight down on this diet. Check the tables on pages 128 and 129 to see how many years you may expect to add to your life just by maintaining the proper weight, irrespective of heart disease.

Then ask yourself, "Isn't it worth a change in my eating habits?"

Chapter 5

# HOW TO USE DIETARY SUPPLEMENTS— LECITHIN, SOYA OIL, VITAMINS

***Even a goat wouldn't eat what you eat.*** It is said that goats will eat anything. At various times their owners have reported that the animals had consumed such things as items of laundry from the clothesline, old shoes, paper (including bank-notes), and in one case a horse's tail. With an appetite like that, you would think that Billy or Nanny would gladly accept an invitation to have dinner with us. But such, apparently, is not the case.

Not long ago, partly as a joke and partly out of curiosity, a man I know offered the same food that had been prepared for his dinner to a neighbor's goat. He reported that the animal turned aside in disgust from the dishes offered it.

Of course, man's dietary requirements differ somewhat from those of a goat. But in meeting those requirements, we have not shown any better sense in choosing our food.

***You are overfed but undernourished.*** Health authorities, nutritional experts, and practicing physicians are agreed that although Americans can afford to buy more and better food than any other peoples in the world, their diet is sadly deficient in certain important nutritional elements. We are a nation that is overfed but undernourished.

The reason for this is that very often nutritional deficiency

can and does occur without any outstanding clinical signs. Also, upper income groups are no more immune than those of a lower economic level.

Dr. Norman Jolliffe, Director of the Bureau of Nutrition, New York City Health Department, and one of the country's outstanding authorities on nutrition, recently warned:

> It is well established that deficiency disease, even without obvious clinical signs, may impair growth, mental development, resistance to many infections, ability to attain the maximum rate of wound healing, and decrease working ability.

In fact, inadequate nutrition, and incorrect nutrition, comprise a "hidden disease" in the United States—a disease costly in terms both of dollars and lives.

***What is wrong with our diet and our eating habits?*** Many things are wrong with our diet and eating habits.

Nowhere in the world is food treated so badly before it is eaten as in the United States. Here it is raised by the use of artificial chemicals. In an all-out effort aimed at quantity, rather than quality, we do everything humanly possible to destroy the original character that the Creator provided and intended for the yield of the earth. Moreover, by the time most of our food reaches the consumer, it is too highly processed, refined, and improperly preserved.

To add to this inadequacy, we destroy what nutrient value remains by flame, fire, by watering it down with tap water, and by overloading it with salt, sugar, or seasoning.

Then we sit down during hurried and harried business hours and bolt it down.

And the result?

Some 50 million or more Americans, adults and children, suffer from constipation, bad teeth, skin troubles, digestive disorders, fatigue, nervousness, and a multitude of other complaints. Most of them are caused directly by poor nutrition and sub-clinical vitamin deficiencies.

To add to these digestive troubles, modern man has cut his oxygen intake by living indoors, often in artificially heated cells or rooms, and has lost contact with both sunshine and fresh air. This unnatural way of life is undoubtedly responsible for important metabolic changes that have occurred in civilized man. He has brought certain evils upon himself by losing those "catalysts" or "stokers of the body furnace."

As a crowning insult to nature, we frequently sit scrunched in a chair most of our days, living in a constant state of tension and apprehension at our work. Man was originally very energetic, physically active and almost constantly engaged in some exercise or other. Today, thanks to our mechanical genius, we tend to depend upon a push-button instead of a muscle.

All these factors make it necessary for us to seek "outside help" to make up for our nutritional and hygienic shortcomings.

***How to supplement your diet with essential nutrients.*** One way science has found of helping us accomplish this is to supplement our diet with vitamins and other essential nutrients.

Dr. Jolliffe, noted nutritionist whom we quoted earlier in this chapter, not long ago pointed out that the improved nutritional status of our population since 1940 is, in fact, largely due to enrichment of foods and vitamin supplements. States Dr. Jolliffe:

> The agricultural scientist and the scientific farmer alike, know that it is not practical nor economic to raise hogs or chickens from purely agricultural products alone. They supplement the diet of their animals with a variety of vitamins, minerals, and other nutritionals. Although man does not like to think of himself as governed by similar nutritional rules as farm animals, we could learn and profit much by following what the scientific farmer practices.

For a number of years, the author has studied the effects of the following food and nutritional supplement programs, recommended to a large number of patients. They produced a striking **and** gratifying improvement in health levels and

well-being. Also of greatest importance was the fact that they were found to be instrumental in lowering the cholesterol content of the blood and in reducing the amount of harmful blood fats.

There was a corresponding decrease in the number of colds and infections that patients usually had. They also reported less constipation, nervousness, fatigue, and the like.

*The five-step program.* Here are the five steps that patients were asked to follow:

1. Include daily as a food supplement at breakfast two to four tablespoonfuls of Lecithin extracted from soya beans. 2. Add to your diet each day B Complex vitamins in the most potent form. Avoid the cheaper preparations which provide only small and ineffectual quantities of the vitamins, and have little or no effect on the body. Your doctor or druggist can advise you which brands provide potent quantities of the vitamins.

3. Also add to your daily diet at least 25,000 units of Vitamin A, and 150 mg. of vitamin C.
4. Take two tablespoonfuls of soya bean oil, corn oil or safflower oil daily to provide the essential fatty acids necessary to proper nutrition. The oil may be used as a salad dressing, taken with tomato or fruit juice, or in any way you prefer.
5. Include in your diet two to four tablespoonfuls of whole wheat germ each day. This may be eaten as a breakfast cereal with fruit, or sprinkled in your salad.

Now a word about the nature of these health-giving nutrients, and the reason for their use.

*How to use Lecithin.* Now I'm going to tell you about one of the most important nutritional supplements developed in the last 50 years. Make a careful note of it and of how it is to be used, as described in these pages. The least it can do for you is to improve your health and give you added vitality. And it may even help save your life.

The substance is Lecithin—a bland, water-soluble, granular powder made from de-fatted soya beans.

Soya beans have been an important staple in the diets of people in China and the Far East for centuries. But it was only recently that the health-giving properties of one of the beans' constituents—Lecithin—have been studied.

Lecithin is what biochemists call a phosphatide. That means it is an essential constituent of all living cells, both animal and vegetable. As such, it plays a vital role in various phases of body chemistry and function.

After more than 10 years of intense experimentation, not only with Lecithin, but with a large number of other cholesterol-reducing preparations used in the treatment of heart disease, atherosclerosis, and allied conditions, we found Lecithin to give the most rewarding result. It was, in fact, not only useful in treatment of heart and blood vessel disease, but also in their *prevention.*

Lecithin has very recently been shown to have the power of removing atherosclerosis from the arteries of experimental animals. Dr. Meyer Friedman, Dr. Sanford Byers, Dr. Ray Rosenman and their research associates in San Francisco have demonstrated in a most convincing and dramatic manner how injections of Lecithin remove the cholesterol plaques that were deposited in arteries.

These fatty plaques were produced in the arteries by feeding large amounts of cholesterol and fats to the animals. They were characteristic of the atherosclerosis found in humans.

Dr. Friedman and his co-workers believe that in atherosclerosis, as the fats and cholesterol are removed from the artery walls and flood the bloodstream, the atherosclerotic plaques are dissolved and removed by the Lecithin.

The excess cholesterol and fats are thought to be converted by the liver into the bile and then excreted from the body. Although there is no known method of using Lecithin by injection in humans, the very high concentrations in the blood of Leci-

thin that are desirable for treatment can be achieved by feeding Lecithin and incorporating it into the daily diet.

Other research workers have also recently shown that soy bean Lecithin is able to prevent blood clotting in the arteries.

Wherever possible add at least two teaspoonfuls of flavored fresh brewer's yeast to skim milk, cereal or whole wheat germ daily. The use of an added two tablespoonfuls or one ounce of a fresh liver powder extract to the daily diet is invaluable for good nutrition. Both of these can be purchased at most drug stores and at all special diet food stores.

Many of my patients have prepared a "Molotov" cocktail by mixing both the yeast and liver powders in tomato juice or fruit juice. Drink this "cocktail" before meals. You will often find that it acts truly like "dynamite" in producing energy and vigor!

In the course of our research we have also found that Lecithin apparently has the ability to increase the cholesterol esterases in the human blood stream. These esterases are enzymes, or activators, that aid in the metabolizing of fats. Years ago, we found that these cholesterol esterases are deficient in patients with active atherosclerosis.

Lecithin has other remarkable therapeutic qualities as well. One that we are just beginning to explore is its ability to increase the gamma globulin content of the blood proteins. These gamma globulins are known to be associated with nature's protective force against the attacks of various infections in the body.

In the blood stream of patients who used Lecithin as recommended, we found evidence of increased immunity against virus infections. This is of special interest, since scientists have reported finding this Lecithin-induced immunity against pneumonia.

Other studies conducted by various American medical scientists have indicated that Lecithin is also beneficial in the treatment and prevention of a variety of disease, including rheumatic

carditis, diseases of the liver, anemia, kidney disorders, and metabolic disturbances of the skin, such as psoriasis.

Patients who successfully followed the oil-free, soybean Lecithin program continually volunteered the information that they felt a sense of well-being. They said they had more vitality, did not grow tired so quickly as they had formerly, and were in better general health than before. These subjective responses are always to be viewed in the light of "suggestion" or the inspirational quality that patients receive from treatment itself. Nevertheless, after more than a decade of careful analysis and evaluation of results, this author is certain that Lecithin is of one of our most powerful weapons against disease. It is an especially valuable bulwark against development of "hardening of the arteries" and all the complications of heart, brain, and kidney that follow.

In some instances, the cosmetic effect of Lecithin did as much for the patients' mental outlook as it did for their physical well-being.

For example, Mrs. U., a housewife of 45, had always been ashamed of the flat plaques of yellowish hue that appeared on her skin owing to fatty deposits. Soon after she began adding Lecithin to her diet, as prescribed, the patches began to disappear. Eventually they vanished altogether. Mrs. U. was more delighted with what she saw happening in the mirror than with the idea that the same thing might be going on with the fatty deposits inside her arteries.

Another patient of mine, a 45-year old baker, suffered so acutely from angina (pain in the chest caused by interference with the blood supply to the heart muscle) that he was unable to work. Like Mrs. U., he also had a number of yellowish brown plaques under his eyes, where fatty deposits had appeared. When I took his cholesterol level, it was found to be high in the abnormal range. Upon my recommendation, this baker followed the low-cholesterol, low-fat diet given in this book, and supplemented it with the prescribed amounts of Lecithin and high-potency vitamins. Within a few months he was able to return

to work, free of anginal pain. His cholesterol level was lowered substantially, and the xanthalasma (fatty plaques) disappeared from his face.

As is the case in all foods, vitamins, or nutritional supplements, there are occasional persons who find that Lecithin does not agree with them. But in such a case, a substitute can be used.

In figuring calorie counts, allow 60 calories for each tablespoonful of Lecithin.

*How to use soya oil.* Oil extracted from the soybean" provides another valuable nutritional supplement. It contains a high percentage of unsaturated fatty acids, and is the most healthful of all food oils. Hundreds of millions of people living in Asia have used it for centuries. Perhaps this is the protective factor in their food that has prevented heart disease and atherosclerosis, which are comparatively rare in Asia.

Recent research has shown that unsaturated fats or fatty acids, such as those found in soybean oil, may act as "blocking" agents to keep harmful fats out of the blood. The term "unsaturated" is used by scientists to mean that the fat molecule still has room to add onto its structure additional molecules. Consequently, it is lighter in weight, and is more easily handled by the blood.

When a fat is "saturated" it has achieved its maximum weight. Taken into the bloodstream, it probably tends to "settle out" or to form a "bulge," depositing part of the fat in the artery lining or wall. These fatty deposits tend to block passage of blood through the vessel and may eventually plug it up altogether, resulting in a heart attack or stroke.

As a rule, you can regard "soft" fats—those that are liquid at room temperature—as unsaturated. They include most vegetable oils, such as olive, cottonseed, corn, and mineral oils. Coconut oil is an exception, being saturated even though it is a liquid.

The harmful or "solid" fats are those that are hard at room temperature: butter, lard, oleomargarine, suet, vegetable shortenings that have been hydrogenated, yolks of eggs, butterfat in milk, cream and cheeses (other than cottage cheese).

Soybean oil is now being stocked by many food markets and all special diet food stores. If it is not available at your grocer's, he or your druggist can order it for you.

It should be used in place of rich, fatty prepared oil dressings for your salads.

For those who must watch their calorie count, allow 135 calories for each tablespoonful of soya oil.

***How to use vitamins.*** Evidence that many diseases could be caused by faulty diet has been available for centuries. As far back as 1753, a British naval surgeon named Capt. James Lind discovered that scurvy, which plagued seamen on long voyages and sometimes decimated entire crews, could be cured by eating fresh lemons. A century later, another naval doctor, who was an admiral of the Japanese fleet, learned that beri-beri, the wasting disease so prevalent among Japanese sailors, could be eliminated by change of diet. Other medical researchers reported similar noteworthy results in curing other deficiency diseases, including rickets.

But their discoveries were largely ignored. As late as the turn of the century, physicians of good educational background and wide experience were still blaming rickets on various causes —including infection, lack of proper thyroid function, and insufficient exercise.

The first widespread attention that the medical profession focused on the subject was in 1906 when an English physician, Sir Frederick Gowland Hopkins, published the results of experiments that pointed clearly to the existence of vitamins.

Sir Frederick fed laboratory rats on a diet of protein fats and carbohydrates, allowing each of them plenty of this food to grow satisfactorily. Yet instead of flourishing, they fell ill. When he added small amounts of whole milk to their diet, however, all of them quickly recovered and began to grow at a normal rate. This convinced the scientist that a healthful diet requires not only adequate amounts of proteins and carbohydrates, but some unknown but important ingredients.

It remained for a Polish biochemist named Casimir Funk,

who carried on similar research at the Lister Institute in London, to give the unknown ingredient a name. He coined the word "vitamin," still in use today.

But exactly what are vitamins? At first medical scientists thought they were bio-catalysts, substances that promote chemical reactions in the body without taking a direct part in these reactions. But today it is evident that vitamins often do more than merely aid in chemical reactions. Some of them may actually be substances used structurally by the body.

Of the 13 vitamins usually considered essential for a healthy body, we are most concerned here with the group known as B Complex, and with Vitamins A and C.

In B Complex, we have a number of substances fundamentally necessary for normal health. They are vital for normal metabolism, and are very valuable as "lipotropic" or fat-combatting agents. In addition to helping our bodies handle fats, they also "spark" our hormones and aid in preventing diseases of the nervous system.

Vitamin A, a yellow compound related to substances found in carrots and leafy vegetables, is essential for growth, many bodily functions in the skin and blood vessels, and for resistance against colds and infections.

Vitamin C, which should supplement the diet given in these pages in substantial quantity, is a crystalline substance easily destroyed by cooking. For that reason cooked foods do not provide a very good source of it. It is needed for formation of connective tissue and red blood cells. A deficiency of this vitamin may be partly responsible for dental caries and infections of the gums, loss of appetite, anemia, and undernutrition.

In addition to these important vitamins, a number of minerals are also essential in our diet, especially a diet aimed at preventing and reducing atherosclerosis. For that reason, a rigid adherence to the menus and instructions given in this book is important.

# LOW-FAT MENUS

**General Considerations for Low-Fat Menus**

The menus presented here include well balanced meals of high protein and high nutritional quality, with emphasis on very low-fat and low-cholesterol content. Although cholesterol is contained in all animal and vegetable fats, glandular organs such as brains, liver, kidney, sweetbreads, and giblets are especially high in cholesterol. In the case of liver, however, there are additional protective nutrients called phospholipids, that help overcome it's cholesterol content, and therefore make liver a valuable source of nourishment. Egg yolks and all foods with egg yolks are also high in cholesterol and are to be avoided as are egg noodles, pancake and waffle mixes, cake mixes with eggs, mayonnaise-type salad dressings, etc.

Some simple suggestions foods are as follows:

***Soups:*** Clear consommés may be used, and stock from vegetables and meat bones. Thoroughly chill and remove all fat before using..

Cream soups made from non-fat milk, with the addition of flour (2 teaspoonsful to 1 cup), thoroughly cooked until thick, then blended with various vegetables or vegetable purees, are excellent. To replace crackers you may use Melba toast, toast cubes, Ry-Krisp, or bread stock.

***Meats:*** Meats should be served with all fat removed. In the preparation, too, remove all noticeable fat before cooking.

In some of the methods commonly used to prepare meat with a low-fat content are roasting, broiling, pan broiling, braising, and cooking with liquids.

For roasting 300-325 degrees is recommended. The length of cooking time depends upon quantity and type of meat. Remove all fat from drippings.

When broiling steaks, chops or patties, place meat 3—5 inches from flame. Remove all fat before serving. In pan broiling, remove all external fat and place meat in cold pan on low fire without covering. Cook until meat is brown on both sides. Use "Pan-tastic" or Pan-Free" to keep meat from adhering to pan.

Stewing entails adding liquids, seasonings, and vegetables to meat, but in our diets it is best to remove all fats from meats before cooking. To remove fat more thoroughly, chill stew and remove all hard fat film on the surface. Reheat and serve.

*Vegetables:* Wash, dry, chill until ready to cook. Cook in the smallest amount of water and the shortest time to preserve vitamins and color. Add paprika or chopped parsley to enhance eye appeal.

All vegetable salads may be used, with dietetic dressings of no fat value. Two basic types are as follows:

*Mayonnaise type:*

1 cup Non-fat milk, 2 tablespoons cornstarch, cook over low heat until thick, add 1/2 teaspoon salt, 1/2 teaspoon dry mustard and cool, add 2 tablespoons vinegar, egg coloring, beat until smooth. Egg whites beaten may be folded into the mixture.

*French Dressing style:*

Add the following to handy bottle and shake thoroughly until blended ... 3-4 tablespoons wine or taragon vinegar, juice of crushed garlic, seasoned salt, dash pepper, 1 cup tomato puree, 1/4 cup lemon juice, 2-3 tablespoons catsup, 1/2 teaspoon sugar, 1/4 teaspoon dry mustard, tabasco and Worcestershire sauce if desired.

*Desserts:* All fruit desserts may be used: gelatin dishes without any added cream; fruit whips using beaten eggs; angel food cakes, sherbets and ices.

*(To all dishes included in the menus on the following pages, add no butter, margarine, cream, or regular salad dressings.)*

In these menus, skimmed milk powder may be added to fresh skimmed milk.

## Low-I at Menu 1

### BREAKFAST

| *Food* | *Amount* | *Calories* |
|---|---|---|
| Grapefruit | 1/2 medium | 72 |
| Oatmeal | 2 tablespoons dry; 1/3 cup cooked | 111 |
| Skim milk...dry | 1/2 pint | 87 |
| Whole wheat toast | 1 slice | 55 |
| Jam . | 1 tablespoon | 59 |
| Sugar | 3 teaspoons | 60 |
| Skim milk...dry | 2 oz. or 4 tablespoons | 106 |
| Coffee or tea | | |
| TOTAL | | 552 |

### LUNCH

| | | |
|---|---|---|
| Open-faced Sandwich: | | |
| White bread | 1 slice | 65 |
| Ground round steak | 2 1/2 oz.... 1 patty | 175 |
| Slice onion | 1 slice... 1 tablespoon | 4 |
| Tomato | 1 small | 22 |
| Lettuce | 1 leaf | 8 |
| Cole slaw | 1/4 cup with zero dressing* | 14 |
| Jello (regular) | 4 servings to package | 84 |
| with diced small pear | 1 pear; 1 tablespoon juice | 38 |
| Tea or coffee | 1 teaspoon sugar | 20 |
| TOTAL | | ~ 430 |

### D INNER

| | | |
|---|---|---|
| Roast turkey | 3 slices, 31/2 x 21/4 x 1/4 in. | 192 |
| Potato... browned | 1 small, 21/4" diameter | 100 |
| Fresh or frozen asparagus | 5--6 stalks, medium | 26 |
| Mixed cooked vegetable salad Marinated in dressing* | | |
| String beans | 1/4 cup | 10 |
| Peas | 1/4 cup | 42 |
| Carrots | 1/4 cup | 12 |
| Raspberry ice | 1/2 cup | 120 |
| Angel cake | 1 piece | 146 |
| Frosted orange drink | 3 oz. (1/2 6 oz. can) | 169 |
| | 1/2 pt. skim milk | 87 |
| Hard white roll | 1 average (1 oz.) | 92 |
| Marmalade | 1 tablespoon | 63 |
| TOTAL | | ~1059 |
| GRAND TOTAL | | 2041 |

*Fat: 25* grams; *Protein:* 90 grams; *Carbohydrate:* 365 grams.

## Low-Fat Menu 1 *(Continued)*

## Recipes

*Zero Dressing:*

1/2 cup tomato juice.
2 tablespoons lemon juice or vinegar.
1 tablespoon onion finely chopped. Salt, pepper, horseradish, mustard may be added. Shake well.

** *Low-calorie, no-fat* ***dressing:***
(mayonnaise type dressing)
Use 1 tablespoon mixed seasoning**.**
**1** cup buttermilk.
*1/4* cup tomato puree
2 tablespoons catsup.
Garlic.
1/4 cup wine vinegar.
1/4 cup lemon juice
ground fresh pepper
Thoroughly blend all ingredients. **Chill.**
Shake before serving.

*Fat:* 24 grams; *Protein:* 104 grams; *Carbohydrate:* 346 grams.

GRAND TOTAL ..... 2003

# Low-Fat Menu 2

## BREAKFAST

| *Food* | *Amount* | *Calories* |
|---|---|---|
| Stewed prunes with sugar | 4-5 med. jce | 129 |
| Grapenuts | 1 oz....1/4cup | 90 |
| Sugar for cereal-beverage Baked | 3 teaspoons | 60 |
| French toast: egg- whites, | 2 | 28 |
| white bread* | 1 | 63 |
| Maple syrup | 2 tablespoons: 1 oz. | 102 |
| Tea or coffee | | |
| Skim milk for French toast and cereal ½ pint | | 87 |
| Skim milk powder | 2 oz. or 4 tablespoons | 108 |
| TOTAL ..... | | 667 |

## LUNCH

Consomme': hot or cold if desired

Shrimp salad with lemon and ietetic dressing. Garnish with sliced beets.

| | | |
|---|---|---|
| Shrimp | 1/2 cup | 100 |
| Celery | 1/4 cup diced | 5 |
| Shrimp sauce** | 1 Tablespoon | |
| Lemon juice | 1 Tablespoon | |
| Flour | 1 Tablespoon | |
| Chopped pickle Sliced beets | 1/4 cup | 12 |
| Saltines Fig bars | 4 (140 to lb.) | 56 |
| Snow pudding*** | 2 pieces | 107 |
| Buttermilk | 1 serving | 118 |
| Tea or coffee | 1/2pt. | 85 |
| TOTAL | 1 teaspoon sugar | 20 |
| | | 552 |

## DINNER

| | | |
|---|---|---|
| Tomato juice cocktail | 3 oz. | 22 |
| Broiled sirloin steak | 2 pieces, 4 x 1 x 1 in. | 204 |
| Mushrooms | 10 small or 4 large | 28 |
| Steamed rice | *1/2* cup | 97 |
| Frozen broccoli | 31/2 oz. 1/2 cup | 29 |
| Romaine salad with zero dressing | *1/2* cup | 6 |
| Fresh pineapple | 1/2 -2/3 cup | 58 |
| Sugar wafers | 2 thin NBC | 31 |
| Coffee, .sugar | 1 teaspoon | 20 |
| TOTAL ..... | | 495 |
| **GRAND TOTAL .....** | | 1717 |

***Fat:*** 25 grams; *Protein:* 90 grams; *Carbohydrate:* 283 grams. 73

## Low-Fat Menu 2 *(Continued)*

• *Baked French Toast:*
2 egg whites.
*1/4* cup skim milk.
Dash salt, pepper.
Beat together; dip slice of bread in batter. Cook in oven or under broiler approximately 5-10 minutes.

** *Shrimp Sauce:*
1/4 cup bouillon; 1/4 cup water; 1 tablespoon lemon; 1 tablespoon sweet pickle relish; 1 tablespoon flour; cook together until sauce thickens, stirring constantly,

****Snow Pudding Recipe (Souffle)*

1 cup fruit pulp.
1 tablespoon lemon juice.
*1/8* teaspoon salt.
1/4 cup sugar.
3 egg whites, stiffly beaten.

Any kind of fruit—fresh, canned or preserved—may be used. Drain off all syrup. Rub fruit through a sieve; add lemon juice; salt; and sweeten if necessary; heat. Fold in stiffly beaten egg whites into hot fruit pulp. Pour into baking dish or individual molds, filling them only % full. Set in pan of hot water. Bake in moderate oven 375° for 20 minutes. Serve as soon as baked. Serves 6.

*Alternate for Snow Pudding*

*Open Dish Fruit Tart:* No crust. Top with meringue or toasted angel cake crumbs. Any berries in season or frozen or fresh fruits such as boysenberries, peaches, or apples may be used.

## Low-Fat Menu 3

### BIEAKFAST

| *Food* | *Amount* | *Calories* |
|---|---|---|
| Orange juice (fresh) | 6 oz. | 88 |
| Puffed wheat | 1 cup | 45 |
| Sliced banana | 1 medium or 1 cup | 130 |
| Raisins | 2 tablespoons | 61 |
| Sugar: for cereal and beverage | 2 teaspoons | 40 |
| Rye toast (American) | | |
| Cottage cheese (31/2 ox.) | 1 slice 5-6 | 59 |
| Jam | tablespoons | 95 |
| Skim milk | 1 tablespoon | 60 |
| Reinforce with Skim milk | ½ pt. | 87 |
| powder | 2 oz. | 108 |
| Coffee | | |
| TOTAL ..... | | … 775 |

LUNCH

| | | |
|---|---|---|
| dam chowder (Campbells) | 1 serving. (3 to can) | 64 |
| Rye Krisp | 2 wafers | 50 |
| Large fruit platter (if cottage | cheese is desired in use on | this salad.) 31 |
| Fresh strawberries | *1/2* cup | 27 |
| Cantaloupe | 1/2 cup diced | 117 |
| Cherries, sweet, canned | *1/2* cup red | 65 |
| Pears | 2 halves | 44 |
| Grapefruit | 1/2 cup | |
| Sour cream (add to zero dressing) | 1 teaspoon | 12 |
| Whole wheat roll (no milk, no butter) | 1 | 100 |
| Lemon sponge pudding* | 1 serving, 31/2 oz. | 118 |
| Tea or coffee, sugar | 1 teaspoon | **20** |
| TOTAL ..... | | **621** |

## Low-Fat Menu 3 *(Continued)*

| | DINNER | |
|---|---|---|
| Roast leg of lamb/2 slices | 2 slices 3 x 31/4 x 1/8 in. | 206 |
| Candied sweet potatoes, 1 teaspoon sugar | 1/2 cup | 129 |
| Fresh spinach with lemon | *1/2* cup | 25 |
| Mint jelly for lamb | 1 tablespoon | 60 |
| Celery hearts | 3 inner stalks | 12 |
| Carrot sticks | 2 small | 45 |
| Baked apple | 1 small tablespoon sugar | 269 |
| Bread, 1 slice | 1 slice white | 63 |
| Buttermilk | 1/2 Pt- | 85 |
| Tea or coffee, sugar | 1 teaspoon | 20 |
| TOTAL | | **908** |
| GRAND TOTAL | | **2334** |

• ***Lemon Sponge Pudding:***

1 oz. (2 tablespoons) granulated gelatin.
*1/2* cup cold water.
1/2 cup boiling water.
2 cups ice water.
1 cup sugar.
*3/4* cup lemon juice with a little lemon rind

Soak gelation in cold water until soft. Add to boiling water and stir over hot water until thoroughly dissolved. Add sugar and stir until dissolved. Remove from heat. Add remaining liquids or fruit pulp and mix thoroughly. When jelly begins to congeal, whip until light and frothy and fold in the stiffly beaten whites of two eggs. Served chilled.

*Fat:* 26 grams; *Protein:* 94 grams; *Carbohydrate:* 410 grams.

of two eggs. Serve chilled.

---

***•* *Roman Meal Pancakes* (for Menu 4: Breakfast)**

**1** cup Roman Meal.
*1/2* cup flour sifted with
2 tablespoons baking powder.
1 tablespoon salt.
1 tablespoon sugar.
1 tablespoon melted margarine
11/2 cup skim milk.

Fold in 2 stiffly beaten egg whites. Before pouring batter, heat pan to medium hot and rub very lightly with crisco-oiled paper napkin. (10-12 pancakes approximately 64 calories per pancake).

# Low-Fat Menu 4

## BREAKFAST

| | *Amount* | *Calorie** | |
|---|---|---|---|
| Figs in syrup | 3 | 126 | |
| Pancakes*** | 1 | 64 | |
| Maple syrup | 2 oz. | 205 | |
| Skim milk | *1/2* pt. | 87 | |
| Reinforce with skim milk powder | 2 oz. | 108 | |
| Coffee, sugar | 1 teaspoon | 20 | |
| TOTAL ..... | | | 610 |

## LUNCH

| | | | |
|---|---|---|---|
| Cream of pea soup* | *1/2* cup | 111 | |
| Broiled lobster (3/4 lb.) | 1 | 95 | |
| Mashed banana squash | *1/2* cup | 55 | |
| Brussel sprouts | ½ cup 5-6 | 40 | |
| Gelatin with fruit salad | 1 square | 95 | |
| Nabisco sugar wafers | 4 small | 64 | |
| Tea or coffee, sugar | 1 teaspoon | 20 | |
| TOTAL ..... | | | 480 |

## DINNER

| | | | |
|---|---|---|---|
| Baked Veal Chop** | 1 chop loin, | 180 | |
| Tomatoes | 1/2 cup | 21 | |
| Chopped onion | 1 tablespoon | 5 | |
| Catsup | 1 tablespoon | | |
| Green pepper | 1 tablespoon | 19 | |
| Noodles | 1/2 cup cooked | 3 | |
| Grated carrot and raisin salad | 1/2 cup shredded | 52 | |
| with sour cream and | 1 tablespoon | 21 | |
| zero dressing | 2 tablespoons | 30 | |
| Lady fingers | 3 large or 6 small | 24 | |
| Buttermilk | 1/2 pt. | 108 | |
| Parkerhouse roll | 1 | 85 | |
| Orange marmalade | 1 tablespoon | 89 | |
| Tea or coffee, sugar | 1 teaspoon | 60 | |
| TOTAL ..... | | ..... | 717 |
| GRAND TOTAL ..... | | ..... | 1807 |

* *Cream of Pea Soup: 2* teaspoons of flour, 1/2 cup skim milk. 1/4 cup strained peas.

