

# **FOUR ENEMIES OF HEALTH**



**Water, Salt, Sugar & Fat**

---

---

**GETTING TO THE  
HEART OF THE MATTER**

---

---

Published & Distributed by  
Allied Educational Foundation  
in association with  
New York Cardiac Center

# FOUR ENEMIES OF HEALTH

## CAUTION

This is one of a series of pamphlets published by the Allied Educational Foundation in association with the New York Cardiac Center, non-profit organizations, as a public service to acquaint the general public with some of the latest activities, studies and developments in medical and nutritional fields. Each writer is permitted the widest latitude to present the information in a form that can be readily understood by those not acquainted with technical or medical terms.

It should be emphasized, however, that this pamphlet is for **educational and informational purposes only**. The Allied Educational Foundation and The New York Cardiac Center do not endorse, sponsor or recommend any treatment, diet or procedure, expressed or implied, contained herein whatsoever. All readers are cautioned and warned that no treatment of any kind or nature should be undertaken except at the direction and continuous supervision of a physician, preferably one specializing in that field of interest.



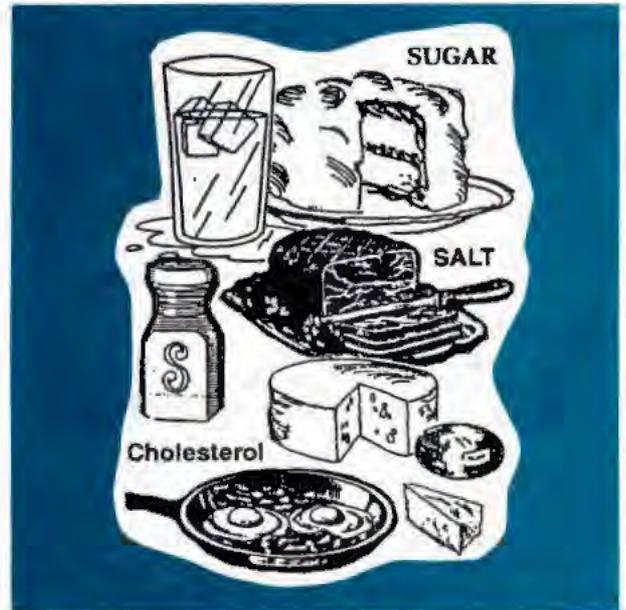
COMPOSED BY  
GEORGE BARASCH  
Professor of Research  
Department of Management  
Stevens Institute of Technology

Reviewed by  
Morton Davidson, M.D.  
Assistant Clinical Professor  
Mt. Sinai School of Medicine  
and  
Leonard Weingarten, M.D.  
Associate Professor  
Mt. Sinai School of Medicine  
and  
Co-Directors of  
Allied Medical Center

## Four Enemies of Health

In this study, we shall be taking a careful, sober look at each of four enemies that attack every human life. Some readers may find themselves surprised, for each of these enemies is believed by many to be a friend, even a necessary part of the diet to assure good health! How can these friends be enemies? If they do, in fact, threaten good health, what can the individual do to protect himself or herself? But first, what are the names of the four enemies that time has not stilled and the best efforts of medical doctors have not defeated?

The four enemies of health we shall be studying in the pages that follow are: water, fats, salt, and sugar.



Some of our most common foods which we consume daily can be not only detrimental to health but also life threatening.

These enemies are not strangers but are found in every home. We bring them to our tables at nearly every meal. We know them so well, we hardly consider them. Or, like old friends, we forgive them because we have known them all our lives. Yet it is our lives that are threatened by these so familiar "friends."

## WATER A Miracle Fluid

A few moments of thought will remind us that water is the most important substance on earth. We could learn to live and work without oil and gasoline. But without the right amount of the right kind of water, plants and animals weaken and die. Water is the great sustainer of life. Consider what it can do: shape and change the surface of the earth, modify and affect climate and weather, provide energy in the



Rain is the source of drinking water for half of the population of this world but the pollution of the atmosphere from acid, smoke, chemicals and other pollutants have so modified atmospheric conditions that the water is no longer safe and may be dangerous.

forms of steam or electricity. No other substance does so much without ever wearing out. For

water is a cycle—falling in the form of rain or snow, lifted back into the sky by the sun's evaporation and falling again. Over and over. We have just about the same amount of water as the earth knew four billion years ago! The same quantity, but not the same quality. For human beings have damaged the supplies of water in so many areas of industrial countries, like America, that the miracle fluid we need and use each day has become, in the opinions of some science and medical experts, dangerous to health.

## A Mystery Substance

"Water: a very fluid, scentless, tasteless, transparent, colorless liquid, which turns to ice with a certain degree of cold."

*Elementa...Chemiae, 1732*

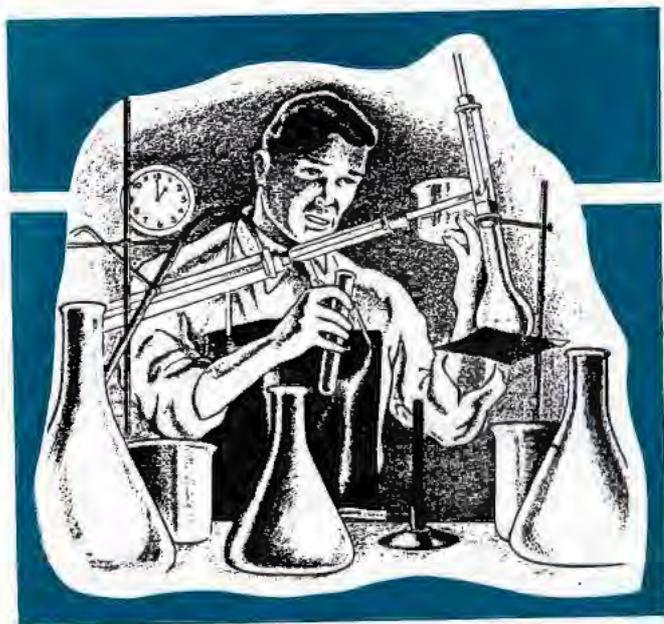
The short quotation above summarizes all that was known or understood about water over two centuries ago. In the 1980's, many readers would look at what flows in the nearest river or stream or runs out of the kitchen faucet and be forced to disagree.

Some water smells bad, tastes of chemicals, must be allowed to settle for a few moments before you can see through it or has a pale, cloudy tinge or color. Water has become—unfortunately and, in some cases, dangerously—changed. Recent studies of water in America have shown that it can and does contain up to 200 substances that should not be in it at all!

## An "Inflammable Air"

What is water made of? Why, it's good old  $H_2O$ —two parts of hydrogen to one part of oxygen. Children learn that fact in school, and millions who have never studied chemistry are well aware that water—oddly enough—is a fluid made up of two gases. What we are so sure of was not discovered until 1784 by Henry Cavendish, an English experimenter. And he was looking for something else.

The world of science was then excited by a new word "electricity." There were very few who understood even a little bit about electricity, but one of them was the American printer - businessman - politician - diplomat Benjamin



Water carries disease. Our rivers, streams and wells are heavily polluted and require constant chemical analysis. Drinking such water may cause severe illness and death.

Franklin. Cavendish had read a pamphlet published by Franklin in which it was set forth that electricity could travel—jumping through space as a spark or carried, somehow, by thin strands of wire.

Would electricity pass through water? Cavendish was amazed to watch, over and over, electricity flow into a sealed container of water. Why amazed? Because the water disappeared! Cavendish further noted that the gases would support burning. He, in turn, published his findings and declared that water was really "inflammable air."



Unclean water, loaded with garbage, sludge, waste and excretion dumped into the lakes, rivers, and streams has devastated our wild life, killed fish by the thousand, destroyed the lush green coastal area, spread disease and upset our ecological balance which is essential to the perpetuation of all living matter. Fresh, safe, drinking water is rapidly becoming a scarce commodity. Only 20% of the water in the country is considered safe for drinking, and that, too, is shrinking at an alarming rate.

## Rozier Loses Some Teeth

Today, in many areas, water is chemically treated to fight against dental caries or tooth decay. Two hundred years ago, the strange fact that water is the liquid state of two gases was proved—painfully—by a French expert in still another area, balloon-flying. Pilatre de Rozier was an international celebrity in 1784, a daring pilot of balloons who had made many successful flights in both hot-air balloons and the new, experimental crafts that were lifted by gas. He, ladies and gentlemen, was the world's expert on all sorts of gas. Who was the foolish Englishman who printed lies, claiming that water . . . which was wet, very wet . . . was really gases that would burn? True, Dr. Franklin had proved that lightning was a form of electricity, but wet water burn? He, Pilatre de Rozier, would perform an experiment that would expose Henry Cavendish as a liar.



Dr. Bernard Lown, M.D., Professor of Cardiology, Harvard University School of Public Health, states that 80% of the available water in the United States is unclean. It may be the cause of arthritis, cancer, blood and circulatory disease, and gall bladder and kidney ailments.

The audience watched anxiously as de Rozier passed electricity from a small, home-made storage battery through a sealed container of water with a valve on the top. How strange it was to see the water simply vanish, disappear! De Rozier opened the valve, put his mouth over the outlet and inhaled deeply, filling his lungs with the released gases. Then, he gestured to an assistant to hand him a burning candle. De Rozier exhaled the gases into the candle flame. The result? An observer wrote, "There was a terrific explosion, and de Rozier thought that all his teeth had been blown out."

When he recovered, de Rozier went back to his experimental flights in gas-filled balloons. Water was dangerous stuff!

His countryman, Antoine Lavoisier, identified the "inflammable air" as hydrogen gas and oxygen gas. Each tiny molecule of water was formed of three invisible atoms: two atoms of hydrogen and one of oxygen. Lavoisier called it  $H_2O$ . Modern chemistry really began at that point in late 1784. And humans went right on drinking and washing and using water to cook with and to turn mill wheels, just as they had before.

## Water Carries Disease

What the small society of scientists can learn does not always immediately change or improve human existence. Diseases killed tens of thousands because they were drinking contaminated or polluted water from rivers, streams and wells. No one yet knew that water in liquid

form could be more dangerous than when released into both gases.

## BLACK DEATH POLLUTED WATER



The "Black Death" that spread throughout Europe in the 1300's killed one-third of the entire population. This plague was caused by polluted water. Even today in many parts of Europe, the water is unfit to drink. People use bottled water for drinking purposes. Every experienced world traveler drinks bottled water.

