

Water Needs During Exercise

Fluid needs increase during exercise, whether the exerciser is a top athlete or a body working to pick up the pace. This article will refer to the exerciser as ‘the athlete,’ but the information applies to any of us who exercise.

Drinking adequate fluid is essential for top athletic performance because body fluids have important jobs:

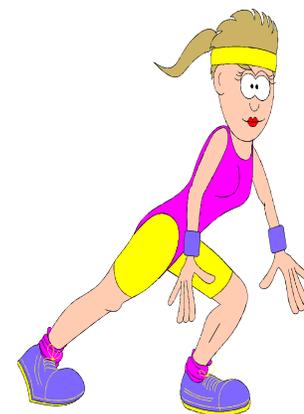
*Fluid in **blood** transports glucose to working muscles and carries away metabolic by-products.

*Fluid in **urine** eliminates metabolic waste products.

*Fluid in **sweat** dissipates heat through the skin.

If the athlete, or the exercising non-athlete, drinks too little fluid, or loses too much through profuse sweating, the body will be unable to efficiently accomplish these tasks. This will prevent the athlete from exercising at maximum potential.

Water was once thought to cause stomach cramping, but it is now known that the athlete should drink as much water as comfortably possible before, during, and after exercise.



What about sweat?

Sweating is good for the body, as it is the body’s way of dissipating heat and maintaining constant internal temperature. During hard exercise, the athlete may generate 20 times more heat than when at rest. Sweating is the body’s mechanism for cooling the skin; this in turn cools the blood, and that cools the inner body. An athlete loses about two cups (one pound) of sweat for every 300 calories of heat dissipated. Men and women of equal body size tend to sweat equally, but men tend to lose more total sweat than women because they generally weigh more and tend to burn off more calories at the same level of exertion.

Does thirst indicate proper hydration?

No. Even if the athlete does not feel thirsty, there is probably need for more fluids. The simplest way to tell if an athlete, or any person, is properly hydrated is to check the color and quantity of urine. If the urine is very dark and scanty, it is concentrated with metabolic wastes. The body needs more fluids. When urine is a clear, light color, the body has returned to its normal water balance. If a person takes vitamin supplements, these may color the urine. In this case, the volume of urine may be a better indicator than color.

It is important to drink before, during and after exercise. Dehydration, even in small doses, will significantly reduce performance. The athlete must drink before becoming thirsty. By the time the brain signals thirst, the athlete may have lost one percent of the body’s weight, which is the equivalent of 1.5 pounds (three cups) of sweat for a 150-pound person. A two-percent loss may reduce the work capacity by 10 to 15 percent.

Do we really need eight glasses of water a day?

Eight glasses of water might be adequate for a sedentary person, but it is probably too little for many athletes. A general rule of thumb is to consume a liter of water for every 1,000 calories expended. It doesn't have to be water to meet fluid requirements almost any nonalcoholic fluid will do. Good choices besides water include seltzer, juice, decaffeinated coffee or tea, herbal tea, lemonade, soft drinks, soups and low-fat milk. Caffeine has a dehydrating effect, so other choices will work more efficiently toward adequate hydration.

What about sports drinks?

Water will remain the number one choice for rehydration, with few exceptions. Water is absorbed quickly and works well for most recreational athletes, especially in combination with an appropriate sports diet.

So when is a sports drink indicated? If an athlete is running a marathon, competing in a triathlon, or participating in some high-intensity endurance event that lasts longer than 90 minutes, a drink with a small amount of sugar might improve stamina. Unlike sugar taken before exercise, which could result in blood sugar dips, sugar taken during exercise can enhance performance because the body does not secrete insulin during exercise.

The best time to drink sports-type fluid replacers is during exercise, not 20 to 45 minutes before the event, when they might trigger a hypoglycemic reaction. It is also not advised to drink sports drinks after a lengthy endurance event, because muscles need full-strength, carbohydrate-rich beverages to replace the glycogen burned during the event and the minerals lost in sweat.

Source: Clark, N. Nancy Clark's Sports Nutrition Guidebook, Leisure Press, Champaign, Ill. 1990

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