Salt, pepper, dash cayenne; make paste of flour and water; add to heated milk and strained peas, stirring constantly; add seasoning; serve hot

** *Baked Veal Chop:* 1 Join veal chop 1/2" thick. Bake with 1/2 cup tomatoes, 1 tablespoon catsup, 1 tablespoon ch. onions, 1 tablespoon chopped pepper. Salt and pepper to taste; monosodium glutamate. Bake slowly 325° for 2 hours; keep covered.

*Fat:* 25 grams; *Protein:* 85 **grams** *Carbohydrate:* 310 grams.

# Low-Fat Menu 5

| *Food* | *Amount* | *Calories* | |
|---|---|---|---|
| **BREAKFAST** | | | |
| Orange sections | 1 cup | 97 | |
| Ralstons | 2/3 ~3/4 cup | 98 | |
| Skim milk | ½ pt. | 87 | |
| Reinforce skim milk powder | 2 oz. | 108 | |
| Polish sausage | 1 oz., 11/2 x 1 in. | 82 | |
| Whole wheat toast | 1 slice | 55 | |
| Strawberry jam | 1 tablespoon | 60 | |
| Coffee, sugar | 1 teaspoon | 20 | |
| TOTAL | | ..... | 607 |
| **LUNCH** | | | |
| Campbell's veg. beef soup | 1 serving (3 to can) | 68 | |
| Ritz crackers | 3 | 42 | |
| Frankfurter | 1 | 122 | |
| Sauerkraut | 2/3 cup | 26 | |
| Boiled potato | 1, 2 1/4" diameter | 85 | |
| Pineapple | 1 large slice | 87 | |
| and cottage cheese | 5-6 tablespoons | 87 | |
| on lettuce | 2 large leaves | 9 | |
| Cherry Jello | 1 serving (5 to pkg.) | 67 | 613 |
| Tea or coffee, sugar | 1 teaspoon | 20 | |
| TOTAL | | | |
| **DINNER** | | | |
| Broiled beef liver | 2 slices, 3 x 21/2 x 11/2 in. | 132 | |
| Fordhook limas, frozen | 1/2 cup | 112 | |
| Harvard beets | 1/2 cup, 1 teaspoon sugar | 65 | |
| Tossed green salad with zero dressing | 1/2 cup | 6 | |
| Pineapple sherbet | 1/2 cup | 150 | |
| Hard roll | 1 | 92 | |
| Apricot jam | 1 tablespoon | 60 | 702 |
| Buttermilk | 1/2 pt. | 85 | |
| TOTAL ..... | | | |
| GRAND TOTAL ..... | | 1 | |

*Fat:* 25 grams; *Protein:* 97 grams; *Carbohydrate:* 313 grains.

## Low-Fat Menu 6

BREAKFAST

| *Food* | *Amount* | *Calories* |
|---|---|---|
| Pineapple juice | 31/2 oz. | 54 |
| Strawberries | 1 cup | 62 |
| Sugar | 3 teaspoons | 60 |
| Creamed egg whites: | 2 | 30 |
| Cream sauce: | | |
| Peanut oil | 1 teaspoon | 45 |
| Hour | 1 teaspoon | 4 |
| Skim milk | 1/2 cup | 43 |
| Toast | 1 slice | 43 |
| Plum, jam | 1 tablespoon | 62 |
| TOTAL | | 360 |

LUNCH

| | | |
|---|---|---|
| Oyster stew | 1/2 cup oysters | 96 |
| Skim milk | 1/2 cup | 43 |
| Oyster crackers | 8 | 26 |
| Chefs salad | 1 cup | 26 |
| Shredded Swiss cheese | 1/2 tablespoon | 25 |
| Shredded turkey | 1 oz. | 56 |
| Whole wheat toast | 1 slice | 59 |
| Canned Nectarines | 2 medium | 85 |
| Coffee* sugar | 1 teaspoon | 20 |
| TOTAL | | 436 |

DINNER

| | | |
|---|---|---|
| Grapefruit sections with mint | 1/3 cup | 80 |
| Roast beef | 1 dice, 3 x 21/4 *x 1/4* in. | 94 |
| Browned potato | 1 | 100 |
| Shredded zuccini | 1/2 cup | 19 |
| Sliced tomato salad with sere dressing | 1 medium tomato | 23 |
| Angel cake cupcake** | 1 | 146 |
| Cloverleaf roll | 1 | 120 |
| Jam | 1 tablespoon | 58 |
| Skim milk | 1/2 pt | 85 |
| Skim milk powder | 2 oz. | 108 |
| TOTAL | | 833 |
| GRAND TOTAL | | 1639 |

*Fat:* 26 grams; *Protein:* 84 grams; *Carbohydrate:* 2S9 grams.

## Recipes

* *Creamed Eggwhites:*
Make cream sauce of 1/2 cup milk; 1 teaspoon flour, 1 tablespoon peanut oil. Stir constantly until slightly thickened. Add cut-up, hard-cooked eggwhites. Serve over toast.

** *Anglecake Cupcake:*
1/4 cup sifted cake flour; 3/4 cup gran, sugar; 3/4 cup egg whites (4) ; 1/2 teaspoon cream of tartar; 1/4 teaspoon vanilla; dash salt. Whip egg whites with cream of tartar; add vanilla. Sift sugar and flour together and fold into egg whites one at a time. Bake 325° for 1 hr. in ungreased muffin tins. Remove from pan while warm. (Angel cake mix may be substituted if desired.)

Please use these low-fat recipes here as alternates or wherever it seems best to you.

*Cracker Torte:*

*1/8* teaspoon cream of tartar
3 egg whites
1 cup granulated sugar
8 finely crushed saltine crackers
1 oz. walnut meats, finely chopped
1/2 teaspoon vanilla extract
1 10 oz. package frozen raspberries.

Sprinkle cream of tartar over egg whites in a bowl. Beat until soft peaks form. Gradually add sugar, continuing to beat until meringue is very stiff. Fold in cracker crumbs, nuts and vanilla. Pour into a greased 11/2 quart casserole; bake at 300 deg. one hour or until lightly browned and firm on top. Cool in pan. Meanwhile defrost raspberries. Invert torte onto serving plate or serve from casserole, topped with berries. Makes six servings. (Calories per serving 200.)

Of course plain meringues may be made without the nuts and crackers, or bought from a good pastry shop. Almost any fruit or sherbet is good as a filling. Particularly delicious is pineapple sherbet served with mint sauce.

*Strawberry Delight:*

Use individual slices of Angel Food, preferably slightly stale. Cover thinly with Royal Vanilla Pudding (made with skim milk). Decorate generously with fresh or frozen strawberries. Pour over heated currant jelly as a glaze and chill. (Approximately 175 calories.)

WHEN THERE ARE GUESTS FOR DINNER
*(Low-fat recipes)*

Non-fat pie crust may be made from Corn Flakes. *13/4* cup Corn Flakes rolled coarse, 6 tablespoons honey and 3 tablespoons skim milk. Fill with vanilla pudding or fruit. (150 calories per serving.)

Or pie crust can be made from toasted Angel Food Cake.

Angel Food Cake may be used to make a kind of *English Trifle,* by substituting Royal Vanilla pie filling for the high-fat custard. Alternate a layer of Angel Food Cake with a layer of sherry flavored Vanilla pie filling and Raspberry Jam or cooked dried apricot jam, until the bowl is filled. (Approximately 150 calories **per** serving.)

# Low Fat Menu 7

**BREAKFAST**

| *Food* | *Amount* | *Calories* |
|---|---|---|
| Tomato juice | 6 oz. or 3/4 glass | 36 |
| Waffle | 1 large | 63 |
| Maples syrup | 2 oz. | 205 |
| Rice Krispies | 1 cup | 108 |
| Sugar' | 3 -teaspoons | 60 |
| Skim milk | ‘*1/2* Pt. | 87 |
| Skim milk powder | 2 oz. | 108 |
| TOTAL | | 667 |

LUNCH

| | | |
|---|---|---|
| Onion soup (Campbells) | 1 serving (3 to can) | 64 |
| with croutons | (1/21/slice bread) | 30 |
| Cold Plate: Corned beet | | |
| canned, lean* | 2 slices 3 x 21/4 x 1/4 | 126 |
| Potato salad: | | |
| potato | 1. potato | 108 |
| celery | 3/4 cup | 5 |
| onion | 1 teaspoon | 1 |
| Cole slaw with grated carrot | 1/2 cup | 14 |
| Rye Bread (dark) | 1 slice 43/4 x 31/2 x 3/8 in. | 75 |
| Jam | 1 tablespoon | 60 |
| Applesauce snow pudding** | 1/2 cup | 103 |
| Buttermilk | 1/2 pt. | 85 |
| Tea or coffee, sugar | 1 teaspoon | 20 |
| TOTAL | | 691 |

DINNER

| | | |
|---|---|---|
| Beef tongue | 2 slices, 3 x 2 x 1/4 in. | 134 |
| Fresh spinach | 1/2 cup | 30 |
| Spanish rice: | | |
| rice | 1/2 cup | 97 |
| onion | 1 slice | 19 |
| tomato puree | 1/4 cup | 22 |
| Cucumber salad with | | |
| dietetic dressing | 6-8 slices | 7 |
| Fruit cocktail*** | 6 tablespoons | 77 |
| Plain roll | 1 | 92 |
| Jam | 1 tablespoon | 58 |
| Tea or coffee, sugar | 1 teaspoon | 20 |
| TOTAL | | 556 |
| GRAND TOTAL | | 1914 |

*Fat:* 26 grams; *Protein:* 88 (rams; *Carbohydrate:* 334 grams. * Canned corned beef is recommended because of its low-fat content. ♦•*'Applesauce Snow Pudding:*

| | |
|---|---|
| *1/2* cup applesauce | Whip egg white with sugar. |
| 1 eggwhite | Add chilled applesauce. |
| 1 tsp. sugar | Serve chilled; top with maraschino cherry. |

*** Kirsch, Grenadine, or sweel sherry may be added, if allowed, for flavor.

## Low-Fat Menu 8

### BREAKFAST

| *Food* | *Amount* | ***Calories*** |
|---|---|---|
| Orange and grapefruit juice | 6 oz. | **104** |
| Buckwheat pancakes | 3 inch diameter | **165** |
| Maple syrup | 2 oz. | 205 |
| Skim milk | 1/2 Pt. | 87 |
| Skim milk powder | 2 oz. | **108** |
| Coffee, sugar | 1 teaspoon | 20 |
| TOTAL | | **689** |

### LUNCH

| | | |
|---|---|---|
| Tomato juice cocktail | 8 oz. | 50 |
| Baked limas* | 5/8 cup | 153 |
| Spinach | *1/2* cup | 23 |
| Pickled beet salad with | ½ cup | **34** |
| grated egg white | 2 | 30 |
| Jello with | 1 serving | 65 |
| sliced banana | 1 small | 88 |
| Buttermilk | *1/2* Pt- | 85 |
| Tea or coffee, sugar | 1 teaspoon | 20 |
| TOTAL | | **548** |

### DINNER

| | | |
|---|---|---|
| Tomato juice cocktail | 1/2 cup | **14** |
| Irene's Chicken Jubilee** | 1/2 broiler | **334** |
| Bing cherries | 8 large | 30 |
| Cooking sherry | 1 wine glass | 84 |
| Raked banana squash | 1/2 cup | 47 |
| Stewed small onions | 1/4 cup | 38 |
| Lettuce heart salad | 1/4 sm. head | **14** |
| Spanish dressing | as desired | 0 |
| Fresh pineapple | 2 slices, 31/4″ diam. | 88 |
| Tea or coffee, sugar | 1 teaspoon | 20 |
| TOTAL | | **669** |
| GRAND TOTAL | | 1906 |

*Fat:* 21 grams; *Protein:* 117 grams; *Carbohydrate:* 307 grams.

* *Baked Lima Beans: 5/8* cup dried Limas, 2 tablespoons catsup, 1 tablespoon brown sugar, 1/2 teaspoon salt, 1 tablespoon vinegar, 1/4 teaspoon dry mustard, 1/4 onion chopped fine. Soak Limas, cover with water and cook until tender. Add seasonings and onion and top with brown sugar. (Dark molasses may be added if desired.) Bake in slow oven for several hours.

***Irene's Chicken Jubilee:* 2-lb. quartered broiler, 1 chicken cube, 1 cup water, 4 tablespoons of sherry, 2 cups pitted cherries, salt and pepper to taste, 1/2 teaspoon ginger. Rub chicken with salt, pepper, and ginger. Brown in broiler. Bake slowly in casserole until tender. Make sauce of flour, bouillon, and cherries cooked until thickened. Pour over chicken, add sherry, and serve hot.

# Low-Fat Menu 9

## BREAKFAST

| *Food* | *Amount* | *Calories* |
|---|---|---|
| 1/2 Grapefruit | 41/2" diameter | 52 |
| sugar | 1 teaspoon | 20 |
| Oatmeal | 1/2 cup cooked | 74 |
| Skim milk | 1/2 pt | 87 |
| Skim milk powder | 2 oz. | 108 |
| Sugar 1 teaspoon | | 20 |
| Coffee or tea | | |
| Whole wheat toast | 2 slices | 110 |
| Jam | 1 tablespoon | 58 |
| TOTAL | | 529 |

## LUNCH

| | | |
|---|---|---|
| Clear consomme | | 0 |
| Tuna salad platter* | | |
| Dietetic tuna | 1/2 can (31/2 oz.) | 122 |
| Egg whites (2), celery, onion, dietetic dressing | | 57 |
| Quartered tomato | | 23 |
| Rye Krisp | 4 double squares | 80 |
| Orange sherbet | 1/2 cup | 177 |
| Buttermilk | 1/2 pt. | 85 |
| Tea or coffee, sugar | 1 teaspoon | 20 |
| TOTAL | | 564 |

## DINNER

| | | |
|---|---|---|
| Ground round beef steak | 2 small patties (31/2 oz.) | 236 |
| Baked potato with chives | 1 medium 21/2" | 98 |
| with ricotta cheese | 1 tablespoon | 40 |
| Broccoli | 1/2 cup | 23 |
| Fresh fruit salad | 1/2 cup | 70 |
| Tea or coffee, sugar | 1 teaspoon | 20 |
| Cocoanut bar cookies, NBC | 2 | 36 |
| TOTAL | | 523 |
| GRAND TOTAL | | 1616 |

*Fat:* 25 grams; *Protein:* 108 grams; *Carbohydrate:* 232 grams.

* *Tuna Salad:* (Dietetic Pack)
2 egg whites. 1/4 cup celery, diced.
Sliced onion if desired. Lettuce.

# Low-Fat Menu 10

| *Food* | *Amount* | *Calorie* | |
|---|---|---|---|
| **BREAKFAST** | | | |
| Honeydew melon | 1 piece 2 x 7 x 6 ½ i n | 48 | |
| Ricotta Souffle*: | | | |
| Ricotta cheese | 1 tablespoon | 40 | |
| Egg whites | 2 | 30 | |
| Peanut Oil | 1/4 teaspoon | 13 | |
| Rye toast (American) | 2 slices | 125 | |
| Jam | 1 tablespoon | 58 | |
| Skim milk | *1/2* pt- | 87 | |
| Skim milk powder | 2 oz. | 108 | |
| Coffee, sugar | 1 teaspoon | 20 | |
| TOTAL | | | 52 |
| **LUNCH** | | | |
| Apricot juice | 3 oz. | 44 | |
| Seafood casserole, with chopped celery**: | | | |
| Scallops | 2-3 pieces | 78 | |
| Shrimps | 4-6 | 64 | |
| Crab | 21/2 oz. | 52 | |
| Mushrooms | 14 cup | 7 | |
| Onion | 1 slice | 5 | |
| Skim milk | 1/2 cup | 43 | |
| Baked apple with 2 teaspoons of sugar | 1 large | 213 | |
| Roll, whole wheat | 1 | 100 | |
| Buttermilk | 1/2 Pt- | 85 | |
| Tea or coffee, sugar | 1 teaspoon | 20 | |
| TOTAL | | | 71 |
| **DINNER** | | | |
| Broiled rib lamb chop (trim off fat) | 2 small | 210 | |
| Rice, 1 oz. | 3/4 cup,cooked | 103 | |
| Carrots, Vichy | 1/2 cup | 23 | |
| Lime gelatin with cooked vegetables | 1 square<br>1/2 cup | 59<br>43 | |
| Junket with skim milk sugar | 1 teaspoon | 20 | |
| Coffee or tea, sugar | 1 teaspoon | 20 | |
| TOTAL | | | 51 |
| GRAND TOTAL | | | 1756 |

* *Ricotta Souffle:* 1 tablespoon Ricotta cheese, 2 egg whites, 1/4 teaspoon peanut oil, 1/4 cup skim milk, salt and white pepper seasoned to taste. Beat egg whites until stiff. Fold in mixture of cheese, skim milk, and seasonings. Bake in greased casserole in pan of water at 325 degrees for approximately 25 minutes.

** *Seafood Casserole:* 2-3 scallops, 4-6 shrimps, 21/2 oz. crab, 1/2 cup mushroom soup, 1/2 cup skim milk, 1 teaspoon parsley, 1 teaspoon grated onion, 2 tablespoon sherry. Flake crab, cut up scallops and shrimp, and place in casserole. Make sauce of 1/2 cup skim milk, 1/4 cup diced celery, shredded slice of onion, seasoned salt, dash of basil, and a few drops of tobasco sauce. Pour sauce over seafood. Bake until thoroughly heated. Sprinkle parsley over top.

# Low-Fat Menu 11

**BREAKFAST**

| *Food* | *Amount* | *Calories* |
|---|---|---|
| Stewed prunes, with sugar | 3-4 med. | 119 |
| Puffed wheat | 1 cup | 45 |
| Skim milk | 1/2 pt. | 87 |
| Skim milk powder | 2 oz. | 108 |
| Sweet roll | 1 average | 178 |
| Coffee, sugar for beverage and cereal | 3 teaspoons | 60 |
| TOTAL | | 597 |

LUNCH

| | | |
|---|---|---|
| Campbells Scotch Broth | 1 serv. (3 to can) | 96 |
| Platter: cottage cheese | 1/2 cup | 108 |
| Artichoke | 1 large back | 51 |
| Carrot curls | 1/2 small carrot | 10 |
| Cauliflower hearts | 1/2 cup | 8 |
| Peaches, canned | 2 halves | 68 |
| Pears, canned | 2 halves | 68 |
| Italian bread | 1 slice | 53 |
| Buttermilk | 1/2 pt. | 86 |
| TOTAL | | 548 |

DINNER

| | | |
|---|---|---|
| Rib roast beef | 2 slices (3 x 21/4 x1/4 in.) | 287 |
| Baked noodles* | | |
| broad noodles | 1/2 cup | 53 |
| skim milk | 1/4 cup | 22 |
| cornstarch | 3/4 teaspoon | 9 |
| Peas | 1/2 cup | 75 |
| Green salad; Spanish dressing | 1/2 cup | 9 |
| Skim milk | 3/4 cup | 65 |
| Sponge cake, 1/10 average cake | 1 piece | 145 |
| Tea or coffee, sugar | 1 teaspoon | 20 |
| TOTAL | | 685 |
| GRAND TOTAL | | 1830 |

*Fat:* 27 grams; *Protein:* 103 grams: *Carbohydrate:* 284 grams.

* *Baked Noodles:*
Cook noodles in salted water.
Make thin cream sauce with 1/2 cup skim milk and 3/4 teaspoon cornstarch.
Add to noodles; add seasoning ing caraway seed, bake 5 min. in oven.

*Noodles Continental (as an alienate):* 1 cup noodles, 1/4 teaspoon cinnamon, 1/2 teaspoon sugar, 1 tablespoon raisins. Boil noodles. About 4 minutes before they are done, add raisins. When Under, pour hot water over noodles and drain. Then add cinnamon and sugar. Place in 350-degree oven for 10 minutes or until brown. (Approximately 140 calorie).

## Low-Fat Menu 12

BRUNCH (Breakfast and Lunch)

| *Food* | *Amount* | *Calories* |
|---|---|---|
| Sliced banana | 1 large | **176** |
| Pep cereal | 1 oz.-l cup | 105 |
| Whole wheat toast | 2 | 110 |
| Jam | 1 tablespoon | 58 |
| Skim milk | | |
| Skim milk powder | 2 oz. | **108** |
| Sugar—for coffee, cereal | 3 teaspoons | 60 |
| Creamed ham and egg whites | 1 slice, 4 x 1 **x** ¼ in | **120** |
| on toast | | |
| cooked egg whites | 2 | 30 |
| 3/4 teaspoon cornstarch | 3/4 teaspoon | 9 |
| skim milk | 1/4 cup | 22 |
| Toast | 1 slice | **60** |
| Beverage | | |
| TOTAL ..... | | 923 |

DINNER

Beef stew:

| | | |
|---|---|---|
| Beef, round | 2 oz. (2 pieces, 4 x 1x1/4in) | **164** |
| potato | 1, 21/4" diameter | **83** |
| carrot | 1/4 cup diced | **12** |
| celery | *1/4* cup | 5 |
| onion | 1 medium | **45** |
| Tomato salad with Spanish* | | |
| dressing | 1 medium tomato | **30** |
| Rye bread | 1 slice | **60** |
| Jam | 1 tablespoon | 58 |
| Sweet cherries | 1/2 cup | 105 |
| Buttermilk | 1/2 pt. | **85** |

TOTAL ..... 647

GRAND TOTAL ..... **1570**

*Fat:* 26 grams; *Protein:* 67 grams; *Carbohydrate:* 262 **grams.**

* *Spanish Dressing:* 1 teaspoon dry salad dressing (French), 1/2 teaspoon dry salad dressing (blue cheese), 1/4cup juice of lemon, a few drops of tobasco sauce and Worcestershire, 1/4 cup vinegar or wine, 1 teaspoon sugar. Place **all** ingredients in covered bottle and shake thoroughly. Minced onion **may** be added or 2 tablespoons skim milk powder for variation.

## Low-Fat Menu 13

### BIEAKFAST

| *Food* | ***Amount*** | ***Calorie**** |
|---|---|---|
| Sliced orange | 1 medium 3" diameter | 68 |
| Prune juice | 1/2 cup | 71 |
| Chipped beef and egg white | 1 oz. beef | 61 |
| Toast | 2 | 110 |
| Skim milk | 1/2 pt. | 87 |
| Skim milk powder | 2 oz. | 108 |
| Coffee, sugar | 1 teaspoon | 20 |
| Egg whites | 2 | 30 |
| TOTAL ..... | | 555 |
| | LUNCH | |
| Chicken livers | 2 large livers, 31/2 oz. | 141 |
| Brown rice | 3/4 cup cooked, 1 oz. | 102 |
| Stewed onion | 1 onion | 45 |
| Stewed tomatoes | *1/2* cup | 23 |
| Grapefruit section salad | 1/2 cup | 40 |
| Nabisco Mello Squares | 2 | 112 |
| Buttermilk | 1/2 pt | 85 |
| Tea or coffee, sugar | 1 teaspoon | 20 |
| TOTAL ..... | | ..... 568 |
| | DINNER | |
| Baked rabbit | 4 oz. flesh | 177 |
| Baked yam | 1/2cup | 107 |
| Fresh asparagus | 5-6 stalks | 21 |
| Cole slaw | *1/2* cup | 12 |
| Sherbet | 1/2 cup | 150 |
| Bread | 1 whole wheat | 55 |
| Jam | 1 tablespoon | 58 |
| Tea or coffee, sugar | 1 teaspoon | 20 |
| TOTAL ..... | | ..... 600 |
| GRAND TOTAL..... | ..... | 1723 |

*Fat: 22* **grams;** *Protein:* **148 grams;** *Carbohydrate:* 291 **grant.**

## Low-Fat Menu 14

| *Food* | *Amount* | *Calories* |
|---|---|---|
| **BREAKFAST** | | |
| Stewed figs in sugar | 3 | 113 |
| Cornmeal, cooked | 3/4 cup | 103 |
| Skim milk | 1/2 Pt- | 87 |
| Skim milk powder | 2 oz. | 108 |
| Sugar for coffee and cereal | 3 teaspoons | 20 |
| Apple butter | 1 tablespoon | 37 |
| Whole wheat | 2 | 110 |
| TOTAL | | 578 |
| **LUNCH** | | |
| Campbell's green pea soup | 1 serving | 110 |
| Spiced ham sandwich on wheat with dietetic dressing | 1 slice ham, 31/4 x 21/4 x 1/4 in.<br>2 slices whole wheat | 124<br>110 |
| Sherbet | 2/3 cup | 177 |
| Tea or coffee, sugar | 1 teaspoon | 20 |
| Buttermilk | *1/2* Pt. | 85 |
| TOTAL | | 626 |
| **DINNER** | | |
| Breaded veal cutlet | 1 cutlet, $31/_2$ x 21/4 x $1/_2$ in. | 217 |
| Fresh green beans | $_{1/2}$ cup | 35 |
| Fresh corn | 1 medium ear | 92 |
| Large dill pickle | 1 | 13 |
| Escarole | 4 large leaves | 22 |
| Cucumbers | 4-6 slices | 8 |
| Nectarines | 2 medium | 67 |
| Rye bread | 1 slice | 60 |
| Jam | 1 tablespoon | 58 |
| Tea or coffee, sugar | 1 teaspoon | 20 |
| TOTAL | | 592 |
| GRAND TOTAL | | 1796 |

*Fat:* 27 grams; *Protein:* 72 grams; *Carbohydrate:* 328 grams.

# 1200-CALORIE MENUS

## Menu 1

BREAKFAST

1/2 grapefruit
1/2 cup Farina
1 glass skim milk
1 toast
Coffee
1 teaspoon jam

LUNCH

Platter: 2 oz. or 4 tablespoons dietetic tuna fish
1 hard egg white—1/4 cup celery with dietetic dressing
Quartered tomato
Dietetic apricots
1 roll
*1/2* oz. diced Swiss cheese Tea or coffee—skim milk

DINNER

Meat loaf—1 small slice 2 oz.
Small roast potato
Spinach with lemon
Tomato salad with dietetic dressing
*1/2* nectarine—no sugar
Tea or coffee —1 glass skim milk

## Menu 2

BREAKFAST

Small orange juice
3/4 cup bran flakes
1 glass skim milk
1 rye toast
1 teaspoon jam
Tea or coffee

LUNCH

Sandwich—2 slices bread
1 thin slice cheese—1 oz. lettuce
1 thin slice lean ham—1 oz. tomato
Dietetic dressing
Sliced peach
Tea or coffee—1 glass skim milk

DINNER

Roast turkey—2 slices very thin, 3 oz.
1/4 cup yam
Fresh asparagus
Tossed green salad with dietetic dressing
Watermelon, 3/4 cup
Tea or coffee—1 glass skim milk

***** On all our low calorie menus no fat, oil, margarine, or batter should be need on any food. Salad dressings should be made with the non-fat recipe as given previously. Trim off fats on all mats; only the lean variety should be used. All fruits should be either fresh or dietetic (canned without sugar but with saccharine or Sucaryl). No sugar or cream should be used for beverages. Sucaryl or saccharine may be used if indicated by your physician.

AVOID ALL FRIED FOODS, JRAVY, NUTS, AVOCADOS; PASTRIES SWEETENED CANNED FRUITS, SUGAR. SWEETENED FRUIT JUICES, SWEETENED CARBONATED BE\ERAGES, LIQUORS.

## Menu 3

**BREAKFAST**

3/4 cup strawberries
2 shredded wheat
1 glass skim milk
1 whole wheat toast
1 teaspoon jam
Tea or coffee

LUNCH

Vegetable chow mein* with 2 oz. chicken diced lean beef or
Sliced tomato salad
1/4 cup rice
Fresh pineapple chunks, 1/2 cup Tea or coffee 1 glass buttermilk

DINNER

3 oz. baked veal chop
Small baked potato
Peas
Fresh fruit salad
Raspberry ice*
Tea or coffee

* *Low-Calorie Chow Mein:* 2 oz. diced beef or diced chicken, 1/4 lb. Chinese peas, 1/4 cup bean sprouts, 1/2 cup Chinese celery cut in Mt inch slices, 1/4 cup soy sauce, 1 tablespoon dark or bead molasses, 1 small minced onion, 1/2 cup consomme. Steam diced beef with consomme and onion until tender. Steam Chinese peas, bean sprouts, celery until tender but crisp. If steamer is not available, use 1/4 cup water. Add soy sauce and molasses and combine with vegetables and meat. Serve on steamed rice. Use canned Chinese vegetables if others are not available. (310 calories)

* Orange ice is 50 calories higher for 1/2 cup.

