Eating Right and Enjoying Life More

Ezra Taft Benson
Agriculture and Food Institute
Brigham Young University

Today, more and more people are becoming health conscious. They are exercising more, trying to eat right, cutting down on alcohol, and not using tobacco. They have learned that by doing these things they feel better.

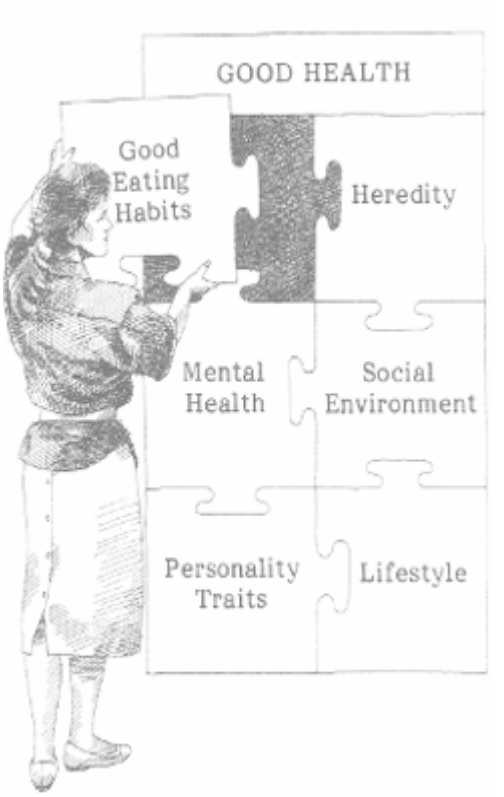
A major part of this new health awareness concerns diet and nutrition. We hear from many sides that vv hat we eat relates directly to how we feel. This is a simple enough concept; but because of all the expert information available to us today, it also raises many questions

Do we need vitamin supplements? Are food additives really harmful? Is it healthier to be a vegetarian? Is sugar poison? What is the relationship between diet and cancer? And so forth…

The purpose of this booklet is to provide some answers to these and other questions, based on *nutrition reality—a* sound, rational approach to eating as defined by today's best scientific guidelines.

The information in this booklet cannot guarantee every individual good health or the avoidance of chronic or degenerative diseases, since nutrition is only one contributing factor. Sound nutrition alone cannot make you healthy. Good health depends on many factors such as heredity, personality traits, mental health, lifestyle and social environment in addition to good eating habits.

Hopefully, this booklet will provide the necessary information for you to make rational, safe, nutritional decisions. Use it as a reference for learning and establishing lifetime eating habits since trying to eat properly and maintain good health is a lifelong process. To help you do this, we will present and discuss four basic steps for achieving a permanent lifestyle of sound nutrition habits.



These four steps are:

(1) Learn how food is important to you body.

(2) Follow sound nutritional guidelines that will enable you to eat sensibly and creatively.

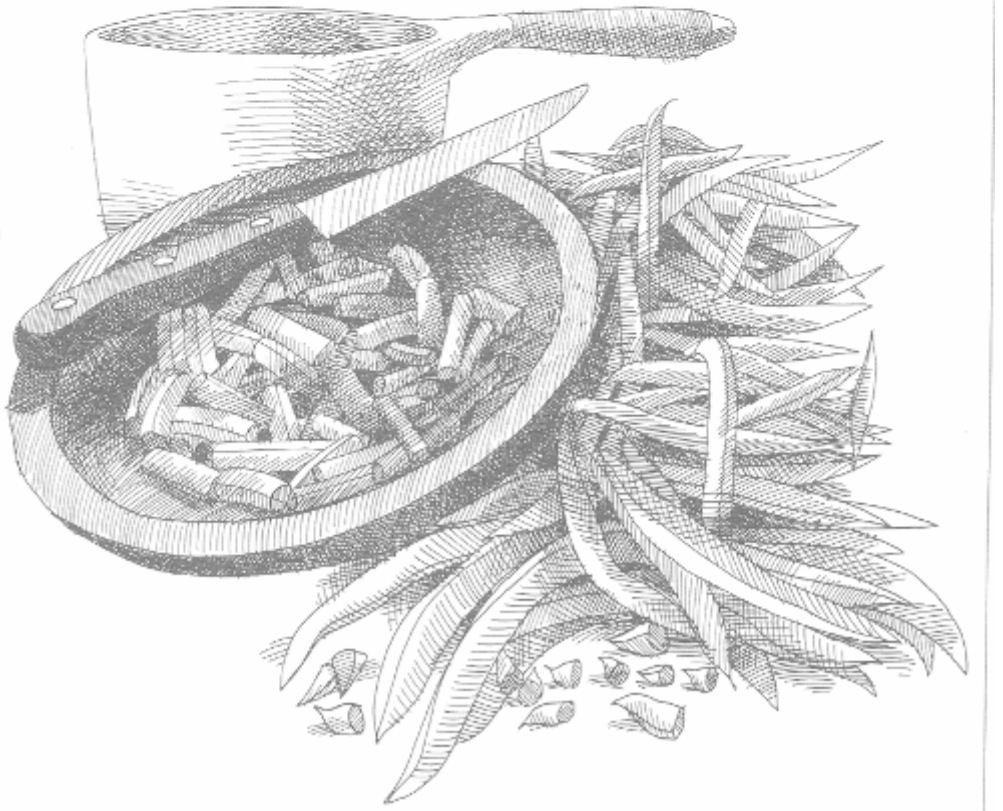
(3) Evaluate your lifestyle and eating patterns.

(4) Establish healthful lifestyle and eating practices.

As you conscientiously follow these steps, you'll find that you feel healthier and more energetic. You'll also have the peace of mind that comes from knowing you are following sound nutritional principles.

"Sound nutrition is not a panacea. Good food that provides appropriate proportions of nutrients should not be regarded as a poison, medicine, or talisman. It should be eaten and enjoyed."

Food and Nutrition Board
National Research Council



Learn How Food is Important to Your Body

Having a basic understanding of the importance of food to your body is the first step in making sound nutritional decisions. This includes knowledge of *calories* and *nutrients,* and good food sources for each nutrient.

The human body can be compared to an intricate machine with over 30 trillion tiny parts, or *cells.* How well each cell works, how much energy you have, how you grow, and how your body maintains itself depends, in part, on the *food* you put into it: Food is fuel for your body.

Calories

Calories measure the energy we get from the food we eat. The number of calories each of us needs depends on many factors such as how much energy we use, our physiological state (i.e., pregnancy, lactation, etc.), our growth, and body size. It is impor-tant that the calories we take in each day balance the calories we use in order to main-tain a desirable weight. (See the chart on page 18 for recommended daily calorie intakes based on age, weight and height.)

Major Nutrients

Food is made up of basic substances called *nutrients,* which are required by the body in order for it to function properly. The six major classes of nutrients needed by the body are protein, carbohydrates, fats, vitamins, minerals, and water. The calories our bodies need come from carbohydrates, fats and proteins. Vitamins, minerals and water provide no calories but are of great importance for their role in helping the body obtain calories from the fuel nutrients and in other body functions.

Protein—Builds and Repairs

Every cell in your body contains protein. Protein helps build, maintain, and repair body cells. Muscle tissue, antibodies which fight off disease, hemoglobin which carries oxygen in the blood, as well as enzymes which control certain body processes, are all made up of protein.

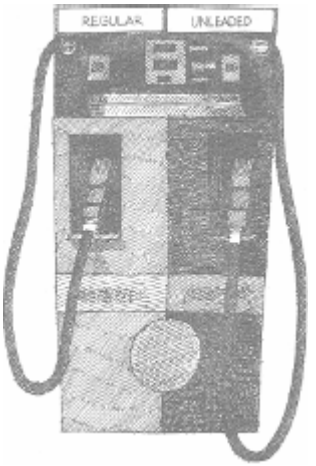
Protein is composed of amino acids. The body itself can form some of these amino acids, but nine must come from the foods we eat. These nine amino acids are called *essential* amino acids. High-quality proteins contain all the essential amino acids in adequate amounts for the body to synthesize all needed proteins. Animal products, such as milk, eggs, cheese, poultry, fish and meats, are good sources of high-quality protein.

