

MN 2500 HEMI-2840

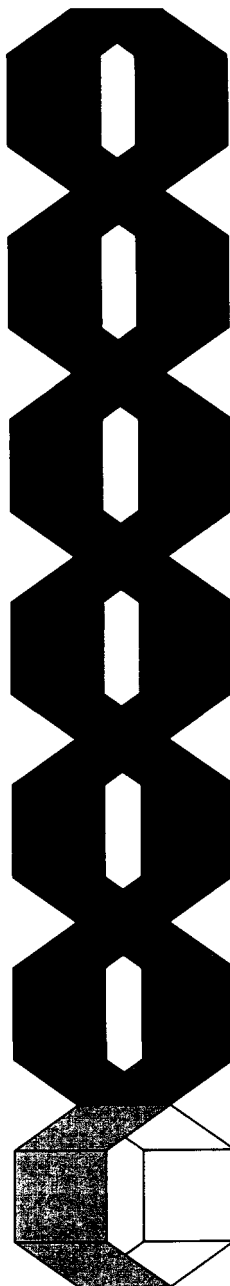
Nutrition and Your Health

Dietary Guidelines for Americans

UNIVERSITY OF MINNESOTA

MAY 5 1988

ST. PAUL CAMPUS LIBRARIES



**Eat a Variety
of Foods** page 6

**Maintain Desirable
Weight** page 9

**Avoid Too Much Fat,
Saturated Fat, and
Cholesterol** page 15

**Eat Foods with
Adequate Starch
and Fiber** page 17

**Avoid Too Much
Sugar** page 19

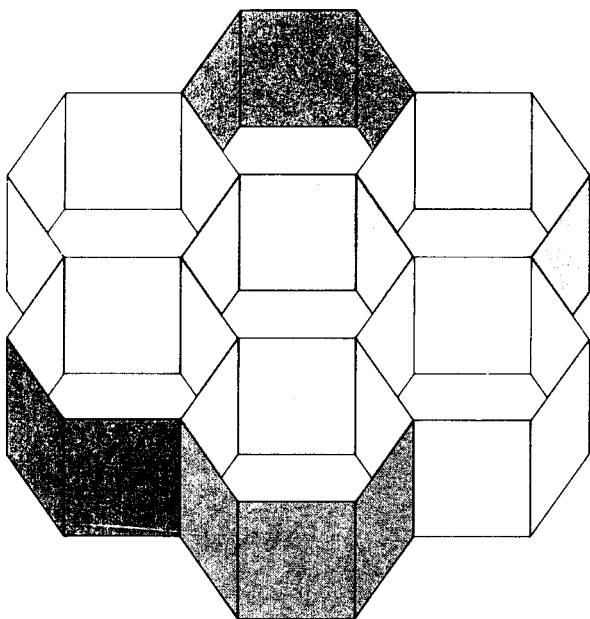
**Avoid Too Much
Sodium** page 21

**If You Drink
Alcoholic
Beverages, Do So
in Moderation** page 23

Second Edition, 1985

U.S. Department of Agriculture

U.S. Department of Health and Human Services



Revised August 1985

Dietary Guidelines for Americans

What should you eat to stay healthy?

The life expectancy, average body size, and general good health of the American population seem to indicate that most diets are adequate. Foods we have to choose from are varied, plentiful, and wholesome.

Even so, hardly a day goes by without someone trying to tell us what we should and should not eat. Newspapers, magazines, books, radio, and television give us lots of advice. Unfortunately, much of it is confusing.

Some of this confusion exists because we don't know enough about nutrition to identify an "ideal diet" for each individual. People differ—and their food needs differ depending on age, sex, body size, physical activity, and other conditions such as pregnancy and illness.

In those chronic conditions where diet may be important—heart disease, high blood pressure, strokes, tooth decay, diabetes, osteoporosis, and some forms of cancer—the roles of specific dietary substances have not been defined fully.

Research seeks more information about the amounts of essential nutrients people need and diet's role in certain chronic diseases. Much attention has been devoted recently, for example, to the possible effects of calcium intake on osteoporosis, and of dietary fat and fiber on certain forms of cancer and heart disease.

But what about advice for today? The following guidelines tell how to choose and prepare foods for you and your family. This advice is the best we can give based on the nutrition information we have now.

