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# Nutritional Needs for Adults-for proper growth, as well as to maintain health and prevent diseases

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## Abstract

The science of nutrition is dedicated to learning about foods that the human body requires at different stages of life in order to meet the nutritional needs for proper growth, as well as to maintain health and prevent disease. A baby is born with a very high requirement for energy and nutrient intake per unit of body weight to provide for rapid growth. The rate of growth is the highest during the first year and declines slowly after the age of two, with a corresponding decrease in nutrient and energy requirements. During puberty, however, nutritional requirements increase sharply until this period of fast growth is completed. Adulthood begins at about the age of fourteen or fifteen for girls, and eighteen or nineteen for boys. An adult individual needs to balance energy intake with his or her level of physical activity to avoid storing excess body fat. Dietary practices and food choices are related to wellness and affect health, fitness, weight management and the prevention of chronic diseases such as osteoporosis, cardiovascular diseases, cancer, and diabetes .the present Article Reviews the role of balanced Nutrition for Adults.

## Introduction

Nutrition describes the processes by which all of the food a person eats are taken in and the nutrients that the body needs are absorbed. Good nutrition can help prevent disease and promote health. Vitamins and minerals are an important part of nutrition. Vitamins are organic substances present in food. They are required by the body in small amounts to regulate metabolism and to maintain normal growth and functioning. Minerals are vital because they are the building blocks that make up the muscles, tissues, and bones. They also are important to many life-supporting systems, such as hormones, transport of oxygen, and enzyme systems. There are many nutrients the body absorbs from food and each of the food groups supplies at least one nutrient. For example, oat bran, which is a whole grain, can supply fiber and mineral called magnesium. A good nutrition plan will ensure that a balance of food groups, and the nutrients supplied by each group, is eaten

**Purpose of good Nutrition for Adults**

As children, nutrition is important for normal growth and development. As adults, nutrition still promotes health and reduces risk of disease. Good nutrition can help prevent weight gain by focusing on consuming calories that are high in nutrients, not in sugars and fat. Nutrition also plays a role in preventing and controlling diseases. For example, poor nutrition can lead to high cholesterol, which causes coronary heart disease. Lowering salt in the diet can control high blood pressure. People with diabetes must follow special diets to control their blood glucose levels. Examples of people with medical conditions and diseases show the effect that certain nutrients, or a lack of certain nutrients, can have on the human body. Some specific diseases linked to poor diet and physical inactivity are cardiovascular disease, type 2 diabetes, high blood pressure, osteoporosis, and certain types of cancer. Being overweight, and especially obese, also is linked to many health problems. Eating a poorly balanced diet that is low in nutrients but high in total calories can lead to weight gain.

Special diets or nutritional therapy may be used to complement other treatments subscribed to treat particular diseases and conditions. Examples include:

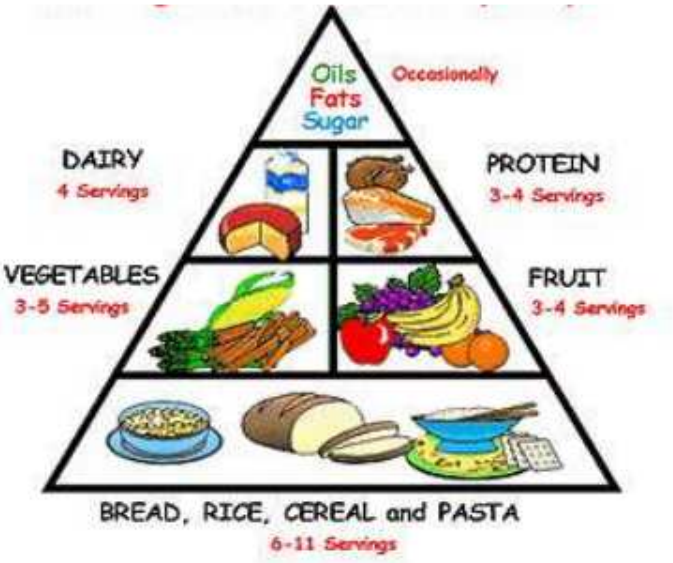
- High cholesterol. Eating a diet high in fiber and low in saturated fats and cholesterol can help keep cholesterol in check.
- High blood pressure. Reducing salt and certain fats, as well as reducing overall weight, helps lower blood pressure. Special diets have been developed to lower risk of high blood pressure and heart disease.
- **Monounsaturated fat—**Fats that contain one double or triple bond per molecule. Though these fats still have lots of calories, they can help lower blood cholesterol if used in place of saturated fats. Examples of monounsaturated fats are canola oil and olive oil.
- **Polyunsaturated fat—**Fats that contain two or more double or triple bonds per molecule. Examples include fish, safflower, sunflower, corn, and soybean oils.
- Diabetes. Nutrition is critical to adults with type 2 diabetes. They will have to control portions, eat regularly and eat nutrient-rich foods, along with other dietary guidelines.
- Anemia. People with anemia need to get more iron from their diets and will be encouraged to eat more foods such as soybeans, spinach, and others.