Plant protein sources, such as grains and legumes, are lower-quality proteins. These proteins can be improved greatly, however, when combined with protein from an animalsource; for example: cereal with milk, macaroni with cheese, and chicken with rice. A second way to improve vegetable protein is to combine in the same meal two or more vegetable proteins that complement each other. For example: a legume with a cereal, or a nut with a seed

with rice, peas with corn, or sunflower seeds with beans.

Since protein plays so many important roles in the body, it is essential to good health that we get enough in our diet. But it is also possible to consume too much protein. So, how much protein does our body really need?

Protein contains four calories per gram, and it has been suggested that 12 to 15 percent of the daily calories consumed should come from proteins. A total of three servings equaling 6 oz. of protein-type foods (Meat and Substitutes) is needed daily. (See sample meal plan on p. 17.)



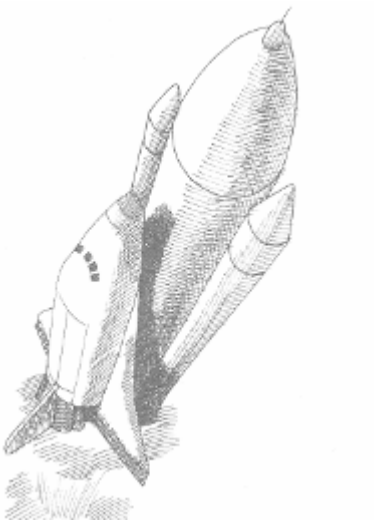
Carbohydrates—Provide Energy

Carbohydrates are the main energy source for the body. An additional important function of carbohydrates is that they spare proteins. If the body does not get enough carbohydrates, it uses protein as a source of energy instead. And this is an expensive use of protein.

Carbohydrates also provide *fiber* in our diet. Fiber is important in the proper elimination of body waste materials. Dietary fiber, also known as bulk or roughage, is contained in whole grains, vegetables, fruits, nuts and seeds.

Most carbohydrates come from plant sources such as fruits, vegetables and grains. These foods provide *complex* carbohydrates, which must be broken down by the body before they can be absorbed. Consumption of foods containing complex carbohydrates also provides dietary fiber in the diet which is important for normal bowel function. Carbohydrates found in sugar, jellies, jams and syrups, are *simple* carbohydrates and are quickly absorbed by the body. Milk and milk products are examples of animal sources of carbohydrates and contain the simple carbo-hydrate lactose.

Carbohydrates contain four calories per gram, and it is recommended that at least 55 to 60 percent of our energy needs (total calorie intake) be supplied by carbohydrates. A total of eight servings should be eaten daily: four fruits and vegetables and four grains.

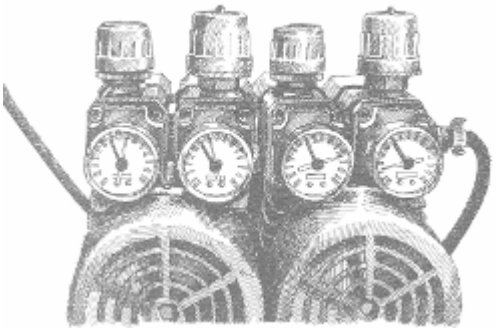


Fats — Supply Energy

Fats are a concentrated source of energy. 4-am for gram, fats have more than twice the calories of protein and carbohydrates with nine calories per gram.

Some of the functions of fats are: to aid in the digestion and absorption of the fat-soluble Vitamins A, D, E and K; to add lore taste to our food; to provide energy, ad to protect and cushion vital organs. In addition, fats contain essential fatty acids 'which are not produced by the body.

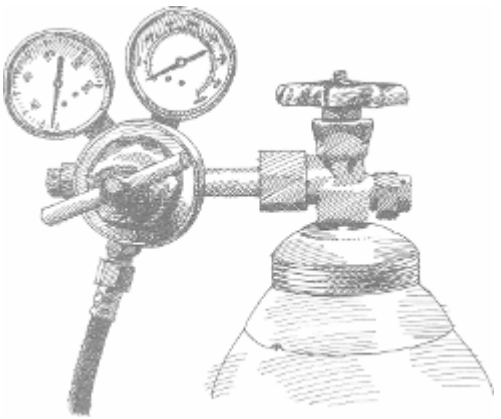
Most fats in our diet come from cooking oils, margarine, butter, meat, shortening, cream, cheeses, mayonnaise, nuts, bacon, etc. is recommended that 25 to 30 percent of our total daily calories come from fats.



Vitamins — Help and Regulate

Vitamins are needed by the body only in very small amounts; but as the word indi-cates, they are *vital* to the normal functioning of the body. They are "helpers" and "regulators" in many body processes.

There are 13 known essential vitamins, which are classified as either fat soluble or water soluble. Fat-soluble vitamins are A, D, E, and K. Water-soluble vitamins are the B-complex vitamins and Vitamin C. Excess amounts of the fat-soluble vitamins are stored in the body. Megadoses of vitamins are potentially harmful to the body. It is **not** recommended that you take megadoses of **any** vitamin. There is no evidence that it does any good and proof that in some instances it can actually do harm.



Minerals—Help and Regulate

Minerals are also required by the body in very small amounts. They are divided into *major* minerals such as calcium, phosphorus, potassium, sodium, chlorine, and *trace* minerals such as iron, iodine, zinc, and others. Like vitamins, minerals work with other nutrients as helpers and regulators in the body. As with vitamins, you should avoid taking megadoses of minerals and trace minerals.

Water—Most Essential Nutrient

Water is the single most abundant substance in the body, making up 50 to 60 percent of a person's weight. It is perhaps the most essential of all nutrients. A person can live for many days without food but just a few days without water. It is second only to air in importance to life.

Water aids the entire digestive process. It dissolves substances so they can be transported throughout the body and it carries away waste products. It also plays a part in muscle contraction, nerve impulses and temperature control.

Most vegetables, fruits and fluids are made up primarily of water; but since our bodies require so much water, it's recommended that we drink at least six to eight glasses of water each day.

Balance of Nutrients

In order for our bodies to function properly, we must have the necessary balance of nutrients in our diet. It has been suggested that the protein, carbohydrates and fats (which supply calories in our diet) be proportioned into the following percentages of our total daily calories:

	Total Daily Calories	
Protein	**Carbohydrates**	**Fats**
12-15%	55-60%	25-30%

Functions and Sources of Key Nutrients

Nutrient	Why Needed	Food Groups	Examples	Percent
Protein	Builds, maintains and repairs body tissues. Fights off infections. Balances body fluids. Forms hormones. Forms enzymes. Part of blood formation. Helps with vision.	Meat and Substitutes, Grains, Milk and Dairy Products	Meats, poultry, fish, eggs, legumes, nuts, seeds, milk	12 - 15% of total daily calories
Carbohydrates	Supply energy. Spare protein for tissue building and repairing. Help body use fat efficiently.	Grains, Fruits and Vegetables, Fats and Sweets	*Complex:* bread, cereal, noodles, macaroni, rice, corn, potatoes, fruits. *Simple:* sugar, syrups, honey, jam, jellies, candy, and other sweets. Also green leafy vegetables	55 - 60% of total daily calories.
Fats	Supply concentrated energy. Source of fat soluble vitamins (A,D,E, and K). Part of structure of cell membrane. Cushion body organs.	Fats and Sweets, Meat and Substitutes, Milk and Dairy Products	Vegetable oils, butter, margarine, lard, mayonnaise, salad dressings, fatty meats, fried meats, luncheon meats, most cheeses, whole milk, creams, nuts, chocolate	25 - 30% of total daily calories.
Water	Necessary for all chemical reactions that occur in the body. Needed for the transport of nutrients, for blood, for regulation of body temperature and for elimination.			