The first two guidelines form the framework for a good diet: "Eat a variety of foods" that provide enough of essential nutrients and energy (calories) to "maintain desirable weight." The next five guidelines describe special characteristics of good diets. They

suggest that you get adequate starch and fiber and avoid too much fat, sugar, sodium, and alcohol.

The Recommended Dietary Allowances (RDA) are suggested amounts of energy, protein, and some minerals and vitamins for an adequate diet. For other dietary substances, specific goals must await further research. However, for the U.S. population as a whole, increasing starch and fiber in our diets and reducing calories (primarily from fats, sugars, and alcohol) is sensible. These suggestions are especially appropriate for people who have other risk factors for chronic diseases, such as family history of obesity, premature heart disease, diabetes, high blood pressure, high blood cholesterol levels, or for those who use tobacco, particularly cigarette smokers.

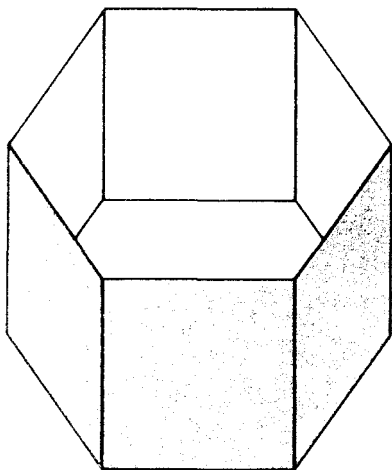
The guidelines are suggested for most Americans—those who are already healthy. They do not apply to people who need special diets because of diseases or conditions that interfere with normal nutritional requirements. These people may need special instruction from registered dietitians, in consultation with their own physicians.

No guidelines can guarantee health and well-being. Health depends on many things, including heredity, lifestyle, personality traits, mental health and attitudes, and environment, in addition to diet.

Food alone cannot make you healthy. But good eating habits based on moderation and variety can help keep you healthy and even improve your health.

DIETARY GUIDELINES FOR AMERICANS

- **Eat a variety of foods**
- **Maintain desirable weight**
- **Avoid too much fat, saturated fat, and cholesterol**
- **Eat foods with adequate starch and fiber**
- **Avoid too much sugar**
- **Avoid too much sodium**
- **If you drink alcoholic beverages, do so in moderation**



Eat a Variety of Foods

You need more than 40 different nutrients for good health. These include vitamins and minerals, amino acids (from proteins), essential fatty acids (from fats and oils), and sources of energy (calories from carbohydrates, fats, and proteins). Adequate amounts of these nutrients are present in the foods in a well-balanced diet.

Most foods contain more than one nutrient. For example, milk provides protein, fats, sugar, riboflavin and other B vitamins, vitamin A, calcium, phosphorus, and other nutrients; meat provides protein, several B vitamins, iron, and zinc in important amounts.

Except for human milk during the first 4 to 6 months of life, no single food supplies all of the essential nutrients in the amounts that you need. Milk, for instance, contains very little iron and meat provides little calcium. Thus, you should eat a variety of foods to get an adequate diet. With a variety of foods, you are more likely to get all the nutrients you need.

One way to assure variety—and with it, a well-balanced diet—is to select foods each day from each of the major food groups. These groups include: fruits; vegetables; cereals and other foods made from grains, such as breads;

milk and dairy products such as cheese and yogurt; and meats, fish, poultry, eggs, and dry beans and peas. Select different foods from within groups, too.

Fruits and vegetables are good sources of vitamin A, vitamin C, folic acid, fiber, and many minerals. Whole-grain and enriched breads, cereals, and other grain products provide B vitamins, iron, protein, calories, and fiber. Meats, poultry, fish, and eggs supply protein, fat, iron, and other minerals, as well as several B vitamins. Dairy products are major sources of calcium and many other nutrients. Recent research suggests that calcium may play a role in preventing osteoporosis.

TO ASSURE YOURSELF AN ADEQUATE DIET

Eat a variety of foods daily in adequate amounts, including selections of:

- **Fruits**
- **Vegetables**
- **Whole-grain and enriched breads, cereals, and other products made from grains**
- **Milk, cheese, yogurt, and other products made from milk**
- **Meats, poultry, fish, eggs, and dry beans and peas**

The number and size of portions should be adjusted to reach and maintain your desirable body weight.

