

What Is Extreme Heat?

Temperatures that hover 10 degrees or more above the average high temperature for the region and last for several weeks are defined as extreme heat. Humid or muggy conditions, which add to the discomfort of high temperatures, occur when a "dome" of high atmospheric pressure traps hazy, damp air near the ground. Excessively dry and hot conditions can provoke dust storms and low visibility. Droughts occur when a long period passes without substantial rainfall. A heat wave combined with a drought is a very dangerous situation.

Heat-related deaths and illness are preventable yet annually many people succumb to extreme heat. Historically, from 1979-2003, excessive heat exposure caused 8,015 deaths in the United States. During this period, more people in this country died from extreme heat than from hurricanes, lightning, tornadoes, floods, and earthquakes combined. In 2001, 300 deaths were caused by excessive heat exposure.

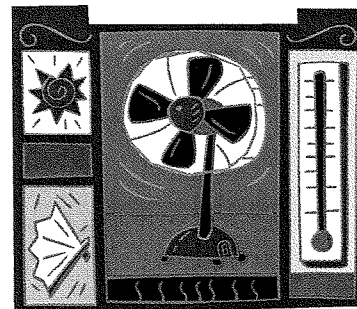
People suffer heat-related illness when their bodies are unable to compensate and properly cool themselves. The body normally cools itself by sweating. But under some conditions, sweating just isn't enough. In such cases, a person's body temperature rises rapidly. Very high body temperatures may damage 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 related to risk include age, obesity, fever, dehydration, heart disease, mental illness, poor circulation, sunburn, and prescription drug and alcohol use.

Because heat-related deaths are preventable, people need to be aware of who is at greatest risk and what actions can be taken to prevent a heat-related illness or death. The elderly, the very young, and people with mental illness and chronic diseases are at highest risk. However, even young and healthy individuals can succumb to heat if they participate in strenuous physical activities during hot weather. Air-conditioning is the number one protective factor against heat-related illness and death. If a home is not air-conditioned, people can reduce their risk for heat-related illness by spending time in public facilities that are air-conditioned.

Heat Facts

- Heat causes about 400 deaths per year in the U.S. - more than all other natural disasters combined
- During the Chicago heat wave of 1995, over 650 people died in under 2 weeks
- ALL HEAT-RELATED DEATHS ARE PREVENTABLE
- The people most at-risk from heat include:
 - The elderly
 - The poor
 - People in inner cities
 - People with chronic illness
 - Homebound people
 - Children under 5 years of age



Elderly people (that is, people aged 65 years and older) are more prone to heat stress than younger people for several reasons:

- Elderly people do not adjust as well as young people to sudden changes in temperature.
- They are more likely to have a chronic medical condition that upsets normal body responses to heat.

They are more likely to take prescription medicines that impair the body's ability to regulate its temperature or that inhibit perspiration.

Do Not Leave Children in Cars

Even in cool temperatures, cars can heat up to dangerous temperatures very quickly. Even with the windows cracked open, interior temperatures can rise almost 20 degrees Fahrenheit within the first 10 minutes. Anyone left inside is at risk for serious heat-related illnesses or even death. Children who are left unattended in parked cars are at greatest risk for heat stroke, and possibly death. When traveling with children, remember to do the following:

- Never leave infants, children or pets in a parked car, even if the windows are cracked open.
- To remind yourself that a child is in the car, keep a stuffed animal in the car seat. When the child is buckled in, place the stuffed animal in the front with the driver.

When leaving your car, check to be sure everyone is out of the car. Do not overlook any children who have fallen asleep in the car.

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 to 15 minutes. Heat stroke can cause death or permanent disability if emergency treatment is not provided.

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. 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, and people working or exercising in a hot environment.

Heat is the major public health problem related to blackouts for two reasons:

- Extreme heat causes most summertime blackouts
- ♦ In a blackout, the main public health intervention for heat-related illness (air conditioning) is unavailable - this represents "a disaster within a disaster"

RECOMMENDATIONS (in the absence of air conditioning):

- CHECK FREQUENTLY ON THOSE AT HIGH RISK
- Drink plenty of non-alcoholic liquids
- Reduce strenuous activities
- Take cool showers/baths frequently
- Wear lightweight, light-colored clothing

Most importantly, cities should have in place a comprehensive Heat Emergency Response Plan**HEAT EMERGENCY RESPONSE PLAN**

- SHOULD BE IN PLACE FOR ALL AT-RISK CITIES
- Must have certain critical elements:
 - Close coordination with National Weather Service
 - Effective early warning
 - Consistent, understandable messages directed towards high-risk groups
 - Regular personal contact with at-risk individuals
 - Availability of, and transportation to, emergency shelters
 - Collaboration among municipal agencies, hospitals, industry, NGO's, and others
 - Check with your local authorities on procedures to follow in a heat emergency

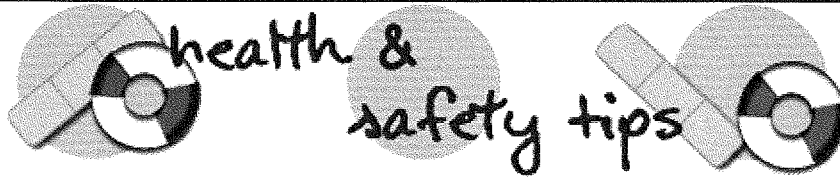
Personal preparation for blackouts is similar to preparation for natural disasters. We recommend that people develop an emergency plan that includes a disaster supply kit. This kit should include enough water, food, and emergency supplies for at least 3 days. Details on emergency plans and supply kits can be found at www.ready.gov.

Print a Home Emergency Plan

The Department of Emergency Management and Homeland Security has put on its website a Home Emergency Plan which can be printed and placed in a three ring binder for use in your home, office or school. Included in the more than sixty pages are checklists for Emergency Supply and First Aid Kits, a sheet for recording personal information, and tips for Seniors and People with Disabilities.