## Menu 4

BREAKFAST

Large glass tomato juice
1 thin slice broiled ham (1 oz)
1 slice rye toast
1 teaspoon jam
Coffee
1 glass skim milk

LUNCH

Cold sliced turkey—2 oz.
Sliced dill pickle
Cole slaw with dietetic dressing
French roll with 1 teaspoon jam
Small baked apple
Tea or coffee
1 glass skim or butter milk

DINNER

Broiled small steak (2 oz.)
1 ear corn on cob—small ear
Stewed tomatoes—1 cup
Crated carrot and celery salad with dietetic dressing
Fresh strawberries
Class skim milk

## Menu 5

**BREAKFAST**

Small glass grapefruit juice
1/2 cup oatmeal
1 glass skim milk
1 whole wheat toast
1 teaspoon jam
Coffee

**LUNCH**

Platter: sliced pineapple, sliced peach, sliced watermelon, 1/4 cantaloupe, 1/2 cup strawberries, 4 teaspoons cottage cheese
4 crackers
Tea or coffee
Glass buttermilk

I INNER

Roast lamb slice, 3 oz.
1/4 cup rice
Broccoli
Tomato aspic salad
1 bread
Fresh fruit cup
Glass skim milk

## Menu 6

BREAKFAST

3 stewed prunes
2 low-caloric pancakes* made with 2 egg whites, 2 tablespoons syrup
Coffee
1 glass skim milk

LUNCH

Hamburger (2 oz.) on bun
Sliced onion, sliced tomato, lettuce
1/2 cup of ice cream
Tea or coffee

DINNER

Baked filet of seabass
Small baked potato
Yellow neck squash
green salad
with dressing Honeydew melon, 3/4 cup
Tea or coffee
Skim milk

** Low-caloric Pancakes: 3*/4 cup flour, 1/4 teaspoon baking porder,' 1/4 teaspoon salt, 1/4 cap sldm milk powder, 1/4 teaspoon sugar, 2 egg whites, 1/2 cup skim milk. Con bine all dry ingredients, add beaten egg whites and skim milk. Blend and drop on heated skillet or grill wth just enough fat to keep from sticking. Tossed Serve with maple syrup.

## Menu 7

BREAKFAST

1/2 sliced banana
3/4 cup Cornflakes
1 slice Jack cheese
1 whole wheat toast
1 teaspoon jam
Coffee
Glass skim milk

LUNCH

2 hot dogs
1/4 cup mashed potatoes
Sauerkraut
Fresh fruit salad
11/2" angel food cake
Coffee

DINNER

2 oz. beef or calves liver
½ cup Italian noodles*
Cauliflower
Lettuce hearts with dietetic dressing
Dietetic pears, 2 halves
Tea or coffee
Skim milk

* *Italian Noodles. 1/2* cup Spinach Noodles, 1 cup water, 2 tablespoons Ricotta cheese. Salt to taste. Boil noodles until tender, approximately 10 minutes. Run hot water over noodles, place in oiled casserole and stir in Ricotta cheese. Heat through and serve.

## 1000- CALORIE MENUS

### Menu 1

BREAKFAST

Sliced orange
2 hard egg whites
1 whole wheat toast
1 teaspoon jam
Tea or coffee
1 glass skim milk

LUNCH

1/2 broiled lobster—small with lemon, horseradish with 1 tablespoon catsup.
Mashed banana squash
String beans
Lettuce hearts with dietetic dressing
1/2 cantaloupe
Tea or coffee—4 crackers
1 glass skim milk or buttermilk

DINNER

Roast beef—2 oz.; 1/2 small slice
■ - Small baked potato —with 2 teaspoons sour cream
1/2 cup brussel sprouts Cole slaw with dietetic dressing 1/2 grapefruit
Tea or coffee
1 glass skim milk or buttermilk

### Menu 2

BREAKFAST

Unsweetened pineapple juice
1/2 cup oatmeal
1 glass skim milk
1/2 slice toast
Coffee

LUNCH

Clear consomme
Small broiled hamburger—1/2 roll
Sliced onion
Sliced tomato
Grated carrot salad with dietetic dressing
10 Bing cherries
Tea or coffee
1 glass skim milk or buttermilk

DINNER

Irene's Tropical Chicken (4 ox.) *
Peas
1/4 cup rice
Waldorf salad** with dietetic dressing

Fresh fruit cup, 1/2 cup
Tea or coffee
1 glass skim milk

**Irene's Tropical Chicken: 11/2* lb. broiler, 1 teaspoon seasoned salt, 1/4 teaspoon rosemary, white pepper to taste, 3-4 celery stalks, 4 prunes, ½ cup orange juice. Rub chicken with seasoned salt, rosemary, and pepper as desired. Place in pan or pyrex dish over stalks of celery. Pour orange juice over chicken. Place prunes around it. Bake at 325 degrees for 11/4 hours. (1/4 broiler serving = 190 calories)

** Apples, celery, 1 teaspoon raisins, dietetic dressing. No nuts.

## Menu 3

BREAKFAST

½ grapefruit
Omelet with egg whites (2)*
1/2strip crisp bacon
1/2 sour dough roll—toasted
1 teaspoon orange marmalade Tea or coffee
1 glass skim milk

LUNCH

Tomato juice cocktail
Large platter: 1/4 cup crabcake, 1 hard egg white, carrot curl, celery stick, dietetic dressing
2 Rye Krisps
Tea or coffee
1 glass skim milk
Sherbet

DINNER

Lamb fricassee—2 oz. lean lamb, 1 small carrot, 1 small potato D-Zerta with 1/2 fresh pear Tea or coffee Skim milk or buttermilk

* *Omelet with egg white:* Use skim milk instead of cream. Omit egg yolks. Place in casserole and bake at 325 degrees for 12 to 15 minutes.

## Menu 4

BREAKFAST

*1/2* sliced banana
Cornflakes, 3/4 cup
1 glass skim milk
1 thin rye toast
1/2'cube Jack cheese
Coffee

LUNCH

Large platter: sliced fresh pineapple, 1/2 cup strawberries
1/4 sliced cantaloupe
1/2 sliced peach
4 tablespoons cottage cheese
2 crackers
Tea or coffee
1 glass skim milk

DINNER

Baked veal cutlet (2 oz.) with tomato puree—seasoning
1/4 cup noodles
String beans
Tossed green salad
Small baked apple
Tea or coffee

## Menu 5

BREAKFAST

Small glass orange joke
1 French roll
1 oz. ham—broiled
1 teaspoon jam
Tea or coffee
1 glass skim milk

LUNCH

2 oz. or 4 tablespoons dietetic canned salmon with lemon on bed of lettuce with dietetic dressing
1 hard egg white
Pickled beets
Dietetic Royal Ann Cherries
Tea or coffee
1 glass buttermilk

DINNER

Broiled steak (2 oz.)
Small baked potato
Summer squash
Mixed cooked vegetable salad with dietetic dressing
Grapefruit section salad
Vanilla Royal pudding with 1/4 cup strawberry sauce
1 glass skim milk

## Menu 6

BREAKFAST

2 stewed prunes
2 stewed apricots
1/2 cup Wheatena
1 glass skim milk
1 slice whole wheat toast
1 oz., 2 tablespoons cottage cheese
Coffee

LUNCH

Cold slice roast beef (2 oz.)
1/4 cup potato salad with dietetic dressing
Quartered tomato—romaine
1/2 cantaloupe
Tea or coffee—skim milk

DINNER

Broiled lamb chop trim
Fresh asparagus
Carrots julienne
Lettuce hearts with dietetic dressing
1 small peach
Tea or coffee—skim milk

## Menu 7

BREAKFAST

Small orange juice
1 slice swiss cheese (1 oz.)
1 whole wheat toast
1 teaspoon jam
1 glass skim milk
Coffee

LUNCH

3 hot dogs—1/2 **roll**
Tossed green salad
Fresh fruit cup
Tea or coffee
1 glass skim milk

DINNER

Small shrimp cocktail
Broiled chicken (2 oz.)
Small potato—with parsley
Baked banana squash
Fresh strawberries
Tea or coffee—glass skim milk

## 800-CALORIE MENUS

# Menu 1

BREAKFAST

1/2 grapefruit
1/2 cup cereal
½ toast—no butter
Coffee
1 glass skim milk

LUNCH

Clear consomme—no fat
Rolled Filet of Sole*
Broccoli
1 glass skim milk or buttermilk
Tea or coffee—no sugar—no cream
3/4 cup strawberries

DINNER

Small broiled tenderloin, 3 oz.—no fat
Fresh asparagus with lemon juice
1/2 cup carrots
Lettuce hearts with lemon juice
1/2 cantaloupe
Tea or coffee—no sugar—no cream

* *Rolled Filet of Sole:* 2 lbs. rolled filet of sole, 1/2 cup cream of mushroom soup, 1/4 cup skim milk, 1 tablespoon grated onion, 1 teaspoon chopped parsley, 2 tablespoons sherry. Make fish into roll. Bake in casserole with all other ingredients except sherry. Bake for approximately 20 minutes at 300 degrees. Add sherry and serve. (3 oz. serving = 185 calories)

# Menu 2

BREAKFAST

Small glass orange juice
1/2 slice whole wheat toast
2 tablespoons cottage cheese
Black coffee 1 glass skim milk

LUNCH

Tomato juice cocktail, with 2 crackers
Corned beef hash* String beans Pickled beet salad
Dietetic pears, 2 halves—
2 tablespoons juice
Tea or coffee
1 glass skim milk

* *Corned Beef Hash:* 2 oz. canned corned beef, 1 small onion, 2 tablespoons potato, 1/2 cup consomme. Grind all ingredients and thoroughly heat in oven. (Calories: 160)

DINNER

1/2 baked breast of chicken (2 oz)
Baked banana squash
Fresh spinach with lemon Tomato salad with dietetic dressing
D-Zerta with 1/2 sliced banana
Tea or coffee—no cream
Skim milk or buttermilk—no sugar

## Menu 3

BREAKFAST

Small glass unsweetened pineapple juice
Baked French toast* with 1 slice bread, 2 egg whites
Black coffee
1 glass skim milk

LUNCH

Clear chicken consomme—no fat
2 oz. or 1/4 can dietetic tuna fish on bed of lettuce with carrot stick—dill pickle—with dietetic dressing with quartered tomato
Small baked apple—no sugar
Tea or black coffee

DINNER

Broiled lamb chop—trim off all fat
1/2 cup broccoli
*1/2* cup carrots
Cole slaw with dietetic dressing
3 small or 2 large fresh apricots
Tea or black coffee—1 glass skim milk

* *Baked French Toast:* 1 slice white bread with crust cut off, 2 egg whites, 1/4 cup skimmed milk, 1 teaspoon cinnamon and sugar. Beat egg whites, add milk, and dip bread in mixture. Bake in moderate oven until light brown. Serve with sugar and cinnamon mixture. (105 calories)

## Menu 4

BREAKFAST

3 stewed primes—no sugar 3/4 cup Pep or Cornflakes
1 glass skim milk Coffee—no cream—no sugar

LUNCH

2 hot dogs
Sauerkraut
1/4 cup Fordhook limas
Grapefruit and orange salad
Junket made with skim milk
Tea or coffee

DINNER

Broiled beef patty small (3 oz) String beat is Stewed tomatoes Celery hearts
Watermelon balls, 3/4 cup
Tea or coffee

## Menu 5

BREAKFAST

Large glass V-8 juice
1/2 cup Ralstons
1 glass skim milk
Coffee

LUNCH

Bouillon
Shrimp salad—6 shrimp, 1/4 cup celery, 3 egg whites, dietetic dressing
Carrot sticks Royal Ann cherries
Tea or coffee
1 glass skim milk or buttermilk

DINNER

Hawaiian beef steak*
Shredded zuccini
Whole baby beets Tossed green salad
with dietetic dressing
1/2 cup sliced fresh pineapple
Tea or coffee

* *Hawaiian Beef Steak:* 2 oz. round steak, pepper and salt to taste, ground ginger to taste, 1 small onion, 1/4 cup pineapple, 1/2 cup tomato juice .Saute onion in tomato juice; add ginger and seasoning. Add steak and bake with pineapple in covered dish until tender. (Approximately 258 calories)

## Menu 6

BREAKFAST

1/2 cup fresh raspberries or
dietetic canned
1 oz. or 1/2 thin slice ham broiled
1/2 toasted roll
1 teaspoon jam
Coffee—no cream
1 glass skim milk

LUNCH

Sauteed chicken liver*
Cauliflower with lemon
Fresh spinach
Tomato salad
Dietetic plums (3)
Tea or coffee—1 glass skim **milk**

* Saute with consomme.

DINNER

Baked fresh salmon (small slice—3 oz.)
Stewed celery
Fresh asparagus
Tossed green salad with dietetic dressing
Sliced orange
Tea or coffee

## Menu 7

BREAKFAST

*1/2* sliced banana
2 small Shredded Wheat
1 glass skim milk Coffee

LUNCH

Beef stew (2 oz. beef) with
small onion, carrot, celery
Pickled beet salad
1/2 cup sherbet
Tea or coffee

DINNER

Clear chicken consomme
Fresh fruit platter: sliced fresh pineapple
*1/2* cup fresh strawberries
1/2 sliced orange
1/2 sliced peach
4 tablespoons cottage cheese
Tea or coffee
1 double Rye Krisp

Chapter 6

# HOW TO COUNT THE CALORIES

IF 20 MILLION AMERICANS WERE TO appear on the streets tomorrow, each with a cement block weighing between 20 and 40 pounds permanently attached to his person, it would create a tremendous stir. How, you would ask, can they carry a load like that for the rest of their lives? They would command the sympathy of the entire nation. It is quite likely that our Congress itself would enact some kind of legislation to aid them. Fantastic? Not at all. As a matter of fact, such a situation does prevail right at this moment. The only difference is that the weights those 20 million Americans are carrying consist of fat rather than cement. And the burdens are less conspicuous because they are distributed over the body. But from the standpoint of health and the added work load placed on the heart, it makes no difference whether the cargo is cement or adipose tissue. The cost to the individual—in poor health, loss of energy, and in most cases, a shorter lifespan—is the same.

***Overweight is a hidden disease.*** About the only people who seem to take this seriously are physicians and insurance actuaries. At least they are the only ones concerned in terms of health and longevity. They know that overweight is a "hidden disease," responsible for shortening the life of every average American adult by almost five and one-half years.

Think what that means. Our own generation will lose a combined 108 million years of life because of overweight! This figure represents many times the number of adult years lost by the premature deaths of young men killed in World Wars I and II. Only in the past few years has the public become even dimly aware of the critical and dangerous results of being a nation of "fat cats." It's time we all began to sit up and take notice. If we learn how to count the calories, we will learn also how to count on more years of vibrant, healthful life. The tables of calorie values given in this chapter can become your easy-to-use weapon for fighting overweight and the bodily and emotional illnesses it brings on.

Dr. Louis D. Dublin and Herbert H. Marks of the Metropolitan Life Insurance Company were among the first to point to increased death rates attributable to excessive fat. In consequence, there have been a number of campaigns aimed at persuading people to reduce their weights to the normal or even the ideal figure.

***Diet for health, not for beauty.*** Unfortunately, people are intensely human and, to give a new twist to an old maxim, the spirit is willing but the flesh is strong. The result has been a widespread practice of "stop-and-go" dieting aimed not at improved health, but at a more fashionable silhouette.

Nothing could be worse than that kind of up-and-down-the-scales program. In the first place, you benefit from reduced weight only if the normal weight is maintained from that time on. Taking it off and then putting it on again is worse than remaining overweight, because it is in the process of becoming fat that a large part of the damage is done. This damage occurs in the blood vessels, liver, and heart—all critical sites of the body.

Although the process of becoming fat is more detrimental than being fat, carrying around an over-upholstered frame is also a way to shorten the period of your sojourn on earth. As you put on excessive fat, movement of the blood throughout the body is slowed. The heart has to work harder to keep the circulation

going. And the added weight places a greater burden upon your joints, which may develop trouble as a consequence.

***Is overweight due to "glandular trouble"?*** You may often hear laymen express the view that some people are fat because of "glandular trouble." Such cases actually are very few. The reason most people are fat is simply because they eat more food than they actually need for their activities. The only way to cut down on weight is to cut down on eating, to reduce the number of calories in your daily diet.

***What causes overweight?*** There are many causes for overweight. Most people, however, are overweight simply because they overeat. A very small percentage of people are obese due to some endocrine or glandular disorder. Some cases possibly are due to an error in the individual's metabolism. And still another small percentage of cases result from an inherited or constitutional trait that runs in families and is passed on from one generation to another like coloring, or facial and bodily structure.

But the causes of obesity in over 95 per cent of the victims are: (1) nervousness, and (2) bad eating habits.

***Nervousness is a primary cause of overweight.*** People overeat from nervousness, either conscious or subconscious, for a variety of reasons. Some people, when they feel anxious, constantly and regularly relieve their anxiety by the elemental satisfaction of eating. As they become more and more anxious, they require more and more food and become more and more fat! A vicious cycle.

One of my patients, Judy S., aged 15, is very obese because of the lack of love and appreciation from her mother, who gives all her love and centers all her attention on her 2-year old, sickly little brother.

Another patient, Mr. F., a 38-year old sales manager, is fat because he can't seem to stop eating in between meals and all during the evening as he sits by the television. He has been in danger of losing his job because his sales quotas continue to fall

off and he feels certain that he will eventually lose his job. But still he eats. The more nervous he gets, the more he eats.

Some people are so habituated to living under constant tension in their work or at home that the glands in their nervous and glandular systems constantly drive their blood sugars to low levels. As a result they feel continuously hungry, weak, tired, and tense. Food momentarily raises their blood sugars to normal levels. By eating continuously or at least frequently in between meals, they are able to have the strength and concentration to complete their tasks at work or in the home.

***A feeling of failure can lead to overeating.*** Many other obese individuals eat out of sheer frustration or a feeling of failure. One patient of mine, a 28-year old man, is a brilliant mathematician. He wanted badly to become a physicist and scholar, especially since he was of a quiet, shy nature. Instead, he was prevailed upon to enter his father's large and very successful business. An only son, he was to be "groomed" as his father's successor in the running of the extensive family factories. Each day at work was one of frustration for him as he struggled to learn a business in which he basically had no interest. Probably most frustrating of all was the problem of coping with a hard-driving, dynamic father who dominated him and virtually threatened to crush his entire personality. Result? Every hour or so found him in the company cafeteria for a "breather," and the coffee breaks were easier to extend when some donuts, candy, or biscuits went along for the ride. At meal-hours, getting "oral" gratification from large meals with second helpings seemed to stave off the time for getting back to work during the day and seemed to make life tolerable. This man ate to ward off his constant frustration at his work and his domineering father. But his "solution" far from solved his basic problem; it created a new one on top of it.

We all know that the eating of food is man's most primitive necessity for survival. And in order to survive the frustrations, tensions, anxieties, and loneliness that seem to grow worse with time, man often returns to his primitive behavior to give him

a sense of some security and the feeling of overcoming his growing worries. A subsequent chapter discusses more fully some ways to combat these tensions. Many of these more severe problems require the care and guidance of experts especially **trained** in the treatment of emotional disturbances.

***Bad food habits a second main cause of overweight.*** **It** is remarkable to find how many people eat out of boredom, sheer habit, or to the accompaniment of a newspaper, a book, or a heated business discussion. Many succumb to **the** habit of eating at a "minute" diner or lunch counter, gulping their food and running a "hoof and mouth" race with Father Time. (He always wins.)

Others are trained from childhood to stuff themselves—"finish your plate." An old relic of primitive days when food scarcities or the uncertainties of a next meal or a next day were constantly present. Some call this "scavenger eating;" many children acquire this habit by imitating their parents who may have been raised under food scarcity circumstances.

Many men and women are the victims of monotony or plain poor cooking in their meals. They rarely vary the selection and choice of foods out of sheer inertia, indifference, or lack of attention. So they try to make up in quantity what they lack in quality, seeking satisfaction from calories instead of from quality and contrast.

***Too much weight can strain your heart, rob you of energy.*** Dr. Arthur Master, in a study of a group of patients not suffering from heart disease, found that a significant loss of weight was followed by an average 35 per cent reduction in the work the heart has to do. The lesson to you is clear: Even though your heart is strong, overweight taxes it with work and strain beyond its normal capacity. A healthy heart is gradually weakened by the extra stress imposed on it by 20, 30 or 40 pounds of unnecessary fat. Your energy reserves are depleted; you feel tired too soon and too often, even when doing simple things like walking and swimming, things that the person of normal weight can handle with ease and pleasure. Don't let

too much weight rob you of a strong heart and the vibrant energy that you need to enjoy a full, healthy life. Learn to count your calories and you can count on more years of healthy, happy living.

***Most people today don't have heavy demands made on their physical energy.*** We must remember that in the past 50 years there has been a considerable reduction in energy expenditure, because of a more mechanized way of life. People today don't have to go out to the barn and hitch up a horse or team when they are ready to go somewhere. They merely step into their car, which is as close to the front door as they can manage it, and then drive to their destination, again parking as near the entrance as possible.

The introduction of countless labor-saving devices in our home, factories, and offices has also robbed us of most of the physical exertion our grandparents knew. In fact, when it comes to conserving energy, we seem to have approached about as near as we can get to a vegetable existence.

It was formerly believed that the average adult who engaged in moderate physical activity required from 2500 to 3500 calories a day. Figures published by the American Heart Association today place the figures much lower.

One of the reasons overweight is a problem with so many persons is that it has a way of sneaking up on you. You may gain only two or three pounds a year and not notice it. But in 10 years, this means an excess of 20 or 30 pounds. For example, a pound of body weight equals about 3500 calories. Just one extra pat of butter each day (85 to 100 calories) will add eight to ten pounds a year to your weight! Similarly, a piece of pie (250 calories) eaten just once a week, will add over three pounds of body weight in a year's time.

***Just what is a calorie?*** A calorie is a unit of heat and energy, created by the body "burning up" the food we eat. This calorie or measurement of heat unit is the basis for determining what our weight should be and what our diet should be.

In determining how many calories you actually need, scientists use the term "basal caloric requirements" to indicate how many calories you need just to stay alive, keep your heart going, and your temperature normal.

We need approximately a calorie each minute, simply to keep living.

Even while you are asleep you "burn up" an average of 500 calories.

Most men and women need from 1000 to 1500 calories as their basal caloric requirement.

However, when you work or think you burn up additional calories. Here is a list of activities with the approximate number of calories that these cost you, as an adult:

| | | | | |
|---|---|---|---|---|
| (1) | Mental Work ..... | 10 Calories | Each | Hour |
| (2) | Sitting at Rest ..... | 20 | " | " |
| (3) | Standing ..... | 25 | " | " |
| (4) | Dressing ..... | 35 | " | " |
| (5) | Walking (easy) ..... | 100-125 | " | " |
| (6) | Light Housework ..... | 70 | " | " |
| (7) | Light Exercise ..... | 75-150 | " | " |
| (8) | Strenuous Exercise ..... | 200-500 | " | " |
| (9) | Golf ..... | 200 | " | " |
| (10) | Swimming ..... | 200 | " | " |

***How to determine the number of calories you need.*** To determine the number of calories you require each day from your food, it is necessary to make very exact mathematical calculations based on detailed knowledge of your metabolism, body frame, hereditary and constitutional factors, specific energy expenditure each day, climatic conditions, emotional state, digestive tract structure, physiology, and still other variable factors. Since this is an impossible or impractical method for those who want to reduce, I recommend for the average person the following simple "rule of thumb" method:

For: *MARKED OVERWEIGHTS*

A person who is markedly overweight is one who is 30 per cent or more above his normal weight. This means that if, for example, you weigh 180 lbs. but should, according to our table,

weigh 135 **lbs., then** you **are** 45 lbs, overweight. In that case you should reduce your weight by using the 800 calorie diet menus shown in the center, green section of this book.

For: *MODERATE OVERWEIGHTS*

If you are moderately overweight (i.e. 15-30 per cent; you are, say, 20 to 45 lbs. over and weigh from 155 to 180 lbs. but should weigh 135 lbs.), use the diet menus for the 1000 calorie daily food intake shown in the green section in the middle of the book.

For: *MILD OVERWEIGHTS*

If you are only mildly overweight (5 to 15 per cent above your normal weight; let us say you are 7 to 20 lbs. over and weigh from 142 to 155 lbs., whereas you should weigh 135 lbs.) then follow the 1200 calorie diet described in the center, green section.

After you have lost an average of 2 lbs. each week and have achieved your normal weight, you should then follow the low-fat maintenance diets shown in pages 71—88. These diets range from approximately 1500 calories to 2200 calories. They are recommended for the average individual who does light work with a moderate expenditure of calories in average daily activities such as housework, office work, light factory employment, sales work, driving of cars, or a moderate degree of walking.

***Maintaining your proper weight by a regular calorie count.*** However, since individuals vary so widely, it is imperative that you watch your weight carefully by your household scale. If you find that you are gaining a little or a moderate amount of poundage (say 1 or 2 lbs. each week) then you must subtract 200 to 500 calories from your daily menus. You can then reduce a pound a week and stay on this "maintenance" diet to keep your weight on an even level.

This may mean that your maintenance diets require only **a** daily food intake of 1200 **or** 1500 calories every day from

then on. Perhaps the elimination of one or two slices of bread and jam, or cutting down on sugar, may be all that is necessary to take 200 or 300 calories off your daily menus. To eliminate the required 500 calories from your daily meals, it may be necessary to omit in addition some potatoes, or to avoid completely sugar and starch foods. In any case, the calorie counter in this chapter will guide you on which food items you should eliminate from your diet. Once you have decided to do so, it is simple to follow the menus. It does take a few minutes of your time to look at these calories, but you will be giving yourself a reward of years added to your life. That's the biggest health bargain in modern history!

***There is only one healthy way to reduce.*** Our bookstores and newstands bristle with literature full of spectacular claims and quack formulas, all shouting, "Lose those extra pounds the fast, easy way." But the truth is (unless you like to be fooled at the expense of your own health) that there is only one safe and effective way to achieve the correct poundage and to keep it at that figure. That way is to follow a correct nutritional program, and to follow it consistently, one might almost say religiously. To do that means taking over a lifetime job of vigilance and self-discipline. But first you have to make up your mind that you want to do it, and then do it. And then *stick to it.*

***Seven rules for getting your weight down and keeping it down.*** Once you have given yourself a powerful incentive, and have decided, "I will get my weight down and keep it down," then the following rules will help you:

1. Follow the menus and dietary supplements suggested in this book as closely as possible.
2. As an appetite curb, nibble a few low-fat hors d'oeuvres a little while before mealtime. (This raises the blood sugar level and takes the edge off your appetite.)
3. Eat a substantial breakfast and a small lunch as provided in the menus given in this book.

4. Try to have small servings of the food you **eat.**
5. Avoid second helpings.
6. Forego dessert if it is high in calories or fats.
7. To know exactly where you stand each day, be a calorie counter, but a serious one. Use the table of foods and caloric values at the end of this chapter.

By glancing at the following table that shows the total number of calories needed daily for a man (or woman) of average weight and height at various ages, you will be surprised to see how much you really overeat. You will observe also that the caloric requirement declines with age. Thus a man who is 5 feet 10 inches tall and has the normal weight of 150 pounds, requires 2020 calories between the ages of 14 and 15, but only 1600 when he is 60.

Similarly, a woman of average height (5 feet, 2 inches) and weight (125 pounds) requires 1600 calories when she is 14, but only 1260 calories when she is 60.

OBESITY AND HEART DISEASE

RELATIONSHIP OF AGE TO CALORIC REQUIREMENTS

| *Sex* | *Height* | *Weight (Pounds)* | *Age* | *Basal Calories 24 Hours* |
|---|---|---|---|---|
| MALE | 5′–10″ | 150 | 14-15 | 2020 |
| | | | 16-17 | 1890 |
| | | | 18-19 | 1800 |
| | | | 20-29 | 1730 |
| | | | 30-39 | 1730 |
| | | | 40-49 | 1690 |
| | | | 50-59 | 1650 |
| | | | 60-69 | 1600 |
| | | | 70-79 | 1560 |
| FEMALE | 5'2" | 125 | 14-15 | 1600 |
| | | | 16-17 | 1490 |
| | | | 18-19 | 1410 |
| | | | 20-29 | 1370 |
| | | | 30-39 | 1360 |
| | | | 40-49 | 1340 |
| | | | 50-59 | 1300 |
| | | | 60-69 | 1260 |
| | | | 70-79 | 1230 |

***Drugs are not the answer.*** Unless they are needed for other reasons, I always counsel my patients against them. Taking thyroid extract, for example, when it is not indicated from a medical point of view, can damage the heart. A number of other commercial preparations now on the market, used for dulling the appetite, have the undesirable side effects of overstimulating the nervous system or, in some cases, of interfering with the body's metabolism.

In the game of reducing, there are no "wild" cards, and there is no way to cheat. You will win or lose, depending upon how well you follow the rules and play your hand. Remember that the amount of money you spend for food is not half so important as the way you spend it. Whether your income is $3,000 a year or $50,000, the proper food in the proper amount is within your reach.

Not only is such a program wise and helpful for you, but think how many years of good health and happiness you can offer your children. A survey made not long ago revealed that of almost three-fourths of the nation's children studied, not a single one rated top health grades in strict medical examinations! Such a deplorable and widespread epidemic of malnutrition can easily be corrected if you will bring to the vital subject of nutrition the same dedicated parental care that you do to other phases of your children's lives.

You have nothing to lose, and precious years of life to gain.