There are no known advantages and some potential harm in consuming excessive amounts of any nutrient. Large dose supplements of any nutrient should be avoided.

You will rarely need to take vitamin or mineral supplements if you eat a variety of foods. There are a few important exceptions to this general statement:

- **Women in their childbearing years** may need to take iron supplements to replace the iron they lose with menstrual bleeding. Women who are no longer menstruating should not take iron supplements routinely.

- **Women who are pregnant or who are breast-feeding** need more of many nutrients,

especially iron, folic acid, vitamin A, calcium, and sources of energy. Detailed advice should come from their physicians and dietitians.

- **Infants** also have special nutritional needs. Infants should be breast-fed unless there are special problems. The nutrients in human breast milk tend to be absorbed by the body better than those in cow milk or infant formula. In addition, breast milk serves to transfer immunity to some diseases from the mother to the infant.

Normally, most babies are not given solid foods until they are 4 to 6 months old. At that time, solid foods can be introduced gradually. Prolonged breast- or formula-feeding—without solid foods or supplemental iron—may result in iron deficiency.

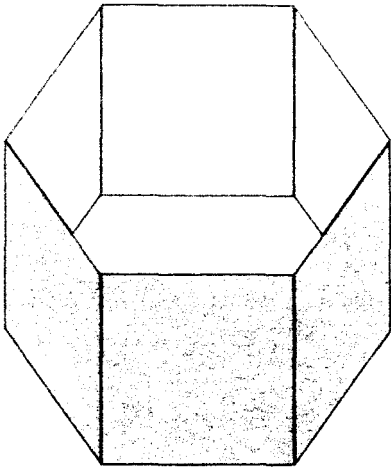
Salt or sugar should not be added to the baby's foods. Extra flavoring with salt and sugar is not necessary—infants do not need these inducements if they are really hungry.

TO ASSURE YOUR BABY AN ADEQUATE DIET

- **Breast-feed unless there are special problems**
- **Delay other foods until baby is 4 to 6 months old**
- **Do not add salt or sugar to baby's food**

- **Elderly people** may eat relatively little food. Thus, they need to eat less of foods that are high in calories and low in essential nutrients, such as fats and oils, sugars and sweets, and alcohol. (Alcohol often is not thought of as a food, but is high in calories.)

Elderly people who eat a varied diet do not generally need vitamin and mineral supplements. However, some medications used for the treatment of diseases may interact with nutrients. In such instances, a physician may prescribe supplements.



Maintain Desirable Weight

If you are too fat, your chances of developing some chronic disorders are increased. Obesity is associated with high blood pressure, increased levels of blood fats (triglycerides) and cholesterol, heart disease, strokes, the most common type of diabetes, certain cancers, and many other types of ill health. Thus, you should try to maintain a "desirable" weight.

But how do you determine what a desirable weight is for you?

There is no absolute answer. The table shows desirable ranges for most adults. If you have been obese since childhood or adolescence, you may find it difficult to reach or maintain your weight within a desirable range. Generally, the weight of adults should not be much more than it was when they were younger—about 25 years old.

It is not well understood why some people can eat much more than others and still maintain desirable weight. However, one thing is definite—to lose weight, you must take in fewer calories than you burn. This means that you must either choose foods with fewer calories or you must increase your physical activity, preferably both.

Desirable Body Weight Ranges

Height without shoes	Weight without clothes	
	Men (pounds)	Women (pounds)
4'10"		92-121
4'11"		95-124
5'0"		98-127
5'1"	105-134	101-130
5'2"	108-137	104-134
5'3"	111-141	107-138
5'4"	114-145	110-142
5'5"	117-149	114-146
5'6"	121-154	118-150
5'7"	125-159	122-154
5'8"	129-163	126-159
5'9"	133-167	130-164
5'10"	137-172	134-169
5'11"	141-177	
6'0"	145-182	
6'1"	149-187	
6'2"	153-192	
6'3"	157-197	

Note: For women 18-25 years, subtract one pound for each year under 25.

Source: Adapted from the 1959 Metropolitan Desirable Weight Table.

