

## Nutrition

Scientific evidence has long linked good nutrition to overall health and well-being. To have proper nutrition means that a person's diet is supplying all the essential nutrients needed in order for the body to carry out normal tissue growth, repair, and maintenance. If the body receives too much or is deficient of any nutrient it could lead to serious health problems.

A problem that is seen in the United States is overconsumption. The typical American diet is too high in calories, saturated fat, sugar, and salt, with a lack of fiber in the diet. A diet high in saturated fat and cholesterol increases the risk for atherosclerosis and coronary heart disease. For those individuals whose bodies are sensitive to salt intake, too much in the diet has been linked to high blood pressure. Other studies have shown that as many as 30-50% of all cancers may be diet-related. Other diseases that have been associated with faulty nutrition are obesity, diabetes, mellitus, and osteoporosis.

### *Essential Nutrients*

The essential nutrients the human body requires daily are carbohydrates, fats, protein, vitamins, minerals, and water, which are necessary for growth, normal functioning, and maintaining life.

Carbohydrates. Carbohydrates are the major source of calories the body uses to provide energy for work, cell maintenance, and heat. They also help regulate fat and metabolize protein. Each gram of carbohydrates provides the body with four calories. The major sources of carbohydrates are breads, cereals, fruits, vegetables, milk, and other dairy products. Carbohydrates are divided into two groups, known as simple and complex carbohydrates. Simple carbohydrates, such as candy, soda, and cakes, have little nutritive value. Complex carbohydrates provide many valuable nutrients and are an excellent source of fiber. A diet high in fiber gives a person a feeling of fullness without added calories. In the American diet the main source of fiber is whole-grain cereals and breads, fruits, vegetables, and legumes. Fiber is an important part of one's diet because it decreases the risk for cardiovascular disease and cancer. An increased intake in fiber may also lower the risk for coronary heart disease. Health disorders that have been linked to a low intake of fiber are constipation, diverticulitis, hemorrhoids, gallbladder disease, and obesity. The recommended amount of fiber intake is about 25 to 30 grams a day. However, most Americans eat only 10 to 12 grams of fiber a day. These are ways one can increase fiber in one's diet:

- Eat more vegetables, either raw or steamed
- Eat salads that include a wide variety of vegetables
- Eat more fruit, including the skin
- Choose whole-wheat and whole-grain products
- Choose breakfast cereals with more than 3 grams of fiber per serving
- Sprinkle a teaspoon or two of unprocessed bran or 100% bran cereal on a favorite breakfast cereal

- Add high-fiber cereals to casseroles and desserts
- Add beans to soups, salads, and stews
- Add vegetables such as sprouts, green and red pepper strips, diced carrots, sliced cucumbers, red cabbage, and onions to sandwiches.
- Add vegetables such as broccoli, cauliflower, sliced carrots, and mushrooms to spaghetti.
- Experiment with unfamiliar fruits and vegetables, such as collards, kale, broccoflower, asparagus, papaya, mango, kiwi, and starfruit
- Blend fruit juice with small pieces of fruit and crushed ice
- When increasing fiber in the diet, drink plenty of fluids

Fats. Fats are the most concentrated source of energy and are necessary for good health. Each gram of fat supplies 9 calories to the body. Fats make certain vitamins available for use in the body, cushion vital organs, make up part of all body cells, and are used as stored energy and as an insulator to preserve body heat. Fats also delay pangs of hunger because a food mixture containing fat remains longer in the stomach. Although fat in the body carries out a variety of different roles, the fat consumption in the average American diet is considerably high and over time it could be very detrimental to one's health.

Proteins. Proteins are used to build and repair tissues including muscles, blood, internal organs, skin, hair, nails, and bones. They are a part of hormones, enzymes, and antibodies, and help maintain a normal balance of body fluids. Proteins can also be used as a source of energy but only if the body lacks carbohydrates. In the typical American diet, protein deficiency is usually not a problem. Two glasses of skim milk combined with about 4 ounces of poultry or fish meet the daily requirement. If one is a vegetarian, protein deficiency could be a concern.

Vitamins. All living things need vitamins for health and growth. Vitamins are classified into two types, known as fat-soluble (A, D, E, & K) and water-soluble (B complex and C). The body cannot manufacture vitamins so they must be obtained through a well-balanced diet.