Sometimes, people who are ill need artificial nutrition to help them receive the proper nutrients. The nutrition may come in the form of special drinks that supplement their diets or even be provided through intravenous (IV) injections in a hospital or other facility.Nutrition is important throughout adults lives. As younger adults, good nutrition helps keep people strong as they need energy for active lives that may involve athletic pursuits and busy days filled with work and raising children. Pregnant women will need to pay particular attention to nutrition. In the middle years, proper nutrition helps prevent disease and weight gain that normally is associated with aging and lives that may become more sedentary. And as people reach their mature years, nutrition becomes critical, as many people in their later years fail to eat properly due to medical conditions and medications or social factors.

**Basic food groups**

The following are the basic food groups includes-

- Grains. The guidelines recommend eating at least three ounces of whole grain bread, cereal, crackers, rice, or pasta every day. At least one-half of all grains should be whole grains, which can be determined by looking for the word “whole” before the grain name on the list of ingredients.
- Vegetables. The guidelines recommends eating more dark green and orange vegetables, as well as more dry beans and peas.
- Fruits. A variety of fresh, frozen, or canned fruit is good, but the guidelines recommend taking it easy on fruit juices.
- Milk, yogurt, and cheeses. The guidelines recommends getting plenty of calcium-rich food from low-fat or fat-free milk. People who can’t drink milk should turn to lactose-free products or other sources of calcium, such as hard cheeses and yogurt.
- Meat and beans. Lean protein should come from low-fat or lean meats and poultry that is prepared by grilling, baking, or broiling. Varying choices is recommended, so that more fish, beans, peas, nuts, and seeds that provide protein are part of the diet.
- Oils and fats. Most fat sources should come from fish, nuts, and vegetable oils. Solid fats such as butter, stick margarine, shortening, and lard should be limited.



**Food Groups to Encourage:** The new guidelines encourage eating enough fruits and vegetables to stay within energy needs. Two cups of fruit and about 2 and one-half cups of vegetables per day are adequate for a person consuming 2,000 calories per day. Those eating more or less than 2,000 calories can adjust their fruits and vegetables up or down.

**Adopting a balanced eating pattern**

The **Dietary Guidelines** recommend adopting a balanced eating pattern. Using the pyramid can help customize a plan or adults can choose the DASH eating plan. DASH is a plan that was created to help prevent high blood pressure by minimizing salt in the diet, by providing a balance of nutrients, and by keeping weight down.

**Recommendations for specific adult populations**

Not every adult has the same nutritional needs. In addition to specific nutritional needs related to diseases or activity, the following recommendations apply to certain groups:

- People over age 50. Guidelines recommend consuming vitamin $B_{12}$ in fortified foods or supplements. - Women of childbearing age. If a woman many become pregnant, she should eat iron-rich plant foods or those that help absorb iron, such as vitamin-C rich foods. Women in their first trimester of pregnancy should consume adequate synthetic folic acid daily from fortified foods or supplements in addition to food forms from a varied diet.
- Older adults, people with dark skin, and people not exposed to sufficient sunlight. These individuals should consume extra vitamin D from vitamin-D fortified foods and/or from supplements.

**Getting adequate nutrients**

The actual amount of any nutrient a person needs, as well as the amount each individual gets from his or her diet will vary. Many adults do not receive enough calcium from their diets, which can lead to osteoporosis later in life. Other nutrients of concern are potassium, fiber, magnesium, and vitamin E. Some population groups also need to get more vitamin $B_{12}$, iron, folic acid, and vitamin D. These nutrients should come from food when possible, then from supplements if necessary.

**Fluid**

Many adults ignore the role that fluids play in nutrition. It is important to moderate drinking of high-sugar beverages and fruit juices, as well as alcoholic beverages. Most people will get adequate hydration from normal thirst and drinking behavior, especially by consuming fluids with meals.

**Nutrition for strength**

Adults who are physically active and who strength train or pursue athletic activities will have different nutrition needs than typical adults of the same age. For example, they will require more fluids while exercising. In general, athletes and those who are very active also require more carbohydrates in their diets than typical Americans. Carbohydrates provide energy, but they should come from whole grains and fruits, not from refined sugars.

**Vegetarian diets**

Vegetarians can achieve recommended nutrient intakes by carefully choosing foods from the basic food groups. They will need to pay special attention to intake of **protein**, iron, and other vitamins, depending on the type of vegetarian program they follow. Choosing nuts, seeds, and legumes from the meat and beans group, as well as eggs if they desire, can provide enough nutrients at the proper serving level.

**Processed and prepared foods**

Highly processed foods do not contain significant amounts of essential minerals. They often contain high amounts of fats and sugar, as well as **artificial preservatives** and other additives.