TO HELP CONTROL OVEREATING

- **Eat slowly**
- **Take smaller portions**
- **Avoid "seconds"**

For most people who decide to lose weight, a steady loss of 1 to 2 pounds a week—until you reach your goal—is safe.

At the beginning of a weight-reduction diet, much of your weight loss comes from loss of water. Long-term success depends on new and better habits of eating and exercise. That is why so-called "crash" and "fad" diets usually fail in the long run.

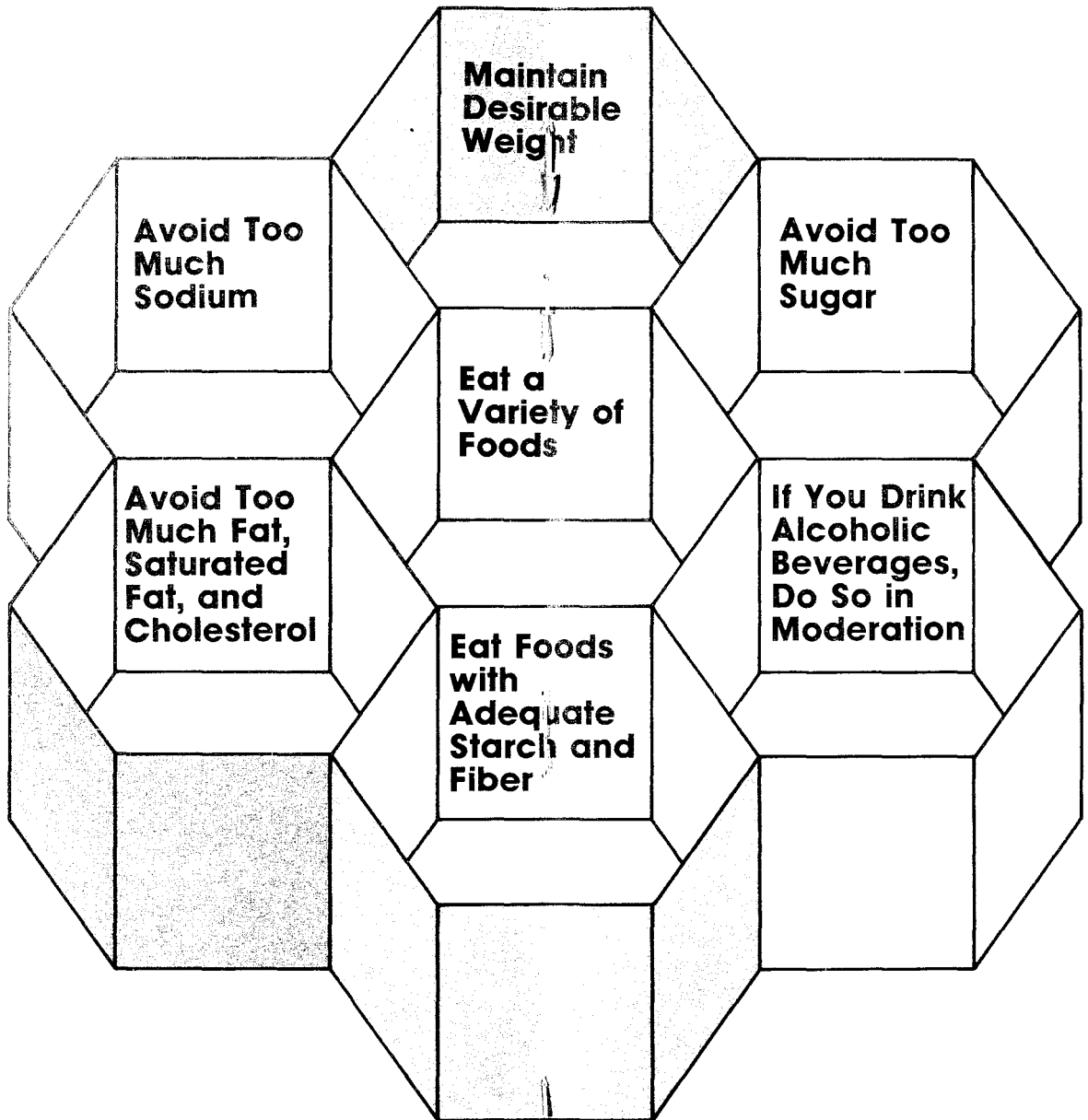
Do not try to lose weight too rapidly. Avoid crash diets that are severely restricted in the variety of foods they allow. Diets containing fewer than 800 calories may be hazardous and should be followed only under medical supervision. Some people have developed kidney stones, disturbing psychological changes, and other complications while following such diets. A few people have died suddenly and without warning.

