

Hot Weather Exercise Safety

Tips for preventing heat stroke, heat exhaustion, heat rash and dehydration

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Athletes are especially susceptible to heat-related illness such as dehydration, heat exhaustion and heat stroke while exercising in hot weather. Most serious heat illness in athletes can be prevented by following some basic guidelines and heeding the warning signs and symptoms. However, if these warning signs are ignored, they may progress into a life-threatening heat emergency.

Common Heat-Related Illness

- Dehydration
- Sunburn
- Heat Cramps
- Heat Rash
- Heat Exhaustion
- Heat Stroke
- Hyponatremia – Water Intoxication

Preventing Heat Related Illness

Normally, our body temperature is regulated by sweating. A number of factors can limit the sweat response, including intense exercise in high temperatures or high humidity, age, obesity, fever, dehydration, illness, medications and alcohol. When an athlete develops a heat illness, it usually occurs after several hours of exertion and excessive sweating that leads, first to dehydration, and then to electrolyte imbalances.

To prevent heat-related illness, follow these precautions:

- **Drink the Right Amount of the Right Fluids**
Finding the right amount of fluid to drink depends upon a variety of individual factors including the length and intensity of exercise and other individual differences. There are, however, two simple methods of estimating adequate hydration:
 1. **Monitoring urine volume output and color.** A large amount of light colored, diluted urine probably means you are hydrated; dark colored, concentrated urine probably means you are dehydrated.
 2. **Weighing yourself before and after exercise.** Any weight lost is likely from fluid, so try to drink enough to replenish those losses. Any weight gain could mean you are drinking more than you need.
- **Replace Lost Electrolytes**
Sweat leeches salt and minerals from the body. It's important to maintain sodium and electrolyte levels if you are sweating profusely and exercising more than 90 minutes. The easiest way to replace these are with salty foods or sports drinks.
- **Wear Appropriate Clothing**
Choose lightweight, light-colored, loose-fitting clothing. In the hot sun, a hat and sunscreen is helpful. Wear light, loose-wicking clothing so sweat can evaporate. Better yet, invest in some clothes made with CoolMax®, Drymax®, Smartwool or polypropylene. These fibers have tiny channels that wick the moisture from your skin to the outer layer of the clothing where it can evaporate more easily.

- **Use Sunscreen and Avoid Sunburn**

Sunburn decreases your ability to cool yourself and causes fluid loss. Use sunblock with SPF 15 or higher. Wear a hat that provides shade and allows ventilation.

- **Acclimate to the Heat**

You will have a greater tolerance for exercise in the heat if you become accustomed to it slowly over one to two weeks. If traveling to a hotter climate, allow several days to acclimate before doing intense exercise. Avoid exercise during the hottest time of day; train closer to sunrise or sunset.

- **Use Common Sense**

Avoid hot foods, alcohol and heavy foods that increase your core temperature. If you feel any headaches, fatigue or irritability or notice your exercise performance decreasing, stop exercising and cool off.

Remember, it is easier to prevent heat illness than to treat it once symptoms develop.

What about Sports Drinks?

Sports drinks can be helpful to athletes who are exercising at a high intensity for 60 minutes or more. Fluids supplying 60 to 100 calories per 8 ounces helps to supply the needed calories required for continuous performance. It's really not necessary to replace losses of sodium, potassium and other electrolytes during exercise since you're unlikely to deplete your body's stores of these minerals during normal training. If, however, you find yourself exercising in extreme conditions over 3 or 5 hours (a marathon, Ironman or ultramarathon, for example) you may likely want to add a complex sports drink with electrolytes.

General Guidelines for Fluid Needs During Exercise

While specific fluid recommendations aren't possible due to individual variability, most athletes can use the following guidelines as a starting point, and modify their fluid needs accordingly.

Hydration Before Exercise

- Drink about 15-20 fl oz, 2-3 hours before exercise
- Drink 8-10 fl oz 10-15 min before exercise

Hydration During Exercise

- Drink 8-10 fl oz every 10-15 min during exercise
- If exercising longer than 90 minutes, drink 8-10 fl oz of a sports drink (with no more than 8 percent carbohydrate) every 15 - 30 minutes.

Hydration After Exercise

- Weigh yourself before and after exercise and replace fluid losses.
- Drink 20-24 fl oz water for every 1 lb lost.
- Consume a 4:1 ration of carbohydrates to protein within 2 hours after exercise to replenish glycogen stores.