Also included are protective measures, response measures, and information on many Natural and Man-made Disasters. Please copy and paste the link below to your address line or go to www.ct.gov/demhs for more information.

http://www.ct.gov/demhs/lib/demhs/emergprep/family_emergency_plan.pdf



heat-related illness

Warm weather means activities and fun under the sun! Whether you love putting on shorts and feeling the warm outdoors, or find it hot and sticky, everyone must be careful not to let a heat-related illness spoil the day.

Normally, the body has ways of keeping itself cool, by letting heat escape through the skin, and by evaporating sweat (perspiration). If the body does not cool properly or does not cool enough, the victim may suffer a heat-related illness. Anyone can be susceptible although the very young and very old are at greater risk. Heat-related illnesses can become serious or even deadly if unattended.

Preventing Heat-Related Illness

- **Dress for the heat.** Wear lightweight, light-colored clothing. Light colors will reflect away some of the sun's energy. It is also a good idea to wear hats or to use an umbrella.
- **Drink water.** Carry water or juice with you and drink continuously even if you do not feel thirsty. Avoid alcohol and caffeine, which dehydrate the body.
- **Eat small meals and eat more often.** Avoid foods that are high in protein which increase metabolic heat.
- **Avoid using salt tablets unless directed to do so by a physician.**
- **Slow down.** Avoid strenuous activity. If you must do strenuous activity, do it during the coolest part of the day, which is usually in the morning between 4:00 a.m. and 7:00 a.m.
- **Stay indoors when possible.**
- ♦ **Take regular breaks** when engaged in physical activity on warm days. Take time out to find a cool place. If you recognize that you, or someone else, is showing the signals of a heat-related illness, stop activity and find a cool place. Remember, have fun, but stay cool!

Know What These Heat-Related Terms Mean

- ♦ **Heat Wave:** More than 48 hours of high heat (90°F or higher) and high humidity (80 percent relative humidity or higher) are expected.
- ♦ **Heat Index:** A number in degrees Fahrenheit that tells how hot it really feels with the heat and humidity. Exposure to full sunshine can increase the heat index by 15° F.
- ♦ **Heat cramps:** Heat cramps are muscular pains and spasms due to heavy exertion. They usually involve the abdominal muscles or the legs. It is generally thought that the loss of water and salt from heavy sweating causes the cramps.
- ♦ **Heat Exhaustion:** Heat exhaustion is less dangerous than heat stroke. It typically occurs when people exercise heavily or work in a warm, humid place where body fluids are lost through heavy sweating. Fluid loss causes blood flow to decrease in the vital organs, resulting in a form of shock. With heat exhaustion, sweat does not evaporate as it should, possibly because of high humidity or too many layers of clothing. As a result, the body is not cooled properly. Signals include cool, moist, pale, flushed or red skin; heavy sweating; headache; nausea or vomiting; dizziness; and exhaustion. Body temperature will be near normal.
- ♦ **Heat Stroke:** Also known as sunstroke, heat stroke is life-threatening. The victim's temperature control system, which produces sweating to cool the body, stops working. The body temperature can rise so high that brain damage and death may result if the body is not cooled quickly. Signals include hot, red and dry skin; changes in consciousness; rapid, weak pulse; and rapid, shallow breathing. Body temperature can be very high--sometimes as high as 105°F.

Stages of Heat-Related Illness

Heat-related illness usually comes in stages. The signal of the first stage is heat cramps in muscles. These cramps can be very painful. If you are caring for a person who has heat cramps, have him or her stop activity and rest. If the person is fully awake and alert, have him or her drink small amounts of cool water or a commercial sports drink. Gently stretch the cramped muscle and hold the stretch for about 20 seconds, then gently massage the muscle. Repeat these steps if necessary. If the victim has no other signals of heat-related illness, the person may resume activity after the cramps stop. The signals of the next, more serious stage of a heat-related illness (often called **heat exhaustion**) include--

- Cool, moist, pale skin (the skin may be red right after physical activity).
- Headache.
- Dizziness and weakness or exhaustion.
- Nausea.
- The skin may or may not feel hot.

The signals of the late stage of a heat-related illness (often called **heat stroke**) include--

- Vomiting.
- Decreased alertness level or complete loss of consciousness.
- High body temperature (sometimes as high as 105°F).
- Skin may still be moist or the victim may stop sweating and the skin may be red, hot and dry.
- Rapid, weak pulse.
- Rapid, shallow breathing.

This late stage of a heat-related illness is life threatening. Call 9-1-1 or the local emergency number.

General Care for Heat Emergencies

1. **Cool the Body**
2. **Give Fluids**
3. **Minimize Shock**

For heat cramps or heat exhaustion: Get the person to a cooler place and have him or her rest in a comfortable position. If the person is fully awake and alert, give a half glass of cool water every 15 minutes. Do not let him or her drink too quickly. Do not give liquids with alcohol or caffeine in them, as they can make conditions worse. Remove or loosen tight clothing and apply cool, wet cloths such as towels or wet sheets. Call 9-1-1 or the local emergency number if the person refuses water, vomits or loses consciousness.



For heat stroke: Heat stroke is a life-threatening situation! Help is needed fast. Call 9-1-1 or your local EMS number. Move the person to a cooler place. Quickly cool the body. Wrap wet sheets around the body and fan it. If you have ice packs or cold packs, wrap them in a cloth and place them on each of the victim's wrists and ankles, in the armpits and on the neck to cool the large blood vessels. (Do not use rubbing alcohol because it closes the skin's pores and prevents heat loss.) Watch for signals of breathing problems and make sure the airway is clear. Keep the person lying down.