Also, do not attempt to lose weight by inducing vomiting or by using laxatives. Frequent vomiting and purging can cause chemical imbalance which can lead to irregular heartbeats and even death. Frequent vomiting can also erode tooth enamel. Avoid these and other extreme means of losing weight.

TO LOSE WEIGHT

- **Eat a variety of foods that are low in calories and high in nutrients:**
 - **Eat more fruits, vegetables, and whole grains**
 - **Eat less fat and fatty foods**
 - **Eat less sugar and sweets**
 - **Drink less alcoholic beverages**
- **Increase your physical activity**

A gradual increase of everyday physical activity like brisk walking can also be very helpful in losing weight and keeping it off. The chart on page 14 gives the approximate calories used per hour in different activities.



GETTING THE RIGHT BALANCE

Good nutrition is a balancing act: Choosing foods with enough protein, vitamins, minerals, and fiber; but not too much fat, sodium, sugar, and alcohol. Also, energy (calorie) intake must be balanced with energy expended. The seven Dietary Guidelines, used together, can help you select a healthy diet.

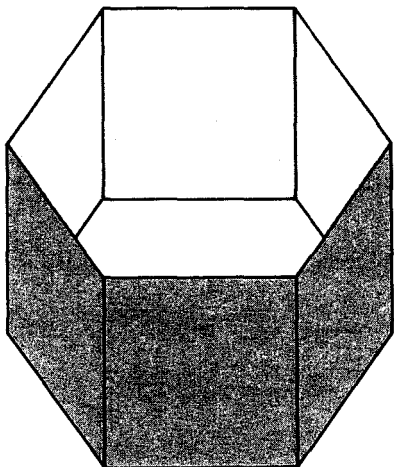
Approximate Energy Expenditure by a Healthy Adult Weighing About 150 Pounds

Activity	Calories per hour
Lying quietly	80-100
Sitting quietly	85-105
Standing quietly	100-120
Walking slowly, 2 1/2 mph	210-230
Walking quickly, 4 mph	315-345
Light work, such as ballroom dancing; cleaning house; office work; shopping	125-310
Moderate work, such as cycling, 9 mph; jogging, 6 mph; tennis; scrubbing floors; weeding garden	315-480
Hard work, such as aerobic dancing; basketball; chopping wood; cross-country skiing; running, 7 mph; shoveling snow; spading garden; swimming, "crawl"	480-625

Source: Based on material compiled by Robert E. Johnson, M.D., Ph.D., Professor Emeritus, University of Illinois.

Do not attempt to reduce your weight below the desirable range. Severe weight loss may be associated with nutrient deficiencies, menstrual irregularities, infertility, hair loss, skin changes, cold intolerance, severe constipation, psychiatric disturbances, and other complications.

If you lose weight suddenly or for unknown reasons, see a physician. Unexplained weight loss may be an early clue to an unsuspected underlying disorder.



Avoid Too Much Fat, Saturated Fat, and Cholesterol

If you have a high blood cholesterol level, you have a greater chance of having a heart attack. Other factors can also increase your risk of heart attack—high blood pressure and cigarette smoking, for example—but high blood cholesterol is clearly one of the major risk factors.

Populations like ours with diets relatively high in fat (especially saturated fat) and cholesterol tend to have high blood cholesterol levels. Individuals within these populations have a greater risk of having heart attacks than individuals within populations that have diets containing less fat.

Eating extra saturated fat, high levels of cholesterol, and excess calories will increase blood cholesterol in many people. Of these, saturated fat has the greatest influence. There are, however, wide variations among individuals—related to heredity and to the way each person's body uses cholesterol.