#### Fat-Soluble Vitamins

- Vitamin A is needed for strong bones, good vision, and healthy skin. It is found both in dark green and yellow fruits and vegetables.
- Vitamin D is essential for children because it helps calcium and phosphorus to form straight, strong bones and teeth. With direct sunlight on the skin, the body can manufacture its own vitamin D. Infants and young children often need a vitamin D supplement. Vitamin D is added routinely to most milk during processing.
- Vitamin E helps to protect vitamin A and red blood cells. It is found in a wide variety of foods, and almost everyone gets enough.

- Vitamin K is one vitamin that is made within the human body, by bacteria that live in the intestinal tract. Small amounts are found as well in the green leaves of spinach, kale, cabbage, and cauliflower and also in pork liver.

#### Water-Soluble Vitamins

- The vitamin B group helps maintain healthy skin and a well-functioning nervous system. Vitamin B also converts carbohydrates into energy.
- Vitamin C, or ascorbic acid, is needed for building the connective tissue that holds body cells together. Vitamin C is essential for healthy teeth, gums, and blood vessels. It also helps the body to absorb iron. Water-soluble vitamins are not stored in the body for a long period of time. Good sources should be eaten every day.

Minerals. Minerals serve several important functions. They are constituents of all cells, especially those in hard parts of the body, such as the bones, nails, and teeth. They are also crucial in maintaining water balance.

Water. Water is the most important nutrient and is involved in almost every vital body process. Water is used in digesting and absorbing food, in the circulatory process, in removing waste products, in building and repairing cells, and in transporting other nutrients. Water is contained in all food but primarily in liquid foods, fruits, and vegetables. In addition to natural water content in the foods one consumes, every person should drink eight glasses of 8oz. of water a day.

#### Eating a Balanced Diet

The basic components of a balanced diet include the right amount of:

- Protein (found in fish, meat, poultry, dairy products, eggs, and beans)
- Fat (found in animal and dairy products, nuts, and oils)
- Carbohydrates (found in fruits, certain vegetables, pasta, rice, grains, beans and other legumes, and certain sweets)
- Vitamins (such as vitamins A, B, C, D, E, and K)
- Minerals (such as calcium, potassium, and iron)

The diet should consist of:

- 58% of total calories from carbohydrates
- 12% protein
- Less than 30% of total calories from fat, with no more than 10% saturated fat and very little (or no) trans fat

Achieving and maintaining a balanced diet is not as difficult as most people think. The Food Guide Pyramid contains five major food groups, and also fats, oils, and sweets, which should be used sparingly. Each section of the pyramid

represents a food group with the size of the group corresponding to the number of recommended servings. The base of the pyramid is represented by the bread, cereal, rice, and pasta group. These are carbohydrate-rich foods, and one should eat six to eleven servings per day. The next tier of the pyramid includes vegetables and fruit. One should eat three to five servings per day of vegetables and two to four servings per day of fruit. The next level is protein, including dairy products, meat, poultry, fish, dry beans, eggs, and nuts. One should eat two to three servings per day of foods from the milk group and two to three servings per day of foods from the meat, egg, bean, and nut group. The tip of the pyramid shows fats, oils, and sweets. These refer to foods such as salad dressings, cream, butter, margarine, sugars, soft drinks, candies, and sweet desserts. Alcoholic beverages are also part of this group. These are all foods that provide calories but very few vitamins and minerals.

#### What Counts as One Serving?

People's perceptions of food group consumption are usually very different from what they actually consume. Sometimes one has difficulty remembering what one ate but more importantly, most people don't have an understanding of what counts as one serving. The amount one eats may be more than one serving. For example, a dinner portion of spaghetti would count as two or three servings of pasta.

#### Bread, Cereals, Rice, and Pasta

- 1 slice of bread
- 1/2 cup of cooked rice or pasta
- 1/2 cup of cooked cereal
- 1 ounce of ready-to-eat cereal

#### Vegetables

- 1/2 cup chopped raw or cooked vegetables
- 1 cup of leafy raw vegetables

#### Fruits

- 1 piece of fruit or melon wedge
- 3/4 cup juice
- 1/2 cup of canned fruit
- 1/4 cup of dried fruit

#### Milk, Yogurt, and Cheese

- 1 cup of milk or yogurt
- 1 1/2 to 2 ounces of cheese

#### Meat, Poultry, Fish, Dry Beans, Eggs, and Nuts

- 2 1/2 to 3 ounces of cooked lean meat, poultry, or fish
- 1/2 cup of cooked beans, 1 egg, or 2 tablespoons of peanut butter count as 1 ounce of lean meat (about 1/3 serving)