## Light Gases and Heavy Water

Hydrogen is a very light element. That is what enables it to lift a huge airship. It is so light that all the hydrogen would fly away from the surface of the earth, rushing out into space, except for the curious fact that when hydrogen gas is "burned" with oxygen, the new molecule,  $H_2O$ , is nine times heavier than the gas that makes up two-thirds of that tiny water drop. Water vapor can be carried up into the sky by billows of hot air, but when that air cools, the vapor condenses into rain and falls back to the earth again. This is a cycle we mentioned earlier. The cycle is possible because the two pure elements when combined can be pulled by the force of gravity. Light gas, but heavy water. Just one of the strange properties of the fluid all life needs. One of our four "friends" that can be an enemy to health.



Water sustains the life of our forests and vegetation. Without it, the earth would be barren and dry.

## Special Properties of Water

There is absolutely nothing like water. Nothing. It is the only natural fluid that forms between 32 degrees Fahrenheit and 212 degrees on the same scale. Water is practically indestructible. When it boils, it seems to vanish but only changes to steam. Only electricity can make it go back into hydrogen and oxygen. Water vapor molecules can be cooled and condensed, as we have seen, in the exact amount, after any length of time, a few minutes or many centuries. Water is billions of years old, and as new as the stream that rushes from your faucet.

Nothing flows like water—over, on, across, through and down. It washes, erodes, breaks up and dissolves almost all other particles, molecules and elements, then gives up what it has carried without change or damage to itself. Whatever it carries in suspension, water is still itself— $H_2O$ .

In liquid state, water always tries to be round, a sphere or ball-shape, but when it is frozen as snowflakes, each is a variation of a six-pointed star. Only electricity can separate a water molecule back into its atoms, but when simply heated, water expands and becomes enormously powerful when harnessed as steam. Yet, no matter how high you turn the flame, water never gets hotter than 212 degrees. You can make it boil faster but not hotter. However, steam can be superheated to 300 degrees, even higher, but it is still steam—even when generated by a nuclear-reactor plant and used to drive gigantic aircraft carriers for the U.S. Navy.



Here Lies Joe Jones Who Said:  
"I Can Drink Anything!"  
So He Did  
Now He's Cold and Dead!

The skin of water is only one molecule thick and easily penetrated which enables those tiny particles to be carried inside a single drop. Of course, considering its weight, this skin is as strong as steel. Certain insects can walk or skate on water in its liquid state. Humans have to wait until it freezes.

Water, too, has the unique ability to lift itself up—by what is called capillary action—overcoming the force of gravity. A housewife sees this special property every day when a paper towel dipped in water becomes wet several inches above the surface of the water.

As the most complicated of animals, human beings are specially affected by the special properties of water. In these relationships, too, there are some surprises.



There is nothing like water. It's the only natural fluid that hasn't changed in quantity for billions of years. It is indestructible. It can be boiled, frozen, heated, vaporized, condensed, solidified but never diminished.

## Human Needs for Water

Our bodies are roughly 70% water. We need about 1½ quarts of water each day to live. And this, too, is a special need, for we change the water within our bodies about 17 times each year. Roughly every three weeks, then, our body chemistry is renewed. One important substance, the carrier of other helpful and harmful substances, is the water we take into ourselves by eating and drinking.

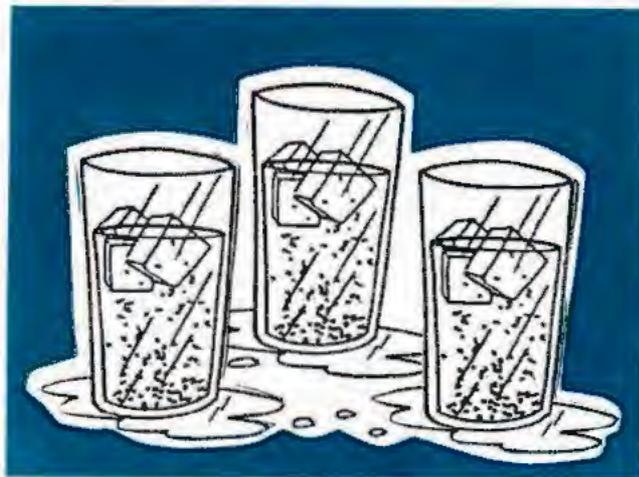
Human life is counted by billions. All humans must have the right amount of water and the right type. Yet our sources... especially the sources of drinking water... are less than 1% of all the water on the earth! Lots of us, little of it. More than 70% of the surface of the earth is covered by water, but water containing so much salt that we cannot consume it safely at the daily required rate. It will kill us. Again, our friend can be an enemy.

### Safe and Unsafe Water

We know that water contains many dissolved substances so small we need a powerful microscope to see them. Presently we are certain that a single drop of water can contain a swarm of living organisms: bacteria and viruses. Many are harmful; some are harmless or useful. Some are murderous. Epidemics have been caused by contaminated water. After natural disasters such as violent storms, floods or hurricanes, agents of the government on local, state and federal levels devote long hours and huge sums of money on making certain that the water is safe for the survivors to drink.

Water we drink, day after day, cannot contain more than .1% (one-tenth of a single percent) dissolved minerals. The human body can extract minerals needed for good health and a strong, sound heart and, at the same time, eliminate excess minerals. But an increase or overload of almost any chemical contained within a single drop of water can have serious effects on the human body. The line between

safe and unsafe water, then, is a very, very fine one.



Water can contain bacteria and viruses—some harmful, some harmless. Epidemics have been caused by polluted waters after natural disasters such as violent storms, floods or hurricanes.

This makes humans sound very fragile. Yet we are very adaptable. Humans can adjust to the addition or subtraction of a rather wide range of substances in drinking water, so long as the total amount is not too great. Even then, humans can survive on the water in some areas, where many species of plants and other kinds of animals cannot live at all.

After considering some of the remarkable properties of water, the reader may not be so surprised to count the numbers involved: very small to very large. Average drinking water on the surface of the globe contains about 200 parts of all the minerals it carries— those minerals will vary greatly from one place or country to another, depending on the soil and other

factors—to 1,000,000 parts of water. Only a powerful microscope could show us this sort of water. **A glassful can be a drink of slow or swift poison**, but the danger cannot be seen by the unaided human eye.

### **Chemical Combinations in Drinking Water**

No thoughtful person wants to go back in historic time, although many feel the loss of an imagined Eden—a perfect, primitive, simple and safe world. This is a reaction to modern life, where every convenience of existence carries some sort of penalty in cost or risk to health. Really, not one of us wishes to surrender the progress of medical research and practice and return to a jungle shared with Tarzan and Jane. Hundreds of thousands in every technologically advanced or industrial society worry about the destructive or dangerous effects of “progress.”

New industries and new products cause new chemical compounds and substances to enter drinking water supplies. Some, alone, in concentration are dangerous. When mixed with water alone or when reacting to other chemicals carried by water, these substances are neutralized or made harmless. And the reverse is true. For example, scientists are now reasonably certain that humans need very small amounts of zinc and cadmium to remain in good health. Then we should hope to find them in the water that we drink. Well and good. Now add two very common chemicals—calcium and magnesium—and the fluid which looks, smells

and tastes the same is poisonous. **Is it easy for the dangerous combination to be formed? Yes, it is.**



**New industries and new products cause chemical compounds to enter drinking water supplies which in concentration can be dangerous.**

A company or manufacturer that is extremely careful and cautious about the water discharged as waste from its own operation has no way of knowing or controlling the chemicals dumped by any other manufacturer in the immediate area or a much larger region. Most rivers are safely low in mineral content and chemicals in suspension at their origins or “headwaters.” But as they flow toward the oceans, rivers typically pick up more and more industrial and human wastes. Only a short way from its own source, most river water must be purified to be safe to drink.

### **Total Environment Impacts on Water**

How much water do you use each day? The average American uses for all purposes—drinking, cooking, washing body and clothing, waste elimination—about 150 gallons daily. City dwellers and suburbanites, too, suddenly discover how much water they consume when

## Lead Poisoning

A good deal of drinking water in this and other countries contains lead in low, safe amounts. Humans can drink that kind of water for fifty years without the slightest risk of lead poisoning. But the environment adds lead in processed foods, in other beverages, in cigarette smoke, in air polluted by automotive and industrial exhausts. These amounts added to intake from water can become dangerous. Not all at once and not very dramatically but over a span of years the total environment, plus unchanged water, can create new health hazards.

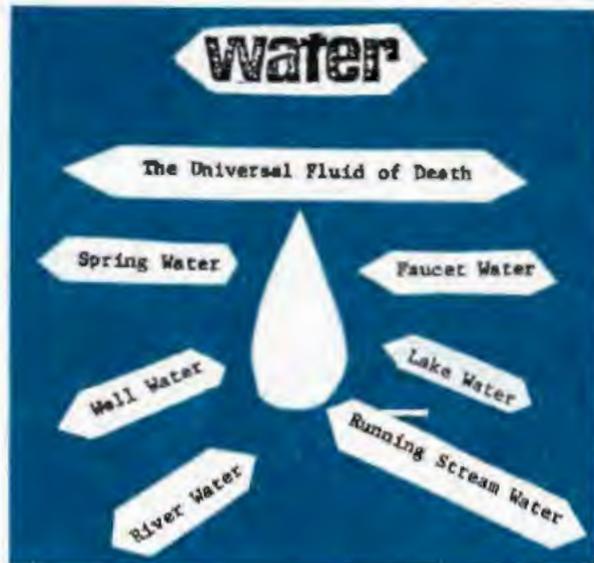
Lead is a fair example of environmental impact. For many years, in many countries, that metal was used for water pipes. It is cheap, flexible, easily worked and easily repaired. And dangerous. Run average, safe drinking water through a lead-pipe system for years and the water drinkers are slowly poisoned. Lead is no longer used to transport water to your glass. But it hasn't gone away entirely, even though new automobiles run on lead-free gasoline products.

### What is American Water Like?

Various agencies of local, state and federal government have studied drinking water in the United States for many decades. Research volumes bulge with facts, statistics and measurements of the quantity and quality of American water. Other research studies have examined the relationship between water and disease.

These pages cannot attempt to present all that is known, but some facts are worth consider-

a local power failure shuts off circulation pumps and pressure systems or a broken main line requires three days' work by man and machine to fix. We depend on the work that water does as well as on the substance itself.



Heavy metal poisoning in water exposes us to ingesting substances that are deadly and will surely result in the death of tissues if we live long enough to suffer their effects. These include lead, mercury, arsenic, cadmium, nickel, manganese, asbestos and chromium. They destroy brain and nerve cells, increase the permeability of tissues, inhibit enzymes and increase the level of toxicity.

We don't live on water alone, of course. The total environment we have created—sometimes too fast to be controlled—combines in ways we cannot see or even sense to effect the quality of the water. How good or safe water is, that's important. How much water there is also is important, but we can adjust to a drop in supply more easily...and more safely...than we can even to slight changes in water quality. Let's think about lead, for instance.