Some people can have diets high in saturated fats and cholesterol and still maintain desirable blood cholesterol levels. Other people, unfortunately, have high blood cholesterol levels even if they eat low-fat, low-

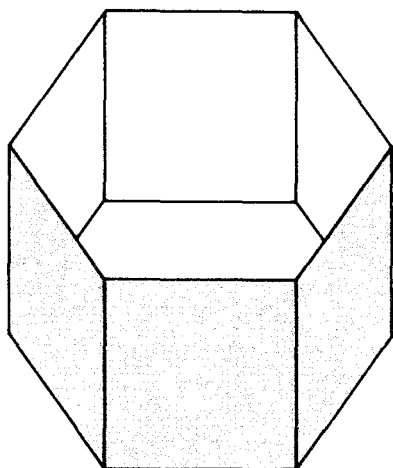
cholesterol diets. However, as noted above, for many people, eating extra saturated fat, high levels of cholesterol, and excess calories will increase blood cholesterol.

There is controversy about what recommendations are appropriate for healthy Americans. But for the U.S. population as a whole, it is sensible to reduce daily consumption of fat. This suggestion is especially appropriate for individuals who have other cardiovascular risk factors, such as smokers or those with family histories of premature heart disease, high blood pressure, and diabetes.

The recommendations are not meant to prohibit you from using any specific food item or to prevent you from eating a variety of foods. Many foods that contain fat and cholesterol also provide high quality protein and many essential vitamins and minerals. You can eat these foods in moderation as long as your overall fat and cholesterol intake is not excessive.

TO AVOID TOO MUCH FAT, SATURATED FAT, AND CHOLESTEROL

- **Choose lean meat, fish, poultry, and dry beans and peas as protein sources**
- **Use skim or low-fat milk and milk products**
- **Moderate your use of egg yolks and organ meats**
- **Limit your intake of fats and oils, especially those high in saturated fat, such as butter, cream, lard, heavily hydrogenated fats (some margarines), shortenings, and foods containing palm and coconut oils**
- **Trim fat off meats**
- **Broil, bake, or boil rather than fry**
- **Moderate your use of foods that contain fat, such as breaded and deep-fried foods**
- **Read labels carefully to determine both amount and type of fat present in foods**



Eat Foods with Adequate Starch and Fiber

The major sources of energy (calories) in the American diet are carbohydrates and fats. (Protein and alcohol also supply calories.) Carbohydrates are especially helpful in weight-reduction diets because, ounce for ounce, they contain about half as many calories as fats do.

Simple carbohydrates, such as sugars, and complex carbohydrates, such as starches, have about the same caloric content. But most foods high in sugar, such as candies and other sweets, contain little or no vitamins and minerals. On the other hand, foods high in starch, such as breads and other grain products, dry beans and peas, and potatoes, contain many of these essential nutrients.

Eating more foods containing complex carbohydrates can also help to add dietary fiber to your diet. The American diet is relatively low in fiber.

Dietary fiber is a term used to describe parts of plant foods which are generally not digestible by humans. There are several kinds of fiber with different chemical structures and biological effects. Because foods differ in the kinds of fiber they contain, it's best to include a

variety of fiber-rich foods—whole-grain breads and cereals, fruits, and vegetables, for example.

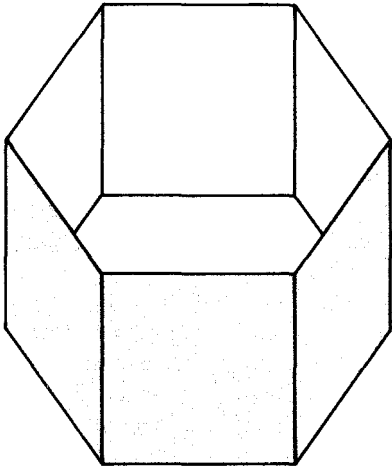
Eating foods high in fiber has been found to reduce symptoms of chronic constipation, diverticular disease, and some types of “irritable bowel.” It has been suggested that diets low in fiber may increase the risk of developing colon cancer. Whether this is true is not yet known.

How dietary fiber relates to cancer is one of many fiber topics under study. Some others are the fiber content of foods and the amount of fiber we need in our diets. Also being studied are whether fiber extracted from food has the same effect as that from intact food and the extent to which high fiber intakes may lead to trace mineral deficiency.

