

How to Avoid Heat Illness

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It's August again and that means fall sports are about to start! Unfortunately, besides the excitement of starting a new season, these "Dog Days" of summer also bring with them the dangers of heat illness.

It is crucial for all athletes, parents, coaches and athletic trainers to understand strategies for prevention, signs and symptoms, and what to do in the event heat illness occurs.

What is Heat Illness?

Heat illness is when your body becomes overheated during exercise or exposure to hot weather. It can cause many problems including heat cramps, heat exhaustion and heatstroke.

What Causes Heat Illness?

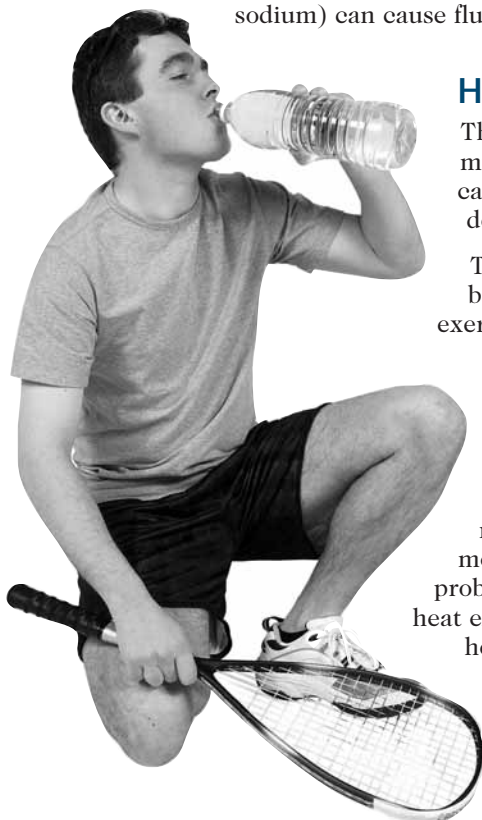
The body produces heat during exercise and heat exposure. Normally, it can cool itself by evaporation of sweat on the skin. However, several environmental factors can limit or disable this mechanism including high humidity, extreme temperatures, heavy clothing or gear, and the presence or absence of wind.

Increased susceptibility can be caused by a lack of fitness and acclimatization and poor hydration. Athletes with a history of heat illness are also more likely to have repeat episodes of heat illness.

Why is Hydration So Important?

Dehydration can cause a decrease in blood volume, and as a result, fewer fluids are available to produce sweat and less oxygen is available to working muscles. This causes increases in body temperature and a decrease in performance due to lack of oxygen.

Also, loss of electrolytes (especially sodium) can cause fluid imbalances.



Heat Cramps

These are painful muscle spasms caused by dehydration.

They can occur before or after exercise. It is important to note that if multiple muscle groups are involved, this may be, or may lead to, a more serious problem such as heat exhaustion or heat stroke.

Cramps are treated by massaging and stretching the effected muscle



and replacing fluids using water or sports drinks. In extreme cases a person may need IV fluids.

Heat Exhaustion

Heat exhaustion occurs due to a decreased blood volume. Signs and symptoms can include dizziness, headache, weakness, nausea, muscle aches, increased sweating, cool/clammy skin, and a rapid/weak pulse. This person must stop exercising immediately and be cooled as soon as possible.

Cooling can be done by using cool towels, spray bottles, fanning or ice baths. The athlete should also be taking in fluids, and if he or she is unable to do so, consider taking them to have IV fluids.

Heat Stroke

THIS IS A MEDICAL EMERGENCY. An athlete with heat stroke has either a cooling system that has completely shut off or such low blood volume that sweating has ceased and he or she is in shock.

Signs and symptoms include body temperature of 104° F or higher, no sweating, confusion or disorientation, erratic behavior, hot/dry skin, rapid/strong pulse, agitation, seizure, unconsciousness, and body organ damage.

This situation can result in death. This person needs to be immediately cooled and transported to a hospital.

Prevention of Heat Illness

The key to prevention of heat illness is to avoid dehydration. This means drinking before and after exercise to replace lost fluids and to make sure you're properly hydrated before the next practice begins. For activities longer than one hour, sports drinks with electrolytes and glucose in them can help.

It is also important to take frequent breaks during activities to rehydrate. Note that thirst indicates that you are already dehydrated, so drink before you get thirsty.

Caffeine and alcohol should be avoided, as they can further dehydrate your body. Weighing yourself before and after practice will allow you to track water loss – less than 2% of body weight should be lost during exercise. For every pound you lose, two cups of fluid need to be replaced.

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Avoiding Heat Illness

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Also urine should be light in color. Dark urine indicates dehydration. If possible, wear light and loose-fitting clothing.

Most importantly, if you do not feel well during exercise, stop and tell either your athletic trainer or coach. Avoiding heat illness will help make this a safe and healthy season!

Arnheim, Daniel D. and William E. Prentice. Principles of Athletic Training. 10th ed. Boston, MA: McGraw-Hill Companies, Inc., 2000.

National Athletic Training Association. Activity Health Tip #2: Heat Illness. Updated 2003. 27 October 2005. <http://www.nata.org/publicinformation/files/heatillnesses.htm>

Rouzier, Pierre. The Sports Medicine Patient Advisor. Amherst, MA: Sportsmed Press, 1999.

Guidelines for Fluid Replacement

- Drink 16-20 ounces two to three hours before the event
- Drink 8-16 ounces 15 minutes before the event
- Drink 4-8 ounces every 20 minutes during the event
- Within two hours of finishing training or competition, drink at least 20 ounces per pound of weight loss
- If you only drink enough to quench your thirst, you may be replacing only 1/2 to 2/3 of the fluids lost

Sidelines

A newsletter to promote sports health, injury prevention and recovery of student athletes



Even if you are on the right track, you will get run over if you just sit there.

■ WILL ROGERS

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