**This man is a victim of chronic fatigue. He has no energy, vitality, strength or ambition. He suffers from extreme weariness, physically and mentally, which may have been caused by drinking unclean water over a period of many years.**

ing by health-conscious persons. United States Environmental Protection Agency studies and Department of the Interior reports indicate, in part, the following:

### **Dissolved Solids**

Typical American drinking water contains sodium, calcium, magnesium, bicarbonate, sulfate, chloride and silica (sand) from 1 to 1000 parts in 1,000,000 parts of water.

### **Secondary Constituents**

Depending on the area, rock and soil conditions and other factors, drinking water can contain iron, strontium, potassium, carbonate, nitrate, boron and fluoride (either naturally or added). These chemicals are in very low

amounts, only .001 to 10.0 parts to 1,000,000 parts of water. One of the secondary constituents, fluoride, has been repeatedly attacked by opponents of water-treatment systems where this chemical is deliberately added to local or area drinking supplies without the approval of the local consumers.

### **Minor Constituents**

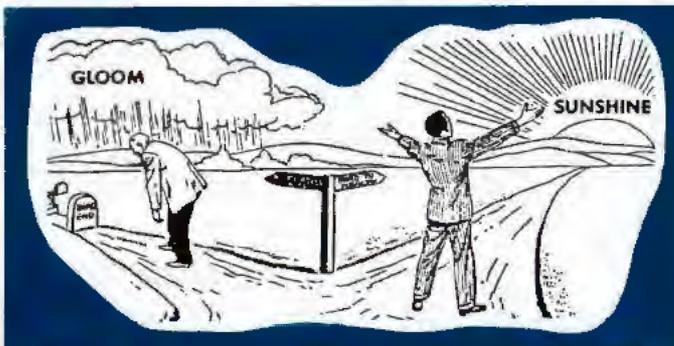
Studies have isolated twenty-four minor constituents. Here there will be considerable variation. Water from one area may contain some or all, samples from another section of the same state may show few or none. It is interesting to note that some of these minor constituents are now considered to have some benefit to human health. They are chromium, cobalt, copper, iodide, selenium, and zinc.

### **Trace Constituents**

Additionally, twenty-one chemicals or elements are listed as "trace." This is a very, very small amount less than .001 part to 1,000,000 parts of water. Only one of these trace constituents is considered important or valuable: gold.

### **What is "Hard" and "Soft" Water?**

Take all the elements and chemicals considered above: dissolved solids, secondary, minor and trace constituents in a water sample. Analyze and count them. If the total falls between 0 and 60 parts of any combination of these substances to 1,000,000 parts of water, then the water is considered "soft." From 61 ppm (parts per million) to 120, the water is



The choice of which road to take is up to the individual. He alone can decide whether he wants to reach a dead end or live a healthy, wholesome, long, active life. The type of water an individual drinks will have a strong impact on his health, energy and future.

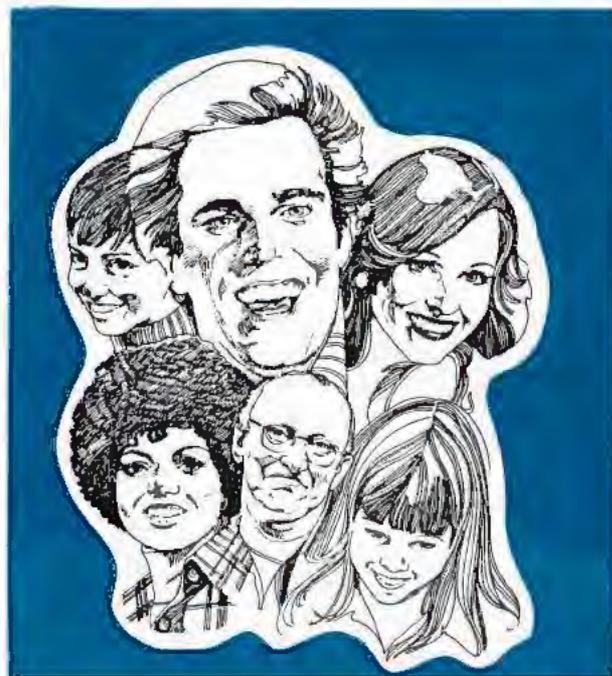
average. If the total is 121 ppm up to 180 ppm, then that water sample would be judged as "hard."

"Hard" water has about twice as much dissolved matter, elements, minerals and chemical compounds, as "soft" water. By these standards, seventeen states—Alabama, Arkansas, Connecticut, Delaware, Georgia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Oregon, Washington, Vermont, South Carolina and Rhode Island—are "soft" water areas. That leaves thirty-three states in the union with "hard" water. The hardest? Nebraska, by a fair margin.

### How Significant is "Hard" and "Soft" Water?

What water has in it will limit what can be added and what the reactions will or might be. This is important to a broad range of industries since certain processes require very carefully

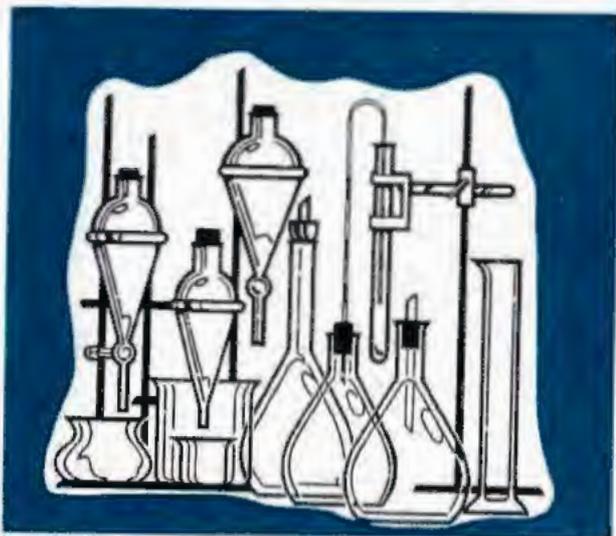
treated water. That is, the water must be right for the industry or easily correctable. A change in the water and the industry must close down. Two obvious examples would be beer brewing and fabric dye-processing. The wrong sort of water will produce undrinkable, unsalable beer or fabric for which the color and fade resistance cannot be controlled or made standard.



Your tongue never lies! Your tongue is a "mirror" of your bodily functions. Your tongue can reveal how much toxic material is stored in the cells and vital organs of your body. The tongue is not only the mirror of the stomach but the entire membrane system as well. A coated tongue is a natural warning that something is wrong in your system.

For the average household "soft" water means suds. Soap suds, not beer suds. More accurately, they are detergent powder suds. "Hard" water does not lather easily. The soap or detergent cannot dissolve, cannot get through the "skin"

of the water molecule to get itself carried by the water. Wash water must saturate, penetrate and lift loose the tiny particles of dirt. Soap makes this easier. When water is heated, the molecules move apart, and soap and dirt mix more easily with the water which is then rinsed or pumped away as waste. Some modern detergents function quite well in cold water, but even better if the water is also "soft."



Water can be softened by chemical processes but invariably the chemicals used contain a considerable amount of sodium which may increase blood pressure and cause other circulatory disturbances.

### Can Water Be "Softened"?

This is a very common practice in industrial countries like the United States, as much in manufacturing as in the home. Many types of heating and power plant systems will react to "hard" water to such a degree that pipes clog, valves jam and entire systems fail. This costs money for maintenance and repair. Human beings, as we have seen, are more adaptable to changes in the quality of water than many other

animals and plants. Machines, of course, cannot adapt to changing water at all.

Homeowners in "hard" water areas commonly invest in water-softening equipment. Water is treated by a process called ionization which permits soaps and detergents to do their work more efficiently. But the water itself is not made more healthy or more harmful by this softening process.

At present, medical doctors and nutritionists are still uncertain of the effect of "soft" and "hard" water on human health. There is not yet enough solid evidence to persuade all people of a single truth. Part of the ongoing arguments consider a third type of water—distilled water.

### Distilled Water is Pure

Dr. Carey Reams, a researcher and consultant in nutrition and biochemistry, urges those people who seek his advice to use distilled water to improve general health and to lower the risk of heart attack.

In his view, the standard American diet overloads the system with urea. Urea, as its name suggests, is found in urine—tiny white crystals formed from ammonia and carbon dioxide. It is a common element used in commercial fertilizers. In some areas when urea is applied to fields, it leaches into the local or regional water supply.

## WHY I DRINK DISTILLED WATER EXCLUSIVELY



Distilled water is neither hard nor soft water; it is simply the purest of water.

Undigested protein will cause a build-up of urea in the body. Americans are fond of eating pork, shellfish and tuna, as well as a broad range of processed "luncheon" meats. All these foods are very rapidly processed by the body, so fast that the healthy protein they do contain cannot be used. Surplus protein is turned into urea and dumped into the bloodstream. The kidneys are not able to eliminate the urea overload. Standard blood tests and urinalysis results will show abnormally high amounts of urea. To Carey Reams, these test results should be considered early warning signs of future heart trouble, even heart attack.

### Distilled Water Cleans the System

Carey Reams finds a health value today in the use of distilled water to "cleanse the temple" of the body, as ancient Scripture phrased it. Excess urea causes nervousness and loss of energy as well as disturbed sleep patterns. Since they feel poorly, Americans try artificial stimulants to restore "drive." A small amount

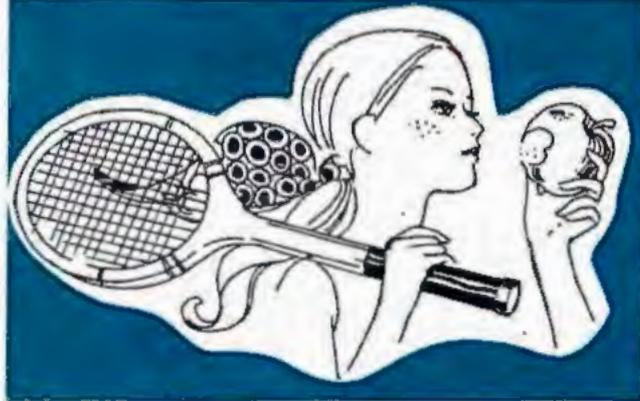
of distilled water, taken regularly, helps to remove the excess urea in blood and urine. Dr. Reams feels that **complete cleaning can take as long as a year** but that any health-conscious person can promote his own well-being and reduce urea levels below the heart attack danger zone in about two days.

Four ounces of distilled water every half hour or four eight ounce glasses daily maintains a steady cleaning action by absorbing excess protein and waste urea and passing both from the body as urine. Excess salts stored in fat deposits and muscle cells will be released, too, but more slowly. This, too, is a health benefit, as we will see in later pages.

