



[Home](#) → [Medical Encyclopedia](#) → Heat emergencies

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Heat emergencies

Heat emergencies or illnesses are caused by exposure to extreme heat or sun. Heat illnesses can be prevented by being careful in hot, humid weather.

Causes

Heat injuries can occur due to high temperatures and humidity. You are more likely to feel the effects of heat sooner if:

- You are not used to high temperatures or high humidity.
- You are a child or an older adult.
- You are already ill from another cause or have been injured.
- You are obese.
- You are also exercising. Even a person who is in good shape can suffer heat illness if warning signs are ignored.

The following make it harder for the body to regulate its temperature, and make a heat emergency more likely:

- Drinking alcohol before or during exposure to heat or high humidity
- Not drinking enough fluids when you're active on warmer or hot days
- Heart disease
- Certain medicines: Examples are beta-blockers, water pills or diuretics, some medicines used to treat depression, psychosis, or ADHD
- Sweat gland problems
- Wearing too much clothing

Symptoms

Muscle cramps are the first stage of heat illness. If heat exposure continues and these symptoms are not treated, they can lead to heat exhaustion and then heat stroke.

Heat stroke occurs when the body is no longer able to regulate its temperature, and it keeps rising. Heat stroke can cause shock, brain damage, organ failure, and even death.

The early symptoms of heat illness include:

- Muscle cramps and pains that most often occur in the legs or abdomen, and may be due to multiple factors including exercising in the heat.
- Fatigue
- Thirst
- Very heavy sweating

Later symptoms of heat exhaustion include:

- Cool, moist skin
- Dark urine
- Dizziness, lightheadedness
- Headache
- Nausea and vomiting
- Weakness
- Rapid, shallow breathing
- Rapid, weak pulse

The symptoms of heatstroke include those of heat exhaustion in combination with very high body temperature and significant neurologic symptoms (call 911 or the local emergency number right away):

- Fever -- temperature above 104°F (40°C)
- Extreme confusion (altered level of consciousness)
- Irrational behavior
- Seizures
- Unconsciousness (loss of responsiveness)

First Aid

If you think a person may have heat illness or emergency:

- Have the person lie down in a cool place. Raise the person's feet about 12 inches (30 centimeters).
- Apply cool, wet cloths (or cool water directly) to the person's skin and use a fan to lower body temperature. Place cold compresses on the person's neck, groin, and armpits.
- If alert, give the person a beverage to sip (such as a sports drink), or make a salted drink by adding a teaspoon (6 grams) of salt per quart (1 liter) of water. Give a half cup (120 milliliters) every 15 minutes. Cool water will do if salt beverages are not available.
- For muscle cramps, give beverages as noted above and massage affected muscles gently, but firmly, until they relax.
- If the person shows signs of shock (bluish lips and fingernails and decreased alertness), starts having seizures, or loses consciousness, call 911 or the local emergency number and give first aid as needed.

DO NOT

Follow these precautions:

- Do not give the person medicines that are used to treat fever (such as aspirin or acetaminophen). They will not help, and they may be harmful.
- Do not give the person salt tablets.
- Do not give the person liquids that contain alcohol or caffeine. They will make it harder for the body to control its internal temperature.
- Do not use alcohol rubs on the person's skin.
- Do not give the person anything by mouth (not even salted drinks) if the person is vomiting or unconscious.

When to Contact a Medical Professional

Call 911 or the local emergency number if:

- The person loses consciousness at any time.
- There is any other change in the person's alertness (for example, confusion or seizures).
- The person has a fever over 102°F (38.9°C).
- Other symptoms of heatstroke are present (like rapid pulse or rapid breathing).
- The person's condition does not improve, or worsens despite treatment.

Prevention

The first step in preventing heat illnesses is thinking ahead.

- Find out what the temperature will be for the whole day when you will be outdoors.
- Think about how you have dealt with heat in the past.
- Make sure you will have plenty of fluids to drink.
- Find out if there is shade available where you are going.
- Learn the early signs of heat illness.

To help prevent heat illnesses:

- Wear loose-fitting, lightweight and light-colored clothing in hot weather.
- Rest often and seek shade when possible.
- Avoid exercise or heavy physical activity outdoors during hot or humid weather.
- Drink plenty of fluids every day. Drink more fluids before, during, and after physical activity.
- Be very careful to avoid overheating if you are taking medicines that impair heat regulation, or if you are overweight or an older person.
- Be careful of hot cars in the summer. Allow the car to cool off before getting in.
- NEVER leave a child sitting in a car exposed to the hot sun, even after opening windows.

After recovering from exertional heat illness, check with your health care provider for advice before returning to heavy exertion. Begin exercise in a cool environment and slowly increase the degree of heat. Over several weeks, increase how long and how hard you exercise, as well as the amount of heat.

Alternative Names

Heatstroke; Heat illness; Dehydration - heat emergency

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