Nutrient	Why Needed	Food Groups	Examples	Toxicity
Vitamins				
Vitamin A	Helps develop and keep eyes healthy. Helps keep skin, hair, teeth and gums healthy. Aids in bone and teeth formation. Involved in fat metabolism.	Milk and Dairy Products, Fruits and Vegetables, some Meat and Substitutes	Whole milk, butter, eggs, yellow fruits and vegetables, dark leafy vegetables, liver, kidney	Nausea, weight loss, hair loss, constipation, dermatitis, impaired bone growth, bone and joint pain, decalcification of bones
Vitamin D	Helps form strong teeth and bones	Milk and Dairy Products, Meat and Substitutes	Vitamin-fortified milk products, cod liver oil, egg yolk, liver, salmon, tuna, sardines	Nausea, fatigue, headache, loss of appetite, failure to grow, calcification of soft tissue
Vitamin E	Helps to form normal red blood and muscles. Protects fat from abnormal breakdown in the body's tissues. Antioxidant to protect vitamin A and C.	Fruits and Vegetables, Grains, Milk and Dairy Products, Meat and Substitutes, Fat and Sweets	Vegetable oils, whole grain cereals, nuts, egg yolk, milk fat, butter, green leafy vegetables, meat, liver	Nausea, abdominal distress, interference with blood clotting
Vitamin K	Blood clotting.	Fruits and Vegetables, Meat and Substitutes	Green leafy vegetables, tomatoes, cauliflower, wheat bran, soybean oil, liver, egg yolk	
Vitamin C (Ascorbic Acid)	Helps normal bone and teeth formation. Strengthens walls of blood vessels. Helps in formation of collagen and other specialized proteins. Aids in healing wounds and broken Bones. Helps body utilize iron. Helps resist infection.	Fruits and Vegetables	Citrus fruits, greens, strawberries, tomatoes, potatoes, new cabbage, peppers, pineapple, melons, guava	Digestive tract disturbances, increased tolerance to the vitamin

Nutrient	Why Needed	Food Groups	Examples	Toxicity
Vitamins				
Vitamin B1 (Thiamin)	Helps body change food into energy. Promotes normal appetite and digestion. Helps maintain healthy nervous system.	Meat and Substitutes, Grains, Fruits and Vegetables	Whole grains, enriched breads and cereals, legumes, potatoes, pork, liver, lean meat, yeast	
Vitamin B2 (Riboflavin)	Helps body cells use oxygen to obtain energy from food. Helps keep skin around mouth and eyes healthy.	Milk and Dairy Products, Meat and Substitutes, Grains, Fruits and Vegetables	Milk, cottage cheese, cheese, whole grains, enriched breads and cereals, liver, lean meat, eggs, green leafy vegetables	
Niacin	Helps body cells use oxygen to obtain energy from food. Helps to maintain healthy skin, nervous system.	Meat and Substitutes, Grains, Fruits and Vegetables	Fish, meat, liver, whole grain and enriched breads and cereals, legumes, milk	Heat flushing from pharmacological doses of inalinimide
Vitamin B6	Helps in the formation of certain proteins. Helps body use carbo-hydrate and fat for energy. Helps to form red blood cells.	Meat and Substitutes, Grains, Fruits and Vegetables, Milk and Dairy Products	Lean meat, egg yolk, green leafy vegetables, whole grain and enriched cereals, milk, bananas	Severe nerve damage
Vitamin B12 (Cobalamin)	Helps in the building substances for the cell nucleus. Helps in forma-tion of red blood cells. Helps nervous system function.	Meat and Substitutes, Milk and Dairy Products	Liver, kidney, lean meat, fish, eggs, cheese, milk	
Folic Acid	Helps form red blood cells. Aids in intra-cellular metabolism.	Meat and Substitutes, Fruits and Vegetables, Grains	Liver, eggs, legumes, green vegetables, citrus fruits, wheat, yeast	

Nutrient	Why Needed	Food Groups	Examples	Toxicity
Vitamins				
Pantothenic Acid	Aids in metabolism of carbohydrates, fats and protein to produce energy. Aids in synthesis of amino acids, fatty acids and hormones.	Grains, Fruits and Vegetables, Meat and Substitutes	Yeast, salmon, eggs, cauli-flower, broccoli, tomatoes, molasses, wheat	
Biotin	Aids in metabolism of carbohydrates, protein and fats.	Fruits and Vegetables, Meat and Substitutes, Milk and Dairy Products	Organ meats, meat, egg yolk, milk, mush-rooms, peanuts, grape-fruit, watermelon, bananas, tomatoes, strawberries	
Minerals/Trace Elements				
Calcium	Helps build strong bones and teeth. Aids in the normal functioning of nerves, muscles, and heart. Helps in normal blood clotting.	Milk and Dairy Products, Fruits and Vegetables, Meat and Substitutes	Milk, cheese, cottage cheese, salmon, sar-dines, oysters, clams, green leafy vegetables	
Phosphorus	Helps build strong bones and teeth. Helps in the release of energy in muscle contraction. Helps body utilize sugar and fat.	Milk and Dairy Products, Meat and Substitutes, Fruits and Vegetables, Grains	Milk, cheese, cottage cheese, meat, fish, whole grain cereals, leg-umes, eggs	
Iron	The protein part in hemoglobin that carries oxygen to the body. Part of certain important enzymes.	Meat and Substitutes, Grains, Fruits and Vegetables	Organ meats, shellfish, dark green leafy vegetables, legumes, whole grains and enriched breads, egg yolk	

Nutrient	Why Needed	Food Groups	Examples
Minerals/Trace Elements			
Iodine	Part of thyroid hormones which stimulate growth, development and metabolism.	Meat and Substitutes	Seafood, iodized salt
Magnesium	An important part of soft tissues and bones. Helps in vital enzyme reactions. Helps in nerve and muscle functions.	Meat and Substitutes, Fruits and Vegetables, Grains, Milk and Dairy Products	Seafood, dark green leafy vegetables, nuts, legumes, whole grains, enriched cereals, bananas, orange juice, potatoes, meat, milk
Zinc	Part of certain important enzymes. Needed for growth and reproduction. Needed for taste acuity. Helps in wound healing	Meat and Substitutes, Grains	Red meat, liver, eggs, seafood, whole grains, legumes
Copper	Aids in synthesis of hemoglobin and metabolism of iron. Helps maintain normal blood vessels.	Meat and Substitutes, Grains, Fruits and Vegetables, Fats and Sweets	Liver, kidney, oysters, shellfish, nuts, raisins, legumes, whole grains, cocoa, chocolate
Potassium	Aids in synthesis of protein. Helps maintain fluid balance. Needed for healthy nerves and muscles.	Meat and Substitutes, Fruits and Vegetables, Grains, Milk and Dairy Products	Meat, fish, milk, cereals, cantaloupe, bananas, apricots, fruit juices, vegetables, legumes
Sodium	Needed for enzyme reactions. Helps maintain fluid balance and keeps balance of acids and bases in body. Helps in absorption of other nutrients including carbohydrates.	Meat and Substitutes, Milk and Dairy Products	Table salt, meat, fish, poultry, milk, eggs, smoked meats, olives, pickles, soy sauce

Follow Sound Nutritional Guidelines that Will Enable You to Eat Sensibly and Creatively

There are several widely-accepted guidelines which make it easier for you to eat nutritiously. This section discusses some of these guidelines and how they can help you.

Recommended Daily Allowances

It has been established that we all need the same nutrients in order for our bodies to function properly. But different amounts of each nutrient are required by different people depending on age, sex, size, physiological state, and lifestyle. Because of this, the Food and Nutrition Board of the National Research Council of the National Academy of Sciences has established Recommended Daily Dietary Allowances for different age and sex groups. These allowances are the amounts of nutrients considered adequate for most healthy persons in the United States to maintain good health.

The Federal Food and Drug Administration has in turn established a single set of allowances, called the *U.S. Recommended Daily Allowances (U.S.* RDA) based on the Recommended Daily Dietary Allowances.

The U.S. RDA is a tool designed specifically for use in labeling food products. Using and following these recommended allowances is a helpful tool in trying to meet your individual daily nutrient requirements.

U.S. Recommended Daily Allowances
(U.S. RDA)

Protein	45 or 65	Grams*
Vitamin A	5,000	International Units
Vitamin C	60	Milligrams
Thiamin	1.5	Milligrams
Riboflavin	1.7	Milligrams
Niacin	20	Milligrams
Calcium	1	Gram
Iron	18	Milligrams
Vitamin D	400	International Units
Vitamin E	30	International Units
Vitamin B6	2	Milligrams
Folic Acid	0.4	Milligrams
Vitamin B12	6	Micrograms
Phosphorus	1	Gram
Iodine	150	Micrograms
Magnesium	400	Milligrams
Zinc	15	Milligrams
Copper	2	Milligrams
Biotin	0.3	Milligrams
Pantothenic Acid	10	Milligrams

*45 grams if quality of protein is equal to or greater than that of casein (a milk protein): 65 grams if quality of protein is less than that of milk protein.

