
Summer Heat

— July 2023 Education —

What happens to the body as a result of exposure to extreme heat?

- People suffer heat-related illness when the body's temperature control system is overloaded. The body normally cools itself by sweating. But under some conditions, sweating just isn't enough. In such cases, a person's body temperature rises rapidly. Very high body temperatures may damage the brain or other vital organs. Several factors affect the body's ability to cool itself during extremely hot weather. When the humidity is high, sweat will not evaporate as quickly, preventing the body from releasing heat quickly. Other conditions that can limit the ability to regulate temperature include old age, youth (age 0-4), obesity, fever, dehydration, heart disease, mental illness, poor circulation, sunburn, and prescription drug use and alcohol use.

Who is at greatest risk for heat-related illness?

- Those at greatest risk for heat-related illness include infants and children up to four years of age, people 65 years of age and older, people who are overweight, and people who are ill or on certain medications.

What is heat stroke?

- Heat stroke is the most serious heat-related illness. It occurs when the body becomes unable to control its temperature: the body's temperature rises rapidly, the sweating mechanism fails, and the body is unable to cool down. Body temperature may rise to 106°F or higher within 10 to 15 minutes. Heat stroke can cause death or permanent disability if emergency treatment is not provided.

What are the warning signs of a heat stroke?

- Warning signs of heat stroke vary but may include the following:
 - a. An extremely high body temperature (above 103°F)
 - b. Red, hot, and dry skin (no sweating)
 - c. Rapid, strong pulse
 - d. Throbbing headache
 - e. Dizziness
 - f. Nausea
 - g. Confusion
 - h. Unconsciousness

What should I do if I see someone with any of the warning signs of heat stroke?

If you see any of these signs, you may be dealing with a life-threatening emergency. Have someone call for immediate medical assistance while you begin cooling the victim. Do the following:

- Get the victim to a shady area.
- Cool the victim rapidly, using whatever methods you can. For example, immerse the victim in a tub of cool water; place the person in a cool shower; spray the victim with cool water from a garden hose; sponge the person with cool water; or if the humidity is low, wrap the victim in a cool, wet sheet and fan him or her vigorously.
- Monitor 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.
- Do not give the victim alcohol to drink.
- Get medical assistance as soon as possible.

What is heat exhaustion?

- Heat exhaustion is a milder form of heat-related illness that can develop after several days of exposure to high temperatures and inadequate or unbalanced replacement of fluids. Those most prone to heat exhaustion are elderly people, those with high blood pressure, and those working or exercising in a hot environment.

What are the warning signs of heat exhaustion?

The warning signs of heat exhaustion include the following:

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

The skin may be cool and moist. The pulse rate will be fast and weak, and breathing will be fast and shallow. If heat exhaustion is untreated, it may progress to heat stroke. See medical attention if symptoms worsen or last longer than one hour.

What steps can be taken to cool the body during heat exhaustion?

- Drink cool, nonalcoholic beverages.
- Rest.
- Take a cool shower, bath, or sponge bath.
- Seek an air-conditioned environment.
- Wear lightweight clothing.

What are heat cramps and who is affected?

- Heat cramps are muscle pains or spasms – usually in the abdomen, arms, or legs – that may occur in association with strenuous activity. People who sweat a lot during strenuous activity are prone to heat cramps. This sweating depletes the body's salt and moisture. The low salt level in the muscles causes painful cramps. Heat cramps may also be a symptom of heat exhaustion. If you have heart problems or are on a low-sodium diet, seek medical attention for heat cramps.

What should I do if I have heat cramps?

If medical attention is not necessary, take the following 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 1 hour.

Can medications increase the risk of heat-related illness?

- The risk for heat-related illness and death may increase among people using the following drugs: (1) psychotropics, which affect psychic function, behavior, or experience (e.g. haloperidol or chlorpromazine); (2) medications for Parkinson's disease, because they can inhibit perspiration; (3) tranquilizers such as phenothiazines, butyrophenones, and thiozanthenes; and (4) diuretic medications or “water pills” that affect fluid balance in the body.

How can people protect their health when temperatures are extremely high?

- Remember to keep cool and use common sense. Drink plenty of fluid, replace salts and minerals, wear appropriate clothing and sunscreen, pace yourself, stay cool indoors, schedule outdoor activities carefully, use a buddy system, monitor those at risk, and adjust to the environment.

What is the best clothing for hot weather or a heat wave?

- Wear as little clothing as possible when you are at home. Choose lightweight, light-colored, loose-fitting clothing. In the hot sun, a wide-brimmed hat will provide shade and keep the head cool. If you must go outdoors, be sure to apply sunscreen 30 minutes prior to going out and continue to reapply according to the package directions. Sunburn affects your body's ability to cool itself and causes a loss of body fluids. It also causes pain and damages the skin.