### Can Distilled Water Help Your Health?

What does excess urea in the bloodstream do? It forces the heart to beat **harder, but no faster**. If the heart is forced to pound, hundreds of times harder than it should, then overstimulation causes overwork. Overwork raises the risk of heart attack. Nutritionist and biochemist Carey Reams considers a healthy level of blood urea concentration to be a low level. Four to five times above that and you are really asking for trouble.

Does exercise reduce or remove urea? Not significantly. **Violent exercise** can increase the threat to a heart already hammering away, trying to drive the blood through stiffened arteries. Does a vegetarian diet which eliminates animal protein help? Not necessarily. A vegetarian can



Water can be treated to eliminate infectious bacteria. Filtration equipment and chlorine treatment can clear the water and destroy known disease carrying organisms. But these systems can do little to remove many poisonous chemicals, minerals and acids that enter the water supply at ever-increasing rates from factory waste products. The distillation process is the only method that will eliminate waste products in water.

overload his system with protein from soybeans and kick his urea count too high just as a meat eater can.

The principle that lies behind the use of distilled water is that, because it is so pure itself, it can absorb and help eliminate what the body does not need. **Distilled water adds nothing, but helps take away wastes speedily and safely.** Pure water is not, obviously, a drug or medical compound.

When stored salts and excess urea pass from the body, a sense of well-being is restored. The heart does not have to pound away. Nervous irritability declines and an improved measure of health is promoted.

## NATURAL DISTILLED WATER IN COMMON FOODS

Lettuce (iceberg) .....	96
Snap beans, radishes, celery .....	94
Tomato juice .....	94
Watermelon .....	93
Cabbage (raw) .....	92
Broccoli, carrots, beets .....	91
Orange .....	88
Cherry Soda .....	88
Milk .....	87
Apples .....	85
Pears .....	84
Grapes .....	82
Potatoes (boiled) .....	80
Eggs .....	74
Corn .....	74
Chicken (boiled) .....	71
Fish (baked) .....	68
Cheese .....	40
Butter .....	16

## Water and Heart Disease

Considering the pollutants in our water and how it must be treated to make it safe, it seems sensible to drink steam-distilled water. Tens of thousands do just that, even paying about 60¢ a gallon. For a dime, you can buy about 1,000 gallons from a municipal supplier, the local water department. Over the years, it would add up. The distilled water would cost the consumer \$600. For those concerned persons, it's worth it, even the inconvenience of bringing drinking water home from the supermarket. They know it is almost completely pure, and no other chemicals or substances have been added to kill bacteria, mask or eliminate bad tastes or smell. It's just H<sub>2</sub>O.

## What About Mineral Waters

For hundreds of years, many thousands of people have been visiting "baths" or "spas." Here, along with a regimen of restricted diet and exercise, guests are encouraged to bathe in waters that are very high in mineral content (sometimes the supply is a natural hot spring) as well as to drink a certain amount each day. Long before water was carefully studied, wild claims were made about spring or mineral waters. A few glasses a day could cure everything from gout to venereal diseases, prevent baldness, and restore the function of human livers nearly wrecked from over-indulgence in rich food and alcohol. **No responsible person makes such claims today. Most certainly a diet containing ample supplies of fruits and vegetables, along with a program of regular moderate exercise, improved the health of guests at the famous spas as much or more than did the celebrated waters.**



Fresh fruits and vegetables provide vitamins, minerals and pure distilled water.

Today, probably in the same supermarket aisle as the steam-distilled variety, the consumer can find American and foreign-imported bottled waters for sale. And sales are good, partly because consumption of bottled water has become fashionable and partly because Americans have become aware of what's in the liquid that comes out of the kitchen faucet.

Popular brands of bottled water are, as claimed, from a spring source and therefore "natural." Often, the label states exactly what careful tests have determined parts per million of all the elements contained. These are not the same as some once- or still-famous "spas", where the water contains an excess of one or more chemicals. . . enough so that the water has a distinct taste and sometimes an unpleasant smell. Some of these waters are likely to harm the drinkers over a long period of time.

Well, then, who is right? Which consumer is fighting the old friend turned enemy and winning? The steam-distilled water drinker or the bottled water drinker? That is not easy to say. Nutritionist Paul Bragg is a spokesman for the distilled school of thought. He distrusts the supposed health values of "hard" water and points out that comparative studies of "hard" vs. "soft" do not normally include distilled water at all. His case is strengthened by the truth that the human body does not need, cannot use, and can be damaged by some of the inorganic minerals commonly found in drinking water. On the other hand, some scattered evidence exists that suggest, but does not prove, that "hard" water may have certain health benefits.

## Heart Disease and "Hard" Water

Some diseases follow patterns of geography within a given country and in various sites around the world. Why this is so remains a mystery still, although some careful studies of environmental geography and geochemistry (the chemical reactions of rocks, soil and plants to water) are ongoing. Some scientists believe that water may be the factor, or one of the major factors in the differences in heart disease rates in various areas. In the book titled Live Longer Now, by Jon N. Leonard, J.L. Hofer and Nathan Pritikin, the authors cite the study that indicate deaths from heart disease associated with hypertension were lower in those regions of the United States where the water was "hard." In fact, the harder the water, the lower the death rate. "Soft" water drinkers, suffering from heart disease associated with hypertension, did not seem to live as long. Not surprisingly, citizens of the state of Nebraska, location of the hardest water still drinkable, were rated highest in this study. In the thirty five years since that study, more evidence has come to light.

## English "Hard" Water Research

Not all nations have agreed on the health benefits of "hard" drinking water. Swedish investigators could find nothing significant one way or the other. Russian scientists studying sufferers from high blood pressure in Moscow...where the water is "hard"... found no real difference in rate of that disease in Leningrad...where the water is "soft."

Then researchers in Great Britain concluded

a major study of this mystery. The evidence submitted by the internationally-known medical doctor, Jeremy Morris, showed that where the water in England and Wales was "hard," heart disease tended to be low. Sixty-one locations, each with a population of 80,000 persons or more, showed that the harder the water was, the less likely its drinkers were to die in middle and early old age, especially from diseases of the heart and blood vessels.



Russian scientists studying high blood pressure in Moscow...where the water is "hard"... found no difference in the rate of the disease in Leningrad...where the water is "soft."

Does a change in the quality of water affect death rate from heart disease? A check on eleven county sites in England showed that where the water had been changed and grown harder over thirty years, the death rate from heart disease fell slightly. But where the water had become softer, the rate of death from heart disease had increased.

Leonard, Hofer and Pritikin also comment on the Canadian study of heart attacks in that country. . . 20 to 30% higher in a city with "soft" water than another Canadian city with "hard" water. Different country, same results.

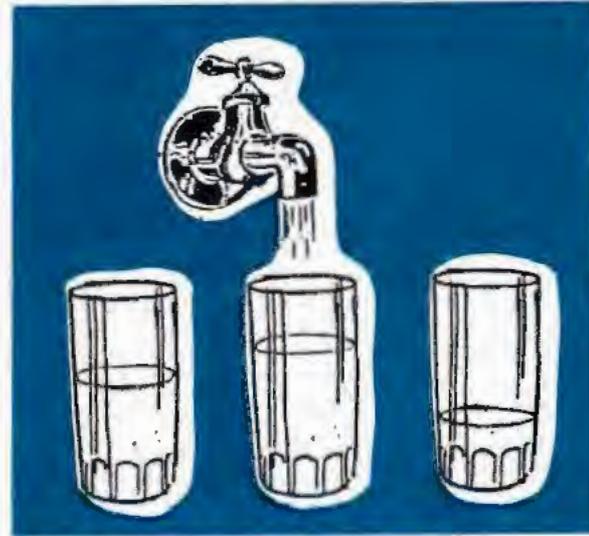
### What About America?

The relative "hard" or "soft" quality of water in America depends on the amount of two common elements, calcium and magnesium, the water contains. The more of these the local water has, the harder it is said to be. Some recent studies suggest that these metal elements may work to lower cholesterol in human blood and provide some measure of protection against coronary artery disease. The two elements appear to combine with some types of fats. As we shall see, high cholesterol intake and high fat intake is another enemy of the human heart.

Henry A. Schroeder, M.D., Dartmouth Medical School, is one of the world's experts in metals and hard water. In his book, The Poisons Around Us, he pinpoints cadmium as the secret killer. Schroeder argues that soft water is associated with high death rates because it contains a high amount of cadmium. He does not agree with Paul Bragg that mineral deposits take place in harmful ways within the body. Rather, he states, "hard" water lays down deposits of calcium in standard iron and copper pipes that bring water to homes and apartments.

"Soft" water, low in calcium and magnesium, does not do this. "Soft" water becomes slightly

acid, enough to dissolve still other metals from the pipes: copper, lead and cadmium. The cadmium, even in very small amounts, may replace the proper element that helps the body use and get rid of fats in the blood. Dr. Schroeder believes that distilled water lacks those minerals humans need but "soft" water permits intake of the element that allows hardening of the arteries and high blood pressure to occur.



Soft water becomes slightly acidic. It can dissolve metals such as copper, lead and cadmium from pipes which may cause hardening of the arteries and high blood pressure.

No matter where we turn, then, there is no single, absolute truth. Some facts, however, should stick with us, as we remember that water. . .our necessary friend. . .can quite easily become an enemy to our hearts and then our health and lifespan.

### Final Thoughts on Water

Very few Americans enjoy natural, un-

processed well or spring water. More than half our nation drinks water that is contaminated or polluted or both at the source and then is treated to remove industrial waste, dye-stuff residues, underprocessed sewage, and fertilizer and pesticide residues. Some residues—mercury, lead and arsenic—are known poisons.

Humans need some minerals for health and long life. Inorganic materials cannot be used fully by the human body according to Paul Bragg, noted nutritionist. Chlorine, the main water purifier/disinfectant, is inorganic.

**Steam distilled water, while very close to 100% pure, lacks some important minerals.** A diet of supplementary fruits and vegetables can easily provide the required minerals, and it is safer and better!

Bottled waters are certainly purer than typical American tap-water from the municipal plant. All are more expensive. Most are accurately labeled. You will know what your money is buying. Your money is not buying important minerals in distilled water, but purity instead.