Product Labeling

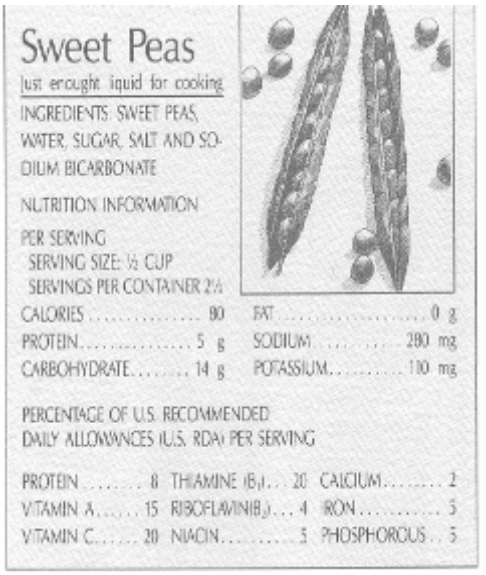
All labeled food products *must* have the following information: (1) Name of the product, (2) Name and address of the manufacturer, packer, or distributor, (3) Net contents of the package, and (4) A list of ingredients in

descending order of predominance by weight. By paying attention to the ingredients listed on product labels, you'll be able to better decide which foods to buy.

Nutrition Labeling

Nutrition labeling on food products tells some of the nutrients and how many calories are in certain foods. It also helps in selecting foods that meet our nutrient needs. For example, if you are on a low fat diet, just check the label for the amount of fat per serving. Or, if you need more iron in your diet, the nutrition information on a label can help you choose foods that are high in iron. Nutrition information also helps us determine what nutritional contribution certain foods make toward our daily needs.

Nutrition labeling is required when there is a nutritional claim such as "low calorie," "high fiber," "low sodium," or "enriched," and when foods are fortified with vitamins and other nutrients. The following example shows what may appear on a label:



Knowing how to use label information helps a great deal in nutrition planning. It is important to remember that all U.S. RDA's given on labels are expressed in percentages. Looking at the label for sweet peas, we see that one serving contains 20 percent of the U.S. RDA for Vitamin C. While the peas are a good source of Vitamin C, you would still need to find other food sources to get a total day's requirement of Vitamin C. Now looking at calcium, we see that a serving contains only two percent of the U.S. RDA for calcium, so it would not be considered a good source of calcium.

Another point to remember is that percentages of U.S. RDA's on labels are usually given for only certain "key nutrients." A good general rule to remember is that *if you're getting enough of these key nutrients, you'll probably be getting enough of all needed nutrients.* **The best way to ensure getting adequate amounts of all the nutrients is to eat a wide variety of foods.**

The Basic Food Groups

Although labeling is useful in helping select foods, it cannot be used solely in trying to achieve a nutritionally balanced diet. Many foods don't have nutrition labels. The Basic Food Groups provide an additional tool to help determine what foods to eat for good nutrition.

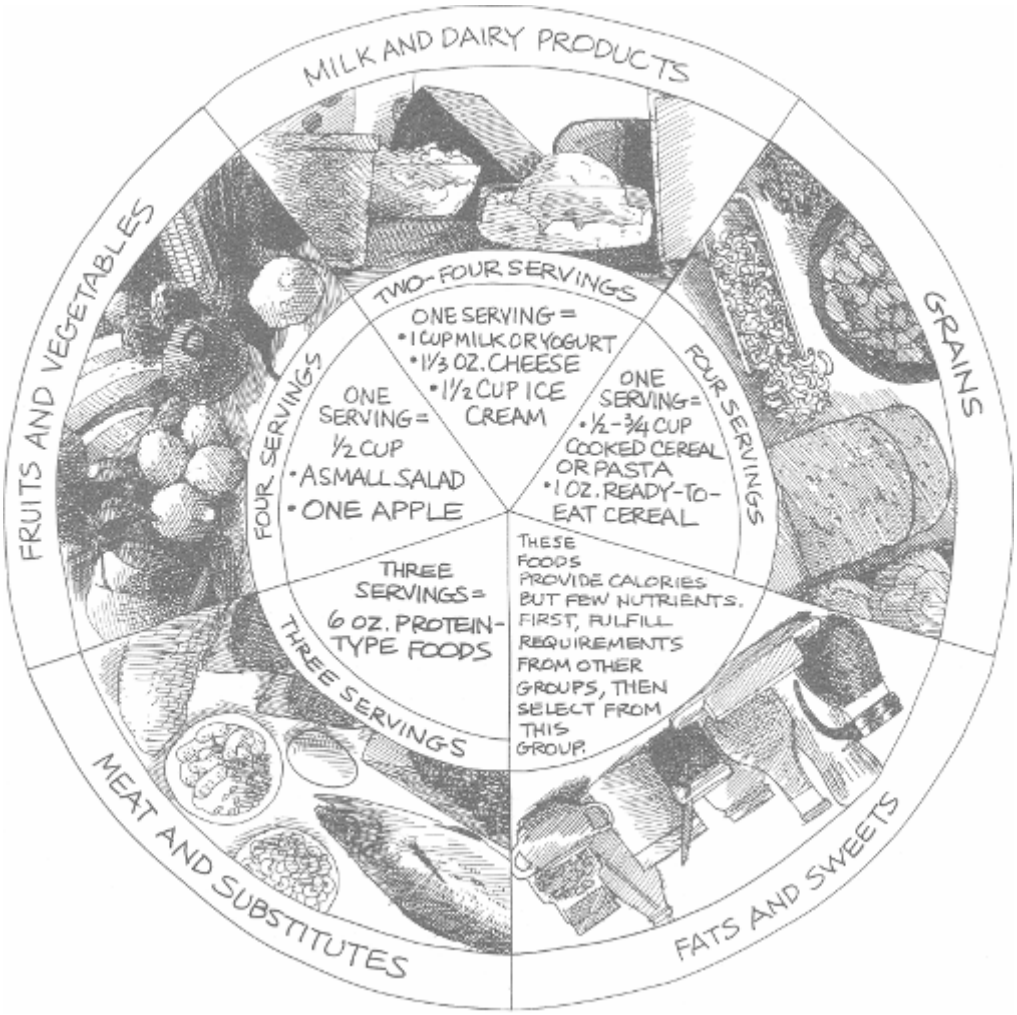
Everything we eat belongs to **five food groups:**

Fruits and Vegetables
Grains
Milk and Dairy Products
Meat and Substitutes
Fats and Sweets

Nutrients in these food groups fit together like pieces of a puzzle to help our bodies grow and stay sound and healthy. A good general rule is to choose most of our foods from the groups which supply nutrients as well as calories.

Fruits and Vegetables are good sources of Vitamin A, Vitamin C, and fiber. Different fruits and vegetables will give different amounts of these and other nutrients, so it is a good idea to vary the ones we eat.

Enriched **Grains,** especially whole-grain products, are important sources of the B Vitamins, magnesium, iron and fiber. Examples of foods included in this group are whole-grain and enriched breads, biscuits, muffins, waffles, pancakes, cooked and ready-to-eat



cereals, cornmeal, flour, grits, macaroni and spaghetti, noodles, rice, rolled oats, barley, buglar, and corn and flour tortillas.

Milk and Dairy Products provide most of the calcium in our diet. They also supply Vitamin A and protein. Most milk on the market has Vitamin D added to it. Milk comes in many forms: whole, skim, low-fat, evaporated, buttermilk, and nonfat dry milk. Milk products include yogurt, ice cream, ice milk, and cheese, including cottage cheese. The various levels of fat in milk products allow for many individual choices in the diet.

