

## Nutrition and athletic performance

### Definition:

There is a connection between food consumption and athletic performance.

### Function:

There is a large body of evidence showing a relationship between food consumption and athletic performance.

A poor diet will almost certainly have a negative effect on the performance of even the most casual athlete.

A good diet with adequate calories, vitamins, minerals, and [protein](#) will help provide the energy required to finish a race or simply enjoy a recreational sport or activity.

### Recommendations:

The diet recommended for an athlete differs little from the diet suggested for any healthy individual. The [food guide pyramid](#) is an excellent resource. However, the amount of each food group needed will depend on the type of sport, the amount of training and the time in relation to activity or exercise. Calorie needs vary with the size, age, sex and physical activity performed by the individual so the number of servings a person requires will vary.

## CARBOHYDRATES

Complex carbohydrates are a diet staple. They are found in foods such as pasta, bagels, whole grain breads and rice. They provide energy, [fiber](#), vitamins, and minerals and are low in [fat](#). [Carbohydrate](#) loading (a concerted diet/training regimen) will increase the body's energy stores of a carbohydrate called glycogen. Carbohydrate loading has been shown to improve performance in endurance-type activities lasting more than 1 hour.

The classical method of carbohydrate loading has been abandoned and replaced by a modified method which is safer and equally effective at increasing muscle glycogen. The most important factor influencing glycogen stores is to consume 50 - 60% of calories from carbohydrates on a daily basis.

[Simple sugars](#) such as soft drinks, jams and jellies, and candy provide few nutrients but a lot of calories. They may actually decrease performance when consumed directly before an athletic event as they may cause [hypoglycemia](#).

## PROTEIN

Protein's most important functions in the body are to support growth and to repair body tissues.

Many people feel athletes need a high-protein diet to support muscle growth despite the fact that researchers have repeatedly proved this false.

It is also a myth that a high-protein diet will promote muscle growth. Only strength training and exercise will promote changes in muscle. Athletes, even body builders, require only small increases over normal needs in order to support muscle growth. Athletes easily meet this increased need by simply consuming more total calories (eating more food).

Americans already eat almost twice as much protein as they need, so protein needs for muscle development are being met before strength training begins. Excess protein is used as energy and can be stored as body fat.

Amino acid supplements and excessively high intakes of protein are not recommended. They can increase calcium loss and put an added burden on the kidneys, which must remove the excess nitrogen protein provides.

## WATER AND FLUID

Water is the most important, yet over-looked, nutrient by athletes. Water and fluids are essential to maintaining good hydration and body temperature. Sweat losses to keep the body cool can exceed several liters in a 1-hour period.

Adolescents and adults should replace any lost body weight lost during a exercise with equal amounts of fluids. A good sign that you have fully rehydrated is to check to see if your urine is clear. Cool water is the best choice.

Some suggestions for maintaining adequate hydration include:

- Drink plenty of water, juice, and milk.
- Avoid [caffeine](#) -containing beverages. Caffeine is a diuretic and promotes fluid loss.
- Drink plenty of fluid before, during, and after exercise.
- Offer children water frequently during sports activities. They do not respond to [thirst](#) as readily as adults.

## ACHIEVING DESIRED WEIGHTS FOR COMPETITIVE PURPOSES

Changing body weight to improve performance must be done safely and effectively or it may do more harm than good. Maintaining an unrealistically low body weight, rapid [weight loss](#), and unnaturally suppressing [weight gain](#) can have negative health effects so it is important to set realistic body weight goals.

Young athletes attempting to lose weight will benefit from a consultation with a registered dietitian. [Eating disorders](#) and poor dietary habits may result from experimentation with diets.

Make sure that you speak with a health care professional to discuss a diet appropriate for your sport, age, gender, and amount of training.