### Consider Dietary Sources of Water

In these pages, so far, we have considered water in liquid form, its sources, methods of processing and delivery and the effects of “hard” and “soft” water on the human heart, not just the laundry. Water does not just come by the glassful, gallon or in plastic or glass bot-



Vibrant health can begin with drinking pure distilled water.

ties. It comes by the mouthful, too—as delicious vegetables and fruits. If pure, “natural” water is your concern and you want a good supply of needed minerals from natural sources, living plants can increase your intake of water by increasing the intake of the following fresh fruits and vegetables:

- |                    |  |
|--------------------|--|
| Fruits:            | apples, pears, peaches, apricots, grapes   |
| Yellow vegetables: | squash in all varieties, carrots, turnips, parsnips  |
| Green vegetables:  | all leafy varieties—spinach, Swiss chard, kale, beet-tops, dandelions, all forms of lettuce, cabbage, all podded types—beans, peas, edible peapods, okra, etc. |

## More Pure Water in Every Sip

Lots of fresh juices can be prepared at home from fresh raw fruits and vegetables. If you have a new food-processor that shreds and juices, use it. Buy only unprocessed juices—apple juice and cider, unsweetened frozen citrus juices. In season, make your own vegetable cocktail with a fresh tomato juice base, adding carrot, celery and other juiced vegetables. Juices from fruits and vegetables are primarily natural distilled water plus organic nutrients.



Watch what you eat and drink. It will pay big dividends in good health.

## HEART DISEASE AND FATS

In our country and elsewhere—Canada, Germany, Russia, Israel—in this century, we have come to know a silent, secret enemy. Like a plague, it has spread across the industrial nations. It strikes the rich and the poor, black and white. Once, it was thought that its victims were the middle-aged and the elderly. Recent evidence has shown that it attacks the young, too.



That ingestion of solid fats over a prolonged period will cause heart disease is not controversial. Maintaining a diet without fat products will insure a longer, healthier life.

In America, alone, better than one person each minute dies as a result of heart attack. That comes to more than 1,600 each day—over 500,000 each year. Those who do not die are often incapacitated. The cost of treatment, hospitalization, nursing care and prescription drugs to maintain life or ease pain runs into billions of dollars each year. Despite the efforts of medical science, the odds are about 2 to 1 that a white American male will die, directly or indirectly, from heart disease. Heart disease ranks as the first cause of death in Australia, Canada, Finland, France, Germany, Japan, the Scandinavian nations, Holland, Russia and the United Kingdom (England, Scotland, Wales and Northern Ireland). The number of victims? Millions each year, world-wide. The total cost? Tens of billions of dollars every year. One of Britain's best-known specialists in all forms of epidemics has stated that heart disease "is the scourge of Western civilization."

## Trends and Treatment

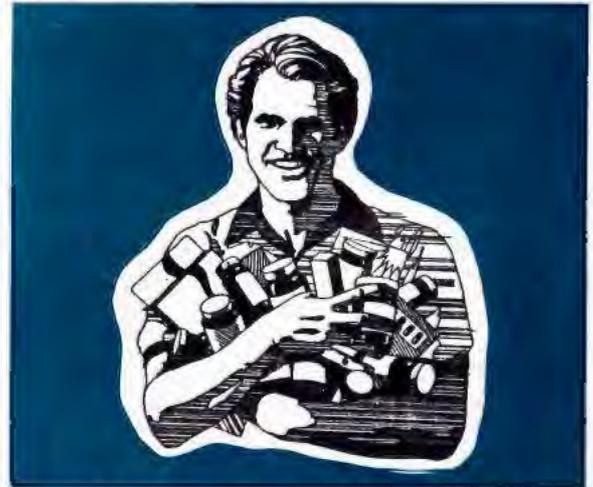
In our country, in recent years, statistics showed a slight drop in death rate from all forms of heart disease among middle-aged men. But the number of victims has increased in two other groups: young men and women. Some skeptics think that heart disease is "caused" by better methods of discovery or diagnosis. That is, the count is higher because doctors have become better at recognizing the signs and symptoms of the disease.

Despite years of research, heart disease still remains hard to detect or predict. People in apparent good health, fresh from medical check-ups, die without warning. Even while methods of detection and care improve, there is no reason for any health-conscious person, male or female of any age, to just wait until the doctors catch up with the disease. The wise do not just wait until the epidemic strikes them, then hope for the best. Prevention, as we all know, is better and cheaper than the cure.

### Drugs or Diet?

What about the "wonder drugs" that medical progress has discovered and put to use? The miracles of modern medicine? Unfortunately, there is no miracle. Medical doctors themselves die of the same varieties of heart disease they have spent careers battling. There is no drug that prevents any form of heart disease. True, some prescription medicines (about \$500,000,000—that's a half-billion dollars worth a year!) are employed to maintain life and ease suffering after heart attack, after stroke or after

high blood pressure has been diagnosed. Not before! Many drug compounds have serious, upsetting side- or after-effects, too. Drug treatment comes late, costs a lot of money and does not cure or prevent the disease.



Heart disease can be prevented by better nutrition and moderate exercise. The important minimum types of exercise are daily walking and stomach bends in conjunction with deep breathing of fresh air.

A vast amount of investigation and study by agencies of the medical profession supports the idea that heart disease can be prevented by better nutrition and modest exercise, which includes five (5) daily walkings of two to three miles, stomach bends, chest expansions, and deep breathing of fresh air.

Really? Who says so? Who states that diet—what I do and do not eat—can actually prevent heart disease? Rogers J. Williams, M.D., in his book Nutrition Against Disease does and he is not alone. As the medical profession learns more about the effects, good and bad, of what we eat, more and more doctors

write, speak and advise patients on the health benefits that can be won through nutrition. Note that word—nutrition. We are not talking of “diet” in the sense of merely losing weight to look more youthful, more attractive. Better nutrition means informed, regular attention to what we do and do not eat. In the pages that follow, we are considering a counterattack against the four enemies of health. We have examined one friend turned foe. . . water. Now we will turn to three others: fats, salt and sugar.

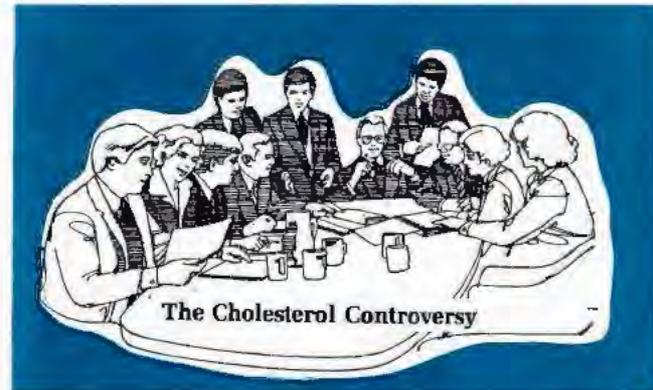


Food can make or break you. You can dig your grave with your knife, fork and spoon.

## Fats and Cholesterol

Remember the manner by which common drinking water deposits chemicals in pipes until those pipes clog and burst? Hardening of the arteries, or **atherosclerosis**, is much like that. The arteries that carry blood throughout the body to the brain and to the heart itself gradually stiffen and deposits are formed. Tiny particles in the blood suddenly plug the flow. If

this happens in one of the vessels that carries blood to the hard-working muscle that keeps us alive, that's a “heart attack.” If the stoppage happens in one of the vessels leading to the brain, that's a “stroke.” Both can kill or cripple.



A vast amount of investigation and study by agencies of the medical profession supports the concept that by increasing HDL (high density lipoprotein) you are lowering your cholesterol count and reducing the chance of a heart attack. The following procedures are advisable and have proven effective: exercise regularly; eat onions, garlic, bran and apples daily; use lecithin periodically; eliminate fats, tobacco and alcohol from your diet; use sugar sparingly; and fast one day a week.

Part of the problem seems to come from another necessary friend turned enemy—cholesterol. Millions know the word, but don't know what it is or what it does. They believe cholesterol is dangerous and they are right, particularly when cholesterol teams up with fats. Together, they are evil allies. But we need cholesterol, just as we need water. The needle-shaped, waxy bits combine to make a sort of insulation for the human nervous system. In this sense, cholesterol prevents nerve system “short circuits.” We need some and the body can eliminate what is not needed if (and it's a

big "if") the total amount of cholesterol in the blood is not too high.



### **Chemical in garlic seen as source of antithrombotic agent**

Eric Block, Ph.D., chairman of the department of chemistry at the State University of New York, Albany, notes that chemists have been fascinated by the physiological effects of garlic and onions for more than a century. It was only three years ago, though, that Block and his colleagues discovered that one of the garlic chemicals, allicin, could be altered to produce a completely new compound that, "in vitro" at least, prevents platelet aggregation.

"We decided to give the compound our own name because the chemical name, once we

knew what it was, was just too cumbersome," Block explains. "We call it 'ajoene' after the Spanish word 'ajo' for garlic."

With the discovery of ajoene came the ability to manufacture it in the lab and test it under a wide variety of conditions ranging from simple test tube experiments with animal and human blood samples to "in vivo" testing on animal models. The "in vivo" work is still in the preliminary stages, however, and as Block notes, "it's too early to tell whether we have discovered a substitute for heparin."

Having pinned down ajoene, Block's team continued investigating the compound's chemical structure and found that, by making one small change, they could produce yet another substance with the opposite effect—the acceleration of blood clotting.

Block, of course, is not through with garlic as a source of potentially useful compounds. He explains that both garlic and onions are made up of a number of organic molecules that are highly reactive and have a wide range of biological effects, and, he feels that further research in this area appears promising.

### **Cholesterol Intake and Inside Us**

Nutrition as a prevention against heart disease can and does lower and control intake of cholesterol. Cut down on fatty meats, overdoses of dairy products like milk, butter and

ice cream, reduce daily amounts of cholesterol rich foods and the measured amount of cholesterol in your blood will drop. Even if you could survive on a nutrition program that was absolutely cholesterol-free, your body would convert stored and daily intakes to create cholesterol to protect the nervous system. Moreover, a low cholesterol diet alone is not now considered to be an adequate method of counterattack. Cholesterol has an ally—fats—and both must be controlled to mount an effective program of prevention against heart disease.

### World-wide Studies of Twin Enemies

Many medical doctors and researchers from all corners of the world devoted tens of thousands of hours and millions of dollars to the study of cholesterol. Other teams spent thousands of hours and millions on studies of fats that are taken in by eating, broken down by digestion, and carried in the blood to the body cells. The results were often very puzzling. Large groups of people were studied. The research was broken down into groups by age and area. Low-fat and high-fat nutrition plans were assigned to volunteers as well as low-cholesterol and high-cholesterol diets. But the researchers often seemed to end up with results that were not simple, not clear, and not very useful. Sometimes the evidence was contradictory. No one substance, no single food seemed to **cause** heart attack. What was learned, from human and animal studies, has been neatly summarized in an important book we have mentioned before, Live Longer Now:

"1. Wherever and however animals were fed high cholesterol/high fat diets, atherosclerosis and heart disease were sure to follow.