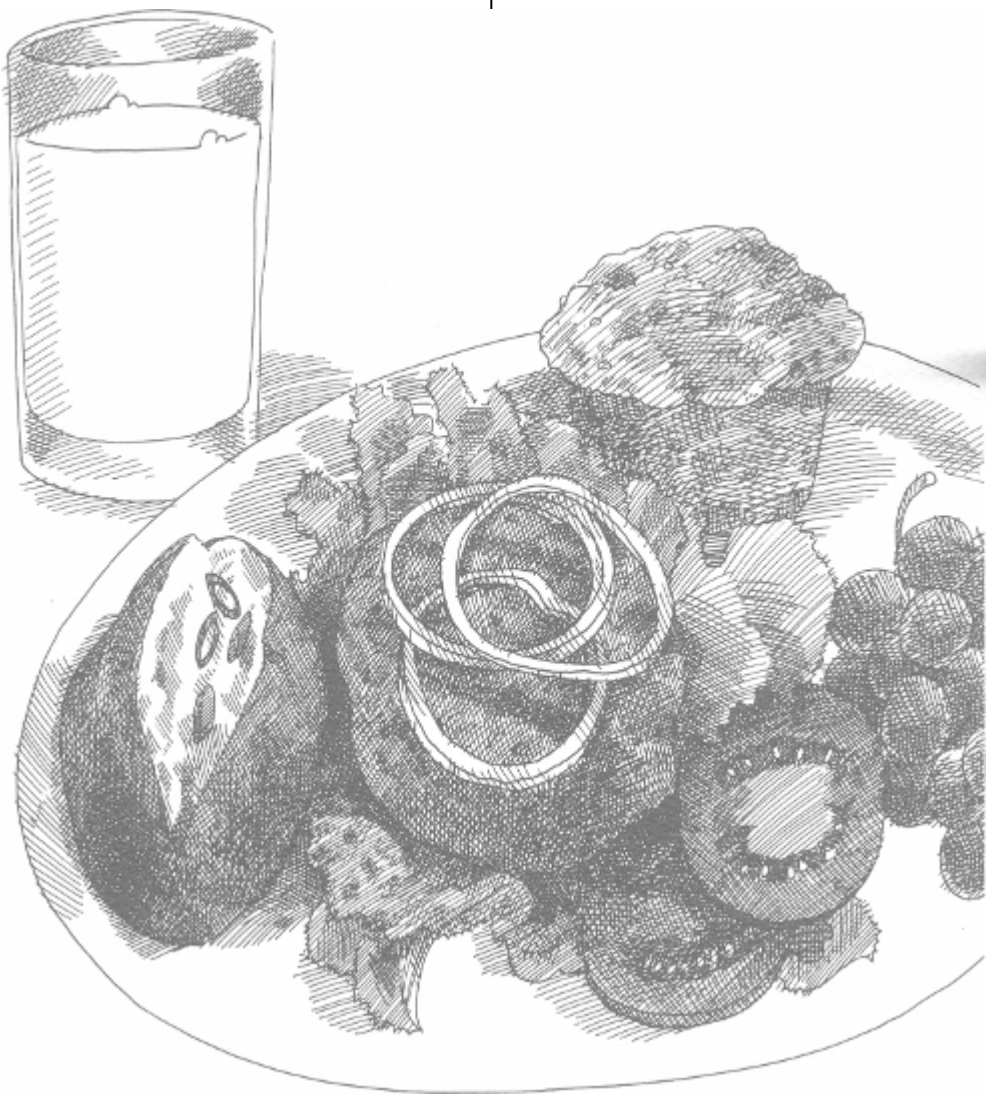
Meat and Substitutes (Poultry, Eggs, Fish, and Beans) are important sources of protein. Meat and eggs are a particularly important source of iron. Because each food offers different combinations of nutrients, along with protein, it is a good idea to eat a variety of the foods in this group which include beef, veal, lamb, pork, poultry, fish, shellfish, organ meats (such as liver and kidneys), dry beans and peas, soybean, lentils, eggs, seeds, nuts, peanuts, and peanut butter.

Fats and Sweets are high in calories and low in nutrients. These foods should be eaten moderately. When trying to lose weight, eat them less often. Foods in this group include butter, margarine, lard, mayonnaise and salad dressings, candy, sugar, jams, jellies, gravies, syrups, sweet toppings, and soft drinks.

The accompanying chart shows the daily servings needed from each of the Basic Food Groups.

In order for us to obtain all the nutrients we need to stay healthy, we need to remember to eat a wide **variety** of foods from each of the Basic Food Groups. This means not only having the recommended servings from each group but also eating many different foods within each of the groups.

Even though we may eat a variety of foods, we still may not get the nutritional balance we need. We might be eating too much of certain foods, consuming too many calories or too much of certain nutrients. This can lead to problems such as obesity and other health risks. **Moderation** helps keep our food needs in balance. By eating moderate amounts of a wide variety of foods, we will not exceed or neglect our need for any single nutrient.



Evaluate Your Lifestyle and Eating Patterns

An important part of being able to achieve a lifestyle of sound nutrition habits is to evaluate your current lifestyle and eating patterns. The term "eating patterns" means *how you eat and why you eat what you do.* Eating patterns are important because they deter-mine whether or not you're eating in a healthy way. After considering your eating patterns, you may decide that it's your patterns that need changing rather than the things you eat.

This evaluation may help you see how your lifestyle and eating patterns affect your eating habits and, very possibly, your health. It may also help you decide which patterns need changing in order for you to have a more healthful lifestyle.

The following questions are designed to help you *become aware* of your lifestyle and eating patterns. There are no right or wrong answers to the questions. The purpose of the questions is to help you see how your lifestyle and eating patterns compare to the recommended guidelines set forth in the next section of this booklet (Step 4: Establish Healthful Lifestyle and Eating Practices).

Lifestyle and Eating Pattern Evaluation

	Always	Often	Sometimes	Rarely/Never
1. Do you eat at least three well-balanced meals each day?	☐	☐	☐	☐
2. Do you replace well-balanced regular meals with snacks, vitamins and other supplements?	☐	☐	☐	☐
3. Do you skip or eat a light breakfast or lunch, then reward your "good" behavior with a big dinner?	☐	☐	☐	☐
4. Do you sit down to eat your meals?	☐	☐	☐	☐
5. Is mealtime pleasant and enjoyable?	☐	☐	☐	☐
6. Do you eat "on the run"?	☐	☐	☐	☐
7. Do you eat rapidly and take big bites?	☐	☐	☐	☐
8. Do you feel like you must always "clean up" your plate?	☐	☐	☐	☐
9. Do you eat leftovers while your eating area is being cleaned up?	☐	☐	☐	☐
10. Do you *always* have to have snacks or dessert after dinner?	☐	☐	☐	☐
11. Do you skip or skimp on meals to save up *calories for* desserts or treats?	☐	☐	☐	☐

	Always	Often	Sometimes	Rarely/Never
12. Do you use food as an escape or to calm you down when you are angry or otherwise upset?	☐	☐	☐	☐
13. Do you use food as a "pick-me-up" when you are tired, bored or depressed?	☐	☐	☐	☐
14. Do you overeat or undereat to punish yourself or others for wrongs that have been done?	☐	☐	☐	☐
15. Do you regularly engage in some form of physic-cal exercise or activity?	☐	☐	☐	☐
16. Do you try to make up for overeating with extra exercise?	☐	☐	☐	☐
17. Do you try to get as much sleep as you feel your body needs?	☐	☐	☐	☐
18. Do you make opportunities to "get away from it all" to give your mind and body a chance to relax?	☐	.☐	☐	☐
19. Do you have a generally positive attitude about yourself and toward life?	☐	☐	☐	☐
20. Do you talk about or think about dieting every day?	☐	☐	☐	☐
21. Do you try "fad" diets?	☐	☐	☐	☐
22. Do you commend yourself for going long periods of time without eating?	☐	☐	☐	☐
23. Do you feel that in order to maintain your "diet" that you must eat by yourself or eat foods that are different from what others are eating?	☐	☐	☐	☐

(Adapted from "Focus One Lecture Series Handouts," *Fitness for All Seasons.)*

Now compare your answers to the guidelines in the next section. Also, think about other patterns you might have. Then consider which patterns you ought to keep and which you ought to discard in order to achieve a more healthful lifestyle.

