

# SportsNutrition

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## FLUIDS, DEHYDRATION & THIRST QUENCHERS

Drinking enough fluid to replace sweat losses is essential for top athletic performance. That's because the fluids in your body have important jobs: Sweat dissipates heat via the skin. Blood transports glucose to the muscles and carries away lactic acid. Urine eliminates waste products. If you sweat heavily and fail to replace your sweat losses, you reduce your body's ability to provide adequate circulation to both the muscles and body surface. This not only hurts your performance but also can endanger your health.

Unfortunately, many active people pay too little attention to proper hydration. The following tips can help you stay well hydrated:

### Fluids during training

On a daily basis, make sure you drink enough fluid. You can easily determine if you have had enough to drink by monitoring the volume & color of your urine.

1. You should have to go to the bathroom to urinate every two to four hours throughout the day. The urine should be a light color, like lemonade. If the urine is dark, concentrated, and scanty, you need to consume more water, juice, and other fluids. Note: If you take vitamin pills, your urine may be dark. Monitor hydration by the *quantity* of urine rather than the color.

2. To learn how much fluid to drink during exercise, weigh yourself naked before and after a hard workout. Each pound lost represents one pound (16 ounces) of sweat. During training, practice replacing sweat losses accordingly and try to lose less than 2-percent of your weight (three pounds for a 150-pound athlete).

3. Throughout the day, you don't have to drink *only* water for fluids. Juice, sports drinks, iced tea, and watery foods such as yogurt, oranges, melon, and soup all have a high water content and rehydrate the body.

4. Be aware that alcoholic beverages are poor choices. If you plan to drink beer or wine after a hard workout, first quench your thirst with non-alcoholic fluids and also eat carbs to fuel your muscles. For example, drink water, eat some pretzels, then have a beer, if desired.

### Fluids before hard endurance exercise

1. The day before, drink extra water, juice, and other fluids to be sure your body is well hydrated.

2. The morning of the event, drink at least 16 ounces of fluids up to two hours prior to the start. Because the kidneys require 45 to 90 minutes to process liquids, two hours allows adequate time for you to empty your bladder before the start of the event.

3. Five or ten minutes before start-time, "tank up" on another 8 to 16 ounces of water or sports drink.

### Fluids during hard exercise

1. *Prevent* dehydration early in the event by drinking adequate fluids *before* you get thirsty! By the time you feel thirsty, you will have lost 1% of your body weight (1.5 lb or 24 oz. sweat for a 150-lb person). Your heart will need to beat 3 to 5 more times per minute. Tiring!

2. Ideally, you will have learned your sweat rate and can drink to match your sweat losses. That is, if you lose 1.5 lbs (24 oz) per hour, you should target 8 ounces of water, sports drink or diluted juice every 20 minutes.

### Water vs. sports drinks

For the casual exerciser, water is always appropriate. Water is convenient, familiar, and satisfies your body's needs. For highly competitive athletes who exercise intensely for an hour, and for endurance athletes who expend large amounts of energy for more than an hour, a sports drink *during* exercise optimizes fluid retention, delays dehydration, and enhances endurance. The beverage should offer 50 to 80 calories per 8 ounces plus 110 to 170 milligrams of sodium. Be sure to experiment during training to learn which flavors of sports drinks settle best in your stomach.

### Fluids after exercise

1. Drink to quench your thirst, and then drink a little more. Your thirst mechanism may inadequately indicate whether or not you've consumed enough fluids, so monitor your urine. If several hours pass without a need to urinate, you are dehydrated. Keep drinking!

2. Chocolate milk offers not only water but also carbs (to refuel muscles), protein (to repair muscles), and sodium (to retain fluids). Drinking 12 to 20 ounces within the hour after exercise enhances recovery.

### Sodium replacement

Sweat contains not only water but also small amounts of sodium (and other electrolytes) that keep your body in fluid balance. You lose small amounts of sodium when you sweat, but you do not deplete your body's stores—except possibly under extreme circumstances such as exercising >3 hours in the heat. (In such cases, you should consume salty foods before, during and after exercise.) Commercial fluid replacement drinks are generally weak sources of sodium compared to what you can get in standard foods. The sodium in sports drinks enhances fluid retention, but does not adequately replace sweat losses. Pretzels, soup, pizza, and other salty foods eaten before and after exercise are stronger sources of sodium; enjoy them with water!

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