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Sports Nutrition

Athletes who want a winning edge need the right nutrition. When you drink enough water and eat a balanced diet, your body can make energy efficiently and fuel top performance.

You can make the most of your athletic talents and gain more strength, power, and endurance when you train. Base your diet on a variety of factors, including your age, size, physical condition, and the type of exercise you are doing. See your doctor for individualized nutrition advice.

Hydration

Water is the most important factor in sports nutrition. Water makes up approximately 60% of body weight and is involved in almost every body process. Your body cannot make or store water, so you must replace the water you eliminate in your urine and sweat.

Everyone should drink at least 2 quarts (8 cups) of water each day, and athletes need more. Drink plenty of fluids before, during, and after sports events to stay hydrated and to avoid overheating. When you work out or compete, especially in hot weather, try to closely match the amount of fluid you drink with the amount you lose in sweat.

Cool water is the best fluid to keep you hydrated during workouts or events that last an hour or less. Sports drinks containing 6% to 10% carbohydrates are useful for longer events. Most sports drinks should be diluted with approximately 50% water.

Drink water even if you are not thirsty. Thirst is not a reliable way to tell if you need water. You won't start feeling thirsty until you have already lost about 2% of body weight--enough to hurt performance. Also, if you stop drinking water once your thirst is satisfied, you will get only about half the amount you need.

Some tips for staying hydrated:

- Drink small amounts of water frequently, rather than large amounts less often.
- Drink cold beverages to cool your core body temperature and reduce sweating.
- Weigh yourself after working out, and drink 2 to 3 cups of water for every pound lost. Your body weight should be back to normal before the next workout.
- Pay attention to the amount and color of your urine. You should excrete a large volume that is nearly colorless. Small amounts of urine or dark yellow-colored urine can indicate dehydration.

Fuel Sources

Eating a balanced diet is another key to sports nutrition. The right combination of fuel (calories) from carbohydrates, proteins, and fats gives you energy for top performance.

Carbohydrates

The most important fuel source, carbohydrates are found in fruits, vegetables, pastas, breads, cereals, rice, and other foods. Carbohydrates should provide about 60% to 70% of your daily calories.

Your body converts the sugars and starches in carbohydrates to energy (glucose) or stores it in your liver and muscle tissues (glycogen), giving you endurance and power for high-intensity, short-duration activities.

If your body runs out of carbohydrate fuel during exercise, it will burn fat and protein for energy, causing your performance level to drop. This can happen if you start exercising without much muscle glycogen, exercise heavily for more than an hour without eating more carbohydrates, do repeated high-intensity, short-duration exercises, or participate in multiple events or training sessions in a single day.

Use a carbohydrate strategy to stay energized and perform at your best:

- Eat carbohydrates for at least several days before exercise/competition to start with glycogen-loaded muscles.
- Eat more carbohydrates during exercise/competition that lasts more than an hour to replenish energy and delay fatigue.

Proteins

Proteins are found in meats, fish, poultry, eggs, beans, nuts, dairy products, and other foods. Proteins should provide approximately 12% to 15% of your daily calories.

Proteins give your body power to build new tissues and fluids, among other functions. Your body cannot store extra protein, so it burns it for energy or converts it to fat. The amount of protein an athlete needs depends in part on level of fitness; exercise type, intensity, and duration; total daily calories; and carbohydrate intake.

- Level of fitness. Physically active people need more protein compared with those who don't exercise. You also need more protein when you start an exercise program.
- Exercise type, intensity, and duration. Endurance athletes often burn protein for fuel, as do body builders and other athletes who perform intense, strength-building activities.
- Total calories. Your body burns more protein if you don't consume enough calories to maintain body weight This can happen if you eat too little or exercise too much.
- Carbohydrate intake. Your body may use protein for energy if you exercise with low levels of muscle glycogen or if you do repeated training sessions without eating more carbohydrates. When you start with enough muscle glycogen, protein supplies about 5% of energy; otherwise it may supply up to 10%.

Fats

Saturated fats come from animal-based foods, such as meats, eggs, milk, and cheese. Unsaturated fats are found in vegetable products, such corn oil. Fats should provide no more than about 20% to 30% of daily calories.

Your body needs small amounts of fat for certain critical functions and as an alternative energy source to glucose. But eating too much fat is associated with heart disease, some cancers, and other major problems. Also, if you eat too much fat, it probably means that you don't get enough carbohydrates.

How your body uses fat for energy depends on the intensity and duration of exercise. For example, when you rest or exercise at low to moderate intensity, fat is the primary fuel source. As you increase exercise intensity, your body uses more carbohydrates for fuel. If your body uses up its glycogen supply and you keep exercising, your body will burn fat for energy, decreasing exercise intensity.

Precompetition Nutrition

What you eat several days before an endurance activity affects performance. The food you eat the morning of a sports competition can ward off hunger, keep blood sugar levels adequate, and aid hydration. Avoid high protein or high fat foods on the day of an event because this can put stress the kidneys and take a long time to digest.

General Guidelines:

- Eat a meal high in carbohydrates.
- Take solid foods 3 to 4 hours before an event. Take liquids 2 to 3 hours before an event.
- Choose easily digestible foods (ie, not fried).
- Avoid sugary foods/drinks within 1 hour of the event.
- Drink enough fluids to ensure hydration (ie, 20 ounces of water 1 to 2 hours before exercise and an additional 10 to 15 ounces within 15 to 30 minutes of event.) Replenishing fluids lost to sweat is the primary concern during an athletic event. Drink 3 to 6 ounces of water or dilute sports drink every 10 to 20 minutes throughout competition.

Carbohydrate Loading

To avoid running out of carbohydrates for energy, some endurance athletes, such as long-distance runners, swimmers, and bicyclists, load their muscles with glycogen by eating extra carbohydrates in combination with doing depletion exercises several days before an event:

- First exercise to exhaustion. Your workout must be identical to the upcoming event to deplete the right muscles.
- Then eat a high carbohydrate diet (70% to 80% carbohydrates, 10% to 15% fat, 10% to 15% protein), and do little or no exercise starting 3 days before your event.
- Muscles loaded with unused glycogen will be available to work for longer periods of time during competition.

See your doctor for advice before trying a carbohydrate-loading diet.

Last reviewed: August 2007

Codeveloped by the American Orthopaedic Society for Sports Medicine (AOSSM)

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