2. All populations studied with diets low in fats and cholesterol were found to be comparatively free of atherosclerosis and heart disease.

3. All populations studied with high heart disease and atherosclerosis rates were found to have:

a) High amounts of fat and cholesterol in the diets.

b) High levels of fat and cholesterol in the blood."

### Misunderstandings and Mistakes

The preceding list is simple, clear, easy to understand and **misunderstand**. It would seem that all we need is some inexpensive safe drug that will remove the excess cholesterol from the blood, right? Wrong. What if such a drug increased the cholesterol that gets deposited in the arteries. That would make matters worse, not better. Then, reduce the amount of fats. Of course! It's simple. Change the nutrition plan from plain old fats to "unsaturated" fats that television commercials so often talk about. That will take care of everything. **No, it won't.**



It would seem that all we need is an inexpensive safe drug that would remove excess cholesterol from the blood. Right? Wrong! Such drugs have side effects, may cause liver problems or change the composition of cholesterol which could cause other serious complications.

There is no evidence that a nutrition plan limited to unsaturated fats either prevents or reduces hardening of the arteries or heart disease. In fact, animal studies have shown that unsaturated fats seem to transfer cholesterol, not get rid of it! Where does it go? Into the arteries and other body tissues.

But surely unsaturated fats are better than saturated, hard fats? Margarine is safer than butter? A research team in San Francisco headed by Meyer Friedman, M.D., did not think so. Their studies showed that unsaturated fats produced just as much **blockage** in the tiny capillaries that feed living cells as ordinary animal fats. Moreover, the unsaturated fats stayed in the blood **longer**. Another study of 200 men in New Jersey—men who had already suffered heart attacks—showed the same thing. Dr.

Bierenbaum and his associates looked at test results that indicated unsaturated fats were no better protection than animal fats. Fat, it seems, is fat.

### Not Either-Or. But BOTH

The authors of Live Longer Now stand in the front rank of those who believe that a nutrition plan selecting either low-cholesterol or low-fat does not prevent heart disease or reduce the chances of atherosclerosis starting its secret, invisible attack on the health of a human heart. They, with hundreds of other medical doctors and researchers, believe that a **preventive nutritional plan must reduce both**.



Think this way, I'm gaining health and I'm protecting myself and my family from heart disease by cutting down on cholesterol and fats. That's positive thinking!

Remember, cholesterol and fats are allies. To beat both, your prevention plan must reduce intake of **both**. The reduction of fats cannot be a weekday system that is thrown away by indulgence in high-cholesterol, high-fat foods on the weekends.

"How much?" Sooner or later, all nutrition plans face that question. How much do I cut down? What do I give up? Both are negative attitudes. Think this way: **I am gaining health. I am protecting myself and my family from heart disease.** That's positive thinking. That's planned prevention. That's a deliberate and determined counterattack against the second enemy of your health: fats. Not just some fats, some of the time but all kinds of fats, all of the time.

Incidentally, you will lose weight, appear slimmer and probably look younger. That's a private side benefit. Protection is the direct benefit.

### How much?

#### Down to 10% of Daily Intake

What does the heading above mean? Simply this: You take in a certain number of calories each day through protein, carbohydrates and so on. The chances are pretty good, if you're an average American that you live on a fat-saturated intake right now—whole milk, ice cream, fatty meats, snack foods, and fried meats and vegetables.

There are dozens of books, manuals, and popular magazines on store racks, library shelves, and in your home that give the calorie count for every sort of standard food imaginable. You will have no trouble counting calories and not much difficulty figuring out that 30%, 40%, even more of those daily calories come from fat-based, fat-cooked or fat-

enriched foods. Those are the foods to cut down or out.

### Stress and Heart Attack

A five year study of 270,000 employees of Bell Telephone produced some surprises. The tension and stress of adult existence in a modern technology did not produce a higher rate of heart attacks among Bell's white-collar, executive employees than among blue-collar workers. In fact, it was the other way around. **Stress alone does not cause heart disease.**



Stress alone does not cause heart disease. A study by Bell Telephone produced this surprising fact which is contrary to previous belief.

What seems to be the case can be summed up in two formulas:

**High-cholesterol/high-fat eating habits  
+ stress = danger**

**Low-cholesterol/low-fat eating habits  
+ stress = no damage**

Life is stressful. No one denies it. But damage to the heart comes from fats and cholesterol combined. A sound preventive plan reduces both. Lowering fat intake is the key since many fatty foods are also high in cholesterol. What is printed on the next page is not a day-to-day meal plan. It is an outline of sound nutrition to help you be healthy. If you can't beat stress at work or at home, you can beat fats and cholesterol in your blood.



**Far too many are subjected to critical, costly surgery and long periods of recovery which may have been avoided with proper diet and pure distilled water.**

## A Plan of Counterattack

Goal: To reduce fats to 10% of total daily calories with accompanying natural decrease in excess intake of cholesterol.

### DO EAT

White meat poultry, veal and fresh, frozen or water-packed fish.

Broil or bake

**Whole** cooked or dried cereals (wheat, oats, rye, bran)

Fresh vegetables, ideally raw, all kinds, including potatoes, boiled or baked and especially garlic and onions.

Fresh fruits—all kinds, ideally raw: apples, citrus fruits, etc.

Sourdough bread and rolls, matzoh, rye crisp, Swedish whole grain bread

Non-fat dairy products: milk, cottage cheese, yogurt, but not dairy product substitute made from palm or coconut oil

Dried legumes (beans, peas, lentils)

### DON'T EAT

Fatty meats: pork, beef, lamb, whole or ground

Fried meats

Cakes, pies, pastries

Vegetables with butter, margarine or fat-based sauces  
Fat-fried vegetables: potatoes, onions, etc.

Ice cream, with or without, fresh "natural" fruits

Breads, rolls with butter, or margarine-based batter

High fat whole milk or dairy products made with whole milk

Snack foods: chips, crackers, fried processed imitation foods

**This is a nutrition plan recommended by the best informed men and women in the fields of medicine and nutrition. They believe that the**

sum of world-wide animal and human studies shows that a low-cholesterol, low-fat eating system, where fats do not exceed 10% of total daily calorie intake, is the best counterattack against the enemies of your heart and health.

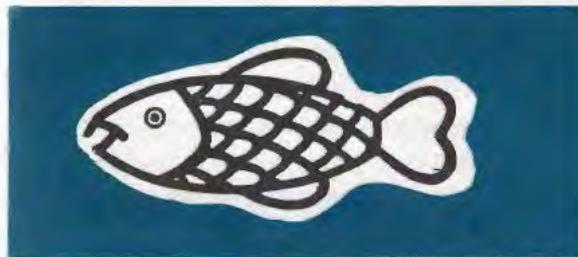
### Extra Benefits

If you think for a minute or more, you will soon understand that the simple outline we have given does more than enable you to cut down on fats while continuing to eat and eat well. It will automatically tend to reduce your intake of the other enemies of your heart: salt and sugar. This is a plan you can get on, keep on and gain in health. Yes, and looks, too!

### Fish Oil

In recent years there has been a flood of scientific studies to determine whether fish oil can lower cholesterol in the blood circulatory system. Increased cholesterol in the blood stream has been attributed mostly to eating excessive amounts of saturated fats which is naturally present in abundance in dairy products and animal meat—a major portion of the American diet.

Scientific experiments at Mt. Sinai Medical Center revealed that ingestion of one ounce of cod liver oil daily reduced blood cholesterol considerably and slowly dissolved plaque formation in the coronary arteries.



A diet of fish such as salmon, sardines and blue fish, without a supplement of fresh fruits and vegetables and without exercise, has not proven effective in reducing cholesterol or slowing the formation of plaque in the coronary arteries.

There is, however, a drawback on continuing the use of cod liver oil over a long period of time. Cod liver oil is difficult to digest and is too rich in vitamin A & D which can yellow the skin, cause liver enlargement, and excess bile secretion.

Some of the large pharmaceutical companies now manufacture capsules of concentrated fish oil containing omega-3 fatty acids (EPA, DHA and d-alpha tocopherol) which have little vitamin content and no side effects. Taking one or more capsules with meals, coupled with a diet low in saturated fats, daily use of distilled water and a moderate exercise program (aerobics, walking, bicycling and light gymnastics) might prove effective in some cases in controlling heart disease and maintenance of good health at any age. Taking fish oil capsules without exercise is likely to be ineffective. Salmon, sardines, especially the brisling type, and blue fish contain abundant amounts of Omega-3 fatty acids. Daily use of a diet containing one or more of this type of fish is equally effective particularly if supplemented with

onions in any form—raw, slightly heated, boiled or steamed.

## SALT—ANOTHER ENEMY

About 200,000 men and women, one American in five, suffer from hypertension or high blood pressure. Of that total, more than 50,000 will die annually as a direct result of this disease. High blood pressure is the leading cause of strokes, heart failure, and kidney failure. If you are over the age of fifty, the chances are about one in three that you have



Salt can cause obesity, dropsy and edema which is an excessive accumulation of fluid in the tissues. When your face, neck, body and ankles swell, the heart is no longer functioning effectively.

high blood pressure to some degree. Many sufferers are not aware of their condition. Only about one-half of those with hypertension know of their condition. Worse, less than ten percent of hypertension sufferers are either under the care of a medical doctor or involving themselves in personal planned counterattack against another enemy of health: common table salt.

Like impure water and the evil allies, fats and cholesterol, the adverse effects of too much salt for too long are not standard and do not show up in the early stages of the disease. When the symptoms do appear and blood pressure readings soar, the disease is already well-advanced. Like other forms of heart disease, hypertension was once considered something that happened naturally to older people. Now it shows up in young adults and school-aged children. Free screening clinics have enabled many unsuspecting people to discover what is wrong with them. There are two standard methods to combat the condition.

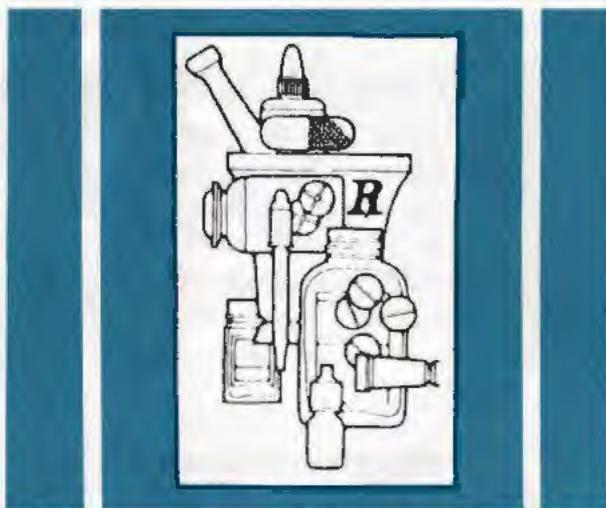
### Hypertensive Drugs

A variety of drugs, each acting in a different way, is used to lower blood pressure that is too high for safety.

