

Healthy Helpings: Nutrition advice for athletes

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Both athletes and non-athletes need the same nutrients: carbohydrates, fat, protein, water, vitamins and minerals. Carbohydrates, fat and protein are known as the macronutrients; while vitamins and minerals are known as the micronutrients.

As an athlete, you might need some of these nutrients, particularly carbohydrates and water, in greater quantity than non-athletes to fuel your performance. The number of calories you need each day depends on your body size, age and sex, as well as the intensity, duration and frequency of your workouts.

Calorie intake should balance energy expended.

If you are maintaining your body weight, you are consuming enough calories. If you are not consuming adequate calories, your performance can suffer.

Carbohydrates are the major energy source and should make up about 50 percent of the total calories consumed each day. Fat provides the body with energy and some essential nutrients known as essential fatty acids and should make up about 30 percent of the total calories consumed each day.

Protein plays a role in building and repairing muscle tissue and providing energy and should make up about 20 percent of the total calories consumed each day.

Water is the most important nutrient for any athlete. When you sweat, you lose water, which must be replaced in order for you to perform your best. Losing as little as 2 to 3 percent of your body weight to sweat can cause a decrease in performance.

Pre-exercise recommendation:

Allow enough time for digestion- typically about two to four hours. However, each athlete is different, so it is important to recognize your own needs and eat when you feel is the best time.

Choose a meal high in carbohydrates because they are easy to digest and help maintain steady blood sugar levels. Carbohydrates will also produce energy faster than protein and fat are able to. A general guideline is 5 to 7 grams of carbohydrate per kilogram of body weight per day and 1 to 4.5 gram/kilogram prior to exercise. Account for timing when consuming carbohydrates. For instance, one hour prior to exercise, consume 1 gram of carbohydrate per kilogram; four hours prior to exercise, consume 4 to 4.5 gram of carbohydrate per kilogram.

Consume moderate amounts of protein. While protein foods contribute as an energy source, they also take longer to digest than carbohydrates and they can lead to increased urine production, which can lead to dehydration.

Limit fats and oils. They take a relatively long time to digest and you don't want to perform on a full stomach. Also, they take longer to provide the muscles with energy compared with carbohydrates.

Restrict sugary foods because they can cause a rapid increase in blood sugar followed by a rapid decrease in blood sugar, resulting in less energy.

Avoid foods and drinks that contain caffeine because caffeine stimulates the body to increase urine output, which can cause dehydration and also a full bladder.

Limit foods that produce gas. Some raw fruits, vegetables or beans might cause problems for some young athletes, so be aware of the foods that cause you problems and avoid them when necessary.

Try to choose foods you like to eat and that you usually eat. This is not the time to try new foods because you never know for sure if your digestive system will tolerate it.

Drink plenty of fluids: 16 fluid ounces before exercise and 6 to 12 fluid ounces every 15 to 20 minutes during exercise.

During exercise lasting longer than an hour, choose a sports drink instead of water. Sports drinks contain carbohydrates and a small amount of sodium to fuel muscles and replace fluid lost while sweating. For exercise of longer duration, it is recommended to consume 30-60 grams of carbohydrates every hour as food and/or fluid.

Post-exercise recommendation:

Try to eat relatively soon after exercise. Research shows that this helps you recover faster. Whatever you eat or drink should be rich in carbohydrates to replenish the energy stores. Consume 1.5 grams of carbohydrate/kilograms of body weight immediately after exercise and an additional 1.5 grams of carbohydrate/kilograms two hours later.

Choose foods that contain some protein to help restore and rebuild the muscles that have just been worn down from the physical activity.

Fat also plays a role in energy replenishment and storage and should be consumed in moderation with the meal. Choose healthier fats, such as the monounsaturated fats found in canola oil, olive oil, nuts, fish and avocado.

Replenish fluid losses by consuming 16 fluid ounces for every pound of body weight lost in sweat. Choose water or sports drinks.