Establish Healthful Lifestyle and Eating Practices

No diet or nutrition plan can guarantee long life or that you'll feel in tip-top shape all the time. There are, however, some definite lifestyle and eating guidelines that may help you achieve a healthful quality of life. These guidelines are:

1. Eat at least three well-balanced meals every day.

An example of a well-balanced daily meal plan includes the following:

Meal One	*Food Group*	*Example*
One serving	Milk and Dairy Products	1 c. milk or 1 c. yogurt
One serving	Grains	½ c. cooked or dry cereal, or 1 slice bread
One serving	Meat and Substitutes	1 oz. meat or fish, or 1 egg
One serving	Fruits	1 fresh fruit (apple, etc.) or ½ c. canned or frozen
One serving	Fats and sweets	1 t. margarine or 1 t. sugar or 1 t. jam

Meal Two	*Food Group*	*Example*
One serving	Meat and Substitutes	2 oz. meat, fish, nuts, etc.
Two servings	Grains	2 slices bread or 1 c. cooked rice or pasta
One serving	Fruits and Vegetables	½ c. cooked vegetable and 1 fresh fruit or ½ c. canned or frozen
One serving	Milk and Dairy Products	1 c. milk or 1 ½ oz. cheese
One serving	Fat and Sweets	1 t. margarine, butter or oil or 1 T. mayonnaise or salad dressing or 1 slice 2 X 2 cake

Meal Three	*Food Group*	*Example*
One serving	Meat and Substitutes	3 oz. meat, fish, poultry
Two servings	Grains including potatoes	2 slices bread or 1 c. cooked rice or pasta or one small potato
Two servings	Fruits and Vegetables	½ c. cooked vegetable and 1 fresh fruit or ½ c. canned or frozen
One serving	Milk and Dairy Products	1 c. milk
One serving	Fats and Sweets	1 t. margarine

Planned snacks may be eaten to increase calories at any time of the day you choose and may include any of the above foods, or any other foods of your choice.

Be sure to include six to eight glasses of water daily.

Helpful Meal Guidelines:

- Relax for 10 minutes before each meal.
- Sit down to eat your meals so that mealtime is more pleasant, relaxed and enjoyable. Avoid eating "on the run".
- Take at least 15 minutes to eat a meal. Avoid eating rapidly and taking big bites. Also avoid thinking you must always "clean up" your plate. When you feel satisfied you shouldn't have to eat more. Then when mealtime is over, avoid eating leftovers while the eating area is being cleaned up. It's surprising how this can add up to extra, unneeded calories.
- Avoid thinking that you must *always* have snacks or desserts after meals. It is also not a good idea to skip or skimp on meals to save up calories for desserts or treats. A regular practice of this deprives your body of needed nutrients.

The accompanying chart gives the recom-mended daily calorie intake based on age, weight and height:

Recommended Daily Calorie Intake
(Based on Mean Weight and Height)

	Age	Weight	Height	Energy Needs (Range)
Infants	birth to 6 mos.	13 pounds	24 inches	95-145 calories
	6 mos. to 1 yr.	20	28	80-135
Children	1-3 yrs.	29	35	900-1800
	4-6	44	44	1300-2300
	7-10	62	52	1650-3300
Males	11-14	99	62	2000-3700
	15-18	145	69	2100-3900
	19-22	154	70	2500-3300
	23-50	154	70	2300-3100
	51-75	154	70	2000-2800
	76+	154	70	1650-2450
Females	11-14	101	62	1500-3000
	15-18	120	64	1200-3000
	19-22	120	64	1700-3500
	23-50	120	64	1600-2400
	51-75	120	64	1400-2200
	76+	120	64	1200-2000

(It is recommended that you weigh yourself only once a week.)

Note: Use this chart to make the daily meal plan fit your needs.

Some important things to remember about food:

Food is fuel for your body. It is very important to keep your body functioning properly.

Food should not be used as an escape or to calm down when you're upset. Nor should it be used as a "pick-me-up" when you're tired, bored or depressed.

Food should not be used as a reward or punishment for yourself or for others.

2. Exercise enough to keep your body in good physical condition.

Exercise should not be used as solution to overeating. It should be used in partnership with sound nutritional practices as part of a basic, overall approach to healthful living.

The major benefits of a long-term personal activity program are:

A positive impact on your cardiovascular health

Cardiovascular disease is the cause of 55 percent of all deaths in the United States. Even if you sustain a heart attack, the effects will likely be less severe if you are physically fit. The American Heart Association notes it is "prudent" to exercise regularly. Activity does not guarantee freedom from heart disease, but professionals recognize that it can be an effective preventative measure.

Improved functioning of all body systems

Aerobic exercise (with air) increases the efficiency of the cardiovascular system. Anaerobic exercise (without air) tones, stretches, and strengthens the muscles. Strength exercises make all activities easier. Flexibility exercises loosen tight muscles and ligaments and increase the grace of body movements. All exercise activities should include a warm-up period (flexibility, strength exercises), an aerobic period (endurance exercises), and a cool-down period (flexibility, strength exercises). A general recommendation is to do 15-20 minutes of aerobic exercise every 48 hours.

A better image

Physical appearance is largely due to the quality of muscle tissue that covers the bony structure of the body. Vigorous muscle activity will improve body muscle and tone. Your increased flexibility and toning will help improve your posture and give you a more energetic look. Make the most of your unique features by giving your body the movement and exercise it needs for the best possible appearance.

3. Get enough rest and relaxation to keep your body functioning normally.

The average person requires between 6-9 hours of sleep daily to rejuvenate his or her physical and mental faculties.

Relaxation is sometimes harder because it must take place in the mind. Work today is much more mental than physical, with the use of numbers, computers, etc. Studies show that there is a definite health link between mental and physical well-being. If you are under stress and are not physically healthy, your lifestyle may possibly lead to a major health problem. In order to reduce stress, you must include as part of your lifestyle some relaxation, play, and effective ways to get away from it all mentally. You must be able to daily change your mental relationships from work to leisure to enjoy physical activity and relaxation which will relieve the damaging effects of stress.

4. Be positive about yourself and the things you do each day.

Begin and end each day with a positive experience. Think about how good you feel and how much you can accomplish. Attitude has a great deal to do with how you feel physically.

5. Maintain a healthy, comfortable weight for your height.

The following chart shows the suggested bodyweight ranges for men and women:

1983 Metropolitan Height and Weight Tables Weights at Ages 25-29 based on lowest mortality. Weights in pounds according to frame (in indoor clothing weighing 5 lbs., shoes with 1" heels).

Men

Height Feet	Inches	Small frame	Medium frame	Large frame
5	2	128-134	131-141	138-150
5	3	130-136	133-143	140-153
5	4	132-138	135-145	142-156
5	5	134-140	137-148	144-160
5	6	136-142	139-151	146-164
5	7	138-145	142-154	149-168
5	8	140-148	145-157	152-172
5	9	142-151	148-160	155-176
5	10	144-154	151-163	158-180
5	11	146-157	154-166	161-184
6	0	149-160	157-170	164-188
6	1	152-164	160-174	168-192
6	2	155-168	164-178	172-197
6	3	158-172	167-182	176-202
6	4	162-176	171-187	181-207

Women

Height Feet	Inches	Small frame	Medium frame	Large frame
4	10	102-111	109-121	118-131
4	11	103-113	111-123	120-134
5	0	104-115	113-126	122-137
5	1	106-118	115-129	125-140
5	2	108-121	118-132	128-143
5	3	111-124	121-135	131-147
5	4	114-127	124-138	134-151
5	5	117-130	127-141	137-155
5	6	120-133	120-144	140-159
5	7	123-136	133-147	143-163
5	8	126-139	136-150	146-167
5	9	129-142	139-153	149-170
5	10	132-145	142-156	152-173
5	11	135-148	145-159	155-176
6	0	138-151	148-162	158-179

It's important that you learn to manage your weight so it won't manage you. Managing weight is one of the most frustrating and least understood areas of nutrition, but it is also one of the most important.

The problems of being overweight and underweight result from an imbalance in energy intake and expenditure. The overweight person is consuming more calories than expending, thus storing the excess calories in fat cells. The underweight person is expending more calories than consuming, thus depleting the fat cells.

How can you tell if you may be overweight, obese, underweight or anorexic? The following chart gives an accepted nutritional definition:

Overweight
10% over body weight suggested in Metropolitan Health charts.
Obesity
20% or more over body weight suggested in Metropolitan Health charts.
Underweight
10% under body weight suggested in Metropolitan Health charts.
Anorexic
20% or more under body weight suggested in Metropolitan Health charts.

Here also are three simple methods for deter-mining whether you need to gain or lose weight:

1. Take an honest look in the mirror. Be your own judge. If you see too much, or too little, of yourself in the mirror, it may be time to shed or gain a few pounds.
2. Pinch the skin, using your finger and thumb, on the back of your arm, and over the hip bone. If you can pinch more than an inch, you probably need to lose some weight.
3. Check the suggested weight range on the preceding chart. If your weight is above or below the upper or lower limits, then you may need to make some positive changes.