Diuretics are the most frequently prescribed drugs. They lower the blood pressure by washing out excess salt and water from the body and are, therefore, called "water pills". They are particularly effective in blacks and in the older patient. Diuretics make it easier to control the blood pressure when other agents have to be

added. They do so by lowering the required dose. Potassium may be washed out from the body when salt and water are excreted in the urine. This may require potassium supplements if the dietary intake of potassium is not sufficient. There are also potassium-sparing drugs which are combined with diuretics to prevent potassium loss. Low potassium in the blood stream will cause leg cramps.

Another class of drugs, called sympatholytics, act on the sympathetic nervous system and



Medication can control, but does not repair, damage from excess salt intake.

block constricting nerve impulses from reaching the arterioles, which are abnormally constricted in hypertension. These drugs act to block impulses at that level of the brain or at the peripheral nerve endings.

Beta-adrenergic blocking drugs, the so-called betablockers, have been very effective in the

treatment of hypertension, particularly in the younger, white patient. They block the effect of the chemical transmitters released by the sympathetic nerve endings and the adrenal gland, thereby lowering the blood pressure. They are frequently combined with a diuretic.

A fourth group, the vasodilators, work by directly relaxing the muscular walls of the blood vessels, thereby lowering the blood pressure.

Two newer classes of drugs have been introduced in recent years, and they may change some of the presently accepted regimens of treatment. The converting-enzyme inhibitors block the production of circulating angiotensin, which is a very powerful constrictor of blood vessels. The calcium-channel blockers are the most recent agents to be used in the treatment of hypertension. Calcium in the cell is involved in the constriction of the vessel wall. The calcium antagonists lower blood pressure by blocking the entry of calcium into the cell.

With so many classes of drugs available, treatment can be individualized to avoid side effects and untoward reactions.

About three out of four hypertension patients can be treated—safely and inexpensively—with a single pill daily with almost no unpleasant side effects. But once on such a treatment

plan, they remain drug users permanently. They are maintaining a condition, not preventing one. **No drug prevents or cures high blood pressure.** But a nutrition plan can and does bring important health benefits before this dangerous condition develops.



Large amounts of salt every day work against the beneficial effects of drugs taken to reduce blood pressure. Most patients on a drug maintenance program are advised to reduce salt intake as much as possible.

### High Blood Pressure and Salt

Doctors do not always agree, but most of them are convinced that there is a connection between common table salt (sodium chloride, NaCl) and hypertension. Salt promotes the ability of the cells of the body to store water. When your cells store water, your weight goes up. The more body bulk you have, the greater the volume of blood needed to nourish it. The

heart has to work harder to drive the blood through the arteries to reach the water-logged cells.

What happens when a human with high blood pressure makes an effort to reduce his salt intake daily? The dangerously high blood pressure drops. Moreover, large amounts of salt every day work against the beneficial effects taken to reduce blood pressure. Most patients on a drug maintenance program are encouraged to reduce salt intake as much as possible.

### "But I Need Salt!"

True, but not very much—probably about  $\frac{1}{2}$  gram per day. And that is taken care of naturally



Adding salt to food indiscriminately is more of a bad habit than a need. Most foods contain sufficient sodium to satisfy human taste.

by eating a good supply of fresh vegetables and the kinds of lean white meats and fish recommended as a plan to reduce fats and cholesterol. The greatest salt eaters in the world, the Japanese, have the highest incidence of high blood pressure in the world. Low salt intake means lowered, safer blood pressure. No human being needs to add salt to food that contains enough for good health as is. Salting food is certainly something we learn. Once a habit, it is hard to break. We get used to the taste. In order to taste salt, we add still more. Over the years, salt consumption per day sneaks up. . . and the killer hypertension sneaks closer. It is not unusual for Americans to consume **five to ten times the amount they need, each day, year after year!** This is not a planned counter-attack against the enemy, it's helping him.

### Salt—Deliberate and Accidental

One hundred years ago, settlers who pushed west across the vast plains of North America often misjudged how long the trip to California would take. They ran short of food supplies as well as salt. They killed off and ate their beef and sheep. Many diaries contain statements of surprise of the marvelous flavor of the wild bison hunted from the huge herds. The native Indians of the Great Plains were not salt eaters. There was no supply of salt but food tasted better. These settlers went on salt reduced diets by accident. Often, once settled, they went back to their salt habit.

These days, with almost every frozen prepared dish and canned food processed with



Salt-drenched products are on every shelf at the supermarket. Salt is a preservative used to extend the shelf-life of packaged foods. Individuals suffering from high blood pressure should avoid these products.

salt, it is very difficult to get on a salt-free nutrition plan by accident. Salt-drenched products are on every foot of shelf in every supermarket and neighborhood store. Salt is a preservative, used to extend the "shelf-life" of prepared and packaged foods of all kinds. The health-conscious individual who wants to prevent high blood pressure or to cooperate with his doctor in lowering blood pressure must take deliberate measures to reduce salt intake.

Recently, reported in newspapers around the world, a team of medical doctors in Israel released the results of their long, large and careful study. They were convinced that of all the methods used to treat hypertension, a deliberate reduction of common table salt was the most effective and offered the least side- or aftereffects. Of course, the use of salt as a preservative is as common in Tel Aviv as it is in Toledo, Ohio or Toledo, Spain. Still, the Israeli doctors insisted that the best, most effective,

safest and cheapest way to lower blood pressure and to keep it down was a nutrition plan to reduce salt intake daily. This could be done deliberately.

### Six Point Plan for Better Health

The goal should be to reduce sodium intake to no more than two (2) grams per day from all sources. Once this is achieved, try to reduce the intake to less than two (2) grams per day. Though it is difficult these days to eliminate sodium entirely, you will at least have broken the salt habit if you adhere to the following steps:

1. Eat foods in the natural state—fresh and, whenever possible, raw. Avoid processed, smoked or pickled meats and vegetables. Un-processed foods will supply all the sodium needed for health.

2. Do not drink whole milk or use whole milk products. Surprisingly, whole milk contains a good deal of salt as does ice cream and cheese products even more so. Adults do not require whole milk. The combination of fats, cholesterol and salt that whole milk contains is not part of a nutritional counterattack against the enemies of your heart and health.

3. Be very suspicious of canned and frozen foods. Read the labels. If salt is used in the processing, put the products back where they belong . . . on the shelf in the supermarket, not in your kitchen!

4. Don't add salt in preparing foods. Do not add salt to home-baked products and don't toss in a pinch here and a pinch there when cooking fresh vegetables.

5. Take the salt off the table. Once you remove the shaker, you have instituted the kind of deliberate plan that the Israeli research team recommends. Use fresh lemon juice as a substitute. Give your salt-caked taste buds a chance to discover what natural foods really taste like!

6. Drink distilled water. It flushes excess salt from the body.

### "SUGAR BLUES"

Young adults won't know the melody, and the name Clyde McCoy has been almost forgotten. Older Americans, whose memories of popular music reach back to the 1930's and earlier, may recall not one but two versions of a tune called "Sugar Blues." These days, it is the title of a widely-distributed paperback by William Dufty, a self-confessed addict, once "hooked" on  $C_{12}H_{22}O_{11}$ —refined sucrose.

Most people think sugar is natural. Health-conscious men and women all over the world know it is not. Common table sugar is a product of cane or beets with over 90% of what is **natural** removed by chemical treatments. Out goes the fiber, away with the protein, off with minerals and vitamins the living plants con-



**Reckless consumption of refined sugar can cause a broad range of human mental and physical dysfunctions and diseases.**

tain. What's left: empty calories. Oh, but so sweet, so good! Yes, a very cunning sort of poison that causes or is associated with a very broad range of human physical and mental dysfunctions and diseases.

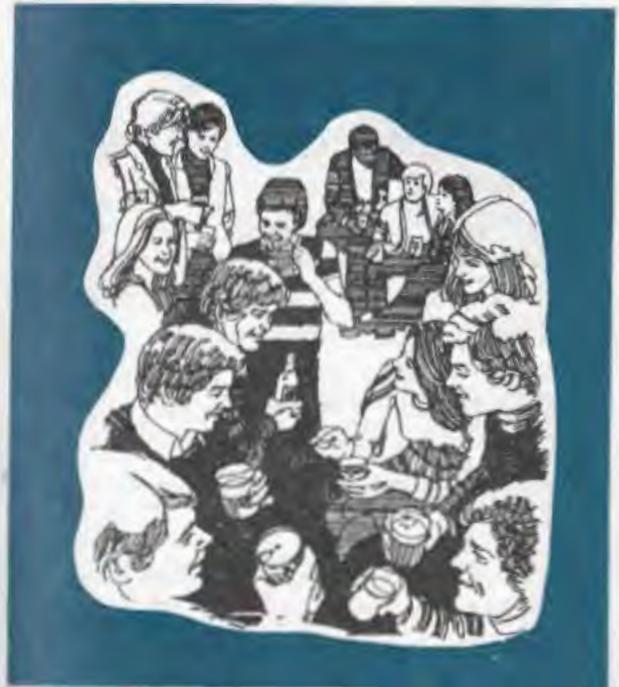
Bill Dufty damns the tempting stuff, "Refined sugar is lethal..." Medical doctors everywhere tend to agree. It is very difficult these days to find any book, hardbound or paperback, written by one or more medical doctors that does not contain statements condemning the reckless consumption of refined sugar.

### **"But Sugar is Energy"**

Those statements or "claims" that sugar is good for you tend to be made by persons or companies that stand to gain money from consumers who buy their products. It is no exaggeration to say that Americans are bombarded

by propaganda—in magazines, newspaper advertisements, and radio and television commercials. Pro-sugar propaganda always claims that humans need sugar, that humans benefit from sugar consumption, that kids, especially, will benefit from eating sugar-drenched cereals or sandwich spreads or snack foods. Soft drink manufacturers show us scenes of lively good times enjoyed by young adults happily guzzling the product. William Dufty, in his relentless attack on the "Sugar Blues," gives countless examples of such false or misleading claims.

It is true that human energy depends on sugar, since all the body cells "burn" sugar (now



The sugar that your body needs is best found in fruits, vegetables, whole grain cereals and other natural-grown products and not in artificially created foods to tempt the taste.

we are right back to oxygen supporting the burning process in our earlier consideration of water) to keep functioning. But sugar comes in various forms—from the natural sort called fructose, which is created and stored by plants and fruits, all the way to the most refined and most empty variety, sucrose. The sugar your body needs is best found in vegetables, fruits, whole grain cereals and other foods, including those we have recommended as being low in fats, low in cholesterol and low in salt.

