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A STOP Sports Injuries Collaborating Organization

SPORTS NUTRITION

Just as proper physical techniques should be part of every athlete's safety routine, maintaining adequate nutrition and hydration is also important. By following basic nutrition and hydration tips, athletes can stay at peak performance before, during, and after activity.

EATING BEFORE EXERCISE

Total Energy

Most equations for calculating energy needs consider an individual's gender, weight, and height as well as the level of physical activity. Given these differences and the importance of consuming adequate calories, it is important to consult a sports dietitian for the optimal energy prescription.

SPORTS NUTRITION TIPS

EATING BEFORE EXERCISE (Continued)

Total Energy

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Carbohydrates

Carbohydrates are essential for peak athletic performance, as the body uses this nutrient more efficiently than fat or protein. The timing of carbohydrate intake is also important. Athletes should consume 1.0 to 4.0 g/kg of body weight one to four hours prior to exercise, focusing on longer-lasting sources of carbohydrate combined with a source of protein (e.g., peanut butter on whole grain bread). Recommendations for carbohydrate intake are higher for endurance training and competition (7.0 to 10.0 g/kg/day) and high-intensity athletics (5.0 to 8.0 g/kg/day).

Protein

The recommendation for daily dietary protein intake is 1.2 to 1.7 g/kg/day. The amount of protein depends not only on the level of physical activity, but also on the athlete's rates of growth or healing. For example, athletes who are in a critical growth period at or around puberty may need more protein.

Fat

Dietary fat serves several functions. It is an additional source of energy, provides essential fatty acids that the body cannot synthesize on its own, and assists in the absorption of fat-soluble vitamins. Athletes should follow the same consumption guidelines as those recommended for the general public: 20 to 35 percent of total calories should come from fat, with less than 10 percent from saturated fat.

EATING DURING EXERCISE

The focus for eating during exercise is on carbohydrates, especially sources of glucose and electrolytes. If exercise lasts longer than an hour, it is necessary to consume an additional 30 to 60 grams of carbohydrates during the activity.

EATING FOR RECOVERY

The focus during recovery is on carbohydrates, especially within 15 to 30 minutes after the activity, when cells are especially receptive to the uptake of glucose. During this time, athletes should consume 1.0 to 1.5 g/kg of a rapid-acting carbohydrate or a ratio of 4 grams of carbohydrates to 1 gram of protein (e.g., low-fat chocolate milk). After 30 minutes, the focus should be on a mixed meal with adequate carbohydrates, protein, and fat.

HYDRATION

Athletes must drink fluids to stay adequately hydrated, as even a loss of 1 percent body weight can reduce athletic performance. Water is a sufficient fluid for hydration. Athletes should consume at least 16 ounces of fluid two hours prior to exercise, and 5 to 10 ounces during exercise, taken every 15 to 20 minutes. Athletes should get into the habit of weighing themselves before and after exercise to determine how much water weight they lose through activity—and consume 16 to 24 ounces of water for every pound lost. Sports drinks are appropriate for athletes involved in endurance activities (e.g., marathon, triathlon) or stop-and-go sports (e.g., soccer, sprinting) to replace lost fluids, carbohydrates, and electrolytes. The most effective sports drinks consist of 6 percent to 8 percent carbohydrates (14 to 19 grams carbohydrates per 8 ounce serving). Diluting sports drinks lowers the carbohydrate concentration, thus providing too few carbohydrates for replenishing those lost.

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Sports Tips provide general information only and are not a substitute for your own good judgement or consultation with a physician. To order multiple copies of this fact sheet or learn more about sports injury prevention, please visit www.STOPSportsInjuries.org.

RESOURCES

American Dietetic Association

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