Body composition must also be considered when deciding whether you are the "right"

weight. Someone who is active in strenuous sports may carry more weight than is recom-mended on the charts. But this does not represent a nutritional health problem because the weight comes from lean muscle tissue rather than fatty tissue.

Weight changes must be made slowly so the body can adjust to the new weight. A change of weight in one to two pounds a week is a good lasting way to manage weight gain or loss.

One pound of weight is equal to 3500 calories. So to lose one pound, you should decrease your consumption by 3500 calories per week or 500 calories per day. Or you should increase your physical activity so that you are expending an extra 3500 calories per week. The best solution is to decrease calories moderately and to increase physical activity moderately.

The loss and gain of body fluids also affects the amount and rate of weight gain. Water weight does show on the scales; so a sudden overnight weight gain or loss is probably only fluid, not fat or muscle tissue.

Complications of Weighing Too Much

The health complications related to obesity are many. Insurance companies report that obese people die younger from a list of diseases including heart attacks, strokes and diabetic complications.

Obese people may suffer from high blood pressure, coronary heart disease, post-surgical complications, gynecological irregularities, toxemia of pregnancy, gall bladder disease, and respiratory difficulties.

The social and economic disadvantages of being obese include higher insurance premiums, discrimination in the job market, less social dating, limited sports participation, more expense when buying clothes, and ridicule of peers.

Complications of Weighing Too Little

Anorexia Nervosa is a very serious disorder which may result from too much weight loss. It often occurs in young women who are high achievers and come from upper middle-class families.

Anorexics use extreme self-denial to control their weight such as starving themselves and exercising excessively. They cannot see themselves as being thin. Their image of themselves is always of being overweight even though they may weigh 70 pounds or less. Anorexics are extremely undernourished and over a prolonged period, they face severe health and psychological problems.

Bulimarexia is another psychological and physiological disorder. Persons in this case eat excessive amounts of food and then get rid of it by "induced" vomiting or by using laxatives. Victims of this disease may vomit as much as 10-15 times a day. Bulimarexics usually become obsessed with this eating and purging routine. Severe health and psychological problems are the result of such practices.

Things to Consider if You're Thinking About Weight Reduction

If you are following sound nutritional practices you should not have to constantly think or talk about "dieting" all the time.

You should also not be trying "fad" diets in order to lose weight. Going for long periods of time without eating is not a sensible approach to weight reduction. Neither is constant "dieting."

If you decide it's necessary to go on a weight-loss plan, you should select a sensible *plan* that will meet your needs. So, how do you sort the sensible reducing plans from the fads? Here are some guidelines that may help you determine whether or not a particular weight-loss plan is based on sound nutritional principles:

1.*Does the plan promise `fast and easy" weight loss?* Good plans promote a slow loss of pounds so that fat is lost instead of water and lean muscle mass.

2.Is it limited to just a few foods or combinations of foods eaten on certain days? A sound plan is based on a wide variety of foods from the Basic Food Groups.

3.*Is the plan based on a "secret" formula, never before revealed?* Secrets usually mean clinically unproven and unresearched results that can eventually cause medical complications.

4.*Does the plan promise that you can lose weight without any exercise at all?* Dieting without exercising is like going around in cir -cles and never arriving. Exercise must be combined with dieting to preserve lean body mass and reduce body fat.

5.*Is the plan to be used for only a limited amount of time? A* safe, sensible diet can be followed for a lifetime.

6.*Does the plan promise no need for changes in behavior or lifestyle?* The most influential causes of continued overweight are: eating patterns carried over from childhood, lack of regular exercise patterns, personality, genetics and overall lifestyle. In order for permanent weight changes to take place, one must commit to making some behavioral and lifestyle changes.

7.*Does it suggest eating special foods by yourself? A* sound weight-loss plan allows you to continue a normal lifestyle of eating with others.

8.Does the plan specify unusual or expensive foods? Good plans use ordinary food from ordinary grocery stores.

9.*Does the plan recommend that drugs or mega vitamins be used? A* nutritionally-sound plan needs no supplements or drugs for con-tinued good health.

10.*Does the plan promise results with little or no effort on your part?* Effort is an important part of weight-loss dynamics. Anything that is achieved as a lifetime change takes assertiveness and self control.

Remember: It is important that you check with your doctor before you go on any major weight-reduction plan.

Guidelines for a Healthy Lifestyle

1. Eat at least three well-balanced meals every day.
2. Exercise enough to keep your body in good physical condition.
3. Get enough rest and relaxation to keep your body functioning normally.
4. Be positive about yourself and the things you do each day.
5. Maintain a healthy, comfortable weight for your height.

Remember: **Variety** and **moderation** are the key words in achieving a healthy lifestyle.

Guidelines Toward Healthful Eating

The Food and Nutrition Board of the National Research Council of the National Academy of Sciences has set the following guidelines for healthful eating. These guidelines should be helpful as you strive to achieve a permanent lifestyle of sound nutrition habits.

Select a nutritionally adequate diet from the foods available by consuming each day appropriate servings of dairy products, meats or legumes, vegetables and fruits, and cereals and breads.

Select as wide a variety of foods in each of the major food groups as is practicable in order to ensure a high probability of consuming adequate quantities of all essential nutrients.

Adjust dietary energy intake and energy expenditure so as to maintain appropriate weight for height; if overweight, achieve appropriate weight reduction by decreasing total food and fat intake and by increasing physical activity.

If you're on a reducing diet, reduce consumption of foods such as alcohol, sugars, fats and oils, which provide calories but few other essential nutrients.

Use salt in moderation; adequate but safe intakes are considered to range between 1.1 to 3.3 grams of sodium daily. [1 tsp. salt = 2 grams sodium]

"Sound nutrition is not a panacea. Good food that provides appropriate proportions of nutrients should not be regarded as a poison, medicine, or a talisman. It should be eaten and enjoyed."
Food and Nutrition Board, National Research Council

Frequently Asked Questions About Nutrition

1. *Do I need to take a vitamin supplement?* Healthy individuals who eat a variety of foods selected from the Basic Food Groups will get the nutrients they need from their diet.

2. *Is it harmful to take megadoses of vitamins?* Excessive amounts of Vitamin A and Vitamin D are stored in the liver and soft tissues of the body and can destroy body tissue. It is *not recommended* that megadoses of *any* vitamin be taken. (See the chart on pp. 7-9 for list of vitamin toxicity.)

3. *Do vitamins give a person "pep" and "energy"?* Vitamins have no calories. They, of themselves, provide no extra pep or vitality beyond normal expectations. A well-balanced diet promotes overall good health and good feeling.

4. *Are natural vitamins better than synthetic vitamins?* Synthetic vitamins are identical to natural vitamins found in foods. The body can tell no difference and derives the same benefits from both.

5. *Are food additives safe?* There is no such thing as absolute safety or zero risk. However, food additives are tested to insure their safety. Before new additives can be used in food, extensive short-term and long-term animal feeding studies are performed. The results of these tests are reviewed by highly-qualified scientists before the food additive is approved. The "Delaney Clause" of The Federal Food, Drug and Cosmetic Act prohibits the addition of known carcinogens (cancer-causing substances) to foods. Of the food additives that have been tested and found to be carcinogenic in animals, all except saccharin have been banned from use in the food supply.

6. *Is "organic" better?* There is no evidence that "organic" or "natural" food is superior to conventionally-grown food. The nutrient content of a plant is largely determined by genetics, climate, and the maturity of the plant. The body uses nutrients in the same way no matter where the nutrients come from. Often, a person pays 30 to 100 percent more for a label that says "organic" or "natural" food versus its conventional counterpart without the label. Just because it is more expensive does not mean it's better.

7. *Are pesticides harmful to our food supply?* The risk posed by pesticides is extremely small. Furthermore, without the use of pesticides, over one-third of the crop production in the U.S. would be lost to insects, diseases and weeds.

8. *Is it healthier to be a vegetarian?* The ideal meal plan is between the extreme of the strict vegetarian and the heavy meat eater. Strict vegetarians (vegans), who avoid all animal products, may find it hard to get enough calories, calcium, riboflavin, iron and Vitamin B12. People start getting into trouble healthwise when they select foods from only one or two categories. There must be *variety* in what we eat.