**Calories and weight management**

By managing portions, eating a balanced diet from the food groups and not using discretionary calories on high-sugar or high-fat foods, people can maintain a reasonable intake of calories. Regular physical activity can help use calories to provide better balance. Research has shown that subtracting just 100 calories a day from the diet can help manage weight, and eating 500 fewer calories a day can result in losing one pound per week in weight. But every individual is different and it is recommended to involve a physician or dietician in a weight loss plan.

## Summary & Conclusion

Though supplementation of nutrients sometimes is necessary, physicians and dieticians recommend that nutrients come from food, not from vitamins and supplements. Excessive use of vitamins and mineral supplements can lead to serious health problems and it is best to involve a physician to ensure that supplements are being used at appropriate and safe levels. It also is best not to change a diet without the advice of a nutritional expert or health care professional. People who are chronically ill, and women who are pregnant or breastfeedingonly should change their diets under professional supervision. For adults (ages eighteen to forty-five or fifty), weight management is a key factor in achieving health and wellness. In order to remain healthy, adults must be aware of changes in their energy needs, based on their level of physical activity, and balance their energy intake accordingly. As teenagers reach

adulthood, the basal energy needs for maintaining the body's physiological functions ( basal metabolic rate , or BMR) stabilize, and so energy requirements also stabilize. BMR is defined as the energy required by the body to keep functioning. These functions include the pumping of blood by the heart, respiration, kidney function, and maintaining muscle tone and a constant body temperature, among others. BMR is directly related to the amount of lean body muscle mass, size, and gender. Physical activity, especially weight-training exercises, help increase and maintain lean body mass. It is very important to reduce one's energy intake at the onset of adulthood, and to make sure that all of one's nutritional needs are met. This can be accomplished by making sure that an adequate amount of energy is consumed (this will vary by body weight, degree of physical fitness, and muscle vs. body fat), and that this amount of energy is adjusted to one's level of physical activity. Foods that are chosen to provide the energy must be highly nutritious, containing high amounts of essential nutrients such as vitamins**,** minerals, and essential proteins**.**

It is usually at this age that young adults start gaining body fat and reducing their physical activity, resulting in an accumulation of fat in the abdominal areas. This is an ever-increasing risk factor in the population, where obesity is not only a problem in adults, but also in children. It is believed that the high level of obesity is mostly due to bad dietary practices such as eating a high-fat, low-complex carbohydrate (low fiber ) diet , including excessive amounts of meat. The indulgence in fast foods and a lack of regular physical activity are major factors. Obesity is a risk factor for other degenerative diseases, such as type II (adult onset) diabetes, diseases of heart and circulation, and certain cancers. Another nutritional problem related to eating such a diet is constipation, due to low-fiber diets. This may result in hemorrhoids, diverticulosis , appendicitis , and other more serious diseases of the lower intestine. Increasing the number of servings of fruits, vegetables, and whole grains in the diet will prevent these diseases. At the onset of adulthood, energy requirements usually reach a plateau that will last until one's mid-forties, after which they begin to decline, primarily because activity levels and lean muscle mass (amount of muscle vs. body fat), which represents the BMR, decrease. It is believed that the changes in body composition and reduced lean muscle mass occur at a rate of about 5 percent per decade, and energy requirements decrease accordingly. However, these changes in body composition and decreased energy requirements can be prevented by maintaining regular physical activity, including resistance training, which helps maintain lean muscle mass and prevent deposition of excess body fat. The basal metabolic rate,the number of calories a person's body uses while at rest—generally decreases with age. Good health requires adults to adapt their diets to the body's changing needs by eating low-fat and nutrient-rich foods.

By preventing normal age-related decline in lean muscle mass, one can prevent obesity and prolong one's physiological age. The result is that a person is less vulnerable to degenerative diseases, such as cardiovascular diseases, cancer, and diabetes, and can usually perform at a higher level than his or her chronological age would otherwise allow. Older adults who are not physically active or who have poor nutritional practices will have a decline in BMR, a change in body composition, an increasing percentage of body fat, and a decrease in lean body muscle mass. In addition, they will show the signs of aging and will be more likely to develop degenerative diseases. Many older adults need to take medications to control the advance of diabetes, hypertension, and cardiovascular disease. Medications can interfere with proper nutrition, however, as they affect appetite, the digestion and absorption of nutrients, and normal function of the digestive system.

As women age, they may develop osteoporosis if they have not built up strong bones by eating foods high in calcium & adequate vitamin D . Women start losing calcium from bones during and after the onset of menopause at the rate of 1 percent per year for about five years, after which the rate of calcium loss is reduced until about age seventy-five or eighty. Therefore, it is important for women to eat foods high in calcium up to the age of thirty-five. The recommended daily intake of calcium is 1,200 milligrams. This requirement can be met by consuming four servings of dairy products and two servings of green vegetables each day. It is well established that calcium from foods is much better absorbed than calcium from supplements. It is beneficial, therefore, to choose foods with a high calcium content, such as low-fat or skim dairy products. This regimen builds a bone density high enough so that, at menopause, losing approximately 5 percent of bone density in five years does not place a woman in the "fracture zone," where bones can break as a result of osteoporosis.

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