

# KNOW AND PREVENT THESE THREE FORMS OF HEAT STRESS

These three forms of heat stress are points along a continuum of severity. If an individual shows signs of one form of heat stress, there is a great chance the heat-related illness may develop to the next stage if no intervention or relief occurs.

## 3 Forms of **HEAT STRESS**

**Heat stroke is a  
medical emergency.  
Call 911.**

### Heat Cramps

Heat cramps are muscle pains or spasms, usually in the abdomen, arms, or legs that may occur in association with strenuous activity.

If you have heart problems or are on a low-sodium diet, get medical attention for heat cramps. If medical attention is not necessary, take these steps:

- Stop all activity, and sit quietly in a cool place.
- Drink clear juice or a sports beverage.
- Do not return to strenuous activity for a few hours after the cramps subside because further exertion may lead to heat exhaustion or heat stroke.
- Seek medical attention for heat cramps if they do not subside in one hour.

Sources:

<https://www.cdc.gov/niosh/topics/heat-stress/>

<https://www.cdc.gov/niosh/topics/heat-stress/heatrelillness.html>

<https://www.webmd.com/first-aid/understanding-heat-related-illness-symptoms>

<https://www.cdc.gov/niosh/mining/User-Files/works/pdfs/2017-128.pdf>

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### Heat Exhaustion

Heat exhaustion can develop after several days of exposure to high temperatures and inadequate or unbalanced replacement of fluids. It is the body's response to an excessive loss of the water and salt contained in sweat. Those most prone to heat exhaustion are elderly people, people with high blood pressure or heart problems, and people working or exercising in a hot environment.

With heat exhaustion, the skin may be cool and moist. The pulse rate will be fast and weak, and breathing will be fast and shallow. Other symptoms may include:

- Heavy sweating
- Paleness
- Muscle cramps
- Tiredness
- Weakness
- Dizziness
- Headache
- Fainting
- Nausea or vomiting

Treatment of heat exhaustion is usually simple; the person should rest in a cool place and drink an electrolyte solution or sports beverage to quickly restore potassium, calcium, and magnesium salts lost in sweating. Seek medical attention immediately if symptoms worsen or if they last longer than one hour.

Also seek medical attention if (1) symptoms are severe (i.e., vomiting or loss of consciousness) or (2) the victim has heart problems or high blood pressure. Severe cases may require longer treatment under medical supervision. If heat exhaustion is left untreated, it may progress to heat stroke.

### Heat Stroke

Heat stroke is the most serious form of heat-related illness. Sweating stops altogether and the body can no longer rid itself of excess heat. Victims of heat stroke will die unless they are treated promptly.

Signs of heat stroke include:

- An extremely high body temperature (105° F or higher)
- Red, hot, dry skin (no sweating or, conversely, profuse sweating)
- Rapid, strong pulse
- Headache
- Dizziness
- Nausea
- Mental confusion
- Hallucinations
- Loss of consciousness
- Convulsions
- Coma

Have someone call 911 while you begin cooling off the person:

- Get him or her to a shady area.
- Cool the person rapidly using whatever methods you have. For example, immerse him or her in a tub of cool water; place in a cool shower; spray with cool water from a garden hose; sponge with cool water; or, if the humidity is low, wrap in a cool, wet sheet and fan vigorously.
- Monitor the body temperature, and continue cooling efforts until the body temperature drops to 101-102° F.
- If emergency medical personnel are delayed, call the hospital emergency room for further instructions.
- Get medical assistance as soon as possible.