9. *Is it possible to consume too much protein?* A significant number of Americans are eating over twice the U.S. RDA level for protein. At this time there are no proven hazards to eating liberal amounts of protein, but research is under way to see what excessive amounts of protein might do to the body.

One fact is known: High consumption of protein results in increased excretion of calcium in the urine. Following the U.S. RDA level of protein is recommended. Excess protein in the body is converted to energy; and if in excess, the energy is then converted to fat. Since protein is one of the most expensive food sources, it is an expensive source of energy.

10. *Is sugar bad?* Sugar is one of the most maligned of all foods. There is no scientific evidence that sugar is responsible for all the problems attributed to it. The main health hazards from eating too much sugar are a possible increase in dental caries (any sticky, sweet substance may lead to caries), and the intake of a higher number of calories being converted to fat thus contributing to obesity. Sometimes foods with sugars may replace foods with more nutrients (such as candy vs. oranges), thus causing the body to become deficient in important nutrients.

11. *Are honey and brown sugar more nutritious than white sugar?* The mineral and vitamin differences between honey, brown sugar and white sugar are negligible. Neither is significantly better than white sugar.

12. *What is "Hypoglycemia"?* Hypoglycemia is a symptom and not a disease. It is caused by an overproduction of insulin. The extra insulin causes the blood sugar level to go below normal. The symptoms, which usually occur 2-5 hours after a meal, are anxiety, irritability, sweating, intense heartbeat, hunger, trembling and lightheadedness. A true hypoglycemic is very rare (blood sugar of 30 mg/dl). One study showed that 100 out of 250,000 cases were true hypoglycemics. Many people will experience the symptoms at different times, such as after a meal, but the blood sugar level will return to normal. Some people will have these same symptoms during times of stress and anxiety.

13. *Are some carbohydrates more dangerous to the diabetic than others?* Yes. For years, diabetics were told to stay away from concentrated sweets because they are supposed to increase the blood glucose level. But recent findings indicate this is not true. Researchers are finding that complex carbohydrates (such as potatoes and breads) increase the blood glucose level more, while ice cream (considered a concentrated sweet) gives a slower blood sugar rise. More research is being conducted in this area.

14. *Are carbohydrates fattening?* The number of calories in one gram of carbohydrate is equal to the calories found in a gram of protein. Whenever we eat more total calories than the body needs it will be converted to fat, whether the excess is from carbohydrates, fats or protein.

15. *Are potatoes fattening?* A medium-size potato contains approximately 90 calories. It is the extras that are used on potatoes that increase their calorie content. Potatoes have a high nutrient density. This means that for the number of calories, they are high in nutrients.

16. *Does eating grapefruit burn off fat?* No food burns off fat. The way to lose weight is to cut down on calories, to exercise and to permanently modify eating habits.

17. *Will drinking large quantities of water `flush away" calories?* Water, or any other liquid, will not prevent the absorption of foods and calories through normal body processes.

18. *Are saturated fats higher in calories than unsaturated fats?* The calorie content of fats high in polyunsaturated is virtually the same as saturated fats.

19. *Are dry-roasted peanuts lower in calories than regular peanuts?* Peanuts absorb almost no oil in frying, so there is little difference in calories.

Is yogurt low in calories? Unsweetened yogurt made from partially skimmed milk contains about 120 calories per cup—relatively few. Added fruit preserves, however, raise the calorie count to about 225—

about the same as ice cream.

21. Am I eating too much salt? Table salt is composed of sodium and chloride. One teaspoon of salt contains two grams of sodium. Sodium is a vital nutrient, playing an important role in maintaining blood volume and pressure by attracting and holding water in the blood vessels. However, a little sodium goes a long way. Studies show that most Americans eat 2-4 times more sodium than they need. But if the kidneys are functioning properly, excess sodium should be excreted. The National Research Council suggests a "safe and adequate" intake is about 1.1 to 3.3 grams of sodium daily. (1 tsp. salt = 2 grams sodium)

22. *How do I monitor my sodium intake?*
(1) Use more fresh vegetables than canned.
(2) Make your own homemade counterparts such as soups and sauces.
(3) Read food labels for sodium and salt content on packages.
(4) Use less salt in cooking.
(5) Do not add salt until you have tasted the food.

23. *Is it all right to eat cold cereal for breakfast?* Yes, if you like it. Most cold cereals have been fortified to partially fulfill U.S. RDA requirements for B vitamins and iron. They can also be a good source of fiber as well as being fast and convenient.

24. *Can fast foods" provide a healthful diet?* Eating at fast-food services is becoming a large part of the American eating style. Just as in eating healthful meals at home, one must know basic nutrition rules and apply them. Following the Basic Food Groups, eating in moderation, and eating a variety of foods are good guidelines. You should be aware of the total calorie intakes and watch out for some of the high-fat foods. If you eat some fast foods that are low in certain nutrients, you can supplement them at other meals.

25. *Is it all right to eat snacks?* Snacking is all right if it is planned as part of your daily food requirement. Snacks should include foods that are nutritious and not just calories. Some examples are: fresh fruits and vegetables, fruit juices, ice cream, a small milkshake, yogurt, cheese and crackers, a bowl of cereal, half a sandwich, a bowl of soup, popcorn, etc.

26. *Do adults need milk?* Every adult needs at least two 8-ounce servings of milk or other foods high in calcium per day. Though bones have stopped growing long ago, calcium is still being removed from and replaced in the bones. Proper intake of calcium throughout adult life is important. Some foods high in calcium are: milk, cheese, ice cream, yogurt, and dark green leafy vegetables, cheese pizza, custard, macaroni and cheese, and cream soups.

27. *Will proper calcium intake help osteoporosis?* Osteoporosis is the thinning and weakening of the bones. After menopause, bone loss becomes more rapid than bone building. If a woman has consumed an adequate amount of calcium, the denser her bones will be. And the denser the bones at maturity, the less chance there is of getting osteoporosis. Physical activity also decreases the rate of mineral loss in the bones.

28. *Is fluoride detrimental to the body?* Fluoride has been proven to decrease tooth decay in children and to strengthen bones, which decreases osteoporosis. In unfluoridated communities, people can use a fluoride toothpaste or have their children obtain a topical fluoride application yearly, or take fluoride tablets.

29. *Is there a relationship between diet and cancer?* The answer to this question is not known. The panel of the Assembly of Life Sciences of the National Research Council, National Academy of Sciences, prepared a report, *Diet, Nutrition and Cancer,* and concluded: "Unfortunately, it is not yet possible to make firm scientific pronounce-ments about the association between diet and cancer." The Food and Nutrition Board of the National Research Council, National

Academy of Sciences, in its report, Toward Healthy Diets, concluded: "In the absence of evidence of a causal relationship between macronutrients of the diet and cancer, there is no basis of making recommendations . . . at this time."

30. Should I increase my fiber intake? The consumption of fiber (roughage or bulk) has decreased since the 1900's. Including fiber in the diet does have the benefit of sustaining normal functioning of the large intestine. Eating appropriate amounts of fresh fruits and vegetables and whole-grain breads and cereals will furnish a safe and sufficient amount of the dietary fiber needed by the body.

31. What is the relationship between diet and coronary heart disease? There are several risk factors associated with coronary heart disease. These include: cigarette smoking, genetic predisposition, high blood pressure, elevated blood cholesterol levels, body weight, stress, gender, age, diabetes, dietary intake and amount of exercise. Dietary modification is only one measure, among many, which can be taken to reduce the risk of coronary heart disease and should be part of an overall program to reduce or eliminate all controllable risk factors.

The chart below gives an idea of what levels of blood cholesterol are considered to be elevated based on age:

Age	Moderate Risk	High Risk
40+	Greater than 240 mg/dl	Greater than 260 mg/dl
30-39	Greater than 220 mg/dl	Greater than 240 mg/dl
20-29	Greater than 200 mg/dl	Greater than 220 mg/dl

(Source: National Institute of Health Consensus Development Conference Statement on Lowering Blood Cholesterol)

Nutrition Committee
Ezra Taft Benson
Agriculture and Food Institute

Fergus Clydesdale, Ph.D.
Alex Morrison, Ph.D.
Winifred W. Bates, R.D.
Clayton Huber, Ph.D.
Von T. Mendenhall, Ph.D.

Brochure contents reviewed by:
Dean Fletcher, Ph.D.
Donald B. Doty, M.D.