Advice for today: A diet containing whole-grain breads and cereals, fruits, and vegetables should provide an adequate intake of dietary fiber. Increase your fiber intake by eating more of these foods that contain fiber naturally, not by adding fiber to foods that do not contain it.

TO EAT MORE STARCH AND FIBER

- **Choose foods that are good sources of fiber and starch, such as whole-grain breads and cereals, fruits, vegetables, and dry beans and peas**
- **Substitute starchy foods for those that have large amounts of fats and sugars**



Avoid Too Much Sugar

A significant health problem from eating too much sugar is tooth decay (dental caries). The risk of caries is not simply a matter of how much sugar and sugar-containing foods you eat but how often you eat them. The more frequently you eat sugar and sugar-containing foods, the greater the risk for tooth decay—especially if they are eaten between meals, and if they stick to your teeth.

Americans consume sugar in various forms in their diets. Common table sugar (sucrose) is only one form of sugar. Other sugars—such as glucose (dextrose), fructose, maltose, and lactose—occur naturally in foods and are added as ingredients in foods, e.g. corn sweeteners. Both starches and sugars appear to increase the risk of tooth decay when eaten between meals, but simple sugars appear to offer a higher risk. Thus, frequent in-between-meal snacks of foods such as cakes and pastries, candies, dried fruits, and soft drinks may be more harmful to your teeth than the sugars eaten in regular meals.

You cannot avoid all sugar because most of the foods we eat contain some sugar in one form or another. But keep the amount of sugars and sweet foods you eat moderate.

And when you do eat them, brush your teeth afterwards, if possible.

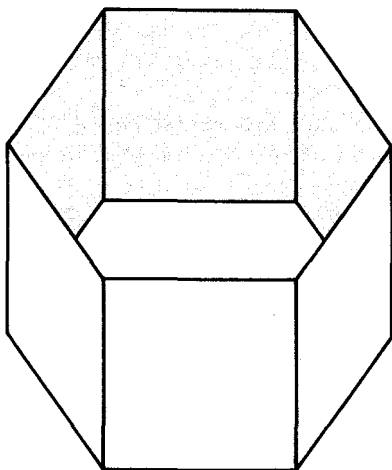
Clearly, there is more to maintaining healthy teeth than avoiding sugars. Careful dental hygiene and exposure to adequate amounts of fluoride through fluoridated water are especially important. Fluoridated toothpastes or mouth rinses are helpful, particularly where there is no fluoridated water.

Contrary to widespread belief, too much sugar in your diet does not cause diabetes. The most common type of diabetes occurs in obese adults; avoiding sugar without correcting the overweight problem—which requires reduction in total caloric intake—will not solve the problem.

Sugars provide calories but few other nutrients. Thus, diets with large amounts of sugars should be avoided, especially by people with low calorie needs, such as those on weight-reducing diets and the elderly.

TO AVOID TOO MUCH SUGAR

- **Use less of all sugars and foods containing large amounts of sugars, including white sugar, brown sugar, raw sugar, honey, and syrups. Examples include soft drinks, candies, cakes, and cookies**
- **Remember, how often you eat sugar and sugar-containing food is as important to the health of your teeth as how much sugar you eat. It will help to avoid eating sweets between meals**
- **Read food labels for clues on sugar content. If the name sugar, sucrose, glucose, maltose, dextrose, lactose, fructose, or syrups appears first, then there is a large amount of sugar**
- **Select fresh fruits or fruits processed without syrup or with light, rather than heavy, syrup**



Avoid Too Much Sodium

Table salt contains sodium and chloride—both are essential in the diet. In addition, salt is often required for the preservation of certain foods.

Sodium is present in many beverages and foods that we eat, especially in certain processed foods, condiments, sauces, pickled foods, salty snacks, and sandwich meats. Baking soda, baking powder, monosodium glutamate (MSG), and even many medications (many antacids, for instance) contain sodium.

A major hazard of excess sodium is for persons who have high blood pressure. Not everyone is equally susceptible. In the United States, about one in four adults has elevated blood pressure. Sodium intake is but one of the factors known to affect high blood pressure. Several other nutrients may also be involved. Obesity plays a major role.

In populations with low sodium intakes, high blood pressure is rare. In contrast, in populations with high sodium intakes, high blood pressure is common. If people with high blood pressure severely restrict their sodium intakes, their blood pressure will usually fall, although not always to normal levels.

