

## **Beat the Heat**

Each year more people in the United State die from extreme heat than from hurricanes, lightning, tornadoes, floods, and earthquakes combined. During 1979–1998, a total of 7,421 deaths in the United States were attributed to excessive heat exposure. On average approximately 300 people die each year from exposure to heat. Air conditioning is the number-one protective factor against heat-related illness and death. Brownouts that last a few hours will likely have little effect on people's health. You should learn the warning signs of heat stroke and heat exhaustion.

People suffer heat-related illness when their bodies are unable to compensate and properly cool themselves. 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.

Summertime activity must be balanced with measures that aid the body's cooling mechanisms and prevent heat-related illness.

### **Tips on Preventing and Managing Heat**

- ✓ Drink more fluids (nonalcoholic), regardless of your activity level. Don't wait until you're thirsty to drink. Warning: if your doctor generally limits the amount of fluid you drink or has you on water pills, ask him how you should drink while the weather is hot.
- ✓ Don't drink liquids that contain caffeine, alcohol, or large amounts of sugar; these actually cause you to lose more body fluid. Also, avoid very cold drinks, because they can cause stomach cramps.
- ✓ Stay indoors and, if at all possible, stay in an air-conditioned place. If your home does not have air conditioning, go to the shopping mall or public library; even a few hours spent in air conditioning can help your body stay cooler when you go back into the heat. Call your local health department to see if there are any heat-relief shelters in your area.

- ✓ Electric fans may provide comfort, but when the temperature is in the high 90's, fans will not prevent heat-related illness. Taking a cool shower or bath, or moving to an air-conditioned place is a much better way to cool off.

### **If you must be out in the heat:**

- ✓ Limit your outdoor activity to morning and evening hours.
- ✓ Cut down on exercise. If you must exercise, drink two to four glasses of cool, nonalcoholic fluids each hour. A sports beverage can replace the salt and minerals you lose in sweat. **Warning: if you are on a low-salt diet, talk with our doctor before drinking a sports beverage. Remember the warning in the first “tip” (above), too.**
- ✓ Try to rest often in shady areas.
- ✓ Protect yourself from the sun by wearing a wide-brimmed hat (also keeps you cooler) and sunglasses and by putting on sunscreen of SPF 15 or higher (the most effective products say “broad spectrum” or “UVA/UVB protection” on their labels).
- ✓ Wear lightweight, light-colored, loose-fitting clothing.
- ✓ **NEVER** leave anyone in a closed, parked vehicle.
- ✓ Although any one at any time can suffer from heat-related illness, some people are at greater risk than others. Check regularly on: infants and young children, people aged 65 or older, people who have a mental illness, and those who are physically ill, especially with heart disease or high blood pressure.

### **Heat Emergencies**

Even short periods of high temperatures can cause serious health problems. Two common problems are heat stroke and heat exhaustion.

#### **Heat Stroke**

Heat stroke occurs when the body is unable to regulate 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 10–15 minutes. Heat stroke can cause death or permanent disability if emergency treatment is not provided.

#### **Signs of Heat Stroke**

- ✓ An extremely high body temperature (above 103° F, orally)
- ✓ Red, hot, and dry skin (no sweating)

- ✓ Rapid, strong pulse
- ✓ Throbbing headache
- ✓ Dizziness
- ✓ Nausea
- ✓ Confusion
- ✓ Unconsciousness

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/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

Sometimes a victim's muscles will begin to twitch uncontrollably as a result of heat stroke. If this happens, keep the victim from injuring himself, but do not place any object in the mouth and do not give fluids. If there is vomiting, make sure the airway remains open by turning the victim on his/her side.

### 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, people with high blood pressure, and people working or exercising in a hot environment.

### Signs of Heat Exhaustion

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

The skin may be cool and moist. The victim's 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. Seek medical attention immediately if any of the following occurs:

- ✓ Symptoms are severe
- ✓ The victim has heart problems or high blood pressure

Otherwise, help the victim to cool off, and seek medical attention if symptoms worsen or last longer than one hour.

#### What to Do

- ✓ Cool, nonalcoholic beverages, as directed by your physician
- ✓ Rest
- ✓ Cool shower, bath, or sponge bath
- ✓ An air-conditioned environment
- ✓ Lightweight clothing

#### Heat Cramps

Heat cramps usually affect people who sweat a lot during strenuous activity. 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.

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 1 hour

#### Sunburn

Sunburn should be avoided because it damages the skin. Although the discomfort is usually minor and healing often occurs in about a week, a more severe sunburn may require medical attention.

Symptoms of sunburn are well known: skin becomes red, painful, and abnormally warm after sun exposure.

Consult a physician if the sunburn affects an infant younger than 1 year of age or if these symptoms are present: fever, fluid-filled blisters, and severe pain. When treating sunburn avoid repeated sun exposure, apply cold compresses or immerse the sunburned area in cool water, apply moisturizing lotion to affected areas...do not use salve, butter or ointment..., do not break blisters.

### Heat Rash

Heat rash is a skin irritation caused by excessive sweating during hot, humid weather. It can occur at any age but is most common in young children. Heat rash looks like a red cluster of pimples or small blisters. It is more likely to occur on the neck and upper chest, in the groin, under the breasts, and in elbow creases.

The best treatment for heat rash is to provide a cooler, less humid environment. Keep the affected area dry. Dusting powder may be used to increase comfort, but avoid using ointments or creams; they keep the skin warm and moist and may make the condition worse. Treating heat rash is simple and usually does not require medical assistance. Other heat-related problems can be much more severe.