### Carbohydrates—Complex and Simple

Imagine for a minute, a basketball. Pretty good size, right? Now imagine a little, thin-skinned balloon about the size of a golf ball. Got both these imaginary objects in your mind's eye? Good. Keep them there as you read on.

That basketball is a single molecule of complex carbohydrates, a big collection of thousands of smaller sugar molecules. The little balloon is a simple carbohydrate. Potato is a complex carbohydrate; sucrose, honey, molasses, corn syrup are simple carbohydrates. The basketball is a bite of potato, the balloon a bite of a candy bar. One is big and complicated, the other smaller and simpler.

**Simple carbohydrates convert to fats.** Simple carbohydrates increase blood fats. Simple carbohydrates poured into the blood require emergency measures by the organs of the body to accept, absorb and process them.

Over perhaps millions of years of evolution,

the human body has come to be a marvelously adapted set of systems for handling complex carbohydrates. You are designed and built, so to speak, to take potatoes, whole grain cereals and whole grain breads, fresh corn, spaghetti and other pastas, whole brown rice and to break those foods down, slowly, one step at a time.



Excessive use of highly refined sugar can elevate the blood cholesterol, increase blood pressure, and cause anger and explosiveness.

Sugar contained in these foods is released, slowly, a little bit at a time. No emergency measures are required to handle slow-released sugars. The body can't "overdose" on complex carbohydrates.

There is sugar in human blood. In fact, when the amount of sugar drops, humans feel weak, dizzy, or irritable. So, you should eat a candy bar, right? Get sugar into the blood fast, a good solid jolt from a canned soft sweetened carbonated drink or a quart of fat-saturated ice

cream? Wrong! Simple carbohydrates are like a drug overdose. The body responds rapidly and violently. Fats in the blood soar, the refined sugar is burned up and a sort of "hangover" occurs with the count of blood sugar dropping lower than it was before. Up, down, up, down, up! If it sounds exhausting, it is. The human heart works extra hard to assist in the processing of simple carbohydrates.

**Simple carbohydrates—sucrose, refined sugar—convert to fats. Fats in the blood increase. Now, remember the evil allies that fat and cholesterol make. So, they have a third partner: refined sugars.**



Eating refined sugar causes the body to respond rapidly and violently. Fats in the blood will soar while the refined sugar burns up. The heart will work extra hard to adjust to the change.

## "The Sugar Connection"

In these pages, we have used a broad range of examples, statements, statistics, and comparisons to make the extremely complicated and not perfectly understood problem on nutrition clearer to any person seeking to protect their health.

We do not think of drinking water, table salt, butter and sugar as dangerous compounds. They are a part of life. Humans have used them for thousands of years. Does not the Bible praise those who practice faith as "the salt of the earth?" Elsewhere the sacred scriptures point out that life lived separate from God is like salt that has suddenly lost its taste.

In these pages, we have raised, and hopefully answered very typical human objections that we need salt, butter on bread made of so-called "enriched" white flour and refined sugar. We have suggested that many eating habits are just that. Habits. Habits that are encouraged or reinforced by food lobbyists and clever, sometimes deceiving, advertisements.

Our argument or theme has been that we can and do eat in ways that are known to be harmful to the heart and health. We have tried to point out that many persons in America overeat, oversalt and consume much too much sugar. We have discouraged a passive hope that medical doctors will soon find one or more miracle drugs to defeat heart disease.

Here, instead, we have encouraged an active counterattack against the enemies of the human heart and health: bad water; excess, unneeded fats; overload of salt; overdose of refined sugar, which often shows up in blood tests as high triglycerides.



An overdose of refined sugar often shows up in blood tests as high triglycerides. It may be best referred to as the "sweet poison that nestles in your sugar bowl."

One of the popular films of recent times was titled *The French Connection* and dealt with drug traffic. We have suggested that sucrose has the effect on humans of a dangerous, addictive drug. Millions are "hooked" on candy, fake "cereals" that are nothing but compounds of waste products and sugar, calorie-bomb pastries and an ocean of soft drinks. As William Dufty

suggests in his book, if you look about you, you will see "The Mark of Cain," as in cane sugar, the source of the sweet poison that nestles in your sugar bowl.

### Sugar Boosts Salt's Blood Pressure Effect

Dr. Gerald Berenson of the Louisiana State University School of Medicine has released a report that suggests a connection between sugar



Refined sugar intake not only activates fats in the blood but boosts the effectiveness that salt already has by pushing blood pressure still closer to threatening heights.

and salt and human high blood pressure. The study involves laboratory animals. Monkeys show many of the same responses to diet that humans do. Animal studies do not risk human life and many valuable suggestions for human health have come from such laboratory experiments.

Dr. Berenson fed his laboratory animals various types of a standard food—monkey chow. Animals that were in normal good health eating low-salt chow were shifted to the same food, but much higher in salt content. Just as humans tend to, the monkeys developed higher blood pressure. On the average, a twenty point jump. That's a lot.

Then the experiment added sugar, lots of it, not slow-processed carbohydrates but fast-burning simple carbohydrate sucrose. What happened to the monkey's blood pressure? Up, again—another five points! "The Sugar Connection."

### Relatives and Relationships

It has been truly said that when a man (or woman) marries, he or she does not merely take a mate, but adds to his/her own a whole second family. Marriage involves relatives, back to great-grandmothers and far out to second cousins. To these new relatives, the individual, the bride or the groom, makes a relationship, strong or weak, that did not exist before. Love is a social act, not merely romantic sexual activity. Love is not simple, but very complex.

Although young people may not think so, their parents know better.

What we have earlier called "evil allies" might be thought of as some pretty bad marriages—cholesterol and fats, now salt and sugar. Considered again, they become a dangerous quartet. Careless eating habits fill the blood with excess fats and excess cholesterol. They complement each other. Both must be controlled, not one or the other. Salt helps the body gain in weight and size. Extra pounds means extra work for the heart. Body size is now generally accepted as more important as a factor than increasing age in elevating blood pressure. Salt is associated with hypertension. Sugar intake not only kicks up fats in the blood, but boosts the effect that salt already has by pushing blood pressure still closer to threatening heights.



People who are concerned about their health and their future restrict the consumption of food to those fruits, vegetables and cereals that nature intended for human intake.

Roger Williams, M.D., whose book, Nutrition Against Disease, we have mentioned before, contains a statement made by the world-famous English physician, Dr. Benjamin Stare: "There is increasing scientific evidence of the importance of diet in heart disease." That is, what we eat can help cause it. In his own words, Dr. Williams looks at the other side: "... people who are concerned about the long-range nutrition of their hearts and blood vessels should restrict themselves in the consumption of all naked calories. . ."

Note his words. **Should restrict themselves.** No one will do it for you. The longer you wait, the harder it will be. No mention is made in any one of the well-attested books we have cited of any kind of "crash" or fad diet. Some diets have been attacked, condemned and damned by the American Medical Association and by hundreds of competent physicians with special interests in nutrition-for-health. No pills, no drugs, but no waffling, on-and-off, either. Remember the two goals:

Reduce consumption of fats from all sources to 10% of total daily caloric intake.

Reduce intake of salt from all sources to two grams per day and lower it from there.

This is a deliberate, determined counterattack against the enemies of your health. You can help yourself. **YOU** can, not somebody else. You can't help yourself give up sweets by increasing the number of cigarettes you smoke, in the

vain hope of killing your appetite. Cigarettes will kill you. **And do you know what tobacco contains? You guessed it. . . sugar!**

### John Yudkin, M.D.

It seems appropriate in the last pages that the final words should be borrowed from John Yudkin, M.D., a thoughtful and honored expert in diet, nutrition and health. He is not nearly so well known in America as in his native England. An independent man, Yudkin is a respected scientist. He studied human nutrition, beginning in 1957, just about thirty years ago. He accepted the association between fats and heart attack. He read experiment results and studies made by the Food and Agriculture Organization of the United Nations.

Rich nations consume more fats than poor nations. But sugar consumption increases with fat consumption. . . only faster. And finally, as Dr. Yudkin wrote, "sugar intake. . . almost exactly matches the fall in other carbohydrate, mostly starch." Beef and butter up. Sugar up and up faster. Potatoes, brown rice and whole grains down. In forty-one countries studied, it was always sugar consumption that rose fastest. . . and the rate of death by heart disease increased at an equally fast rate! Yudkin pushed on to examine food processing and estimated that a quarter of a pound of sugar per day is derived from sugar added as part of the food processing before purchase.

Try this experiment. Measure a pound of

white sugar. Divide it into four equal piles. You eat one such pile every day and don't even know it! Put three of your piles back into the bag or container. Look at the last quarter-pound. Quite a little pile isn't it? Bigger than you thought. Now think. The choice is mine. By a deliberate act, each day, I can consume this pile of sugar, spoonful by spoonful, bite by bite. I can add it to coffee, sprinkle it on cereal, swallow it in pastries, milk, ice cream, cake, pies. I know that it will raise the fats in my blood, that it will combine with the salt to raise my blood pressure. I can swallow it...sweet, sweet poison...in a quart of soft drink or beer.

Or I can pour it back and avoid its use as an addictive drug. The choice is mine.

### London Hospital

Reports, experiments, statistics and studies are one thing, people another. Dr. John Yudkin visited London Hospital to look at two groups of patients. One group had been admitted after a heart attack or severe atherosclerosis, "hardening of the arteries." The second group was admitted for accidental injuries and had no kind of problem with the heart or circulatory system. What Dr. Yudkin found was this: Without exception, the heart/arterial patients consumed, on the average, TWICE the amount of sugar each day as the patients in the group free from heart disease.

As confirmation of his examinations, John Yudkin noted sadly: "In patients with... arterial disease...the degree of atherosclerosis

was proportional to the amount of dietary sugar." In other words, the more sugar you eat, the worse you can get.

Now, about that pile of sugar still left. What is your choice? Will you consume that amount, every day, and take a chance? Or will you counterattack against the four enemies of the human heart and pour it...every last glittering little grain...back into the bag or down the sink?

By controlling your intake of the four enemies—water, fats, salt and sugar—you can improve your well being, but it's your choice. It's your heart. It's your health.



After reading this booklet, can you now choose which foods to eat and which to avoid?

Copyright © 1987 by  
The Allied Educational Foundation in association  
with The New York Cardiac Center, Inc.  
All rights reserved.  
The Contents Of These Pamphlets May Not Be  
Reproduced In Whole Or In Part Without Written  
Permission In Advance.