

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.

Heat Index (Apparent Temperature) Chart

The **Heat Index (HI)** is the temperature the body feels when heat and humidity are combined. The chart below shows the HI that corresponds to the actual air temperature and relative humidity. (NOTE: This chart is based upon shady, light wind conditions. Exposure to direct sunlight can increase the HI by up to 15°F.) (Due to the nature of the heat index calculation, the values in the tables below have an error of +/- 1.3F.)

Heat Index	General Effect of Heat Index on People in Higher Risk Groups
80 to 89° - Caution	Fatigue possible with prolonged exposure and/or physical activity.
90 to 104° - Extreme Caution	Sunstroke, heat cramps and heat exhaustion possible with prolonged exposure and/or physical activity.
105 to 129° - Danger	Sunstroke, heat cramps or heat exhaustion likely, and heatstroke possible with prolonged exposure and/or physical activity.
130° or higher - Extreme Danger	Heat/sunstroke highly likely with continued exposure.

		Relative Humidity (in percent)																					
		0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	
Air Temp (in F)	140	125																					
	135	120	128																				
	130	117	122	131																			
	125	111	116	123	131	141																	
	120	107	111	116	123	130	139	148															
	115	103	107	111	115	120	127	135	143	151													
	110	99	102	105	108	112	117	123	130	137	143	150											
	105	95	97	100	102	105	109	113	118	123	129	135	142	149									
	100	91	93	95	97	99	101	104	107	110	115	120	126	132	138	144							
	95	87	88	90	91	93	94	96	98	101	104	107	110	114	119	124	130	136					
	90	83	84	85	86	87	88	90	91	93	95	96	98	100	102	106	109	113	117	122			
	85	78	79	80	81	82	83	84	85	86	87	88	89	90	91	93	95	97	99	102	105	108	
80	73	74	75	76	77	77	78	79	79	80	81	81	82	83	85	86	86	87	88	89	91		
75	69	69	70	71	72	72	73	73	74	74	75	75	76	76	77	77	78	78	79	79	80		
70	64	64	65	65	66	66	67	67	68	68	69	69	70	70	70	71	71	71	71	71	72		