

FITNESS ST. GUIDE #6 (10-12)

SCHS PHYS. ED. DEPT.

Nutrition and Your Personal Fitness

The Importance of Nutrition

Healthful Eating – Nutrient needs vary with age, gender, health, and activity level.

Nutrients – substances in food that your body needs for energy, proper growth, body maintenance and functioning.

Six Classes of Nutrients: carbohydrates, proteins, fats, vitamins, minerals, and water.

Nutrition – the study of food and how your body uses the substances in food.

Influences on Your Food Choices

- **Hunger** – a natural, inborn drive that protects you from starvation. A physical need that drives you to eat.
- **Appetite** – a personal desire, rather than a need, to eat. Appetite is psychological, not physical.
- **Culture**
- **Family and Friends**
- **Emotions**
- **Convenience and Cost**
- **Advertising**

Nutrients for Energy

- **Carbohydrates** – the starches and sugars found in food. They are the body's chief source of energy.
 - Simple Carbohydrates** – These are sugars: they are found mostly in fruits, candy, cookies, and soda. Simple carbohydrates are absorbed quickly into the bloodstream and provides a quick form of energy.
 - Complex Carbohydrates** – These are starches: they are found in certain vegetables such as corn and potatoes, breads, cereals, pasta, rice, and dry beans.
- **Before your body can use carbohydrates for energy, it must convert them to a simple sugar known as glucose.** Excess glucose is stored as **adipose tissue**, or body fat.
- **Dietary fiber** – is a special subclass of complex carbohydrates that has several functions, including aiding the body in digestion. **Fiber is NOT digestible in humans thus it provides no calories.**
- **Proteins** – nutrients that help build, maintain, and repair body tissues.
- **Fats** – supply a concentrated form of energy and help transport other nutrients to locations in the body where they are needed.

Types of Fat

- **Saturated Fatty Acids** – are fats that come mainly from animal fats, including butter and lard, and are often solid at room temperature. Fatty meats, cheese, ice cream, and whole milk contain saturated fats.
- **Trans Fatty Acids** – are fats that are formed when certain oils are processed into solids. Margarine and shortening are two examples of foods high in trans fats.
- **Unsaturated Fatty Acids** – fats that are usually liquid at room temperature and come mainly from plant sources. Unsaturated fats include corn oil, soybean oil, olive oil, sunflower oil, canola oil, and some fish oils.

Cholesterol – is a fatlike substance that is produced in the liver and circulates in the blood. Cholesterol is found only in foods of animal origin. Your body needs some cholesterol for certain processes. For example cholesterol is used in the production of cell membranes and certain hormones. Your body can manufacture all the cholesterol it needs. Cholesterol can also be obtained from food, such as egg yolks, meat, and high-fat animal products.

Fat and Daily Calories – Fats should make up about 20 to 30 percent of your daily calories.

Vitamins, Minerals, and Water

Vitamins – micronutrients that help control body processes and help your body release energy to do work. Because vitamins do not contain calories, they don't provide your body with energy. Vitamins can be classified as fat-soluble or water-soluble.

Fat Soluble Vitamins – carried by fat in food and in your body, can be stored in the body. The fat-soluble vitamins are vitamins A, D, E, and K.

Water Soluble Vitamins – are not stored in your body. They need to be replaced daily by eating nutritious foods. Vitamin C and the B complex vitamins (thiamin, riboflavin, niacin, folate, B6, and B12) are among these important vitamins.

Antioxidants – substances that protect body cells, including those of the immune system, from damage. Cells can be damaged by by-products of cell energy production and by environmental factors, such as cigarette smoke and air pollution. Antioxidants protect cells from injury, thereby reducing the risk of cancer, heart disease, and premature aging. Vitamins C and E are both antioxidants.

Minerals – substances that the body cannot manufacture but that are needed for forming healthy bones and teeth and for regulating many vital body processes. **Calcium, potassium, and sodium work as electrolytes** because their electrical charges help maintain normal heart rhythm and control the body's fluid balance.

Fluid Balance – is the body's ability to balance the amount of fluid taken in and the amount lost through perspiration or excretion. There is a direct relationship between fluid balance and performance during physical activity. Proper fluid balance prevents dehydration.

Dietary Supplements – a nonfood form of one or more nutrients. Vitamins and minerals have long been available in supplement form. More recently, herbs and other substances that claim to enhance health or improve certain health conditions are also sold as supplements.

Choosing Foods Wisely

The Food Guide Pyramid – a visual guide to help make healthful food choices. You have probably seen it many times on cereal boxes, bread wrappers, and other food products. It shows a range of serving for the different food groups you need to eat each day to achieve and maintain good health.

Food Guide Pyramid Recommended Servings:

- **Milk Group – 3-4 servings**
- **Vegetable Group – 3-5 servings**
- **Grains Group – 6-11 servings**
- **Meat and Beans Group – 2-3 servings**
- **Fruit Group – 2-4 servings**
- **Fats, Oils, and Sweets – use sparingly**

The recommendations in the Food Guide Pyramid are based on **Dietary Reference Intakes (DRI)**. Determined by nutrition and health experts, **DRIs** are daily nutrient recommendations for healthy people of both genders and different age groups.

Controlling Portion Size – Many restaurants often serve extra-large portions of food. To control portion size, you might choose an appetizer as your main course. Learn to pay attention to your body. When you feel full, stop eating. Take the leftover food home to eat at a later meal. Order regular size portions rather than bigger value sizes.

Nutrition for Peak Performance

Pre-Event Meals – Your pre-event meal is the last full meal consumed prior to a practice session or the competitive event itself. The pre-event meal should be eaten within one to three hours before the practice or event. This allows time for the food to fully digest. Eating any closer to the time of the event can result in nausea or stomach cramps.

The pre-event meal should consist primarily of foods high in complex carbohydrates. These include pasta, whole-grain breads, and rice. Foods high in protein or fat take longer to digest. Foods such as candy bars and other foods with simple carbohydrates do not supply energy right away.

Risks of Supplements

Dietary supplements are dangerous if used to enhance athletic performance. These include:

- **Ephedrine** – also called ephedra or ma huang, **ephedrine is a compound that increases the rate at which the body converts calories to energy**. It increases resting heart rate and body temperature. Ephedrine may lead to heat-related injury, heart problems, and even death.
- **Creatine** – **is a supplement that increases muscle size while enhancing the body's ability to use protein**. It is especially risky for teens because the long-term effects on growth and development are unknown.

These supplements involve serious health risks for adults and teens. In addition, they may give the user an unfair advantage over fellow competitors. Athletes who choose to use such substances are putting their health and their careers at risk.