

# TIPS to Keep Athletes Hydrated

## About Dehydration

Sweat loss is high during exercise, especially in hot weather conditions. When athletes sweat, water and electrolytes are lost. If this loss is not replenished, it could lead to a decrease in performance and potentially life-threatening heat-related injuries. Younger athletes are more at risk for dehydration and heat injury. Dehydration can range from moderate to severe and the symptoms and treatments are different at each level.

	Symptoms	Treatment
<b>Heat Cramps</b>	<ul style="list-style-type: none"> <li>• Muscle spasms due to imbalance of water and electrolytes in muscle.</li> <li>• Usually affects the legs and abdominal muscles.</li> </ul>	<ul style="list-style-type: none"> <li>• Get to a cool place.</li> <li>• Drink plenty of fluids (water or electrolyte drinks).</li> <li>• Stretching and massaging of muscles.</li> <li>• Application of ice in some cases.</li> </ul>
<b>Heat</b>	<ul style="list-style-type: none"> <li>• Normal to high body temperature.</li> <li>• Excessive sweating.</li> <li>• Skin is cool and clammy/pale.</li> <li>• Headaches, dizziness.</li> <li>• Confusion/anxiety.</li> <li>• Rapid pulse, nausea, weakness/fatigue.</li> </ul>	<ul style="list-style-type: none"> <li>• Get to a cool place immediately, out of the heat.</li> <li>• Drink plenty of fluids (water or electrolyte drinks).</li> <li>• Remove excess clothing.</li> <li>• Place ice packs near main arteries of body (armpit, groin, neck).</li> <li>• Immerse body in cool water in some cases.</li> </ul>
<b>Heat Stroke</b>	<ul style="list-style-type: none"> <li>• Body's cooling system shuts down.</li> <li>• Increased body temperature (104+).</li> <li>• Sweating stops.</li> <li>• Nausea/vomiting.</li> <li>• Headache, dizziness, vertigo.</li> <li>• Shallow breathing and rapid pulse.</li> <li>• Confusion/loss of consciousness.</li> <li>• Rapid heart beat.</li> </ul>	<ul style="list-style-type: none"> <li>• Call 911 immediately.</li> <li>• Cool bath with ice packs near large arteries, such as armpit, groin, neck.</li> <li>• Drink plenty of fluids (water or electrolyte drinks).</li> <li>• Intravenous (IV) fluids may be needed in some cases.</li> </ul>

When athletes balance fluid intake with the amount of energy exerted, athletic performance will be at its best. Optimal hydration should replace sweat loss.

## What do I need to drink?

Many electrolytes are lost along with fluid during exercise. The Institute of Medicine recommends that sodium, potassium and carbohydrates are included in replacement beverages. An adequate amount of sodium is needed to prevent cramping and carbohydrates are needed to provide extra energy.

## Water vs. Sports Drinks

Beverage	Amount	Carbohydrates	Sodium	Potassium
Water	8 ounces	0	0	0
Powerade	8 ounces	17g	53 mg	32 mg
Gatorade	8 ounces	14g	110 mg	30 mg
G-2	8 ounces	7g	110 mg	30 mg

### How much do I need?

The amount of fluid and electrolytes needed for exercise depends on many different factors which affect sweat loss, including age, gender, clothing, weather, type of exercise and duration.

Hydration is especially important to endurance athletes, those that have more than one practice or game in a day, and those who have an increased sweat loss.

<b>Before Exercise</b>	When beginning exercise it is important for athletes to be well hydrated. At least four hours before physical activity begins, drink one-half cup of fluid for every 40 pounds of body weight (e.g., if you were 150 pounds you would need about 2 cups of fluid).
<b>During Exercise</b>	Drinking during exercise is very important, but amounts will differ based on an individual's sweating and the duration and intensity of exercise. Drinking should occur during every break. Sports drinks should be used for intense exercise lasting 30 minutes or more.
<b>After Exercise</b>	It is essential to replace fluids lost during exercise. If a normal diet is followed, one should recover properly, but it is important to add foods high in sodium to replace that lost by sweating. By adding extra sodium into the diet in the recovery phase, thirst is increased and fluid lost is retained. Individuals should drink 3 cups of fluid for every pound lost during exercise. Fruits and vegetables are hidden sources of fluid.

### Monitoring Hydration Status:

There are three easy ways to assess hydration.

#### 1. Sweat Rate

The first way is using your body weight before and after exercise to determine sweat rate. Prior to exercise, weigh yourself naked or in typical workout gear. After the workout, change into dry clothes, wipe off all sweat and weigh yourself. The difference in body weight is your sweat rate.

#### 1 pound = 16 ounces of sweat

For every pound lost, replace with 16-24 oz. of fluids within 24 hours.

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#### 2. Specific Gravity

The second way to assess hydration is to test the specific gravity of your urine. You can buy the test strips at a drug store. To use the test strip, you urinate in a cup, dip the stick in the urine and compare the color on the stick to the colors on the package.

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#### 3. Urine Color

The third way to check hydration status is to assess urine color during exercise. The chart at left will help you determine if your urine color is within a healthy range.

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#### 1-3 Very Healthy Hydration

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#### 4-5 Concerned about Hydration

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#### 6-8 VERY Concerned about Hydration