**CALORIE COUNTS OF FOODS LISTED ALPHABETICALLY***

***Abbreviations***

| | |
|---|---|
| tbsp.— tablespoon | 4 oz.— 1/2 cup or glass approximately |
| tsp. — teaspoon | 8 oz.—1/2 pt. or 1 glass or cup approx. |
| oz. —ounce | 16 oz. (454 grams-1 lb.) |

| *Food* | *Approximate Household Measure* | *Calories* |
|---|---|---|
| Abalone, cooked ..... | 1 piece, 1 x 21/4 x 1 in. | 35 |
| Almonds ..... | 1/2 cup | 400 |
| | 1 tbsp. | 50 |

* These calorie calculations are approximate figures. Various sources differ slightly. We have endeavored to use average figures.

| *Food* | *Approximate Household Measure* | *Calories* |
|---|---|---|
| Anchovies | 1 fillet | 10 |
| Apples: | | |
| fresh | 1 medium | 75 |
| juice | 1 cup | 50 |
| baked with sugar | 1 small, with 1 tbsp. sugar | 125 |
| baked without sugar | 1 small | 65 |
| Apple pie | 1/6 of 9" diam. | 400 |
| Applesauce, sweetened | *1/2* cup | 100 |
| unsweetened | 1/2 cup | 50 |
| Apricots: | | |
| cooked or canned | 6 halves | 70 |
| dried | 8 small halves | 140 |
| fresh | 3 medium | 50 |
| Artichokes, canned | 1/2 small | 20 |
| Jerusalem, cooked | 1 large | 80 |
| Asparagus, cooked: | | |
| canned | 5 tips or 1/2 cup | 15 |
| fresh | 8 stalks, 4 in. long | 20 |
| Avocado: | 1/4 peeled | 150 |
| | *1/2* cup | 200 |
| Bacon, broiled, crisp, and drained | 2 slices | 100 |
| Banana, fresh | 1 medium | 100 |
| Barley, pearled | 3 tbsp. | 110 |
| Bass, sea, cooked | 1 piece, 1 x 21/4 * 1 in- | 30 |
| Beans, baked, canned | 3 tbsp. | 120 |
| kidney, canned | 4 tbsp. | 105 |
| lima, fresh cooked | 4 tbsp. | 115 |
| string, fresh | 2/3 cup | 35 |
| Beef: | | |
| broth | 1/2 cup | 15 |
| corned canned | 1 slice, 3 x 21/4 x 1/4 in. | 65 |
| dried | 6 slices, thick, 4 x 5 in. | 155 |
| hamburger, med. patty | 5 to 1 lb. | 250 |
| liver, cooked | 3 slices, 2 x 1 x 1/2 in. | 190 |
| roast, lean | 1 slice, 3 x 21/4 *x1/4* | 96 |
| soup (homemade) | 1 cup | 90 |
| steak, med. fat broiled | 1 piece, 4 x 1 x 1 in. | 102 |
| Beer, average 1/2 bottle | 6 oz. | 100 |
| Beets, fresh or canned | 1/2 cup | 25 |
| Beverages all sweet carbonated types | 6 oz. | 75 |
| Blackberries, canned in syrup | 1/2 cup | 100 |
| fresh | 1/2 cup | 50 |
| Blueberries, canned in syrup | 1/2 cup | 125 |
| fresh | 1/2 cup | 50 |
| Bluefish, cooked | 1 piece, 4 x 11/2 x 1 in. | 90 |

| *Food* | *Approximate Household Measure* | *Calories* |
|---|---|---|
| Bologna, sausage | 4 oz. | 260 |
| Bouillon | 1/2 cup | 10 |
| Bran, wheat (100% bran) | 2/3 cup | 100 |
| Brandy (90 proof) | 1 oz. | 90 |
| Brazil nuts | 4 nuts med. | 215 |
| Bread: | | |
| gluten | 1 small slice | 70 |
| miscellaneous | 1 small slice | 85 |
| pumpernickel | 1 slice | 120 |
| rye | 1 slice, 3 x 31/2& x 1/2 in. | 65 |
| white, milk | 1 slice, 3 x 31/2 x 1/2 in. | 65 |
| whole wheat | 1 slice, 3 x 31/2 x 1/2- | 55 |
| Zweiback | 1 piece | 40 |
| Broccoli | 1/2 cup | 12 |
| Brussels sprouts | 1/2 cup | 40 |
| Butter | 1 tsp. | 50 |
| Buttermilk, skimmed-milk buttermilk | 1 cup | 85 |
| Butternuts | 1 tbsp. | 50 |
| Cakes: | | |
| Angel Food | 41/2 x 3 x 3 in. sector | 200 |
| Fruit | 2 x 2 x 1/2 in. sector | 106 |
| Sponge | 41/2 x 3 x 3 in. sector | 200 |
| Candy: | | |
| Caramels | 10 pieces | 430 |
| Hard candy | 10 pieces | 400 |
| Cantaloupe | 1/2 piece | 35 |
| Carrots, fresh raw | 1 medium | 25 |
| cooked | 1/2 cup | 25 |
| Cauliflower | 1/2 cup | 12 |
| Celery | 2 stalks | 12 |
| Cheese: | | |
| American | 1 oz, | 100 |
| Camembert | 1 oz. | 90 |
| Cottage, from skim milk | 2 oz. (1/4 cup.) | 75 |
| Cottage | 1 round tbsp. | 25 |
| Cream | 1 oz. | 100 |
| | 1 tbsp. | 50 |
| Edam | 1 oz. | 100 |
| Roquefort | 1 oz. | 100 |
| Swiss or Gruyere | 1 oz. | 100 |
| Cherries, canned, black in syrup | 1/2 cup | 150 |
| in syrup, white | 1/2 cup | 100 |
| fresh, sour | 1/2 cup | 50 |
| sweet | 1/2 cup | 100 |

| *Food* | *Approximate Household Measure* | *Calories* |
|---|---|---|
| Chicken, broiler | 1/4 med. | 120 |
| lean, no skin, boiled | 2 slices, 4 x 4 x 1/8 in. | 125 |
| with skin, boiled | 1 slice, 31/2 x 31/2 x 1/8 in« | 115 |
| liver | 31/3 oz. | 135 |
| roast, with skin | 1/2 breast | 200 |
| Chile con came, canned with beans | 1/2 cup | 175 |
| Chocolate, bitter or unsweetened, sweetened, plain or milk bar | 1 oz. | 150 |
| Chocolate syrup | 1 tbsp. | 50 |
| Cider, sweet | 1/2 cup | 50 |
| Clams, long, in shell | 6 | 80 |
| round, in shell | 6 | 40 |
| Clam bouillon | 1/2 CUP | 0 |
| Cocoa, dry | 1 tbsp. | 30 |
| Coconut, fresh, prepared, dried, sweetened | 1/2 CUP | 175 |
| Cod | 4 oz. | 100 |
| Coffee, black | 1 cup | 0 |
| Cola drinks, all varieties | 6 oz. | 75 |
| Condensed milk | 1 cup | 1000 |
| Consomme | 1/2 cup | 10 |
| Cookies: | | |
| Arrowroot biscuit | 1 biscuit | 25 |
| Chocolate wafer | 1 wafer, 23/4 diam. | 50 |
| Fig bars (Newtons) | 1 bar | 50 |
| Gingersnaps | 1 snap, 3" diam. | 50 |
| Macaroons | 1 macaroon | 50 |
| Nabisco wafers | 1 wafer | 25 |
| Oreo sandwich | 1 wafer, 2" diam. | 50 |
| Peanut | 1 cookie, 2" diam. | 50 |
| Shortbread (Lorna Doone) | 1 cookie, 13/4" square | 39 |
| Social Tea biscuits | 1 biscuit | 25 |
| Vanilla wafers | 1 wafer, 21/8" diam. | 25 |
| Corn, canned or fresh, white or yellow | 1 ear | 84 |
| popped | 1 cup | 70 |
| Corn bread or muffins | 1 muffin | 100 |
| Corn flakes | 1/2 cup | 50 |
| Corn meal, whole, white or yellow cooked | 1/2 cup | 50 |
| Cornstarch, dry | 1 tbsp. | 35 |
| Crabmeat, canned or fresh | 4 oz. | 100 |
| Crabs, cooked | 1 | 70 |

| *Food* | *Approximate Household Measure* | *Calories* |
|---|---|---|
| Crackers: | | |
| Animal | 3 oz. | 360 |
| Cheese | 5 crackers | 25 |
| Graham or whole-wheat | 3 crackers | 100 |
| Oyster | 24 crackers | 100 |
| Riti | 3 crackers | 50 |
| Soda | 1 cracker | 25 |
| Uneeda | 1 cracker | 25 |
| Cranberries, raw | 1/2 cup | 25 |
| Cranberry sauce, canned or cooked | 1/2 cup | 275 |
| Cream, heavy, whipping | 1 tbsp. | 50 |
| light, table or coffee | 1 tbsp. | 25 |
| 30% sour | 4 tbsp. | 270 |
| Cream of Wheat, dry | 4 tbsp. | 110 |
| cooked | 3/4 cup | 110 |
| Cress, water | 1/2 cup | 12 |
| Crisco | 1 tbsp. | 150 |
| Cucumbers | 1/2 cup | 12 |
| Currants | 1/2 cup | 25 |
| Dandelion greens | 1/2 cup | 13 |
| Dates, fresh and dried | 1/2 cup | 250 |
| | 4 dates | 100 |
| Doughnuts, commercial, cake type | 1 doughnut | 150 |
| sugared | 1 doughnut | 175 |
| Duck | 4 oz. | 350 |
| | 2 slices, 13/4 x 11/2 x 1/4 in. | 285 |
| D-Zerta | 1 serving | 10 |
| Eggplant, cooked | 1/2 cup | 15 |
| fresh | 1/2 cup | 25 |
| Eggs, raw | 1 avg. | 75 |
| white, raw | 1 avg. | 15 |
| yolk, raw | 1 avg. | 60 |
| Endive | 1/2 cup | 12 |
| Escarole | 1/2 CUP | 12 |
| Evaporated milk | 1 cup | 350 |
| Farina, white, cooked | 2/3 cup | 100 |
| Fats, cooking (vegetable fats) | 1 tbsp. | 110 |
| Figs, cooked or canned | 4 | 170 |
| dried | 4 with juice, cooked | 325 |
| Filberts | 10 nuts | 95 |
| Finnan haddie | 1 piece, 4 x 11/2 x one inch | 160 |
| Flounder (baked) | 1 piece, 4 oz. (4 to lb.) | 200 |

| *Food* | *Approximate Household Measure* | *Calories* |
|---|---|---|
| Flour: | | |
| barley | 1 tbsp. | 60 |
| buckwheat | 3/4 cup | 300 |
| soy bean | 1 tbsp. | 20 |
| gluten | 1 cup | 520 |
| gluten | 1 tbsp. | 30 |
| graham | 1 cup | 425 |
| rye | 1 cup | 400 |
| white | 1 cup | 450 |
| white | 1 tbsp. | 25 |
| Frankfurters | 1,51/2 in. **long** | 125 |
| Fruit cocktails, canned: | | |
| syrup pack | 1/2 cup | 100 |
| fresh or water pack | 1/2 cup | 50 |
| Garlic | 1 clove | 0 |
| Gelatin, granulated | 1 tbsp. | 25 |
| Gin (90 proof) | 1 oz. | 90 |
| Ginger ale | 6 oz. | 75 |
| Goose | 3 slices, 3 x 3 x 1/8 in. | 390 |
| Gooseberries | 1/2 cup | 25 |
| Grapefruit juice, fresh or | | |
| canned unsweetened | 1/2 cup | 50 |
| canned, sweetened | 1/2 cup | 75 |
| Grapefruit, raw | 1/2 med. | ?5 |
| Grape juice | 1/2 cup | 75 |
| Grapenuts | 1/2 cup | 220 |
| Grapes, all varieties | 1/2 cup | 50 |
| Haddock | 4 oz. | 100 |
| Halibut | 4 oz. | 170 |
| Ham, baked | 1 thin slice, 4 x 21/2 x 1/8 (1 oz.) | 120 |
| smoked, lean, boiled | 1 slice, 4 x 21/2 x 1/8in. | 120 |
| Devilled Ham | 1 tablespoon | 95 |
| spiced, canned | 1 slice, 31/4 x 21/4 x 1/4 | 125 |
| Heart, beef, lean | 4 oz. | 100 |
| Herbs, all varieties | traces | 0 |
| Herring, cooked | 1 piece, 1 x 21/4 x 1 in. | 50 |
| pickled | 2 small | 115 |
| smoked | 1 piece, 21/2 x 21/2x 1 in. | 290 |
| Honey | 1/2 cup | 500 |
| | 1 tbsp. | 75 |
| Honeydew melon | 1 wedge, 2" sector | 50 |
| Horseradish | 1 tbsp. | 0 |
| Huckleberries, fresh | 2/3 cup or 4 tbsp. | 70 |
| Ice cream | 2 tbsp. | 205 |
| soda | 1 glass | 400 |

| *Food* | *Approximate Household Measure* | *Calories* |
|---|---|---|
| Jams, jellies, marmalades, preserves | 1 tbsp. | 50 |
| Jello | 1 serving (5 to the pkg.) | 65 |
| Junket | 1 serving | 50 |
| Kale | 1/2 cup | 20 |
| Kidney, beef | 4 oz. | 170 |
| pork, lamb | 4 oz. | 100 |
| Lady Fingers | 1 large or 2 small | 38 |
| Lamb: | | |
| chop, broiled | 1 large or two medium | 355 |
| ground patty | 2 x 1/2 in. | 130 |
| leg, roast | 2 slices, 3 x 31/4 *x 1/8* | 200 |
| chop, broiled | 1 small, 1 in. cube meat | 105 |
| Leeks | 1/*2* cup | 25 |
| Lemon: | | |
| fresh | 1 medium | 25 |
| juice | 1/*2* cup | 35 |
| Lemon Meringue pie | 1/4 in. sector, 9" diam. | 400 |
| Lentils, cooked | 1/*2* cup, or 4 tbsp. | 125 |
| Lettuce | 10 leaves | 15 |
| Limes | 1 medium | 25 |
| Litchi nuts | 6 nuts | 45 |
| liver, beef, calf, chicken | 4 oz. | 170 |
| Liver sausage and liver* wurst | 4 oz. | 260 |
| Lobster, fresh boiled or canned | 4 oz. | 100 |
| Loganberries, fresh or canned, juice pack | 1/2 cup | 50 |
| Luncheon meats | 4 oz. | 350 |
| Lungs | 4 oz. | 100 |
| Macaroni, dry | 1/2 cup | 250 |
| cooked | 1/2cup | 100 |
| Mackerel: | | |
| fresh, cooked | 1 piece, 1 x 21/4 x 1 in. | 75 |
| salt, cooked | 1 piece, 1 x *21/4,* x 1 in. | 120 |
| Maple syrup | 2 tbsp. | 90 |
| Margarine | 1 tsp. | 35 |
| Marmalades, jams, jel lies, preserves | 1 tbsp. | 60 |
| Mayonnaise | 1 tbsp. | 125 |
| Meat, fat | 1 tbsp. | 135 |
| Meat, lean, cooked (avg.) | 4 slices, thin, 41/4x 21/2 | 150 |
| med. fat, cooked | 4 slices, thin, 4 x 2 in. | 200 |
| Milk, cow, liquid, whole | 1 cup | 170 |
| canned, evaporated | 1 cup | 350 |

| *Food* | *Approximate Household Measure* | *Calories* |
|---|---|---|
| skim | 1 cup | 85 |
| condensed | 1 cup | 1000 |
| powdered, whole | 1 cup | 650 |
| | 1 tbsp. | 35 |
| powdered, skim | 1 tbsp. | 27 |
| Mince pie | 1/4" sector, **9" diam.** | 400 |
| Mineral oil dressing | 1 tbsp. | 20 |
| Mineral water | | 0 |
| Molasses, cane | 1 tbsp. | 60 |
| Muffin | 1 medium | 100 |
| Mushrooms, fresh **and** | | 0 |
| canned | 1/2 cup | 25 |
| Mussels | 4 oz. | 100 |
| Mustard, dry | 1 tsp. | 0 |
| Mustard greens | 1/2 cup | 10 |
| Mutton, leg roast | 3 slices, 3 x 33/4 x 1/8 **in.** | 305 |
| Nectarines | 1,13/4" diam. | 40 |
| Noodles, dry | 1/2 cup | 100 |
| cooked | 2/3 cup | 100 |
| Oatmeal cooked | 2/3 cup | 110 |
| Other cooked cereals | 2/3 cup | 110 |
| Oils, salad or cooking | | |
| (corn, cottonseed, | | |
| olive, peanut) | 1 tbsp. | 150 |
| Olives, green | 2 large | 45 |
| ripe | 2 large | 40 |
| Onions, cooked, plain | 3 med. | 25 |
| fresh or scallions | 4 small | 50 |
| Orange Juice | 1/2 CUP | 55 |
| Oranges, fresh | 1 med. | 50 |
| Orange sections | 1/2 CUP | 50 |
| Ovaltine, dry | 1 tbsp. | 50 |
| Oysters: | | |
| solid, raw | 1 cup | 100 |
| solid, raw | 2 med. | 15 |
| Papaya | 1/2 cup | 50 |
| Parsley | 1/2 cup | 12 |
| Parsnips | 1 cup | 50 |
| Pate de foie gras | 1 oz. | 100 |
| Peaches, fresh | 1 medium | 50 |
| cooked or canned | 2 large halves | 50 |
| Peanut butter | 1 tbsp. | 100 |
| Peanuts | 15 nuts | 130 |
| Pears: | | |
| cooked or canned | 2 halves | 70 |
| fresh | 1 small | 60 |

| *Food* | *Approximate Household Measure* | *Calories* |
|---|---|---|
| Peas, dried | 3 tbsp. | 100 |
| green | 1/2 cup, or 4 tbsp. | 95 |
| green, very young, cooked or canned | 4 tbsp. | 55 |
| Pecans | 10 nuts, large | 230 |
| Peppers, sweet, green, cooked | 1 medium | 20 |
| Persimmons, fresh | 1/2 small | 65 |
| Pheasant | 1 breast | 140 |
| Pickles, cucumber | l, 4 x 1/2 x 3/4 in. | 15 |
| sweet | 1/2 cup | 100 |
| Pies, all varieties | 4" sector or 1/6 of 9" diam. | 400 |
| Pineapple: | | |
| juice, canned | 1/2 cup | 50 |
| cooked or canned | 2 small slices | 145 |
| fresh | 1 slice, 3/4 in. thick | 40 |
| Pistachios | 10 nuts, large | 35 |
| Plums, canned, water pack or juice pack | 4 plums | 100 |
| fresh | 1 plum | 25 |
| Pomegranate | 1 pomegranate | 100 |
| Popcorn, popped, unbuttered | 2/3 cup | 50 |
| Pork chop: | | |
| loin, lean | 1 large | 250 |
| loin, lean | 1 medium | 190 |
| loin, med. fat | 1 large | 340 |
| loin, med. fat | 1 medium | 255 |
| Postum, without sugar or cream | 8 oz. | 35 |
| Potato chips | 8-10 large pieces | 100 |
| Potatoes, white, boiled or baked | 1 medium | 100 |
| mashed | 1/2 cup | 100 |
| Prune juice | 1/2 cup | 100 |
| Prunes | 5 very large or 6 medium | 135 |
| cooked, no sugar | 7 | 100 |
| Pumpkin, fresh or canned | 1/2 cup | 50 |
| Pumpkin pie | 4" sector, 9" diam. | 263 |
| Quail, broiled | 31/2 oz. | 165 |
| Rabbit | 4 oz. | 170 |
| Raspberries, canned in syrup | 1/2 cup | 100 |
| juice pack | 1/2 cup | 75 |
| fresh | 1/2 cup | 50 |
| Rhubarb | 1/2 cup | 12.5 |
| Rhubarb pie | 4 inch sector, 9 inch diam. | 400 |

| *Food* | *Approximate Household Measure* | *Calories* |
|---|---|---|
| Rice, brown, cooked | 1 oz. dry or 3/4 cup cooked | 100 |
| white, cooked | 1 oz. dry or 3/4 CUP cooked | 100 |
| Rice Crispies cereal, flakes or toasties | 2/3 cup | 100 |
| Rice, puffed | 2/3 cup | 50 |
| Rolls, white, average | 4 oz. | 100 |
| Rum, (85 proof) | 1 oz. | 100 |
| Rusk, Holland | 1 rusk | 50 |
| Rutabagas, cooked | 1/2 cup | 25 |
| Ry-Krisp | 1 double square wafer | 25 |
| Salami | 4 oz. | 500 |
| Salmon, fresh | 4 oz. | 260 |
| canned | 4 oz. | 170 |
| Sardines, canned in oil | 10 sardines or 4 oz. | 260 |
| Sauerkraut | 1/2 cup | 20 |
| Sausages: | | |
| bologna | 3 slices | 200 |
| frankfurter | 2,6 in. | 250 |
| liver sausage | 3 slices | 250 |
| pork sausage | 5 links or 2 patties | 400 |
| Scallops, broiled | 1/2 CUP | 75 |
| Sherbet | 1/2 cup | 150 |
| Shredded Wheat | 1 biscuit | 100 |
| Shrimp | 4 oz. | 100 |
| Soup canned: | | |
| asparagus | 1/2 cup | 75 |
| bean | 1/2 cup | 100 |
| beef | 1/2 cup | 50 |
| bouillon, broth or consomme | 1/2 cup | 0 |
| chicken | 1/2 cup | 50 |
| chicken noodle | 1/2 cup | 100 |
| clam chowder | 1/2 cup | 65 |
| corn chowder | 1/2 cup | 100 |
| cream | 1/2 cup | 150 |
| green pea | 1/2 cup | 100 |
| oxtail | 1/2 cup | 100 |
| split pea | 1/2 cup | 100 |
| tomato | 1/2 cup | 75 |
| vegetable | 1/2 cup | 50 |
| Soybean, flour, high fat, medium fat, low fat | 1/2 cup | 125 |
| Soybeans, dried | 1/2 cup | 350 |
| green, fresh | 1/2 cup | 150 |
| Spaghetti, cooked | 1/2 cup | 100 |
| Spinach, fresh or canned | 1/2 cup | 10 |
| Squab, with skin, cooked, roast | 1 whole | 135 |

| *Food* | *Approximate Household Measure* | *Calories* |
|---|---|---|
| Squash, summer | 1/2 cup | 20 |
| Strawberries, canned in | | |
| syrup | 1/2 cup | 150 |
| fresh | 1/2 cup | 25 |
| Sturgeon | 4 oz. | 100 |
| Succotash | 1/2 cup | 100 |
| Sugar, brown | 1 tsp. | 20 |
| | 1 tbsp. | 60 |
| | 1 cup | 800 |
| granulated | 1 lump | 25 |
| | 1 tsp. | 25 |
| | 1 tbsp. | 60 |
| | 1 cup | 800 |
| powdered | 1 tbsp. | 60 |
| | 1 cup | 700 |
| maple | 1 oz. piece | 100 |
| Sweetbreads | 1 pair, raw | 400 |
| cooked | 3/4 cup | 174 |
| Sweet potatoes | 1 medium | 200 |
| Swiss chard, cooked | 3/4 cup or 6 tbsp. | 15 |
| Swordfish | 4 oz. | 170 |
| Syrup, corn, table | | |
| mixture | 1 tbsp. | 50 |
| Tangerine | 1 | 50 |
| Tapioca, granulated, dry | 1 tbsp. | 50 |
| Tea, without sugar or milk | | 0 |
| Thousand Island dressing | 1 tbsp. | 150 |
| Tomato catsup | 1 tbsp. | 15 |
| Tomato, med | 1 | 30 |
| Tomatoes, fresh or canned | 1/2 cup | 25 |
| Tomato juice | 1/2 cup | 25 |
| Tongue, beef | 4 oz. | 260 |
| Triscuit | 1 wafer 2" sq. | 25 |
| Trout, brook | 4 oz. | 100 |
| lake | 4 oz. | 170 |
| Tuna fish: | | |
| canned in oil | 1/2 cup | 275 |
| canned—no oil | 1/4 cup or 1 piece, 1 x 21/4 x 1 in. | 35 |
| Turkey, dark and light | 4 slices, 31/2 x 21/2 x 1/4 in. | 240 |
| dark meat | 4 oz, | 250 |
| white meat only | 4 oz. | 225 |
| Turnip greens | 1/2 cup | 10 |
| Turnips, white | 1/2 cup | 25 |
| Veal: | | |
| chops, lean | 1 med. | 125 |
| loin, medium fat | 1 slice, 2 x *23/4* x 1/8 in. | 100 |
| roast, lean | 4 slices, 41/2 x 21/2 x 1/8 in. | 160 |

| *Food* | *Appropriate Household Measure* | *Calories* |
|---|---|---|
| Vinegar | 1 tbsp. | 0 |
| Waffles | 1 waffle, 6" diam. | 250 |
| Walnuts, English | 1/2 cup | 350 |
| Watermelon | 1 slice, ¾" x 6" | 100 |
| Weakfish | 4 oz. | 100 |
| Wheat, Cream of, cooked | 2/3 cup | 100 |
| Wheat, Puffed | 2/3 cup | 50 |
| Wheat, Shredded | 1 large biscuit | 100 |
| Wheat flakes (Pep, Wheaties, etc.) | 2/3 cup | 100 |
| Wheat flour, white, patent and whole | Sifted 1/2 cup | 200 |
| | Unsifted 1/2 cup | 225 |
| | 1 tbsp. | 35 |
| Wheat germ | 2/3 cup | 100 |
| Wheatena, dry | 2 tbsp. | 75 |
| Whisky (100 proof) | 1 oz. | 100 |
| Whitefish | 4 oz. | 170 |
| White sauce | 1/2 cup | 175 |
| Wild rice, uncooked | 1/2 cup | 300 |
| cooked | 1/2 cup | 100 |
| Yams | 1/2 cup | 100 |
| Yeast, compressed, baker's | 1 tbps. | 25 |
| dried, brewer's and baker's | 1 oz. | 25 |
| Zwieback | 3 pieces | 100 |

## ADDITIONS TO ALPHABETICAL CALORIE COUNTER

### *Alcoholic Beverages*

| | | *Calories* |
|---|---|---|
| Scotch | (1 jigger—1.5 oz.) | 105-155 |
| Gin | " " | 105 |
| Rum | | 105 |
| Brandy—Cognac | (1 Brandy glass) | 75 |

### *Cocktails*

| | | |
|---|---|---|
| Manhattan | | 165 |
| Martini | | 140 |
| Tom Collins | | 180 |
| Old Fashioned | | 180 |
| Cordials | 1 cordial glass | 55-75 |
| Eggnog | 1 punch glass—Christmas type | 350 |
| Ale | 1 glass | 100 |
| Beer | 1 bottle | 170 |
| Rye Whiskey | 1 jigger—11/2 *oz.* | 105-115 |
| Highball | 1 glass | 165 |
| Champagne | 1 wine glass | 85 |
| Wine (Calif, red) | 1 wine glass | 72 |
| Muscatel or Port | 1 wine glass | 158 |

Chapter 7

# HOW MANY YEARS WILL LOW-FAT LIVING ADD TO YOUR LIFE?

How MANY YEARS COULD YOU ADD TO your life by reducing your weight to normal, and maintaining it there? This is a question that can be answered, and the answer is a dramatic one.

No matter what your age may be, you can increase your life span by a definite number of years. What's more, those additional years can be healthy, happy years, full of things that make life worth living—*really* worth living.

In the first six chapters of this book we have heard the part that diet plays in warding off heart disease and in promoting over-all good health. We have seen how your arteries work, and have discovered the nature of the health wrecker—fat. You have been given a program of what foods to eat and what foods to avoid to achieve health, by low-fat living. You have learned how to use dietary supplements and how to count the calories, so as to keep your weight at the proper level. All of these things have been given to you for one purpose—to show you how to live the low-fat way, because the low-fat way is the key to healthier, *longer* life.

Now let's find out how many extra years of health and life you can count on, once you have followed the low-fat way of life.

***Even if you've had a heart attack, the low-fat diet can double your normal span of expected years.*** During the past 12 years, my associates and I have studied the effects of low-fat reducing diets on men and women who had survived heart attacks. We found that those who followed a low-fat, low-cholesterol diet such as you have found in this book, and who reduced their weight to normal, gained *twice as many years of life* as the non-dieters who had also suffered heart attacks.

***The same low-fat diet may lengthen the life of everyone.*** The logical conclusion is that if, as we have seen, coronary atherosclerosis is already extensively present in the entire population, then this normal-weight-through-diet health program would give an over-all additional five years to every person in the nation. This conclusion is borne out by authoritative figures that will be given at the end of this chapter.

The amazing advances of American medicine since 1945, with all the new wonder drugs, surgical innovations, improved treatment techniques, and public programs, have resulted in extending the average American's life five years. This was achieved by the creative genius of many researchers and the expenditure of billions of dollars. Now similar results can be accomplished by a simple, intelligent health program, aimed at proper nutrition for controlling weight and at the same time providing better health.

As a physician, I have been faced many times by the tragic spectacle of a family that will impoverish itself to extend the life of an unfortunate victim of cancer or leukemia only a few months or a year. With these examples in mind, it would seem well worthwhile to convince people as a whole of the urgent necessity of maintaining normal weight through proper nutrition. Yet, being only human, we forget the unpleasant aspects of living unless we have a strong motive to change them by changing our habits.

***You can do something about it.*** That is why I am basing this advice on an appeal to self-preservation. At any age, it is

natural for you to want to stay alive, in good health, as long as possible, and to extend your years to the ultimate possible hour. Now, *with what you have learned in this book, you can do something about it,* on your own, with little effort, and with amazing results in health and longevity.

The tables found in this chapter are based on more than 50,000 individuals studied by insurance companies. Look at them, and you will be able to see at a glance exactly how many years you can add to your life span through proper nutrition and weight control.

***Ideal weight can add more "bonus" years of life.*** The figures in the tables are conservative ones because they are computed on the basis of average weight rather than ideal weight. It is clear that if you aim for ideal weight still more "bonus" years of life can be yours.

