



Whether it's playing football, swimming or jogging, athletes need to eat a nutritious, balanced diet to fuel their body. Good nutrition, like any sporting event, has basic ground rules. Following these rules and getting plenty of practice will help athletes feel great and score those winning points!

What diet is best for athletes?

All athletes need a diet that provides enough energy in the form of carbohydrates and fats as well as essential protein, vitamins and minerals. This means a diet containing 55-60 percent of calories from carbohydrates (10 to 15 percent from sugars and the rest from starches), no more than 30 percent of calories from fat and the remaining (about 10-15 percent) from protein.

That translates into eating a variety of foods every day - grains, vegetables, fruits, beans, lean meats, and low fat dairy products. The base of the diet should come from carbohydrates in the form of starches and sugars. Fluids, especially water, are also important to the winning combination. Dehydration can stop even the finest athlete from playing his or her best game.

Are carbohydrates important for athletes?

When starches or sugars are eaten, the body changes them all to glucose, the only form of carbohydrate used directly by muscles for energy. Whether carbohydrates are in the form of starches (in vegetables and grains), sucrose (table sugar), fructose (found in fruits and juices) or lactose (milk sugar), carbohydrates are digested and ultimately changed to glucose.

The body uses this glucose in the blood for energy. Most glucose is stored as glycogen in the liver and muscles. During exercise glycogen is broken down in the muscles and provides energy. Usually there is enough glycogen in muscles to provide fuel for 90-120 minutes of exercise.

Most exercise and sport games do not use up glycogen stores so eating carbohydrates during the activity usually isn't needed. But for some athletes, eating or drinking carbohydrates during exercise helps maintain their blood glucose and energy levels.

Most athletes need not be concerned with "carbohydrate loading," the special technique of eating a lot of carbohydrates for several days before an endurance event. Instead, focus on getting enough carbohydrates everyday. The best way to ensure plenty of energy for exercise is to eat a nutritious, balanced diet that is high in carbohydrates and low in fat with lots of different foods.

Do athletes need extra protein or protein supplements to build muscles?

No. Muscles develop from training and exercise. A certain amount of protein is needed to help build the muscles but a nutritious, balanced diet that includes two or three servings from the meat/bean/egg group (6-7 ounces total) and two to three servings of dairy daily will supply all of the protein that the muscles need.

Extra servings of protein in foods or protein supplements do not assist in muscle development. Unlike carbohydrates, protein cannot be stored in the body and any excess will be burned for energy or stored as body fat.

What should an athlete eat before, during and after exercise?

The most important thing is to concentrate on eating a nutritious, balanced diet every day. This provides plenty of energy to grow and exercise. Here are a few tips about eating before, during and after exercise.

Before

- Have some high carbohydrate foods like bananas, bagels or fruit juices. These foods are broken down quickly and provide glucose to the muscles.
- The timing of this meal depends on athletes' preference for eating before exercise, but researchers have found that eating something from 1 to 4 hours before exercise helps keep plenty of blood glucose available for working muscles.
- It is also critical to drink plenty of cool water before exercise to keep muscles hydrated.

During

- Perspiration and exertion deplete the body of fluids necessary for an optimal performance and lead to dehydration. It is important to drink plenty of cool water, at least a half a cup of water every 20 minutes of exercise. Adding a teaspoon of sugar, a little fruit juice or a small amount of powdered drink mix flavors plain water and may encourage fluid intake.
- Usually there is no need to worry about replacing carbohydrates unless the exercise lasts over 90 minutes and is hard and continuous. When this happens, drinking a sports drink or other beverage with some sugar in it will fuel and water to the muscles being exercised.
- Make a homemade sports drink by mixing no more than 4 teaspoon of sugar, 1/4 teaspoon of salt and some flavoring (like a teaspoon of lemon juice) in 8 ounces of water.

After

If the exercise was strenuous and lasted a long time, glycogen stores may need refueling. Consuming foods and beverages high in carbohydrates right after exercise will replenish glycogen stores if they are low after exercising.

No matter the intensity of the exercise, it's important to drink plenty of water and eat a nutritious, balanced meal that has lots of carbohydrate rich foods such as grains, pastas, potatoes, vegetables and fruits. A teaspoon of sugar, at only 15 calories* per teaspoon, adds flavor to these foods and may increase taste appeal.

*Note: Like all carbohydrates, sugar has 4 calories per gram, and there are 4 grams to a teaspoon. The FDA's 1993 food labeling regulations require rounding to 15 calories on consumer packages.