

Heat Stroke

From Elizabeth Quinn, Your Guide to Sports Medicine.

How to Take the Heat

Even the most highly conditioned athletes need to take special precautions when exercising in hot weather. Athletes are especially prone to heat illness in the summer months, so recognizing signs of heat illness is critical. Heat stroke is a serious condition and should be treated as a medical emergency. Other conditions common in the heat, like heat cramps, and heat exhaustion, are less serious and generally require less drastic measures of treatment.

Heat stroke is the most dangerous of the heat-related illnesses. If not treated immediately, it can be fatal. The exact cause of heat stroke isn't clear, and unlike heat exhaustion, it strikes suddenly and with little warning. When the body cooling systems fails, the core temperature rises quickly. Signs of heat stroke include a core body temperature above 40.5°C/105°F, hot, dry skin, lack of sweating, and a very fast pulse, and mental status changes.

Athletes generally suffer a slightly different type of heat stroke called exertional heat stroke. In exertional heat stroke, victims continue to sweat, despite the increased core temperature. For athletes, the diagnosis of heat stroke is made with a core temperature of greater than 40.5°C/105°F and mental status changes, such as confusion, disorientation and clumsiness. Collapse and coma can occur if symptoms are ignored. If any of these symptoms of heat stroke are present, emergency treatment and cooling the patient immediately is essential.

Less Serious Heat Illnesses

Heat Cramps

This type of heat illness usually occurs after several hours of exertion in the heat. Heat cramps are recognized by painful muscle spasms in the arms, legs, or abdomen. Symptoms include faintness or dizziness, weakness, and profuse sweating. Usually an athlete suffers from heat cramps after several hours of exertion and much sweat loss. More often, it is the more well conditioned athlete who has heat cramps that result from sodium depletion. Replacing lost sodium is the best treatment and increasing daily sodium intake slightly during hot weather exercise can help prevent future cramping.

Heat Exhaustion

Heat exhaustion may be difficult to differentiate from heat stroke, but it typically occurs when one is exposed to heat for a prolonged period of time. The body may become overwhelmed by heat when its mechanism (sweating) for keeping cool breaks down. Symptoms of heat exhaustion include nausea, dizziness, weakness, headache, pale and moist skin, weak pulse, and disorientation. The key difference between heat stroke and heat exhaustion is that there are no mental status changes (other than mild confusion) in those suffering from heat exhaustion. Stopping activity, and cooling the body are the key treatments for heat exhaustion.

Preventing Heat Illness

- Always acclimatize for up to a week when exercising in hot weather conditions. This allows your body to gradually adapt to the heat.
- Hydrate well before thirst kicks in. Once you are thirsty you are already dehydrated.
- Do not exercise vigorously during the hottest time of day. Try to train closer to sunrise or sunset.
- Wear light, loose clothing, such as cotton, so sweat can evaporate. Better yet, invest in some clothes that wick, like Cool-Max.
- Use sunscreen to prevent sunburn, which can hinder the skin's ability to cool itself.
- Wear a hat that provides shade and allows ventilation.
- Drink plenty of liquids such as, water or sports drink every 15 minutes (drink 16-20 oz/hour).
- If you feel your abilities start to diminish, stop activity and try to cool off.
- Do not drink alcohol or beverages with caffeine before exercise because they increase the rate of dehydration.
- *Remember, it is easier to prevent heat illness than to treat it once symptoms develop.*

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