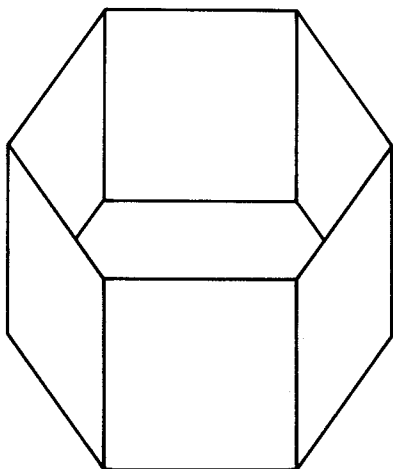
At present, there is no good way to predict

who will develop high blood pressure, although certain groups such as blacks have a higher prevalence. Low-sodium diets may help some people avoid high blood pressure if they could be identified before they develop the condition.

Since most Americans eat more sodium than is needed, consider reducing your sodium intake. Use less table salt, read labels carefully, and eat sparingly those foods to which large amounts of sodium have been added. Remember that a substantial amount of the sodium you eat may be "hidden"—either occurring naturally in foods or as part of a preservative or flavoring agent that has been added.

TO AVOID TOO MUCH SODIUM

- **Learn to enjoy the flavors of unsalted foods**
- **Cook without salt or with only small amounts of added salt**
- **Try flavoring foods with herbs, spices, and lemon juice**
- **Add little or no salt to food at the table**
- **Limit your intake of salty foods such as potato chips, pretzels, salted nuts and popcorn, condiments (soy sauce, steak sauce, garlic salt), pickled foods, cured meats, some cheeses, and some canned vegetables and soups**
- **Read food labels carefully to determine the amounts of sodium**
- **Use lower sodium products, when available, to replace those you use that have higher sodium content**



If You Drink Alcoholic Beverages, Do So in Moderation

Alcoholic beverages are high in calories and low in nutrients. Thus, even moderate drinkers will need to drink less if they are overweight and wish to reduce.

Heavy drinkers frequently develop nutritional deficiencies as well as more serious diseases, such as cirrhosis of the liver and certain types of cancer, especially those who also smoke cigarettes. This is partly because of loss of appetite, poor food intake, and impaired absorption of nutrients.

Excessive consumption of alcoholic beverages by pregnant women may cause birth defects or other problems during pregnancy. The level of consumption at which risks to the unborn occur has not been established. Therefore, the National Institute on Alcohol Abuse and Alcoholism advises that pregnant women should refrain from the use of alcohol.

One or two standard-size drinks daily appear to cause no harm in normal, healthy, nonpregnant adults. Twelve ounces of regular beer, 5 ounces of wine, and 1 1/2 ounces of distilled spirits contain about equal alcohol.

If you drink, be moderate in your intake and DO NOT DRIVE!

Acknowledgments: The U.S. Department of Agriculture and the U.S. Department of Health and Human Services acknowledge the recommendations of the Dietary Guidelines Advisory Committee, which were the basis of this revision. The committee consisted of Dr. Bernard Schweigert (chairman), Dr. Henry Kamin, Dr. David Kritchevsky, Dr. Robert E. Olson, Dr. Lester Salans, Dr. Robert Levy, Dr. Sanford A. Miller, Dr. Judith S. Stern, and Dr. Fredrick J. Stare.

For a list of materials on how to use the Dietary Guidelines, write to Human Nutrition Information Service, U.S. Department of Agriculture, Room 325A, Federal Building, Hyattsville, Maryland 20782.

For additional help with diet and health questions write to Consumer Inquiries, Food and Drug Administration, 5600 Fishers Lane, Rockville, Maryland 20857 or contact the dietitian, home economist, or nutritionist in the following groups:

- Public Health Department
- County Extension Service
- State or Local Medical Society
- Hospital Outpatient Clinic
- Local American Red Cross Chapter
- Local Dietetic Association
- Local Diabetes Association
- Local Heart Association
- Local Health Center or Clinic

Note: These dietary guidelines are intended only for populations with food habits similar to those of people in the United States.

UNIVERSITY OF MINNESOTA



3 1951 D03 722349 Q