Nutrition for Sports

Nutrition for Sports - Quick sports nutrition training tips

- Eat every two to three hours.
- Adequate amount of carbohydrates before you train.
- Drink plenty of water.
- Consume a post workout nutrition drink, shake, or snack.

The best diet for a volleyball player is the one that's individualized.

Nutrition for Sports - Two fundamental components…

- Appropriate calorie intake
- Appropriate nutrient levels to prevent nutrition deficiencies

It's important to note that there isn't ONE right diet for athletes. Nutrition for sports should be personalized to you, the sport you're training for, and possibly your culture and background.

What's important is that your body gets adequate amounts of water, vitamins, minerals, protein, carbohydrates, and fat - these are called macronutrients.

A macronutrient is an essential nutrient required in a relatively large amount.

Three important classes of macronutrients are proteins, carbohydrates, and fats.

Carbohydrates, Proteins, and Fats

In human physiology, the primary role of carbohydrates is to provide energy.

Diets high in carbohydrates may be beneficial to athletes because consuming carbohydrates may increase the levels of glycogen in muscles and provide the athlete an adequate supply of glucose or glycogen ready to use for energy during competition.

Carbohydrates can be classified in 3 groups - monosaccharides, disaccharides, and polysaccharides.

Simple Carbohydrates

Generally, monosaccharides and disaccharides can be classified as simple carbohydrates.

Simple carbohydrates or simple sugars can be used immediately for energy after consumption. Simple sugars are commonly referred to as glucose. Glucose (the most common monosaccharides) dextrose and fructose are found in many sports drinks.

Some foods that contain simple sugars are fruits, vegetables, milk, and most junk food.

Complex Carbohydrates

Generally, polysaccharides can be classified as complex carbohydrates.

Complex carbohydrates are made up of starch, fiber, and glucose.

Starch comes from the glucose in plants. Good sources of starch are grains, vegetables, nuts, and legumes.

Complex carbohydrates are significant to athletic performance because they can be used as a temporary source of stored energy.

Complex carbohydrates are simply sugars bonded together to form a chain.

Digestive enzymes have to work much harder to access the bonds to break the chain into individual sugars for absorption through the intestines.

Complex carbohydrates are sugars that are absorbed by the body much slower than simple carbohydrates.

This slow absorption provides a steady supply of energy (for example, providing energy throughout a volleyball tournament). This slow absorbtion also limits the amount of sugar converted to body fat.

Foods that typically provide a good source of complex carbohydrates are cereals, breads, and pastas.

Protein

Two types of proteins are complete proteins and complementary proteins.

Complete proteins are found primarily in foods from animals such as eggs, fish, meat, dairy, and poultry products.

Complementary proteins are primarily found in plant foods such as beans, rice, corn, peanuts, and bread.

For athletes, adequate protein intake is essential for…

- Muscle tissue repair

- Auxillary fuel via branched-chained amino acids
- Maintenance of a positive nitrogen balance to maximize hypertrophic stimulus (muscle growth)

Fat

Fat's behavior is related to the saturation of fatty acids.

A saturated fat is "saturated" with hydrogen atoms. In cellular metabolism, hydrogen-carbon bonds are oxidized to produce energy.

The more double bonds in the fatty acid, the greater the degree of unsaturation in a fatty acid and the more vulnerable it is to lipid peroxidation.

Antioxidants can protect unsaturated fat from oxygen-dependent deterioration of lipids (lipid peroxidation).

Saturated fatty acids contain all the hydrogen they can carry. Where double bonds are formed, hydrogen atoms are eliminated.

Fatty acids that contain no double bonds are saturated fats.

Monounsaturated fats are fatty acids that contain one double bond.

Polyunsaturated fats are fatty acids that contain two or more double bonds.

Saturated fats are often referred to as bad fats because some saturated fatty acids cause an increase in LDL and HDL cholesterol.

Unsaturated fats are referred to as good fats because monounsaturated fatty acids generally don't have an effect on cholesterol and polyunsaturated fatty acids tend to lower HDL and LDL cholesterol.

Fat has many healthy functions such as…

- Body fat insulating and protecting organs and hormone regulation.
- Supplying essential fatty acids (omega-6 and omega-3) necessary for…
    - Proper function and development of the brain and nervous system
    - Formation of healthy cell membranes

Athletes should be careful when on low fat or no fat diets because this could lead to nutrient deficiencies.

Both fat stored in your body and circulating fatty acids are potential energy sources during athletic performance.

Generally, stored fat is used more during activity while circulating fat is more important for recovery after the workout.

Water

Water affects athletic performance more than any other nutrient.

Water is important for normal cell function and thermoregulation.

Most athletes only replace about two thirds the amount of water they sweat off during exercise.

Many athletes make the mistake of only drinking when they start to get thirsty. This is a mistake because thirst is not a reliable indicator, especially when the athlete performs intense exercise in a hot environment.

Vitamins and Minerals

Vitamins are usually needed in small amounts to perform metabolic functions.

Minerals also provide a variety of metabolic functions.

Some functions of minerals…

- Calcium for healthy teeth and bones, nerve transmission and muscle contraction
- Iron is important for transporting oxygen and enzymes for energy metabolism.

Calcium, iron, magnesium, phosphorus, sodium, potassium, and chloride are often referred to as the major minerals.

Electrolytes sodium, potassium, and chloride

You may be familiar with the term **electrolytes** from sports drinks such as Gatorade and Powerade.

Most sports drinks have a combination electrolytes (particularly sodium and potassium) used to regulate the body to prevent dehydration and enhance sports performance.

A disturbance in electrolyte balance will affect athletic performance, especially in hot and humid environments so it is wise to consume electrolytes during long volleyball tournaments or intense training sessions.