But you cannot expect to receive this "bonus" without working to earn it. A wit recently observed that it takes more than a plaid waistcoat to keep a check on your stomach. Although said in jest, there is a great deal of truth to the statement. Success will come through careful study of the suggestions given here, as well as the careful and consistent application of them. And it is never too late to begin.

Let us suppose, for example, that you are 50 years old and markedly overweight. How many years can you add to your life by reducing to normal weight and staying that way? A check of our table reveals that if you are more than 30 per cent overweight, you could add a little over four-and-a-half years. That is well worth the effort, isn't it?

***What about younger people?*** Our studies, and those made by life insurance companies, all point to the same conclusion: Excessive weight put on in young adulthood, and maintained through life, carries the risk of shortening life by a frightening number of years. Let us say, for instance, that you are in your early twenties, and are markedly overweight. If you do not reduce **to a normal figure, and** stay **that** way, **you are sacrificing**

over fifteen and a half years of life! Whatever your age, if you are obese, it is important to get your weight down as quickly as it is safe to do so.

This does not mean that you should "fall" for the widely advertised but ineffectual and even dangerous reducing pills that promise to "melt the fat off" within a few days without much dieting. Every practicing physician has at one time or another sadly shaken his head at the spectacle of so many Americans trying to reduce the quick and easy way, without sacrificing their deeply entrenched dietary habits. The safe way, the effective way, is through the low-fat diet program presented in this book. The low-fat way is the healthy way, the way of longer life.

***Now let[9]8 look at the tables.*** Table A shows desirable average weights for men 25 and over, according to height and frame or build. Table B gives desirable weights for women 25 and over.

TABLE A

**DESIRABLE WEIGHTS FOR MEN 25 AND OVER***

*Weight in Pounds according to Frame (As ordinarily Dressed)*

| *Height* (With shoes on) | | *Small Frame* | *Medium Frame* | *Large Frame* |
|---|---|---|---|---|
| *Feet* | *Inches* | | | |
| 5 | 2 | 116-125 | 124-133 | 131-142 |
| 5 | 3 | 119-128 | 127-136 | 133-144 |
| 5 | 4 | 122-132 | 130-140 | 137-149 |
| 5 | 5 | 126-136 | 134-144 | 141-153 |
| 5 | 6 | 129-139 | 137-147 | 145-157 |
| 5 | 7 | 133-143 | 141-151 | 149-162 |
| 5 | 8 | 136-147 | 145-156 | 153-166 |
| 5 | 9 | 140-151 | 149-160 | 157-170 |
| 5 | 10 | 144-155 | 154-164 | 161-175 |
| 5 | 11 | 148-159 | 157-168 | 165-180 |
| 6 | 0 | 152-164 | 161-173 | 169-185 |
| 6 | 1 | 157-169 | 166-178 | 174-190 |
| 6 | 2 | 163-175 | 171-184 | 179-196 |
| 6 | 3 | 168-180 | 176-189 | 184-202 |

* This table is based on numerous Medico-Actuarial studies of hundreds of thousands of insured men. (Metropolitan life Insurance Co.)

**TABLE B**

**DESIRABLE WEIGHTS FOR WOMEN 25 AND OVER***

***IF eight in Pounds according to Frame (As ordinarily Dressed)***

| ***Height*** (With shoes on) | | ***Small*** *Frame* | ***Medium*** *Frame* | ***Large*** *Frame* |
|---|---|---|---|---|
| *Feet* | *Inches* | | | |
| 4 | 11 | 104-111 | 110-118 | 117-127 |
| 5 | 0 | 105-113 | 112-120 | 119-129 |
| 5 | 1 | 107-115 | 114-122 | 121-131 |
| 5 | 2 | 110-118 | 117-125 | 124-135 |
| 5 | 3 | 113-121 | 120-128 | 127-138 |
| 5 | 4 | 116-125 | 124-132 | 131-142 |
| 5 | 5 | 119-128 | 127-135 | 133-145 |
| 5 | 6 | 123-132 | 130-140 | 138-150 |
| 5 | 7 | 126-136 | 134-144 | 142-154 |
| 5 | 8 | 129-147 | 137-147 | 145-158 |
| 5 | 9 | 133-143 | 141-151 | 149-162 |
| 5 | 10 | 133-147 | 141-155 | 152-166 |
| 5 | 11 | 139-150 | 148-158 | 155-169 |

* This table is based on numerous Medico-Actuarial studies of hundreds of thousands of insured women.

Table C shows the relationship that exists between your age and time of death as they are affected by your weight, and gives the percentage increase in your mortality rate caused by overweight. It shows clearly that no matter what your age, your chances for longer life are greatly reduced if you are overweight.

**TABLE C**

**ACE AND MORTALITY AS RELATED TO EXCESS WEIGHT***

| | ***Overweight Men*** | | ***Overweight Women*** | |
|---|---|---|---|---|
| *Age* | *10-30%* | *More than 30%* | *10-30%* | *More than 30%* |
| 20 | 176% | 223% | 119% | 137% |
| 25 | 170 | 215 | 129 | 147 |
| 30 | 164 | 208 | 138 | 157 |
| 35 | 158 | 200 | 147 | 166 |
| 40 | 151 | 190 | 146 | 165 |
| 45 | 143 | 181 | 142 | 164 |
| 50 | 135 | 171 | 139 | 158 |
| 55 | 128 | 162 | 135 | 153 |
| 60 | 120 | 152 | 130 | 148 |

*Metropolitan Life Insurance Company Standard Risk Would Be Represented by 100% in Each Row and Column*

* Derived from statistics compiled by Dublin and Marks.

Tables D, E, F, and G show the number of years of gain you can achieve by maintaining normal weight. Figures for both men and women are given, and for people who are either markedly overweight or moderately overweight.

Study these tables carefully. Their evidence is unmistakable. Find the figures that fit your own age, frame, and weight condition. Check the normal situation as it applies to you. If you are not close to that ideal, begin now to do something about it. You have only good health and more years to gain, and nothing to lose.

**TABLE D**
**MEN**
***Markedly Overweight (Greater Than 30%)***

| *Age* | ***Estimated Age of Death if Overweight Is Maintained*** | ***Expected Age of Death with Normal Weight**** | ***Gains in Years of Life*** |
|---|---|---|---|
| 20 | 53.6 | 69.4 | 15.8 |
| 25 | 58.2 | 69.8 | 10.6 |
| 30 | 62.2 | 70.1 | 7.9 |
| 35 | 64.3 | 70.4 | 6.1 |
| 40 | 65.8 | 70.9 | 5.1 |
| 45 | 67.2 | 71.5 | 4.3 |
| 50 | 67.9 | 72.5 | 4.6 |
| 55 | 68.4 | 73.8 | 5.4 |

* Based on standard risk statistics of Metropolitan Life Insurance Company.

TABLE E
MEN
*Moderately Overweight (10 to 30%)*

| *Age* | *Estimated age of Death if Overweight Is Maintained* | *Expected Age of Death with Normal Weight** | *Gains in Years of Life* |
|---|---|---|---|
| 20 | 55.4 | 69.4 | 13.8 |
| 25 | 60.2 | 69.8 | 9.6 |
| 30 | 64.6 | 70.1 | 5.5 |
| 35 | 66.2 | 70.4 | 4.2 |
| 40 | 67.6 | 70.9 | 3.3 |
| 45 | 69.1 | 71.5 | 2.4 |
| 50 | 69.9 | 72.5 | 2.4 |
| 55 | 71.8 | 73.8 | 2.0 |

Based on standard risk statistics of Metropolitan Life Insurance Company.

## TABLE F

**WOMEN**

*Markedly Overweight (Greater Than 30%)*

| *Age* | *Estimated age of Death if Overweight Is Maintained* | ***Expected Age of Death with Normal Weight**** | ***Gains in Years of Life*** |
|---|---|---|---|
| 20 | 68.2 | 75.4 | *12* |
| 25 | 69.5 | 75.6 | 6.1 |
| 30 | 70.2 | 75.7 | 5.5 |
| 35 | 71.0 | 75.9 | 4.9 |
| 40 | 71.6 | 76.2 | 4.6 |
| 45 | 71.5 | 76.6 | 5.1 |
| 50 | 73.0 | 77.1 | 4.1 |
| 55 | 74.6 | 77.6 | 3.2 |

♦**Based on standard risk statistics of Metropolitan Life Insurance Company.**

## TABLE G

**WOMEN**

***Moderately Overweight (10 to 30%)***

| ***Age*** | ***Estimated age of Death if Overweight Is Maintained*** | ***Expected Age of Death with Normal Weight**** | ***Gains in Years of Life*** |
|---|---|---|---|
| 20 | 70.6 | 75.4 | 4.8 |
| 25 | 70.7 | 75.6 | 4.9 |
| 30 | 72.1 | 75.7 | 3.6 |
| 35 | 71.9 | 75.9 | 4.0 |
| 40 | 72.7 | 76.2 | 3.5 |
| 45 | 72.8 | 76.6 | 3.8 |
| 50 | 74.3 | 77.1 | 2.8 |
| 55 | 75.6 | 77.8 | *22* |

* Based on standard risk statistic* of Metropolitan Life Insurance Company.

Chapter 8

# WHAT ABOUT CIGARETTES- SHOULD YOU STOP SMOKING?

SMOKING IS THE BURNING QUESTION of the day. Everyone wants to know, for certain, the answer to this question: "What is the effect of smoking on my health?"

"To smoke or not to smoke" is a frequent topic of conversation of the more than 100 million American smokers. Until recently, the public has been as confused as the medical profession was in the past. Now overwhelming evidence on the harmful effects of excessive use of tobacco can no longer be disregarded.

In spite of all this evidence, however, the public is either uncertain or resistant. This is perfectly exemplified by my patient, Mr. R. He was suffering from "tobacco angina," an old term used to describe chest pains in coronary artery disease induced in his case by excessive cigarette smoking. "Dr. Morrison," he said, "I guess I should stop smoking, what with all the newspaper stories on the relationship of excessive cigarette smoking and cancer of the lungs. But I play golf with my family doctor, Dr. X, who is a chain smoker, and I notice my dividends from investments in tobacco stocks keep going up! Now, if cigarettes are harmful to health, why do so many doctors continue to smoke and why does the American public smoke more and more?"

***Smoking has been with us for a long time.*** The smoking habit is known to be deeply ingrained from the very dawn of man's history. Archeologists tell us of their finding evidence of smoking pipes among the South American Indians in Venezuela, 6,000 years before Christ.

The legendary origin of the birth of tobacco and the "tobacco habit" is even told charmingly in Greek mythology. Zeus was banqueting with his gods and goddesses on Mount Olympus. During the dancing after the banquet, Vulcan, the god of fire, forging and smelting, was urged to dance. He was ashamed to dance, however, because of his hunchback, and his fear of ridicule. In his nervousness and embarrassment he sought comfort by lighting his pipe with a burning coal and filled Olympus with a dense cloud of foul tobacco smoke.

Zeus was enraged at Vulcan's extremely bad behaviour. He cast a thunderbolt at the pipe, which smashed it and spread bits of the pipe and the tobacco all over the world. Rain then fertilized the seed and the tobacco plant grew luxuriantly forever after!

One of my patients, Mrs. A, tells me she is completely at a loss as to which doctors and statisticians to believe. So many seem to be in complete disagreement on the harm from smoking. I tell her that differences in opinion make medical meetings and horse races possible, and that virtually the same controversy raged over 350 years ago.

In 1604, King James I was anxious to improve the health and well-being of his loyal subjects. After careful medical advice from his court physicians he issued the following frightening but delightful proclamation on tobacco: "A Custom loathsome to the eye, hateful to the nose, harmful to the brain, *dangerous to the lungs* (italics—mine), and in the black stinking fumes thereof, nearest resembling the horrible Stygian smoke of the hell pit that is bottomless/' The king's apparent first-hand knowledge of hell-fire is a triumph of the imagination.

A little later, in 1689, the Medical School of Paris studied

and reported the effects of tobacco smoking upon health and its influence on the span of life. They concluded and maintained for long after that tobacco definitely shortens life, and that it causes colic, diarrhea, *"ulcerations of the lungs,"* asthma, coughs, "pains in the heart," undernourishment and impotence. Enough to frighten even the stoutest of Frenchmen! Yet despite the death penalty for tobacco smoking, imposed by many kings and rulers in the 16th and 17th centuries, smoking flourished. The reason, apparently, was and is that it is an ingrained part of man's very social life. It is something that must be conquered by intelligence and will-power. Otherwise it becomes a bio-chemical as well as social "addiction."

***What is the truth about smoking?*** Let us now examine the tobacco habit in the light of modern scientific knowledge, and group the advantages and disadvantages of smoking as, "good, bad, and indifferent."

## THE USE AND ABUSE OF TOBACCO

***The agreeable effects of smoking.*** Smoking tobacco is known from time immemorial to produce the following agreeable and enjoyable reactions:

1. Smoking is part of the social life from the days of primitive man. It introduces a note of friendliness, relaxation, and sociability. It often creates a subtle bond between strangers, or may help "cut the ice" in a hostile atmosphere. It has its origins in ancient rites and religious ceremonies and so is most welcome to both primitive and civilized man on social occasions. To extract every possible enjoyment and benefit from tobacco, man has smoked it, swallowed it, chewed it, drunk concoctions of it, gargled it, sniffed it up his nose, licked it during ceremonies, smoked it through the nose instead of the mouth, used enemas of it, applied poultices of it, and healed wounds with it. Man has even used tobacco to commit suicide and murder. Now hundreds of thousands, probably millions, of people the world over earn their "daily bread" thanks to tobacco.

2. Smoking "soothes" the nerves for many people, and will often help tide them over anxious periods of emotional crises.

3. Smoking often is used to relieve pain and shock, as seen after an accident, in war, or in disasters. It may act for many as a sedative and even permit the smoker to go to sleep after a smoke, which might have been impossible without one. Some of my patients who were addicted to smoking could not sleep through the night without getting up at least once during the night for a smoke. (More about this later.)

4. Smoking is known to cause a "cooler" sensation in the skin due to the temporary constriction or tightening up of the blood vessels in the skin of the body. This temporary "cooling" sensation is momentarily welcome in times of hot weather or when people are nervous, excited or generally "hot under the collar."

5. Smoking may, temporarily, give enjoyment by the action of nicotine, coal-tars, or other ingredients contained in tobacco, by the resultant rise in blood pressure, increase in heart action, release of adrenalin, and consequent increase in blood sugar. These latter physiological and pharmacological effects often cause a temporary feeling of lightness or light-headedness, mental clarity, and what appears to feel like increased physical and mental efficiency.

6. Smoking after meals has been considered one of the most enjoyable aspects of dining. For centuries, it has been regarded as an aid to digestion, and a fitting end to each meal. Even in 1599, Henry Buttes, in his "Dyets Dry Dinner Consisting of eight severall Corses" placed tobacco as the last course of the meal, because of its value in overcoming "sorrow, pain, and constipation."

7. Smoking often establishes a habit, which, like other habits, gives a certain sense of security and expectancy to many people who look forward to their "smoke." It may give a rhythm-like pattern to daily living, just like the rhythm involved in smoking a cigarette, cigar, or pipe; a kind of "ebb and flow" in the breathing process itself.

***The indifferent effects of smoking.*** Millions of people smoke tobacco merely as an incidental habit, which they adopt solely to be sociable in the business world. Like some of my patients who may be businessmen, salesmen, or in other walks of public life, they smoke to put their business associates, colleagues, clients or customers at ease. Some of my patients, following my caution, will merely light the cigarette necessary for social or business amenities, keep it burning, and simply hold it without smoking.

Similarly, the woman who smokes at a bridge game, or who smokes after meals to keep their husbands or friends "company," can "take" smoking or "leave it." These smokers usually do not smoke to excess and frequently avoid the toxic effects of tobacco smoking. It is very easy for them to stop smoking and when they have done so, they rarely miss it. As a rule, these individuals have strong will-power and are not "compulsive," as habitual smokers are apt to be.

***The effects of smoking on health.*** Tobacco is a poison. If you were to consume 2 or 3 cigarettes, the effect might easily prove fatal! This is because nicotine, one of the main ingredients of tobacco, is an old established toxin, or poison, affecting the brain, the heart, and other vital organs. The tobacco plant is directly related to the deadly nightshade family of plants.

The average cigarette weighs one gram and contains only from 1 to 2 per cent of nicotine—100 to 200 milligrams (thousandth of a gram). The lethal dose of nicotine required to kill a man usually is only from 60 to 120 mg! In smoking a cigarette the average amount of nicotine inhaled is generally about 2 milligrams. There are thousands of cases of suicides, accidental deaths, and murder recorded in the United States by the U.S. Department of Commerce, Bureau of Census, as a result of consuming nicotine preparations.

Some investigators have found that only a few drops of nicotine base kills wild animals, such as the lion or wolf, within a few seconds. Some animals, like sheep, can tolerate large

doses of tobacco. Fortunately, the body excretes or gets rid of nicotine rapidly, not allowing the average amount inhaled to accumulate, unless heavy or excessive smoking is indulged in. If the latter is permitted, then the clinical symptoms of nicotine poisoning often occur, even in the habitual, heavy smoker, who may have developed some tolerance to nicotine.

Even when the cigarette is not continually inhaled, there is still at least about 1/2 to 2/3 of the nicotine absorbed into the system through the lining of the mouth, the tongue, and the saliva.

Aside from the chief poison, nicotine, there are other well-known poisons present in tobacco: carbon monoxide (when tobacco is burned), arsenic, and coal tar substances are some. The latter contribute to the formation of cancer of the mouth, the esophagus (the gullet) and the respiratory tract, including the larynx, bronchial tubes, and the lungs.

Let us consider some of the actions of these poisons that may occur in man from excessive tobacco smoking.

***The effect of smoking on the heart.*** Like many other physicians, in my 25 years of practice I must have treated literally thousands of patients who at one time or other suffered from symptoms of some degree of tobacco poisoning. Some were dramatic, some resistant, some funny and some tragic.

Usually the toxic effects on the heart will be noticed by the patient from "skipped" heart beats or palpitations of the heart, nervousness, or a rapid heart rate often producing dizziness, shortness of breath, especially on exertion, headaches from rises in blood pressure, or pains and distress over the front portion of the chest.

As described in Chapter 3, I had the opportunity of studying the effects on the heart of various stimuli in a series of volunteers. I examined the effects of stomach distention on the heart through an apparatus I devised at the time, as published m the Journal of the A.M.A. One male patient of mine, in particular, was an instructor in our own medical school, and had

a mild case of coronary artery disease. This showed itself by chest pain after exertion or excitement. A habitual smoker, he had improved so greatly under treatment, which included his abstaining from tobacco, that he was now itching to get back to the "weed". In order to demonstrate to him the effects of smoking on his own heart, I asked him to resume smoking for one test period, a habit which I had asked him to stop, because of his angina. After smoking and delightedly inhaling two and one-half cigarettes he developed severe anginal pain over the chest, which reflected itself in striking abnormalities in his electrocardiogram, which I was running continuously during the smoking experiment. Fortunately, I abolished the anginal pain immediately by placing a tablet of nitroglycerine under his tongue. This relaxes and dilates the coronary arteries promptly, thereby stopping the pain.

This experience has been reduplicated in countless patients, since it is well known that tobacco will produce pain and embarassment of the heart when it is already damaged or weakened by some condition, particularly coronary atherosclerosis. Here additional constriction of the coronary arteries by tobacco smoking, in the already narrowed passageways of the coronary arteries, can lead to further damage to the heart. The term "tobacco angina" or "tobacco heart" was originally employed to describe these chest pains due to the toxic effects of tobacco on the heart.

Like many physicians, I advise my patients with heart conditions to refrain from smoking, even in moderation, because of the injurious effects of tobacco on their hearts.

The blood pressure is known to rise on an average of 38 points (the systolic, or higher one) in patients with normal but unstable, sensitive blood pressure. And in patients with high blood pressure, tobacco smoking in moderate to heavy amounts has a strong tendency to send the blood pressure even higher than the above mentioned 38 points.

***How smoking affects the blood vessels.*** For many years

scientists and physicians have studied the effects of smoking on the peripheral blood vessels, i.e., those particularly in the hands and legs. These studies were carried out by all kinds of ingenious instruments that measured the rate of blood flow, the temperature of the tissues around the blood vessels, the degree of narrowing and opening or constriction and dilation of the blood vessels—in all sizes and locations—as influenced by smoking.

As a result of these studies it is thoroughly established now that tobacco causes a marked interference with the circulation in the hands, the feet, and the legs. These findings, of course, though very important, are not new to the practising physician, who has seen numerous instances of disease of the blood vessels caused by excessive smoking, mainly through prolonged spasm and constriction of these peripheral blood vessels.

Nicotine is the most noxious substance that can effect the blood vessels in man. This is aptly demonstrated in certain diseases such as Buerger's disease (a condition of obliteration of the blood vessels, usually in the legs) which not infrequently require amputation due to gangrene. Still another disease associated with the excessive use of tobacco is Raynaud's Syndrome, a condition characterized by spasm of the small blood vessels in the hands, feet, nose, cheek, and ears. Patients with this disease suffer from blanching of the skin and local pain after exposure to cold, anxiety, fatigue, physical pressure, or shock. This condition may lead to other diseases of the blood vessels.

In the conditions of peripheral arteriosclerosis and atherosclerosis, especially of the legs, nicotine has been shown to aggravate and increase the constriction already present in the peripheral blood vessels of human subjects. Patients with this condition are far better off without tobacco.

***What smoking does to the digestive tract.*** Many people enjoy a good smoke after a meal. They get the impression therefore that smoking aids the digestion. A host of scientific studies

carried on over a generation, however, are unanimous in demonstrating that tobacco is an irritant to all parts of the digestive tract, and often influences pathological or diseased states in it.

In the mouth, one of the most dangerous reactions to smoking has been "smokers" or geographic tongue. In this condition, the tongue is marked up like a geography map and is very prone to cancer, which may spread from the tongue into the mouth.

Tobacco smoking to excess is well known to precipitate and reduce the amount of necessary salts and enzymes in the saliva and the mouth, discoloring and affecting the enamel of the teeth. Much work is thus given to dentists and their assistants who must spend countless "man-hours" in chopping and hacking, drilling, and polishing away the injurious effects of tobacco on the teeth.

Tobacco is often used to "kill hunger" or stay the appetite. By cutting the appetite down it can reduce weight. In those who have not developed a tolerance to tobacco, it will produce nausea and even vomiting (as witness many a boy's first attempt at smoking).

Some 20 years ago I studied the effect of tobacco and alcohol on the stomachs of two series of patients who were heavy smokers and alcoholics. These investigations were carried out through a gastroecope, which is a long, flexible tube that is passed through the mouth into the stomach. Through a series of 29 lights and prisms in the tube the interior of the stomach can be inspected. As published subsequently, my associates and 1 found that a "gastritis," or local inflammation of the stomach, is often produced by smoking, due to the absorption of nicotine into the saliva and secretions of the mouth. These drain into the stomach and act as local irritants, producing inflammation, catarrh, and interference with normal functions of the digestive juices and stomach movements.

Stomach ulcers, in particular, are aggravated by smoking, and it has always been my practice to forbid it in all patients suffering from active ulcers of the stomach.

***The relationship of tobacco smoking and cancer of the lung.*** The increase of cancer of the lung in recent years is phenomenal. Many scientists, physicians, and statisticians have presented evidence showing that tobacco smoking is closely associated with cancer of the lung (as well as in the larynx). This has touched off a controversy that has raged in medical meetings, medical, journals, and the public press.

Briefly stated, medical scientists and statisticians, such as those represented by the American Cancer Society, have shown the following striking figures on the death rate from cancer of the lung:

(a) Moderate cigarette smokers, from 10 to 15 cigarettes daily, have 5 *times* as many lung cancers as non-smokers.
(b) Heavy cigarette smokers, from 16 to 25 cigarettes daily, have *15 times* as many lung cancers as non-smokers.
(c) Excessively heavy cigarette smokers, from 25 to 50 cigarettes daily, have *25 times* as many lung cancers as non-smokers.

***Smoking is not necessarily the sole cause of lung cancer.*** The fact that a goodly number of deaths from cancer of the lung occur in non-smokers indicates that tobacco smoking is not necessarily the sole cause of lung cancer. Additional factors associated with cancer of the lung are: air pollution, engine exhaust fumes, road dust, and industrial toxins. These are also heavily suspect as contributing factors.

Prominent among factors involved in cancer of the lung are so-called "carcinogenic" substances (cancer-producing). These are linked to the coal tars released in the burning of the cigarette. Apparently about 50 per cent of the solid particles inhaled in the tobacco smoke are deposited in the bronchial tubes, and include nicotine, coal tars, and many other products. These act not only as irritants, producing the well known smoker's chronic cough, but are considered by many as the sole cause of cancer of the bronchial tubes and lungs.

Because of the alkaloids (poisons) and irritants in cigar and pipe tobaccos, the smoker does not ordinarily inhale them, in sharp contrast to the cigarette smoker. The result is a very marked reduction in the incidence of cancer from the smoking of pipes and cigars. As compared to the non-smoker, pipe and cigar smokers have, as a consequence, only a slightly increased susceptibility to cancer of the lungs. This slightly increased susceptibility among pipe and cigar smokers, however, becomes greater in the chronic, excessive, heavy smoker. Here we see an increase of occurrence of cancer of the lips, mouth, tongue, and gums. By excessive, heavy smokers is meant those who smoke from 10 to 15 or more cigars daily, or over 50 grams of pipe tobacco. (Remember that the average cigarette weighs about one gram.)

The attempt to reduce the nicotine or coal tar content of smoking tobaccos by means of filters, denicotinized cigarettes and the like, has not been very successful to date. The toxic effects of the smoking tobacco are still present, though reduced from 10 to 30 per cent.

The tobacco companies have launched powerful counter attacks and heavily subsidized campaigns of advertising to counteract evidence of the relationship of tobacco and cancer of the lung. The fight has largely devolved in a battle of statistics. If the reader will forgive the repetition, it has been pointed out by Mark Twain and Marilyn Monroe that "figures are often misleading."

I therefore would like to fall back on my own experiences with cancer of the lung and larynx, when I was assistant many years ago in the early days of my practice, to Dr. Chevalier Jackson and his son, at the famous Jackson Clinic in Philadelphia. Dr. Chevalier Jackson, one of the greatest doctors of contemporary times and now in his nineties, was virtually the discoverer and creator of an entirely new science called bronchoscopy. He developed and invented many new instruments or bronchoscopes (hollow metal tubes) that could be

passed into the lungs and enable doctors to remove foreign objects swallowed into the lungs. Thousands of swallowed coins, buttons, stones, glass, bones and what-not have been removed from the chest by the bronchoscope, thus saving the lives of countless grateful patients.

Among the other uses of the bronchoscope is its ability to inspect the interior of the bronchial tubes and lungs for cancer. After seeing hundreds of victims of cancer of the lung who passed through the clinic, I became utterly convinced, like Dr. Jackson and his son, that excessive tobacco smoking was an important cause in most cases of cancer of the lung. The clinical impression of this fact was so overwhelming that no amount of statistical calculations and mathematical figures could shake it. With very few exceptions, patient after patient who were victims of the disease gave the same monotonously tragic history of chronic tobacco habit. So, in conclusion, don't let your own conclusion be made by excessive tobacco!

***How can you stop smoking?*** Perhaps the best insight into "How to Stop Smoking" is Mark Twain's comment: "It's easy to stop smoking—I've done it hundreds of times"!

"Doctor," a harassed advertising executive patient of mine said desperately, "I've tried so hard for five years now to give up this awful smoking habit, which I know is so harmful to me, but I just can't seem to be able to. If I stop or even try to, I become so nervous that living with me is utterly impossible. I can't even live with myself. I can't sleep, I can't concentrate, I can't do my work properly, I tremble and go around like Shakespeare's young lover, *sighing like a furnace,' life doesn't seem worth living. I've tried everything I know or hear of—hypnosis, auto-suggestion, pipes, prayer, preparations on my tongue to make smoking taste bitter, "gimmicks" of all kinds—but I always come back to these—cigarettes. What *can* I do?"

Sigmund Freud, the founder of psychoanalysis, was trained originally as a pharmacologist, and was an inveterate, heavy cigar smoker. Undoubtedly, this habit contributed to his death

and great suffering from cancer of the mouth and throat. He recognized his addiction to cigar smoking and its toxic effects on his heart. Yet after stopping several times, he couldn't hold out any longer and found it impossible to work or concentrate without smoking. In a letter to a friend he describes this craving as follows: "I have started smoking again since I still missed it after 14 months' absence, and because I *must treat that mind of mine decently,* or the fellow *will not work for me."* (Italics mine.) And still later he wrote, "It was impossible for me to entirely stop smoking, because of my present burden of theoretical and practical worries."

Clearly these victims of my "lady nicotine" have become "addicts" of tobacco, and are addicted to it like so many other unfortunates who cannot live without opium, sedatives, or marihuana. The moment they stop tobacco they develop "withdrawal" symptoms that can be truly distressful and even agonizing. Luckily most smokers are not addicts enslaved by tobacco. They can break or modify the habit, so that it becomes harmless although still yielding enjoyment.

***// you must smoke, at least cut down on the number of cigarettes.*** Many patients who find they cannot or will not give up smoking are like Mr. D. He told me, "Doctor, you want me to give up smoking for my health's sake. You know, I have very few pleasures in life. I have to work hard to support my family, have no hobbies, and I must diet to reduce my heavy overpoundage. Couldn't I just 'cut down' from one and one-half packs of cigarettes each day, to say, five or six cigarettes with filter tips and 'ration' myself this way?" As a rule this is a fairly good solution, although not ideal for many, and it makes it easier for them later to stop smoking entirely, if necessary. This "step-by-step" method is also less likely to produce severe withdrawal symptoms in many people.

***Switch from cigarettes to pipe smoking.*** There are many ways to stop. One way to do it is to ease into it by the healthful and still satisfying way of switching to a pipe. This method of

gratification gives distinction to some (they look elegant with pipes), occupation to others (keeping the pipe going with matches), quality to others (connoisseurs and pipe collectors), fragrance to a few (some tobaccos are refreshingly aromatic), and a feeling of male superiority to still others (few women, smoke a pipe—"it's a man's job").

One of my patients, Mr. P., who was a chain smoker of cigarettes, solved his craving for tobacco by becoming a pipe smoker. He reduced his nicotine intake substantially (one-fifth) in this way. Since he no longer inhaled, which both cigar and pipe-smokers do not do, he found life and tobacco still enjoyable, without suffering from his heart symptoms caused by cigarette addiction. Pipe smoking hag been a welcome relief to many of my cigarette or cigar smoking patients, and its injurious effects have proved to be minimal as compared to those from cigarettes.

***Find a substitute—chewing gum, peppermints.*** Still another patient could stop smoking only if she kept something sweet in her mouth, like peppermints, candy or chewing gum. After the dentist protested, she changed over to non-sugar-containing candies and en joy ably substituted and triumphed over her tobacco habit.

I tell some of my patients, like Mr. R., that he must have a substitute in his mouth such as chewing gum, peppermints or Sen-Sen, so he smacks away merrily all day, feeling fresh, healthy, and with his mouth and jaws working. Mrs. J. finds she cuts down and maintains an even temper with her children and husband by a "rationing" program of one cigarette after each meal and one on retiring. She says she has something to look forward to all the time!

Another man "cured" himself of the tobacco habit by painting the tip of his tongue with a preparation containing silver nitrate. Smoking would cause such a bitter, disgusting taste that tobacco became repulsive to him and he stopped gratefully. This method is similar to that recently introduced to cure alcoholism by using

a medicine called antabuse. If alcohol is drunk by the alcoholic while taking antabuse, he becomes violently sick and thus develops an aversion to alcoholic liquors.

***An effective approach to the tobacco habit.*** An unusual middle-aged woman patient of mine, who was highly intelligent, educated, and raised in a very religious home (her father was a minister), combined both prayer and auto-suggestion to cure herself of the tobacco habit. It was imperative for her to do so, as she suffered from both a stomach ulcer and a heart condition. The Herculean struggle within herself to give up a fixed tobacco habit made her a nervous wreck and intolerable to live with. She refused to allow tobacco to "demonize" her life. She would set aside three daily "self-communion" periods of about 10 minutes each—on arising, on retiring, and at midday—when her children were still at school. During these periods she repeated to herself over and over again her affirmation of abstinence from smoking, her determination to abandon tobacco forever, and her prayers for guidance in overcoming the tobacco habit. The remarkable thing about her prompt tobacco cure in this way was her continuance for many years and up until now, (without thought of tobacco) of this program of self-enlightenment and self-communion. This has helped immeasurably in her health and in the philosophy and psychology of better and healthier living. Today she is a serene and healthy human being, loved and admired and a constant inspiration to her family and friends.

***For most, the best cure is the application of will power.*** To many patients who wish to stop smoking, Shakespeare's words are pertinent, practical, and simple: "If it were done when 'tis done, then 'twere well it were done quickly." In other words, will power directed by intelligence is still the best way for many people to stop smoking the moment they have decided to stop.

Every day in my office, for the past 25 years, at least a dozen patients ask me, "Doctor, how shall I stop smoking? I've tried so many methods before." I tell them: "Mr. Z., I want you to take up a new exercise that will make it possible." Mr. Z. asks expectantly and delightedly: "Why, Doctor, what is this new

system of exercise?" "Mr. Z., I want you to Exercise your Will Power! You've never used this kind of exercise before!"

Most of my patients, however, are like President Eisenhower. He told a news conference (as quoted in the *New York Times* for Tuesday, July 29,1957) "The only way I knew how to stop smoking (after the heart attack) was just to stop." In other words, it all boils down to *will power,* the cheapest commodity in the world and the easiest to use—if you only will do so! And the will to do so must come from a motive. The motive is your own health and well-being.

Now nicotine is a well-known poison, as is demonstrated to every medical student in his second year of schooling by personal testing in the laboratory. So every heavy smoker takes a little poison daily. It gives him a momentary pick-up and nervous tension release, but the subsequent reaction is a slow-down in mental or physical efficiency. Many of my patients suffer far-reaching effects on the blood vessels of their hearts and other vital parts of the body. I shall never forget the horrible feeling I had when I first attended a large series of clinic patients who suffered from Buerger's disease—a disorder of the arteries in the legs associated with heavy smoking.

Most of these unfortunate victims were amputees and had lost one or two legs from gangrene. In this chamber of horrors, one man stands out clearly in my memory. He had lost both legs and could not stop smoking; he was now about to lose his arm. But Mr. X. stoutly maintained he would rather die than give up smoking. He simply couldn't do it. And die he did! Of course, Buerger's (or smoker's) disease claims comparatively few victims. However, it is still a good, although extreme, example of what heavy smoking can do to your blood vessels.

Most of us, however, are not Mr. X., willing to sacrifice health or life for a fixed habit. We now know that heavy smoking, particularly inhaling, is injurious to the heart and blood vessels and the lungs. So why not change your habit to another safe and pleasant one—say, a pipe—or cut those cigarettes or cigars down to a few daily; or best of all, "be like Ike"—just stop!

Chapter 9

# HOW DOES ALCOHOL AFFECT YOUR HEALTH?

***What about alcohol? How does it affect your health}***

Alcohol is both a blessing and a curse, a poison and a food, a 'pick-me-up' and a 'lay-me-down', both an appetite stimulator and a destroyer; it is truly a mass of contradictions.

The very name whiskey originates from the ancient Gaelic word "usquebrugh"—water of life! Over 65 per cent of the United States population (more than 100 million Americans) drink alcoholic beverages. Of these, 76 per cent are men and 24 per cent are women. The occasional drinkers total 48 per cent; 27 per cent of men and 8 per cent of women are regular drinkers—that is, people who drink moderately or heavily at least three times a week. There are over 3 million heavy, constant drinkers, and over 750,000 alcoholics or addicts of "hard liquor".

Billions of dollars are spent each year on alcohol in the U.S.A. alone, more than is spent by Americans for their own health and medical care. All figures show the growing increase in the drinking habit as part of life and social custom in our country. Let us then take a scientific look at the 'uses and abuses' of alcohol, particularly where our health is concerned.

## THE "GOOD" EFFECTS OF ALCOHOL

***The influence of alcohol on the mind.*** The poet says, "What wonders does not wine! It discloses secrets, ratifies and confirms our hopes, thrusts the coward forth to battle, eases the anxious mind of its burden, instructs in arts. Whom has not a cheerful glass made eloquent. Whom not quite free and easy from pinching poverty."

***Alcohol not a stimulant but a depressant.*** The most important chemical effect of alcohol is on the brain and the nervous system. Although it is called by the public a "stimulant," it is actually a depressant that tends to lower inhibitions and results in impulsive behavior.

Alcoholic beverages have been advised in moderate amounts for many years by physicians to relax nervous or high-strung patients, to calm their anxieties, and generally to sedate them. Very often just the psychological idea of a glass of wine, beer, or whisky is enough to suggest or induce relaxation in many people, particularly at a social function. Alcohol is often used as an out-and-out sedative, narcotic, or analgesic to relieve pain or distress or fatigue. But in order to avoid toxic effects, the amount must be kept small to moderate.

The temporary release from the nervous and physical strains of daily living, which most people get by taking one or two drinks before dinner, is well-known to all. And as for that relaxant drink before bedtime—I prescribe it for many of my patients upon whom it acts as a helpful sedative.

***It can be useful as a "tonic,"*** Alcohol is used extensively in compounding prescriptions, particularly as a tincture. Not only is it an excellent solvent and preserving agent, but it stimulates the appetite through increasing the gastric juices, it relaxes the stomach muscles, and enables greater quantities of food and drink to be taken. In older patients, the prescriptions containing alcohol serve additionally as dilators of the blood vessels and seem to be helpful to the circulation.

Alcohol in small or moderate amounts is a mild stimulant to the kidneys, causing an increase in the output of urine. Alcohol also tends to increase the heart rate and the metabolic rate. As is universally known, alcohol is an excellent antiseptic, and exerts a cooling effect on the skin.

***Alcohol as a food.*** The caloric counts of the various alcoholic beverages are described in the chapter on calories and are self-explanatory. One can readily gain weight by indulging in those extra drinks daily. But these are "empty calories" being burned up or oxidized in the form of heat and are not developed into useful, healthy bodily tissue. Alcohol is sometimes given intravenously, especially following surgical operations, to supply a concentrated form of calories and energy.

***The effect of alcohol on the circulation.*** Alcohol has been used extensively as a vasodilating agent—that is, one that "opens up" and increases the flow of circulation by widening the peripheral blood vessels on the body surfaces and extremities such as in the face, the hands, the legs and the feet. Through this vasodilation the rise in skin temperature after two ounces of whiskey is as great as 9° to 12° Fahrenheit. The florid face of the drinker, the red nose of the tippler, and the traditional method of "warming up" with a "few good ones under the belt" are well-known to all of us.

New drugs have been introduced for vasodilatation in the treatment of arteriosclerosis and atherosclerosis of the legs and feet and Buerger's disease, and I have prescribed many of them. These diseases often give rise in many individuals to severe pain or crippling effects (even gangrene) of the legs and feet, particularly if complicated by other illnesses such as diabetes or simply by advancing years.

In my experience, none of these new drugs has matched the physiological effects on the peripheral circulation that alcohol gives. I have seen and helpfully treated with alcohol many sufferers from arteriosclerosis of the legs who were unable to walk and at times faced gangrene and amputation of the toes

or feet. However, to be effective the alcohol must be given judiciously at frequent intervals, in the correct amounts and in combination with other vitamin and dietary supplements. This must be done in a manner best judged only by the physician, because of the frequently delicate balance in which the peripheral circulation is maintained. This varies from person to person. The factor of alcoholic addiction must be constantly kept in mind by physician, patient, and family. The needs of each individual case should be determined by the doctor and judged accordingly.

***Alcohol can be used to improve circulation**** Like many other doctors, I have found the use of alcohol in moderation to be an excellent means of improving the circulation. One patient of mine, Mr. J., is a 48-year-old successful advertising executive who is subject to an unusual amount of tension and harassment in his business. Mr. J. was getting severe attacks of angina (chest pain from poor circulation in the coronary arteries) every time he had lunch and supper. It was apparent that he had to eat in order to live, and yet he was afraid to eat for fear of dying-the anginal pain was so severe.

After a loss of over 30 lbs. and a problem of underweight, 1 urged Mr. J. to take one brandy or whiskey before each meal and to have 2 glasses of wine at lunch and supper. This man had always been a teetotaler; he had a particular aversion to alcohol due to a childhood broken home caused by a drunken father. After much personal persuasion and great trepidations, Mr. J. tried the new "treatment."

Miraculously, the pain disappeared. Normal weight was restored and a great change took place in Mr. J.'s personality. Clearly the alcohol had become an effective "tranquillizer." He was now much at ease, ate his food in a relaxed manner and enjoyed it, and the anginal pain had disappeared. This clearly showed how nervous tension blocks normal digestion and thus places a severe strain on the heart.

One of my earliest series of experiments to demonstrate this

occurred some 20 years ago. I called for a group of volunteers among my heart patients. Five of them volunteered for the experiment—two men and three women of courage and with interest in medical science. After two years of constant experimentation, I devised a series of balloons that could be swallowed and blown up in the stomach. At the same time, I constructed the balloons (made from ordinary toy balloons) so that I could measure and control the pressure in the stomach and record the movements of the stomach walls. In addition, I arranged matters so that I could simultaneously record the heart action by electrocardiograms.

For the first time it was possible to simulate indigestion and examine its effects on the heart. To my great surprise, I was able to measure all kinds of bad effects on the heart from distention in the stomach, a very common daily occurrence with many individuals. But to my consternation, in one of my volunteers, the effects on the heart distention were so dramatic that the heart suddenly stopped beating, and the patient fainted —as I almost did! We revived him quickly by releasing the "gas pressure" in the stomach, and of course the heart immediately resumed its normal beating.

What a dramatic way to show how acute indigestion can and does kill a person! Fortunately, when the American Medical Association published the results of my research in its Journal, it stimulated further research in this field, such as that which showed how gallbladder conditions will also provoke heart symptoms and heart attacks. But even after reviving my courageous volunteer patient, a reviving drink of brandy did much to relax and improve his circulation—and mine too!

***Moderation is the key.*** Now all this does not mean that I advocate "tippling" or addiction to alcohol. Alcohol should always be taken with discretion and in moderation. In most cases, "the man who is a drinker before 40 is either sick or a fool." And the man who doesn't take a drink after 40 may become either sick or foolish!

There were many pathologists who believed that alcohol acted as a "solvent" in the arteries against cholesterol and the fatty deposits that make for arteriosclerosis and atherosclerosis. But to get the proper amount of alcohol in the blood stream to induce this ideal state would require a continuous alcohol bath in the arteries, or a "pickling" process, that not only would dissolve the cholesterol in the arteries, but would surely dissolve the liver first. This we see in the unfortunate victims of cirrhosis of the liver associated with alcoholism! So with alcohol, as with so many other things, follow the ancient Greek advice: "All things in moderation!"

***Does alcohol in any way benefit the coronary arteries?*** Finally, we come to the possible benefits of alcohol on the coronary arteries. It was formerly thought that alcohol was beneficial in dilating the coronary arteries and that all patients with heart disease should drink alcohol regularly.

Many patients found from experience that they had less heart pain, as from angina, if they took alcohol before and during meals and in between, as often as feasible. Repeated and recent research has found that these results (from drinking moderate amounts of alcoholic beverages) in relieving chest pains due to heart conditions such as coronary artery disease, are *not* due to any improvement or dilation in the coronary circulation of the heart.

The relief and improvement in pain was found to be due to two things: 1) the analgesic or "narcotic" pain-alleviating effect of alcohol which raises the threshold at which pain is felt, and 2) the ability of alcohol to allay worry and anxiety and induce psychic as well as physical relaxation. This also tends to raise the threshold of pain tolerance.

The analgesic quality of alcohol has an element of risk involved. Some heart patients may overexert or strain their hearts while under the influence of the alcohol, since it may have removed Nature's warning signal—pain!

One of my patients, Mr. N., when he first consulted me regard-

ing his anginal pains following his coronary attack, insisted that a few highballs before his lunch and his supper diminished the number and severity of his attacks of angina. His wife, who accompanied him to my office, turned to me and said, "But Doctor, I keep telling Jim that ever since he started taking these highballs, he falls asleep after his meals, and is quite groggy even when he awakens from his *naps\ And since he loves to smoke his pipe right after meals, he has already set himself on fire several times when falling asleep! I really think he gets *'drugged** after his highballs. Don't you?"

Mrs. N. puts her finger precisely on the diagnostic spot. Mr. N., it was true, felt less pain after his drinks. But in Mrs. N.'s words, it was an abnormal or 'drugged' kind of relief. It came as a result of the narcotic action of alcohol in deadening his pain, and stupefying his senses. It actually did nothing in any way to improve or relieve the strain on his heart.

***Alcohol can relax tension in heart cases.*** On the whole, however, I find that alcohol, when used wisely, is helpful to most heart cases and is an excellent way to relax the tension that many heart patients consciously or unconsciously experience.

## THE INJURIOUS EFFECTS OF ALCOHOL

Now, having considered the beneficial effects of alcohol, we come to the injurious ones.

I shall mention here only in passing the well known blights of the excessive use of alcohol on the home, the individual, and society. Volumes have been written on the devastating effects of alcoholic excess on crime, suicide, divorce, general misery in the home and to the individual, venereal disease, juvenile delinquency, traffic accidents, economic and industrial losses. Here we are concerned only with alcohol as it affects your health.

The effects of alcohol have been so profound that it is startling to consider that the United States of America exists today probably as a result of alcoholic excess! In the words of the "father

of our country," the British were defeated on Xmas eve, after the epochal crossing of the Delaware, because "Cornwallis* men had drunk not wisely, but too well!" What would have happened to the cause of world democracy and freedom if Washington's tattered, frozen, and decimated men had faced a sober and efficient fighting army instead of a band of drunken soldiers!

Let us now consider briefly some of the main systems of the body and the effects of alcoholic damage upon them.

***Alcohol can be harmful to the emotions and the mind.*** Since we began this discussion with the beneficial effects of alcohol on the psychic and mental processes, let us now see what the pharmacologists like Sollman find in their texts on the subject.

> The habitual, even moderate, use of alcohol (not even to the point of intoxication) induces relaxation, the easing of strain (tension), of maladjustments, of excessive inhibitions, indeed euphoria, all of which may be beneficial. But it also leads to diminished efficiency, especially in accuracy, impaired judgment, increased liability to auto accidents, loss of self-reliance, perhaps diminished resistance to disease, danger of excesses, higher incidence of venereal disease and general disrespect for law and order.

In answer to the popular notion that alcohol is a "stimulant," the principle that alcohol is actually a depressant was first advanced in 1883 by the noted German pharmacologist, Schmeideberg. The following quotation is from the American translation by Doctors R. N. Harger, H. R. Hulpieu and G. N. Thompson:

> The subjective and objective states and manifestations, from which alcoholic drinks are considered stimulants, are usually attributed to the stimulating effect of the alcohol. One refers to the manifestations which we observe under these conditions, namely to certain exaltations of the psychic functions resulting in loud and profuse speech, and vivacious acts, also to accelerated pulse rate, engorgement and flushing of the body surface and the face, and a sensation of

> increased warmth. However, a closer consideration of these manifestations shows that they are *the results of a beginning paralysis of certain parts of the brain,* (italics mine)!

Since this finding was first expressed in 1883, the idea that alcohol acts as a stimulant to the nervous system has been disproved in a host of pharmacological laboratories by countless scientists. To continue:

> In the psychic sphere there is first lost the finer grades of attention, judgment, reflection, and ability to comprehend. This serves to explain the typical behaviour of persons under the influence of alcoholic drinks. The soldier becomes more courageous since he observes the danger less, and reflects upon it less. The speaker is not tormented and influenced by the proximity of the public; he, therefore, speaks freer and with more animation. One's self-appraisal rises greatly. Often one is astounded at the ease with which he expresses his thoughts and with the keeness of his judgment in matters which are beyond his mental sphere when sober, and is later ashamed of this delusion. The drunken individual attributes to himself great muscular strength and wastes this through unaccustomed and useless exhibits of strength without thinking of the harm which may ensue, while the sober person willingly spares his strength.

This conclusion is now verified and accepted by all present-day pharmaceutical experts in the field of medicine and drugs. Even the public is thoroughly versed in the excessive effects of alcohol in causing poor or double vision, the unsteady, clumsy gait, the impairment of muscular coordination, the delayed reaction time, and the loss of normal judgment and self-control.

***The effects of alcoholic excess.*** **It** is remarkable that the source of relief with which man most frequently seeks to relieve his nervous tension, with which to relax, should be so free from poisonous or toxic effects when used in moderation. The fatal dose of alcohol is often very difficult to determine because of the wide variability of its action and its tolerance. In those cases where death has occurred from acute alcoholism, it usually is impossible to get the exact information from the companions

of the departed one, since they have been too befuddled to give an intelligible account of the events preceding death, including the amounts of liquors drunk.

As a rule, however, to those unaccustomed to alcohol, approximately 2 to 3 ounces of alcohol will result in acute symptoms of alcoholism and three times this quantity usually produces stupor in the average 150 lb. man! A fatal dose of alcohol ranges from 1 pint to 1 quart of whiskey, or 8 to 16 ounces of pure alcohol. Children seem to have a particular susceptibility to acute alcoholic poisoning due to their smaller body weight and low tolerance. Most cases of fatal alcoholic poisoning will show blood alcohol levels between 0.3 per cent and 0.5 per cent; that is, only a fraction of 1 per cent! The intoxicating blood level of alcohol, as generally used in drunk-driving tests, is generally 0.1 per cent or *only one-tenth of one per cent!*

Medical journals are filled with reports of silly wagers by would-be heroes anxious to show their virility and drinking prowess. Their post-mortem studies, after the coma, show that death is usually due to paralysis of the respiratory center, even though the heart may continue to beat for a while after breathing ceases. In these cases the brain, when opened, usually has the faint odor of alcohol, is swollen and often bulges over the edges of the opened skull.

***Chronic alcoholism.*** **I** shall not attempt to discuss the social and economic evils of this disease; it is universally condemned, while being universally talked about. But unlike the weather, something *is* being done about it.

*A. The brain:* The changes in this organ are often those related to vitamin B and C deficiencies. Hemorrhages frequently are found throughout the cerebral tissue in chronic alcoholism. The brain is particularly susceptible to injuries, such as a blow on the head. Rupture of the blood vessels with subsequent death is a frequent close to an alcoholic bout where the victim has been lodged in the "drunk tank" overnight at the local jail, and

has either fallen on his head or sustained a knock on his "noggin."

*B. Wernicke's disease.* Back in 1881, Dr. C. Wernicke in Ger many first described three alcoholic patients with paralysis of the eye muscles, uncoordinated walk, clouding of the conscious ness and finally, coma. Such cases are caused by a destruction of certain brain tissue and are common. I have had this kind of patient during my ward service in Philadelphia and Los Angeles County General Hospitals.

*C. Marchiafava-Bignani's disease.* This is a rather unusual disorder, occurring only in those who drink the common Italian red wine without proper food intake and is seen especially in Italy. Destruction of the brain tissue here is also characteristic, the patient usually being excited, confused, and finally psychotic.

*D. Delirium Tremens.* This interesting condition was first described in 1813 by Sir Thomas Sutton and is associated with a "wet brain." An alcoholic complication that is very frequent, it is characterized by confusion, anxiety or terror, auditory and visual hallucinations, and delusions.

Some patients I have seen and treated for this disorder are obsessed with snakes, others with animals, and still others with people following, watching, or persecuting them. Violent tremors and shaking frequently join with delirious episodes in this devastating form of alcoholic disease.

I shall never forget an experience during my internship days with an alcoholic suffering from delirium tremens. He was in terror of the usual "pink elephant," animals, and insects crawl- ing all around him, the walls of his room, and on his own body. This unfortunate man had lost his business and his wife and children. They had to leave him because of his abnormal be- haviour and his chronic alcoholism. He had become psychotic, shook like a leaf, and now had severe hallucinations.

When my "chief (the attending physican) and I entered his room at the hospital together with the floor nurse, the patient was lying quietly in bed. He looked up at us and let out a blood-

curdling scream. He leaped out of bed, seized the necktie around his physician's neck and tried to yank it off, strangling the doctor in the process and letting out a salvo of piercing shrieks strong enough to awaken the dead. After we had wrestled him free and sedated him, it came out that he had imagined the doctor's necktie to be a snake. He had only attempted to yank it free and had heroically tried to save the doctor's life! The realism of these hallucinations to the patient with D.T.'s is pathetic, and their terror and suffering tragic to see.

*E. Polyneuritis.* This most frequent complication of chronic alcoholism is caused specifically by changes or destruction, in the peripheral nerves of the body due to lack of vitamin B. The feet are usually numb, tender, or painful and frequently para lyzed so that walking may become impossible. This is called "foot drop," and is often associated with other complications of chronic alcoholism.

*F. Korsakoffs Psychosis.* This disease is also believed to result from a vitamin deficiency and is a most curious one. The patient is highly suggestible to any idea and is completely with out any judgment regarding its credibility. He tells incredible stories that outdo Baron Munchausen; he can imagine the tallest of tall tales.

One case of this bizarre condition that stands out in my memory is that of a waiter whom I took care of some 25 years ago. He had been a chronic alcoholic for many years and was installed in the psychiatric ward for observation and commitment.

One day, during my ward rounds, he informed me that he had just learned I was leaving for London, on a fellowship in medicine and wished me good luck. Then to my surprise he discussed and advised me in the greatest detail imaginable about many of the hotels in London and their advantages and disadvantages for an American. He knew with the knowledge of a connoisseur the virtues of certain restaurants and pubs, transportation facilities, entertainment spots. He reminisced fondly over many enjoyable hours and delightful memories of his life in

London. And yet his family assured me with utter finality that he had never left the United States, and was never seen to read a book!

In the case of this psychotic patient, it was his extraordinary imagination that gave to his stories the ring of conviction and truth. I finally discovered that this patient had worked for years with a bartender at a restaurant. During slow periods many an hour was passed drinking with this bartender, a "Cockney" who regaled my patient with endless reminiscences of his life and experiences in London. But the patient, who was exceedingly suggestible (like many normal individuals under hypnosis), believed completely that he himself had lived through these past experiences of another person.

***What does alcohol do to the liver?*** Cirrhosis of the liver is a sequel to chronic alcoholism. It is basically a nutritional disease, brought on by inadequate and improper diet coupled with excessive alcoholic intake. In this disease, the liver is usually swollen and enlarged at first, but later it becomes small, shrunken, and atrophied. It is accompanied by a series of signs and symptoms that are characteristic. These range from nervousness, fatigue, dyspepsia, vomiting and passage of blood, chest and abdominal pains and swelling, to jaundice, coma, and death.

Some years ago I introduced a program of treatment for this condition based on a high protein diet, nutritional and vitamin supplements, and certain injections of liver and vitamins. I reported in various medical journals the results of this temporarily effective treatment for over 100 cases with this disease, and it was used extensively by physicians in the country and abroad.

Psychiatric care did not help in 95 per cent of the cases I have described. However, Alcoholics Anonymous was a tremendous help in at least half of them, a striking demonstration of the value of group psychotherapy and a blessing to countless unfortunate victims.

Moderation in drinking alcohol is a term with very wide latitude. Some people have only to take the proverbial whiff from the cork of a whiskey bottle, and they already feel 'giddy.' Others seem to have the 'hollow wooden leg,' and feel no effects from alcohol unless they have had 5 or 10 times the amount required by the average person to feel their drink. Usually, an average of one or two highballs or cocktails, or glasses of wine or beer, once or twice a day is regarded as drinking in moderation. The main thing to remember is that drinking is not to be indulged in to the point of excess, where intoxication occurs, or where the critical judgment, the physical or mental faculties are in the least way impaired or interfered with.

***What are the conclusions for you?*** What are the conclusions to be gained from all the descriptions of these "medical chambers of horrors"? Simply that drinking alcoholic beverages *in moderation* is a great help to relax you, to put you at ease from your cares and worries; and in general it is good for your circulation. If you find that you cannot stop at "moderation," then before it's too late *don*t touch it again!* And if it is too late for that, then see your doctor for further help, and join Alcoholics Anonymous!

Chapter 10

# HOW TO CARE FOR YOURSELF AFTER A HEART ATTACK

NOT LONG AGO, DAVID S., NOW A PA-tient of mine, was rushed to the hospital after he had collapsed during a meeting of his newspaper's editorial board. He had had a heart attack.

The people who work with Dave, and those who knew him well, were astonished and a little frightened.

"He's younger than I am," said the publisher apprehensively. "And a real dynamo. Best city editor I ever had. I didn't know he had heart trouble."

Dave didn't know it either.

There were some premonitory signs of trouble, it is true. But Dave ignored them or dismissed them lightly. That morning, for instance, he had come to the office a little earlier than usual to make sure his paper didn't miss any newsworthy angles in the running story of a big forest fire that was raging not far from his city. The telephones were ringing constantly; there were instant decisions to be made in covering the day's fast-breaking news; there were several appointments with important people—a luncheon engagement with the chief of police, and an afternoon editorial meeting.

Dave was only 41. He had climbed fast in his profession

because, as his publisher said, he was a dynamo. He felt that he had to keep the flow of news moving like a Niagara of copy into the presses.

During the past week he had not been feeling as well as usual. He felt a little tired, and had to keep himself going by sheer force of will. It was just that he needed a little vacation, he told himself. He was a little too tense, that was all. That's why he "bounced back" when he got a chance to relax a bit over the weekend.

Dave was late getting back to the office after his luncheon with the chief of police. The official had been detained, and that had thrown Dave's schedule off completely. So he ate rapidly and discussed his business with the chief as he forced down his food. He was not very hungry, but he ate a hearty meal on the theory that he needed the energy to keep going.

By the time he got back to the office, Dave was a little short of breath and somewhat dizzy. Also, he was annoyed by a pain in his chest that occasionally ran down into his left arm and hand. He barely had time to see the fourth edition out before hurrying into the editorial meeting.

In the meeting he relaxed a little in his chair and felt somewhat better until the national advertising manager made him angry by charging that the paper was losing revenue because the editorial department would not support advertisers with local newstories.

At that point, Dave jumped up and began a heated oration on the responsibilities of the press. And just as his remarks had reached fever pitch, Dave suddenly felt a sharp, pressing pain deep inside his chest, under his breastbone. Beads of perspiration broke out on his forehead. He felt nauseated and very weak. His voice faltered and he collapsed to the floor.

In his quiet room at the hospital, after the administration of oxygen had made his breathing easier, and an injection of medicine had relieved the pain in his chest, Dave began to realize what had happened. As a reporter he had once been as-

signed to the city's receiving hospital, and he recognized his own symptoms. He had suffered a heart attack.

But what was going to happen now? Patients who had not died at the hospital or who had not been dead upon arrival, were always sent to other hospitals and he never had had occasion to follow up the story to see what happened afterward. Was he going to die? Or would he be an invalid the rest of his life, a burden to his family and an object of pity to his friends and colleagues?

A generation ago Dave's doctor probably would have given him only slight encouragement. For when coronary thrombosis first began to be accurately diagnosed in the mid-twenties, medical authorities regarded a three-year survival period as the best of good fortune. Today the average survival span, which includes the extremely bad cases as well as the good, may be about 10 years.

So when I later discussed Dave's own case with him, I could cite from my own medical experience cases of patients who are in good health as much as 30 years after the attack.

## HOW AND WHY THE HEART HEALS ITSELF

To understand the real basis for hope, following a heart at« tack, let us look briefly at that vital organ that for centuries has been referred to in our common language as the source of feeling (as in such expressions as "heartbreak," "affairs of the heart," "heartless," and so on).

As you can see from the accompanying diagrams (see Figs. 3 and 4) the heart is a large muscle (about the size of your fist), which is divided into four chambers. The two smaller chambers at the top of the heart are called the auricles; the two larger ones at the bottom, ventricles.

The auricles receive that impure blood that is being returned to the heart through the veins. This blood, because its supply of oxygen is almost exhausted, appears blue. The larger cham-

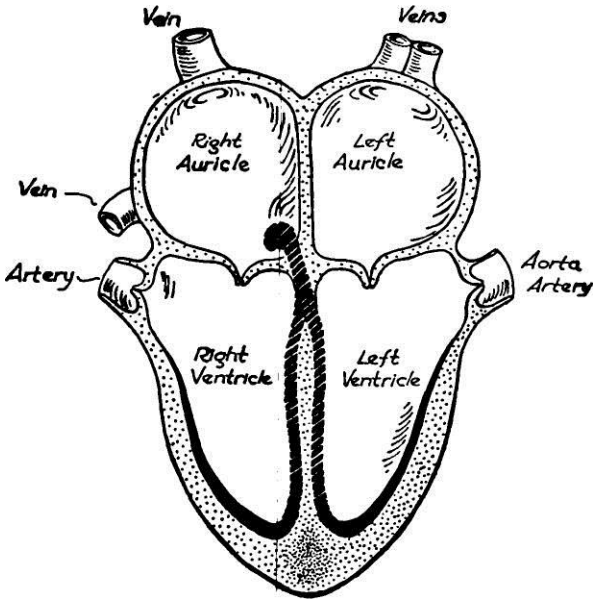



**Fig. 3. Heart (interior view).**

*In this diagram of the inside of the heart, four chambers are shown. The two upper small ones (auricles) receive the venous blood from the body. The right auricle pumps the blood through a valve into the right ventricle whence the blood is pumped into the lungs to be refreshed with oxygen. From there it flows back into the left ventricle. From the left ventricle, the fresh blood is pumped through the aorta and its arterial branches into all parts of the body.*

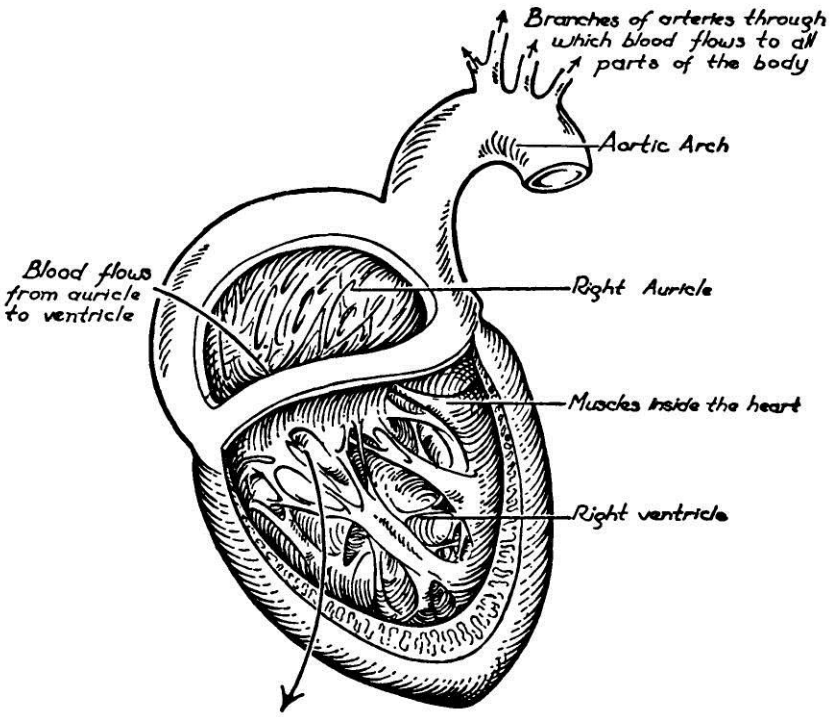



**Fig. 4. Right Side of the Heart.**

*This diagram shows the interior of the right side of the heart. Venous blood flows from the right auricle into the right ventricle. The Aortic Arch is the bend of the Aortic Artery through which the heart then pumps the fresh blood to all parts of the body.*

bers, or ventricles, pump the fresh blood, after it has been oxygenated by the lungs, out through the arteries again, to nourish every part of the body.

The heart muscle itself, of course, has to receive nourishment. This is accomplished by means of a pair of blood vessels, called coronary arteries, that in diameter are about the size of soda straws. They encircle the heart, supplying it with the blood it needs to keep it functioning. When the inner lining (called the intima) of these arteries is filled with fatty deposits, they may become blocked, cutting off the heart's own blood supply, and "starving" a section of that vital organ.

When this occurs, the muscle can no longer function in the affected area. Depending on the size and the location of the area involved, the result is that the heart is either crippled, until healing occurs and a scar forms, or it stops beating altogether and death ensues.

When a patient survives a heart attack, as Dave did, the healing or repair of the damaged portion is as dramatic as any biological process known to science. This is the way it works:

Nature rushes defensive forces to the scene. Undamaged arteries now grow buds into the tissues where famine exists. Thus a new network of blood vessels gradually spreads through the disaster area, creating what physicians call "collateral circulation." In this way, the heart "detours" around the road blocks that have clogged the coronary artery. The normal "traffic" of blood flow may thus continue, and the heart can go on pumping. The patient survives, and a scar of healing grows across the portion of the heart muscle that was damaged.

Treatment following a heart attack will vary according to the nature of the case. Sometimes anti-coagulant medicines are used to prevent further blood clotting. These are used only under the supervision of the doctor, and after a time are usually discontinued altogether. The diet thereafter must be watched closely, however. In my own practice, as I pointed out in another chapter, coronary patients who followed the strict diet I devised

and prescribed for them lived twice as long as those who did not adhere to such a low-fat, low-cholesterol diet.

During the critical two-week period immediately following the attack, if there are no complications, the patient is often allowed to sit up in a chair. Usually another one to three weeks of absolute rest is required before limited physical activities are allowed. This restriction avoids serious complications that might develop if any strain is placed upon the heart while it is healing.

The electrocardiograph, a machine that records the electric pulsations made by the heart when it beats, is used in all hospitals to follow the patient's progress after he has survived a coronary occlusion (heart attack). By studying the tracings made by the up-and-down motion of the recording needle-pen, the physician can determine exactly which portion of the heart is damaged, and how it is responding to treatment.

After the initial rest-period stage of recovery, the doctor offers the patient guidance that, in its details, will differ according to individual needs. In general, however, the following rules of health and manner of living are followed by most physicians and patients:

*Weight'*. Control of weight is a vital factor, as shown in Chapter 7.

*Diets* Diet is also crucial, both to recovery and in adding years to the remaining lifespan after an attack. (See Chapter 6).

We present the following dietary principles for those individuals who, because of high blood pressure, a heart condition, or some other cause, are required by their doctors to follow a low-fat, low-salt (sodium) diet:

### THE LOW-SALT, LOW-FAT DIET

***General instructions for following a low-salt diet.*** You should eat only foods low in sodium content. Use no table salt (sodium chloride) in food preparation or at the table. Neocurtasal, Diasal, Lacasal, Co-Salt (sodium free substitutes) may

be used to season foods while cooking or at the table. Do not use bicarbonate of soda (baking soda) either in cooking or as an antacid. Use distilled water.

## Foods to Avoid

| | |
|---|---|
| **MEAT** | Processed meats, such as salted, smoked, canned, spiced and pickled meats. Bacon, Ham, Sausages, Bologna, Frankfurters, Liverwurst, Salami. |
| FISH | Shell fish, Clams, Oysters, Lobsters, Shrimp, Processed fish. |
| EGGS | Yolks |
| VEGETABLES | Canned vegetables (unless specially packed without salt), Beets, Celery, Endive, Kale, Spinach, Sauerkraut. |
| SOUPS | Broths, Meat soups |
| BREAD | Regular commercial bread and rolls, Crackers salted |
| CEREAL PRODUCTS | Most commercially prepared cereals. |
| DAIRY PRODUCTS | All hard cheeses, all salted cheeses. **Com-**mercial ice cream, Salted butter. |
| FRUITS | Olives, Raisins |
| DESSERTS | |
| BEVERAGES | |
| SWEETENERS | |
| SEASONERS | Salt (sodium chloride), Catsup, Mayonnaise, Pickles, Relish, Salted meat gravy, salted meat sauce. No seasoned or preserved foods. |

## Foods Permitted

| | |
|---|---|
| MEATS *(Only fresh or frozen meat, fish or poultry. Not more than 3 or 4 oz. daily)** | Beef, Lamb (except brain and kidneys), Pork, Veal. |
| FISH | Fish (except shellfish) |
| EGGS | Eggwhites only |
| VEGETABLES *(Fresh only, not canned. since these are usually salted)* | Artichoke, Cucumbers, Pumpkin, Asparagus, Eggplant, Radishes, Beans, Escarole, Rhubarb, Broccoli, Kidney Beans, Soybeans, Brussels Sprouts, Leeks, Squash, Cabbage, Lentils, Sweet Potatoes, Cauliflower, Onion, Tomatoes, Chard, Parsnips, Turnips, Corn, Peas, Watercress. |
| SOUPS | Cream soups (low-fat types). |
| BREAD | Specially prepared salt-free bread or rolls. |

## Foods Permitted (Cont.)

| | |
|---|---|
| CEREAL PRODUCTS ..... | Barley, Cream of Wheat, Farina, Rice (plain or puffed), Hominy, Macaroni, Rye, Wheat (plain or puffed). |
| DAIRY PRODUCTS ..... | Cottage cheese (1 oz.), Ice Cream (fat free without salt). |
| FRUITS AND NUTS ..... *(Fresh, cooked or canned, unless salt sodium benzoate has been added)* | Almonds, Chestnuts, Limes, Apples, Coconuts, Oranges, Apricots, Cranberries, Peaches, Currants, Peanuts, Dates, Pears, Avocados, Figs (fresh), Pineapples, Bananas, Plums, Blueberries, Gooseberries, Prunes, Cantaloupes, Grapefruit, Raspberries, Cherries, Hazel Nuts, Strawberries (fresh canned), Huckleberries, Tomatoes, Lemons, Watermelon. |
| DESSERTS ..... | Fruits, fresh or cooked—see preceding—Gelatin desserts. Puddings, Rice, Tapioca, Cornstarch, etc., Ice Cream (fat free low salt). |
| BEVERAGES ..... | Apple juice, Orange juice, Cocoa, Pineapple juice, Coffee, Postum, Gingerale, Prune juice, Grapefruit juice, Tea, Grape juice, Wine, Lemonade, Milk (3 cups cow's milk whole). |
| SWEETENERS ..... | Jam, Jelly, Honey, Maple Syrup, Molasses, Marmalade, Sugar |

• The recommended amounts of meat, fish, poultry and white of eggs should not be exceeded, because the sodium content of these foods is not sufficiently low to permit their unlimited use.

## One Week of

## Sample Menus for a Low-Salt Diet

*Please note: all vegetables are either fresh or dietetic salt free.... no fat added. Salt-free bread or toast is used ... salt-free crackers------Distilled water used in cooking.... Skim milk or low sodium milk may be used wherever needed.... Jello or fruit may be taken between meals ....*

| *Breakfast* | *Noon* | *Night* |
|---|---|---|
| Orange Juice | Salt-free con some | Broiled lamb chop |
| Wheatena (no salt) | Salt-free roast (beef or pork) | Baked potato |
| Salt-free toast | Salt-free roast potato | Fresh spinach with lemon |
| Jam, marmalade or honey | Salt-free asparagus | Potato salad with dietetic dressing |
| Coffee, skim milk | Tossed green salad with dietetic dressing | Sherbet |
| | Junket | Salt-free bread |
| | Salt-free bread, jelly | Jelly |
| | Tea or coffee (made with distilled water) | Tea or coffee |
| | Low sodium milk | |

***Breakfast***

Salt-free tomato juice
Shredded wheat, skim milk
Salt-free toast, jelly
Tea or coffee, skim milk

*Noon*

Broiled steak
Salt-free rice
Salt-free squash with lemon
Fruit salad with salt-free dressing
Salt-free bread, jelly
Tea or coffee

*night*

Baked chicken
Salt-free noodles
Salt-free string beans
Lettuce hearts with dietetic dressing
Fresh fruit cup
Salt-free toast, jelly
Tea or coffee

*Breakfast*

Fresh strawberries
Frosted Flakes
Skim milk
Salt-free toast, jelly
Tea or coffee

*Noon*

Broiled hamburger, no salt
Salt-free toast, sandwich
Salt-free dressing
Fruit jello
Tea or coffee

*Night*

Baked fresh trout
Baked yam
Shredded zuccini
Cole slaw with salt-free dressing
Fresh pineapple
Salt-free bread, jelly
Tea or coffee

*Breakfast*

Sliced Small Banana and Orange Cream of Wheat with
Skim Milk Salt-Free Toast
Jam
Tea or Coffee

*Noon*

Large Fruit Salad . . .
Any Variety of Fresh or Canned Fruits Available . . .
Honeydew, Canteloupe, Pear, Peach ... Berries
Salt-Free Hoop Cheese
Salt-Free Crackers ...

*Evening*

Fresh Beef Stew
Steamed Potato
Fresh or Dietetic Canned Peas
Sliced Cucumber and
Sliced Thin Onion in Vinegar
Angel food Cake
Tea or Coffee

*Breakfast*

Crenshaw Melon
Wheatena
Salt-Free Toast... Jam
Tea or Coffee
Skim Milk

*Noon*

Baked Fresh Halibut with Lemon
Creamed Style Corn
Harvard Beets ___ (small serving)
Cole Slaw with Pineapple
Applesauce...
Tea or Coffee

*Evening*

Roast Lean Beef
Browned Potato, No Fat
Peas Fruit and Cottage Cheese
Salad
Macaroon
Tea or Coffee

| *Breakfast* | *Noon* | *Evening* |
|---|---|---|
| Grape Juice | Cold Platter | Broiled Tenderloin Steak |
| Oatmeal | Cold Sliced Turkey | Baked Yam |
| Toast... Jam | Cold Sliced Roast or Meat Loaf | Cauliflower |
| Tea or Coffee | Potato Salad with Dietetic Dressing | Tossed Green Salad with Dietetic Dressing |
| Skim Milk | Quartered Tomato | Lime Sherbet |
| | Salt-Free Crackers ... Honey | Tea or Coffee |
| | Baked Fresh Pear | |
| | Tea or Coffee | |

| *Breakfast* | *Noon* | *Evening* |
|---|---|---|
| Orange Juice | Clear Consomme with Salt-Free Crackers | Broiled Veal Steak |
| Cream of Wheat | Toasted Beef Sandwich with Dietetic Dressing | Sliced Onion |
| Toast... Jam | Sliced Peaches | Baked Potato |
| Tea or Coffee | Tea or Coffee | Baked Banana Squash |
| Skim Milk | Pineapple Juice | Mixed Vegetable Salad with Dietetic Dressing |
| | | Orange Ice |
| | | Tea or Coffee |

***Rest.*** Sleep and rest are important. With a return of normal health, the heart patient may be inclined to do more than he should. Avoidance of fatigue from work or social activity, however, is the wisest course.

Most patients should get from eight to nine hours of sleep in these hectic times. Some people, it is true, seem to get by with only five or six hours of sleep. But they are exceptional people. Patients must also be guided by their own reaction to work and daily activities. If they find themselves feeling tired or "run down" during the day, they should take a little time out for a nap. A good time for such cat-naps is the middle of the day and just before the evening meal.

I often advise businessmen patients of mine to take a half-hour to rest, either in their offices or clubs, once or twice during the day, while their secretaries or business associates "cover" for them. They find that being "out" a half hour once or twice a day causes no great inconvenience, occasions no comment from their clients and is most refreshing.

Social activities must be pleasant, non-taxing, **and** of **the**

kind that induce a cheerful and relaxed mood. The coronary patient has always to bear in mind that he is better off away from scenes of anxiety, tension, or conflict—at play as well as at work.

The value of relaxation to the coronary case and development of keen interest and enjoyment in activities outside work is especially appreciated by the physician. Several years ago in Los Angeles, a number of my colleagues formed a "Coronary Club." To be eligible, you had to be a physician and you had to have suffered a coronary thrombosis. Club members have developed the highest skills in their hobbies. Some of the most widely enjoyed of these hobbies are oil paintings, chess, sculpting, and water-color painting. Several of the doctors have already won recognition and prizes during the annual "shows" that local and national medical societies give for painting and sculpture. Indeed, one of my colleagues finds that he can hardly wait to get away from his office in order to work on an oil painting of his daughter!

*Should you exercise?* The kind and amount of exercise you take assumes a more important role in your life following a heart attack. Some people are almost fanatical in their belief that physical exercise is the only way to maintain good health. They are the persons who insist upon the efficacy of such gadgets as treadmill machines, Indian clubs, bar bells, and a variety of exercising machines. They will assure you that your heart trouble was caused in the first place by lack of exercise. The only way to regain your health now is to "restore the vitality and muscle tone that can come only from exercise."

Some years ago I treated Dr. B., a brilliant and well-known biochemist and bachelor. After he recovered from his coronary attack he tried to live the exemplary, perfect life, living at home alone with his mother. After one year of excellent physical health, a new symptom developed: severe and persistent headache.

The following conversation took place in my office:

"Doctor Morrison, this headache of mine is just about killing

me. I feel as though a vise were squeezing and crushing my head."

"Well, Dr. B., you know your heart and blood pressure as well as the rest of your 'physical exam' are now perfectly normal".

"But, Dr. Morrison, why do I suffer from this infernal headache? I lead an ideal life. I watch my diet, I don't smoke, don't drink, retire every night at 10 p.m., never keep late hours, am home every night with mother, never go out, don't even bother with women. What can it be?"

Looking him straight in the eye and with a grin, I said: "It's simple, Ben, your halo is just too tight".

There was a startled minute of surprise and silence. Then Dr. B. himself grinned and saw through this joke into his own overstriving for perfection, having forgotten that the body needs more than physical tending to—it needs diversion, recreation, mental relaxation. I prescribed a holiday, a large dose of fun, a deep draught of gaiety and diversion, to be followed by regular, frequent doses of the same "medicine." His headache, obviously from tension and accumulated anxiety, vanished quickly!

Actually, the extent of your physical exertion in any activity is a matter that must be decided by your physician. He knows that patients vary widely in their capacity for exercise and their body's tolerance to physical exertion. He knows also that exercise is nothing more than a means of stimulating the body's metabolism, of changing the body's chemistry through its effect on both circulation and on improved elimination.

At least one half of all patients who experience a coronary thrombosis make a complete recovery and are able to resume normal physical activities. Of the other 50 per cent of patients, about one quarter find they are definitely limited as to their physical exertion or work. The remaining 25 per cent are either retired from work and normal activities entirely, or assume a disabled status.

President Eisenhower is a good example of those who recover

completely. Despite the complication of ileitis added to his initial trouble, he made a satisfactory comeback following a coronary thrombosis. Although he was placed on a prolonged program of anti-coagulants (drugs that prevent clotting in the blood), he continued to play golf occasionally; he exercised with care and moderation, and returned to his customary Presidential duties.

***What kind of exercise is permissible?*** Among muscular activities that are suitable to patients who have recovered from heart attacks are swimming, walking, square dancing, fishing, gardening, bowling, and horseback riding. They may also resume normal sexual relations and otherwise live normally. More violent forms of exercise, such as tennis or squash, however, are definitely dangerous.

Moderate physical activity is recommended for coronary patients because during mild exercise, there occurs a nutrient withdrawal from the blood to meet increased metabolic needs. This withdrawal, in turn, results in a lower serum concentration of fats and consequently of cholesterol.

***Should you smoke?*** One of the first questions a smoker will ask his physician following a heart attack is, "Doctor, do I have to give up smoking?" In most instances, the doctor will have to say "yes."

In general, smoking is not good for the circulation. In fact, it is often quite injurious to circulation in the legs, if the patient is sensitive to nicotine, as many are. In some persons, smoking produces a tightening or further narrowing of the blood vessels, an action that physicians call vaso-constriction. In cases of coronary artery disease, the added squeezing down of the arteries as a result of smoking can be quite dangerous.

Available evidence from research is not sufficient to show that smoking causes heart attack, but physicians know that some patients with angina pectoris (a form of coronary artery disease) may easily aggravate their condition by heavy smoking.

Many of my patients have found it extremely difficult to give up the tobacco habit. For them, I usually recommend filtered

pipes instead of cigarettes or cigars. For others, denicotinized tobacco, or a substantial reduction in smoking is effective. A discussion of the role of smoking and its effects on your health may be found in Chapter 8.

*Should you avoid alcohol?* The use of alcohol in moderation is permitted and is, in fact, often beneficial. Refer to Chapter 9 for the full story on alcohol and health. Just a few reminders will be touched on here.

Temperate use of distilled liquors and wines is usually healthful, for they tend to dilate or open up the arteries, and thus to improve circulation. As a rule, I do not recommend the use of beer, because it is a gas-former. When beer is taken with a heavy meal, the resulting gas in the stomach may embarrass the heart or restrict its free function.

My experiments, as reported in Chapter 9, showed that severe gas-pressure could damage the heart or even arrest its action and thus affect the coronary arteries adversely. Many deaths that have been attributed to "acute indigestion" occurred in this way—gaseous ballooning of the stomach that actually squeezed life out of the heart. An additional disadvantage of beer, other than its gas-forming properties, is its salt content, which may be harmful to certain patients.

For most coronary patients, moderate amounts of Scotch, brandy and wines, however, are recommended.

*What about coffee and tea?* Coffee and tea are also stimulants which, if used in moderation, may be helpful, since they too tend to dilate the blood vessels, permitting an increased flow of blood.

But, as in the case of other stimulants, they can be harmful if they are used to excess.

*Care of the bowels.* Proper care of the bowels is essential. Constipation, which often results in straining at the stool, is harmful and may even be dangerous. Not infrequently I have known patients to precipitate heart attacks by straining to force a bowel movement.

Because the importance of easy elimination in treatment of coronary patients is not generally known to the lay public, there was a good deal of surprise and amusement throughout the country when Dr. Paul Dudley White, the President's cardiologist, issued his now famous medical bulletin on the second day after the Chief Executive's coronary attack. At that time he stated that the President's condition was encouraging and that he had had a good bowel movement! This celebrated event is said to have been reported around the world. And the rejoicing was reflected in an upward swing in the stock market!

On the matter of regulating the bowels your doctor is, of course, the best advisor. Most individuals require a well- balanced diet, containing fruits and vegetables, together with an adequate intake of water. They also need to take sufficient time for a relaxed bowel habit.

Many of my patients have found that a glass of prune juice on arising in the morning, or one or two glasses of hot water with lemon juice or tea, are beneficial. Others have found that strained vegetable juices (cabbage juice, for example) or fruit juices taken upon arising stimulate natural bowel function. Still others have to resort to the natural, bulk-producing mild vegetable laxatives such as plantago (called Metamucil), psyllum seeds, "Saraka," "Serutan" and so on.

***Can you continue to have sex relations?*** Mr. L., 43, had just recovered from his first coronary attack and was about to leave the hospital. His attractive young wife, who was his constant bedside companion, stepped out of the room to pay the hospital bill, leaving us al<me for the first time without either his wife or his nurse in the room.

The first question he asked: "Doctor, when will it be safe for me to have sexual relations with my wife?" This is one of the most pressing questions in the mind of most male patients under 60 (and even in some who are older!). This spoken or unspoken fear is so intimately linked with the patient's fear that he has "lost his manhood" or his virility, or that he is to be an invalid or

semi-invalid from then on, that it is a deep psychological concern to men. It is a fear profoundly linked to the male personality, so shaken by a threat to existence as brought on by a coronary attack.

Some men are like my patient, Mr. A., aged 63, who, whenever he attempted the sex act following his coronary attack, developed severe anginal pains. Even administration of nitroglycerine for pain prevention was to no avail. Mr. A. finally had to resign himself to the inevitable and seek gratification from other things in his life. This he did with resourcefulness. He developed the hobby of water-color painting and derived keenest pleasure and pride from this art.

To most men and women who have made a good recovery from their "coronary," however, the sex act is an expression of love and devotion and is generally a relaxing, healthful experience. However, this is always so when carried out in moderation, never to the point of strain, or when fatigued or during unfavorable circumstances, since the heart actually does significantly increase its action during the sex act, as shown by recent published medical research.

One businessman, a 44-year old European patient of mine, Mr. H., is an example of a well-recovered "coronary" case with **a** relaxed, philosophical attitude toward life. A devoted husband, deeply in love with his attractive, loving wife, he finds great satisfaction from frequent sexual relations. Mr. H. assures me this is the best "sedative" he knows, and that it banishes the daily tensions of his work. Love-making both refreshes and soothes him and is as necessary to "nourish" his love-life, as his daily food is necessary to nourish his body.

***What is the best "coronary climate"?*** The ideal climate, as far as the coronary patient is concerned, is a temperate one. Extremes of heat and cold should be avoided. High altitudes, especially those above 5000 feet, are also a strain on the heart.

Newspaper readers are well aware that during heat waves or hot spells, hospitals and emergency treatment rooms are kept busy treating patients who have collapsed from both heat strokes

and heart strain. Similarly, patients who suffer from angina—a heart or coronary disease—experience their worst pains when they walk about in cold or freezing weather.

Sections of the United States that are favorable to the coronary patient are the central and southern areas of California, the southern portions of New Mexico, Arizona, and Florida. There are other temperate localities in the country where the coronary patient will experience no discomfort from the weather. Your physician can advise you which locality would be best for you.

To demonstrate how some men with initiative lick a climatic problem, there is a 59-year old former patient of mine who came to see me 10 years ago from a northern part of the state of Washington. Mr. 0. had had a coronary but, on exertion, suffered from anginal chest pains only during cold weather, in the winter season.

I persuaded him to leave his wheat farm after harvest time to the care of his son-in-law, who farmed with him, and to drive down and live in a trailer during the winter months in a charming spot between Los Angeles and San Diego, by the ocean and the desert. He now spends practically half the year working on his Washington farm and half the year living with his wife in their trailer in Southern California.

For 10 years now he has had no anginal pain, but here is the "pay-off": After his first winter spent in Southern California, he returned to Washington so tanned, healthy, and happy that his friends (and even people he did not know but who had heard of him) formed a "Coronary" Club, and established a trailer settlement in this Southern California spot. Here a sizeable settlement from North Washington was formed, and the amount of fishing, bathing, card playing, and general fun and relaxation for members of this "Coronary" Club are a delight not only to those who have had a coronary attack, but to those men and women who are desirous of avoiding one and who wish to enjoy life and good health in their older years.

***When may you return to work?*** When the coronary pa-

tient's heart has healed and its function has returned to normal (as determined by his doctor), he is usually allowed to return to his customary activities as soon as is practical. Of course, it is wise to do this gradually, rather than to plunge into a job where he left off. Even if it means only part-time activity at first, most people derive a great satisfaction and a lift to their morale when they can return to some useful routine of life.

If the patient was engaged in very strenuous physical labor or factory work which he really did not enjoy, but which he was forced to do to earn a living, he is usually better off to find a lighter kind of work, provided it does not involve the frustrations of a long apprenticeship. There are many ways of reevaluating the kind of work a man or woman has been doing. Many of my patients were engaged in occupations that were a continued source of irritation, causing a state of alarm. Their coronary attack may even have been partly due to the unbearable and prolonged tension. For such patients I always recommend a different occupation or way of life. Then the question arises, "How can I find the right work for myself?" The American Heart Association has developed splendid programs in most of the large cities, aimed at rehabilitation of heart patients. An important part of these programs is helping the patients find the right kind of job. Some centers have also created 'heart kitchens," where housewives who have suffered heart attacks are taught many labor saving devices. Here women learn for the first time that housekeeping need not be a drudgery.

The Association also sponsors vocational rehabilitation services which analyze each patient's skill, educational background, physical condition, and so on, to produce a profile of his job qualifications. Often it turns out that the average person possesses hidden talent or unsuspected skills that may open up entirely new vistas that might have remained closed to him all of his life, if he had not suffered a heart attack.

***Develop a constructive, optimistic attitude toward life.*** The case of W. K., a brilliant and successful lawyer, is a perfect

example of the vital necessity for the right attitude and philosophy of life.

W., who was 52, certainly had a frightening family history. He was the only one of four brothers still alive. His three brothers had all died of heart attacks. Clearly, W. was a familial or hereditary candidate for coronary thrombosis, particularly since his blood cholesterol level was abnormally high. But Bill was a cynic, a disappointed father, and an unhappy man.

By nature a pessimist, he believed that it was his fate to die of a coronary thrombosis. He proceeded to help fate along—as had the rest of his former family. No amount of pleading by a devoted and concerned wife* no amount of urging by his doctor, could induce W. to change his philosophy and his living habits. Bill insisted on eating everything, the richer and fatter the better. He drank to excess, smoked heavily and took as little rest as possible. In short order the ax fell. Bill had his coronary thrombosis and joined the rest of his family—48 hours after his attack.

On the other hand, Charles, an optimist and, of all things, an airplane pilot, was confronted with the same problem. He also had lost 3 brothers from coronaries, but Charles believed in helping to direct his own fate in a positive way. At the age of 37, he had the most vital of reasons, other than himself, for remaining in good health. The lives of thousands of passengers were in his hands. Characteristically enough, Charles also had an abnormally high blood cholesterol level. But being of a practical turn of mind, he set to work immediately in following a strict low-fat diet with dietary and vitamin supplements outlined in Chapter 5. His blood tests rapidly became absolutely perfect in every way. He felt and looked marvelous. Today, 10 years after the original examination, he is the perfect physical specimen.

What a sharp contrast in attitude and philosophy of living between Bill and Charles. What a striking contrast that meant perfect health in one case and death in the other!

An equally dramatic instance of the importance of a con-

structive and optimistic attitude toward life and health is the case of John, a railroad engineer, 55 years of age. John piloted a crack transcontinental express for many years. He had become a little overweight and first suffered from mild anginal chest pains. He feared to bring this to the attention of the railroad doctors, for he was certain that he would lose his job. On examining him, I found that he already had coronary artery disease, was overweight, and had a high blood cholesterol level.

Our engineer was also a man of constructive action. He put himself on a rigorous low-fat diet, he reduced his weight to the ideal one, and in two months became completely free of all pains. And in his own words, *'he never felt better in his life."

He said his own engine had become tired of hauling "excess freight on the line" and "since disconnecting" (to quote his own terrible puns) "the fat in his freight had given him a fright."

Now, after eight years of continual work, he has still a sense of well-being. He is in excellent health. His blood tests, his electrocardiograms, and his physical examinations are all perfectly normal for a man of his age.

This then is an inspiring example of how a man can help direct his own fate and those of the countless others entrusted to his care.

Your chances for long life are excellent. If you have had a coronary thrombosis, a key point to remember is this: your chances are excellent for many years of useful, productive living, provided you follow your doctor's advice.

If you will reduce your weight to a normal figure and stay on the low-fat diet and nutritional health program described in this book, you can live just as long as the average overweight man or woman who does not follow the rules of good health given in these pages!

The age at which you have an attack is not the important factor in your recovery. One patient of mine, for example, a business man in whom I am particularly interested, had his first heart attack at the age of 63. It was a severe coronary thrombosis.

Neither his family nor, to speak frankly, his former physicians expected him to live very long after the attack. But I recommended the diet and the health rules that I have included here. He took them seriously, and followed them faithfully.

He is now 82 years of age, and so active in the conduct of his business that his 44-year old son, who is physically able and in good health, cannot keep up with his father's drive and vitality. A widower, he married a woman many years his junior, and they lead a normal, active, happy life together. They are constantly off on business trips, attend dances (he learned to dance when he was past 70), and take trips abroad.

But it is important to bear in mind that this patient has wisely kept his weight to normal; he remains on a low-fat diet, avoids fatigue, naps often during the day, does not smoke or drink, worships regularly, and fallows the Golden Rule in both his business and private life. His outlook on life is vibrant, positive, constructive.

No doubt many physicians in America could relate similar cases in their own practice.

In short, you can be victorious over modern man's most deadly opponent if you play the game according to the rules. Here, in summary, are the 10 most important:

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1. Hit that waistline hard! Keep your weight normal. Fol low Chapter 6 on "Calling all Calories." Your belt in the front should not make you deserve a 'belt in the back'!
2. Follow religiously the low-fat diet and nutritional way of living. In this way you will "add years to your life and life to your years."
3. Consult your doctor for advice and check-ups regularly (just as you would your dentist) at least once a year. Certainly do so more often whenever there are specific questions or problems, "An ounce of prevention ....."
4. Be sure to get your complete quota of sleep and rest. The

average adult needs eight to nine hours a night. The night owl is often a scarecrow in the morning. Whenever you can, steal a cat-nap or rest as often as possible through the day. You recharge your 'battery' this way.

5. Find out from your doctor how much exercise and physical exertion is safe for you. Then abide faithfully by his in structions. Perhaps your heart has completely recovered and you can do anything within reason. Perhaps you have to be moderate in physical activities. Your physician is the best judge of this.
6. You are best off to stop smoking cigarettes. Ideally you are better off not to smoke at all! If you can't give up the weed, try a pipe, or at least cut down to a few cigarettes.
7. As for alcoholic beverages, follow the Greek advice, "all things in moderation." Moderate and controlled drinking is a good relaxant. Remember, "what's one man's meat, may be another's poison." Some people don't tolerate al cohol well. To some it may have serious effects, especially when taken in excess.
8. Be sure that your "plumbing" system is working in the famous American way: your bowels must function nor mally. Avoid constipation, as directed.
9. Try to avoid extreme altitudes or extremes of temperature. If you have a choice, try to live in a temperate or equable climate.
10. Whenever possible, try to arrange your work and living so that they may give you a maximum of gratification and a minimum of grief. If you can, try to enjoy a hobby that will give you relaxation and mental refreshment. Develop a wholesome, cheerful outlook and philosophy of life.

Chapter 11

# GROWING YOUNGER WITH THE YEARS

T0 THOSE AMERICANS AMONG THE 20 million who are 60 years and over, some may ask, "Of what value is the low-fat diet to *me?* If I were 40 years old, a book like this would be my Bible. But it's too late for me to benefit from this book now, so late in my life. I only wish that it had been written and that I had read it 25 years ago."

***It's never too late.*** Nothing could be farther from the truth. Extensive medical research recently carried out in this country and abroad has shown how dramatic changes in health and well-being result regularly when an intensive nutritional program is followed.

There are, in particular, the recent Swedish reports of amazing improvements in the health of older people resulting from the low-fat nutritional program that I originally recommended. Doctor G. Lindquist and Doctor B. Isaksson at the University of Gothenburg Hospital applied the low-fat diet with nutritional supplements to a series of 19 hospital in-patients who were known to be sufferers from hardening of the arteries of the brain. These patients, whose number is tragically legion, **are** generally regarded by moist physicians as hopeless and are simply to be kept alive as long as possible. Many doctors

still view these pathetic people as the inevitable result of old age, the results of wear-and-tear of the arteries—the hardening of the arteries in the brain.

The Swedish physicians only recently published their remarkable findings, carried on over a three-month period in men and women patients whose ages ranged from 50 to 87. The diet adhered exactly to the original low-fat, low-cholesterol diet that I had published and advocated (which they graciously acknowledged) containing only 25 grams of fat a day. Some of the patients received a regular daily supply of multiple vitamins. All cases had been previously studied and carefully examined and observed before the dietary treatment was begun, and their clinical condition was stationary.

All patients, with one exception, had suffered from a stroke or cerebral thrombosis as a result of hardening of the brain arteries. The one exception suffered from Parkinsonism, or the shaking of the hands (tremors), so often seen in the elderly. All patients had experienced some disability or paralysis of legs, hands, or arm muscles following their strokes.

The symptoms were characteristic: nervousness, mental depression, weakness, listlessness, and despair. The following results are taken practically verbatim from the published scientific reports of their research.

***The low-fat diet brought amazing improvements.*** After the three months of treatment by supplements were completed, not one case worsened. Most of the men and women showed striking and dramatic improvement both mentally and emotionally, even those who were mentally confused prior to treatment. The youngest improved patient was 50 years of age and the eldest was 87 years old. The patients were found to have grown more lucid, and to have improved perception and judgment. As a result, they established better personal relationships with doctors, nurses, and members of their families.

To further quote the Swedish investigators, the capacity for concentration and endurance was remarkedly increased. This

was demonstrated from the energy with which the patients carried out their physical exercises as part of the physical treatment for paralysis and muscular weakness. What was even further remarkable was the improvement in mood and personality.

An additional welcome surprise was the improvement in actual physical power and movements in half of the cases, even after this brief period of treatment. Some of the patients made such extraordinary mental and physical progress that they were sufficiently well to be discharged from the hospital.

As so many other careful research physicians had done, psychologic and suggestive factors were assiduously avoided. The patients were reported as pleased with the palatable and varied diet.

The very cautious publication reporting the above results appeared in the world medical literature, and confirmed my own original research as well as the findings of others. What was of considerable interest was the fact that the blood fats and cholesterol had decreased rapidly in amount during the short three-month period.

One of my patients, whom I shan't forget, was an 83-year old lady, who was wheeled into my office in a wheelchair not so long ago by her 60-year old daughter. Mrs. A. was too feeble to walk, almost blind, partly deaf, and too weak to feed herself. The thin flame of life was kept burning in her by the devoted spinster daughter. Her selfless dedication to her mother, her feeding her and tending to her every want was touching, even biblical in character. Somewhere the daughter had heard that farmers were feeding their animals with *superchargers* of vitamins and other nutritional products to make them healthier, more vigorous, and so produce finer specimens and higher profits. She reasoned that possibly such treatment might help humans, even her mother, who was rapidly becoming like a vegetable.

Two months of our treatment followed. Large amounts of natural and synthetic vitamins, plus nutritional supplements

such as lecithin, soya oil and liver extract were given in addition to the low-fat, high-protein diet. Under our very eyes, a nutritional miracle then took place. Mrs. A. walked in to see me, under her own power. She was able to see, even though not as clearly as at one time. Because her hearing had returned, we were able to carry on a conversation. And I found—marvel to behold!—that she still had a sense of humor. She was able to poke fun at herself and spoke of my "robbing the grave."

Or take the case of Miss R., a 65-year-old maiden lady who had a stroke or cerebral thrombosis, the result of atherosclerosis. Her vision was failing and she was partly paralyzed, desperate, and depressed. Except for one friend, she was all alone in the world.

After several months of using the low-fat nutritional program described in Chapter 5, Miss R. recovered much of her muscular powers, her partial paralysis gradually disappeared, and she became a radiant picture of cheerfulness and optimism. Her vision had greatly improved, and when last seen in my office she asked me brightly, "Doctor, could I go swimming?" I replied, "Indeed yes, but—no diving!"

During the past decade, many reports of repeated research in old folks' homes or centers for the elderly have shown in these people the failure of many vital organs (like the liver) to keep up with the older persons' physical and mental needs. Poor functioning of the kidneys, liver, heart, and other glands was noted. When tests were made of the vitamin levels in these elderly people, they were shown to be deficient.

However, research constantly shows us that humans vary widely in their nutritional needs. The nutritionist for the Canadian Government, Dr. Lionel B. Pert, speaks succintly of "the illusion of vitamin requirements." He finds, as do most other scientists, that there are no known *exact* requirements of vitamins and nutrients for humans.

***You need more than a "normal" or "average" diet.*** It is emphatically not enough to eat merely the listed standards

of nutrients. They vary widely in their ability to be absorbed, depending on the individual's vitamin, mineral, nutritional requirements and his biologic pattern.

Chapter 5 on lecithin and nutritional supplements is therefore of greatest practical value \o the older person as well as the younger one.

One perfect example gathered from many is the very recent and ingenious study carried out by Doctor Tom Spies, one of America's great nutritionists. He studied over 893 men and women who were suffering from weakness, nervousness, poor mental concentration, ease of fatiguability following any physical or mental exertion, and depressive feelings. Many had to stop work, as they were unable to hold a job. Some women found it impossible to care for their families and homes.

In brief, these men and women were "old before aging" and most of them looked it. Most of these people complained of symptoms from various digestive, nervous, or mental ailments. Previous physicians had proven that none of these symptoms were due to actual physical disease, but were merely disturbances in the normal function of the body.

These people were sent to Doctor Spies' medical center and research facilities in Birmingham, Alabama, by physicians who had been unable to help these puzzling and difficult problem cases. These individuals showed no physical or laboratory signs as explanations for their physical or mental breakdowns; they were on the regular, average American diet and had seemingly normal food habits.

The research team headed by Doctor Spies tackled the clinical puzzle of these 893 "mystery" cases as a nutritional challenge. The nutritional supplements and vitamin supplies used were mainly those described in Chapter 5. They included lecithin, vitamin supplements, and nutritional aids such as liver extracts and brewer's yeast. These were administered in an intensive way to all cases, together with a high protein diet.

Astounding changes promptly took place in these **people.**

Within a few months it was difficult to recognize many of them. Gone was the weakness, malaise, the lethargy, the nervousness, depressions, the exhaustions, and myriad accompanying symptoms characteristic of chronic poor nutrition. Cheerfulness, optimism, a sense of well-being, physical and mental vigor, a remarkable increase in physical and mental stamina was evident in the great majority of cases. Within a few months almost all of them were able to return rejuvenated to work, home, and normal, healthful activities. A number of the younger ones entered the armed forces. Hundreds of them began to look younger and fresher. The skin developed lustre and a healthy texture where before it had been dry and wrinkled. A sparkle came back to the eyes, physical movements became vigorous and youthful. Some of the patients lost the mental symptoms and depressions that had caused a suspicion of actual mental disease.

These really dramatic lessons and "cures" are additional demonstrations of the greatly increased nutritional requirements of both younger and older people, who are victims of our current food and cooking habits.

***Begin now to feel young and really alive.*** The point of describing all these extraordinary results in making older as well as younger people feel vital, young, and fresh, filled with the zest and capacity for living, is that *it is never too late to feel young and really alive again!* No matter what your age is, the right diet and nutrition described in this book may do wonders for you. If you really work at it, it can repay you tenfold. It is not enough just to eat " three square meals" a day and take a vitamin pill. That way you can still age before your time and just "exist" during your lifetime.

***There is evidence that the aging process may be re* versible.*** Out of the horrors of Hitler's concentration camps there came just recently some amazing news announced at the 1956 International Congress on Arteriosclerosis.

A crucial question was asked of the general assembly as to whether there was definite evidence that the low-fat diet could

effect actual absorption (or reversal) of the fatty deposits in the arteries. The question was also expanded to ask, "Is the atherosclerosis or *aging process' *reversible?"*

A German pathologist, who was well-known to many, arose and hesitantly gave the following answer: During World War II he and other pathologists were assigned to study the post-mortem conditions of victims who, after incarceration for several years, had died in European concentration camps.

It was found that even in older people there was an astonishing disappearance, through absorption, of atherosclerotic fatty deposits in the arteries of both the heart and the brain. These amazing results were attributed to the complete absence of any fat in the meager scraps of food given to the victims of persecution in the camps. Obesity was completely unknown. Virtually all victims who had died had exhausted all fat deposits in the body and were underweight.

The medical congress was even more startled to hear the German pathologist report the following: The absorption and reversal of atherosclerosis in the World War II victims was the same that he and other pathologists had often found among the German population in World War I. At that time, the reason for the reversal or absorption of atherosclerosis was ascribed to lack of fat in the German diet resulting from the British blockade of Germany. No fat products necessary for war material could get into Germany. Therefore, all fats possible had been removed from food for the manufacture of war products.

It is thus perfectly conceivable that the so-called aging process itself—atherosclerosis—may be reversed in many older people by following the low-fat diet and nutritional program. Possibly this accounts for the remarkable changes, noticed in older as well as middle-aged people, who have carefully followed our diet and nutritional way of eating and living.

No wonder that people, after the diet, so often report the results in such remarks as, "I never felt better in my life", "I

seem to feel younger and younger each day," or "Doctor, I feel like doing things I haven't done since I was a youngster, I feel so young!"

Typical also is the case of our patient, Mr. J., a 61-year old manufacturer. After 40 years of back-breaking labor, he had built up a nationally-known, successful business that made precision tools for engines in the airplane industry. His son and son-in-law noticed that in the past year dad had "slowed up" pathetically.

Mr. J. seemed suddenly to have become an old man. He felt tired, listless; it was a great effort for him to stay awake during important conferences with production engineers, salesmen, and Army Air Force officials who came to study the "plant," its methods of manufacture, tooling, and equipment. On several occasions, to his intense embarrassment and utter humiliation, he discovered that he had fallen asleep during important conferences.

A visit to his physician, a noted university professor, and a thorough check-up in the hospital yielded no signs of any disease. Mr. J. was informed he needed a long rest and vacation, that he was tired out and should take it easy, that he should "act his age."

There followed a visit to the travel agency by Mr. J. and his wife. They selected a luxury cruise round the world for four months. They enjoyed it, although Mr. J. noticed he tired easily when walking around seeing the interesting sights in various countries. He also seemed tired and sleepy most of the time. When he did go to sleep, he slept restlessly and fitfully. On awakening, he felt even more tired than he was when he went to bed the night before. It seemed difficult for him to concentrate on anything for long. Even watching the movies aboard ship seemed to tax his patience and he would leave in the middle of a picture, finding himself too restless and "twitchy" to sit for too long. Yet his appetite was the same as always. As a matter of fact, he was a bit too "portly," but he carried his extra

weight well; in fact, it made him look dignified and impressive.

When Mr. J. returned from his long voyage, he felt not much different than he did on leaving. True, he was rested and eager to get back to the plant to see how the new models being prepared for the Air Force were working out.

After a week back at work, he found himself feeling exactly the same as before his voyage. Sleepy, tired, and now growing nervous and irritable, much to the dismay of his family, for he had always been a model of kindness and emotional stability.

In desperation, his wife persuaded him to try the new low-fat diet with the vitamin- nutritional plan of eating and living. He felt he had nothing to lose and agreed to give it all a "sporting chance," but he really suspected the whole thing was a ridiculous fad. After all, he ate three good square meals a day. What was the point of losing weight and going to all this fuss about funny "health" foods?

To his own amazement and disbelief, in one month he noticed sudden changes in himself. Still later, he found himself one day hurriedly running upstairs ahead of his son in his eagerness to see a new machine installed. A few months later, on another occasion, he noticed that his younger associates were growing tired after a long conference. They asked for a coffee-break. And yet he felt just as fresh as when he started. He really couldn't understand it. He was sleeping well for the first time in a long while and noticed that, although he had lost 25 pounds in weight and had to pull in his belt three notches, his step had become light and springy.

In another month, the whole world seemed somehow to be a new one, he felt so good. He could hardly wait to get to work in the mornings. He felt a real joy in all he did, was conscious of a continuous surge of cheerfulness and optimism in everything he did and said. In short, he felt young again!

Now he is a real convert to the low-fat nutritional method and urges it on his children, his business associates, and everyone who will listen. Clearly, Mr. J. was the typical case of

overweight and chronic malnutrition amidst plenty. His body had great need of severely lacking, vital nutritional necessities. His characteristic symptoms of chronic fatigue and premature aging were repeated hundreds of times in the cases where Doctor Tom Spies and his associates had similar, extraordinarily successful results.

***Weight control also contributes to healthy old age.*** The case of our manufacturer Mr. J. brings up and emphasizes also the necessity for ideal weight in older people, as well as in the younger ones.

Particularly if you are past 50 or 60 years of age and are overweight, you can feel healthier and better by reducing your weight to normal. Suppose that you weigh 170 lbs. and should weigh 150 lbs., so that you are 20 lbs. overweight. If you are the average active person, you take at least a thousand steps each day. This means you "drag" around daily with you 20 lbs. x 1000 (steps) or 20,000 lbs. This is about 10 tons.

Your heart then must pump all the harder to carry this extra 10 tons around with you (on your back, so to speak) every day! No wonder your heart tends to wear out sooner and shortens your life.

***Can youth be restored in the prematurely aged?*** Perhaps the greatest challenge to experimental science has been the question, "Can youth be restored in the prematurely aged?"

In both animals and humans whose premature aging is contributed to by vitamin and nutritional deficiencies, nutritional science has been able to answer "yes" in many cases.

There is an old saying used by both the medical profession and the public, "You are as old as your arteries." This concept led us to investigate whether it would be possible to produce "old age" in the arteries, heart, and brain of experimental animals, and to attempt the crucial challenge of whether these arteries could be restored to normal health and youth again afterwards.

Accordingly, in 1945, my associates and I fed a high-fat diet

and cholesterol to a series of 43 experimental animals. Within 30 to 90 days we were certain that the majority of the animals had already developed from moderate to severe atherosclerosis in the vital arteries around the heart as well as in other parts of the body.

Then, over a 6-month period, we fed daily large quantities of concentrated extracts from Vitamin-B complex to the animals in one group and no vitamins at all to the other group. These special vitamin extract feedings were based on the recent, original discoveries of the value of these nutritional substances (called "lipotropic" or fat-preventing) made by Doctor Charles Best and his associates at the University of Toronto. Dr. Best was the co-discoverer, with Dr. Frederick Banting of Canada, of insulin.

We soon noticed great changes in the untreated animals, who had rapidly developed significant atherosclerosis. This contrasted sharply with another group of "controls" that had not been fed the high-fat, high-chholesterol diet, and who were free of atherosclerosis. At the end of a year, the atherosclerotic animals were sluggish, inactive, and disinterested in what went on around them. They showed a drying up and sparseness of hair; poor tooth and nail growth; "rheumy" eyes, and poor appetites. In short, they presented the picture of "old age," even though, chronologically, they were still young animals.

But after six months of intensive feeding of very large quantities of Vitamin-B complex constituents to the atherosclerotic group of animals, the changes that took place in them were startling. After examination of the artery tissues in the animals, we found (to quote from our scientific reports published in the medical journals) that "there was re-absorption of atherosclerosis in the majority of those animals whose atherosclerosis had been produced by the fat and cholesterol feedings." In other words, the aged arteries, filled and damaged with the fatty plaques or deposits that were destroying the blood vessels, had become normal and healthy again!

The changes that took place in the appearance and behaviour of the treated animals were also a pleasure to behold. They were frisky again, full of play and mischief, alert to every sound and movement about them, and in great spirits. Their appearance was also remarkable. Hair growth, color, and texture had become youthful and luxuriant, their eyes sparkling, and their appetites voracious.

Similar results were also found in the absorption of atherosclerosis in experimental animals at Columbia University by Doctor Albert Steiner and his associates. Other investigators, as well, demonstrated similar results in the experimental production and *reversibility* of "old age."

These nutritional lessons have been very quickly learned by the farmer. He saw to it promptly that large daily supplies of vitamins and nutritional supplements were fed to his livestock and his poultry. They have become healthier, and yield more milk, butter, and eggs, and tastier beef, ham and pork. In addition, they resist illness far better, reproduce their young more efficiently, grow faster, and are far superior in every possible respect.

I recall a memorable case that brought this lesson home to me in an unforgettable way. Over 20 years ago, I was attending a group of ward patients at a university hospital in Philadelphia. One of my charges, Roy W., was a pathetic case—a young student who suffered from a chronic infection of the bone that he had had since childhood. It was imperative that, to cure the condition, he undergo surgery by our brilliant and gifted professor of orthopedic surgery, Doctor John Royal Moore. Unfortunately, this young man's nutritional state—his emaciated condition from his chronic and life-threatening infection—was so bad, that he was judged to be in no condition to undergo the badly needed surgery. Even his liver and other organs had become damaged by the chronic infection. But the most appalling damage was his visible aging. This 19-year old looked like a very old man and talked and felt like one. His hair was gray-

ing, his eyes dulled, his skin was wrinkled and his voice feeble. No types of nutritious diet, routine vitamin pill daily intake, or medicines were of any avail in overcoming his weakness. It seemed impossible to improve his health to the necessary pre-operative level.

In desperation, in the attempt to counter the boy's obvious nutritional deficiencies and his premature aging, I decided upon a nutritional approach—we would feed him massive amounts of nutritional supplements. In addition to Herculean doses of all known vitamins, I persuaded his broken-hearted mother to go to the city abattoirs and get the freshest liver available. The liver was then pressed by her own [hands and squeezed to get the fresh juice. Huge amounts of this were combined with large daily doses of flavored Brewer's yeast and whole wheat germ in addition to the large amounts of vitamins mentioned above.

An amazing transformation took place in this young boy within two months. He became strong, bright, alert, and looked his age again. His whole appearance became altered. His skin, eyes, and—strangely enough—his graying hair, were rapidly becoming normal in color again. The endless, back-breaking hours that his mother had spent daily preparing and taking his life-sustaining nutritional aids to his bedside at the hospital had been rewarded.

Roy made a splendid recovery after his operation. He became the picture of health, and later married and took a position as librarian at a famous university. His history was truly a triumph of the wonders of nutrition—nutrition as it affects the young as well as the old,

The next step in our research was to see whether our experimental results with animals in "restoring" old arteries to their youthful state meant anything as far as humans were concerned.

First, my co-workers and I studied for three years the effects of members of the Vitamin-B complex group (such as choline, betaine, and inositol) on the atherosclerosis of 230 patients suffering from coronary artery disease. When we published our

encouraging results of treatment in the American Heart Journal for May 1950, we were persuaded to use a comprehensive treatment method in attacking the problem of atherosclerosis.

Several more years of research on this question convinced us of the value of an ideal combination of: (a) low-fat, high-protein diet, (b) large amounts of Vitamin-B complex together with lipotropic (fat-preventing) agents such as choloine, betaine, and inositol (all members of the vitamin B complex) and (c) nutritional supplements such as liver extract, lecithin, and Brewer's yeast.

Since it was now apparent to all medical scientists that the vast majority of the population was already afflicted with atherosclerosis by the time age 50 or 60 was reached, it was clear why this condition ranked first now as the cause of death and illness in the United States.

What was not so clear, however, to most investigators and physicians was that atherosclerosis, or the "aging process" as it has so often been called, was responsible for the remarkable prevalence of premature old age, or "getting older." And what was equally important was the incredibly widespread symptoms in those who were past 50 or 60 of fatigue, lack of energy and vitality, nervousness and depression—not to mention a multitude of digestive tract, circulatory, mental, and other disturbances that stemmed from the combination of atherosclerosis and chronic nutritional deficiencies.

To put these realities to the "acid" test, my co-workers and I selected from our hospital research service 102 cases of generalized atherosclerosis and divided them into two main groups. Cases in one group of 40 patients included mostly individuals who had proven atherosclerosis of the brain, heart, and other organs. This group was given the combination of diet, massive amounts of vitamins and nutritional supplements as just described and as outlined in Chapter 5 ("Lecithin and Food Supplements"). Another and identical "control" group of 40 patients, having the same atherosclerotic conditions, was

observed for comparison. This group received no dietary or nutritional treatment. Both groups had equal representation of men and women. Their ages also were comparable and ranged from 38 to 80 years. The average age for both groups, however, was 60. This is an ideal age from an investigative point of view, because clinically this age seems to be the one most widely associated with the Symptoms of so-called "aging," as previously described.

At the end of one year, we published the results in the December 1953 issue of *Geriatrics,]* the official journal of the American Geriatric Association. (Gentries is the medical term describing the field of medicine devoted to the health and care of the elderly.) Our findings were as follows:

1. *Twenty-five per cent of the group of 40 atherosclerosis cases not treated by our diet and nutritional program had died of complications from Atherosclerosis, mostly in the heart, brain, and kidneys.*
2. *There were no deaths in the group of 40 cases of athero sclerosis who adhered strictly to the intensive treatment of the diet and massive vitamin-nutritional supplements.*
3. What was equally striking in the treated group was the im provement constantly noted in well-being, high spirits, in creased ability to work, to concentrate, and the remarkable vitality that most patients felt. Typical remarks, volun teered by patients after a few months on the treatment pro gram, were: "I feel like I have a new lease on life," "Never felt better in my life," "Doctor, I feel like a million," "It was like charging a rundown battery."
4. The proof that these remarkable improvements were not psychological was also found in comprehensive biochemi cal analyses that my colleagues and I carried out in all these cases. The blood fats and cholesterol levels in the treated series of patients decreased; from a previous, pre-treatment, slightly abnormal level, they developed into

ideal blood biochemical levels at the end of a year. The protective phospho-lipids and lipo-proteins rose to very high, ideal levels. Some cases even showed remarkable improvement in their electrocardiograms (the electrical tracings made by a special instrument to measure the health and action of the heart).

5. As our published findings stated at the time, these clinical, chemical, and instrumental findings "indicate arrest or regression of the process of atherosclerosis in the arteries." This was a careful, scientific way of stating that "the evidence indicates that the aging process in the arteries can be stopped or that the arteries may be actually improved and restored to a healthier state." In still other words, it is apparently not beyond the realm of possibility to create a rejuvenating process or a return to a healthier, younger state in the body by adhering to the dietary, nutritional program recommended in this book.

One delightful example among these cases was Professor L., aged 70. A widower, he had taught at universities for a lifetime, was retired, inactive, depressed, and extremely unhappy. He could not work for long without feeling exhausted; his powers of concentration seemed to have gone, he was constantly tired and dispirited. To top it all, he suffered continuously from "indigestion," which he attributed to his own housekeeping, cooking or eating out in restaurants.

Thorough examinations and X-ray studies revealed that there was no physical or organic disease present, other than the usual amount of atherosclerosis to be found in a man of his years. He then agreed to follow faithfully our dietary-nutritional program as previously described.

Within a month there was already a surprising change. But after three months, his improvement was really remarkable. Gone were all the digestive symptoms. Professor L. literally bounced into the office, the picture of vitality and youthful vigor.

He complained he had so much energy he just had to release it, or he felt he would explode! "Doctor," he said, "I simply must go hack to teaching again, I feel so wonderful. Would you please help me fill out these physical examination forms so I can get 'medical clearance'?*' I did so with pleasure and wished him good luck. A little later he secured a position in a private school.

Imagine my surprise and delight when he came to my office smilingly several months later. With him was a charming, matronly widow. They had come in for their Wasserman tests, as required by the law in the State of California for pre-marriage certificates. They were leaving soon for their honeymoon!

Apparently it's not only never too late to feel young, but it's also never too late to act and be young!

We all know that when you have such a sense of well-being and feel young, your whole attitude towards life is younger and fresher. One's entire philosophy can change to a more youthful, optimistic one, in place of the stagnating and defeatist attitude that so many older people have. When you *feel* young, you act young; you want to *do* youthful things and you *think* young. This feeling and philosophy of life prevents many mental and bodily ills that are especially apt to afflict elderly people. In this way can you maintain health, vigor, and happiness with the advancing years. It has been said that "There is really no cure for old age; only those who die young escape it." But the low-fat nutritional way of life can really help you "Grow Younger With the Years."

# INDEX

## B

## C

## N



## 0

**p**



**R**



**S**

T