

Heat waves can be deadly. By understanding the danger, proper planning and knowledge of what to do during a heat wave, you can protect yourself and your loved ones from harm.

HEAT KILLS

Every summer, all across North America, a killer lurks: excessive heat. Over the past 30 years nearly 150 people have died from heat each year, making it the #1 source of weather fatalities. While this number is directly linked to heat, there are many more deaths as a result of heat wave weather that go uncounted.

While rising temperatures and excessive heat affects everyone, the hardest hit are usually young children, the elderly and those who are overweight or have underlying health problems. People with medical conditions such as poor blood circulation, and those who take medication to remove water from the body (diuretics) are more susceptible to heat.

WHAT IS A HEAT WAVE?

Heat waves are prolonged periods of excessive heat. Often combined with excessive humidity, heat waves happen all across North America. In a heat wave, temperatures can be well in excess of 100 degrees Fahrenheit for weeks at a time.

Climate change, stagnant weather conditions and poor air quality all contribute to heat-related illnesses. People who live in cities are also at higher risk. The asphalt and concrete found in urban areas store heat for longer periods and release that heat gradually over night. This causes the “urban heat island effect,” where nighttime temperatures remain high.



THE HEAT INDEX(HI)

In an effort to create an awareness of the dangers of excessive heat, the National Weather Service publishes a **Heat Index (HI)**. The HI is a number given in degrees Fahrenheit (F) and describes how hot it “feels” when relative humidity is added to air temperature. Exposure to direct sunlight can raise the HI by an additional 15 degrees.

CALCULATING HI						
	RELATIVE HUMIDITY (%)					
TEMP (°F)	90%	80%	70%	60%	50%	40%
80	85	84	82	81	80	79
85	101	96	92	90	86	84
90	121	113	105	99	94	90
95		133	122	113	105	98
100			142	129	118	109
105					133	121
110						135
HI	POSSIBLE HEAT DISORDER					
80°F-90°F	Fatigue possible with prolonged exposure and physical activity.					
90°F-105°F	Sunstroke, heat cramps and heat exhaustion possible.					
105°F-130°F	Sunstroke, heat cramps, and heat exhaustion likely, and heat stroke possible.					
130°F or greater	Heat stroke highly likely with continued exposure.					

BEAT THE HEAT

As with any emergency, stay informed. Listen to local media broadcasts and National Weather Services updates and follow any advice given by authorities. Check in on family, friends and neighbors who don't have air conditioning, or who are frequently alone.



HEAT WAVE



Heat places excessive stress on a human body. Overexposure and overexertion can be deadly.

THE EFFECTS OF HEAT ON THE BODY

Unlike cold-blooded animals, the human body regulates internal temperature regardless of the outside temperature. The body regulates temperature by variations in blood circulation, the evaporation of water from sweat glands and the skin, and in extreme cases, by panting. Ninety percent of excess body heat is dissipated through the evaporation of water via the skin.

Sweating alone does not cool down the body. The sweat must be evaporated to remove heat. A temperature in excess of 90 degrees and high relative humidity slows down the natural evaporation process, making the body work harder to maintain normal temperature (98.6 degrees). The heart pumps blood faster through dilated blood vessels. Sweat glands gush water with sodium and chloride to the surface of the skin.



TOO HOT TOO HANDLE

Too much heat for too long can overwhelm the body's ability to cool down. When the body runs out of fluids and salts for perspiration and when the heat gain exceeds the ability to lose heat, the body's core temperature begins to rise, leading to heat related illnesses.

HEAT RELATED ILLNESSES

There are many factors related to how a person's body will react to heat illness. The age of a person, their physical condition and individual tolerance to heat all play a part. When someone does get heat illness, it is usually because of overexposure and over exercise in high temperatures.

BEFORE A HEAT WAVE

If a period of extreme heat is forecasted for your area, there are things you can do to prepare.

- Install window air conditioners.
- Ensure that previously installed air conditioning is working properly.
- Install window reflectors, such as cardboard covered in aluminum foil, between window glass and curtains, to reflect heat back outside.
- Install weather stripping to windows and doors to keep hot air out and cool air in.
- Use drapes, shades or awnings on windows that receive direct sunlight.
- If you have storm windows, use them.

DURING A HEAT WAVE

During periods of extreme heat, protect yourself with these tips.

- Limit exposure to heat and sun as much as possible.
- If no air conditioning is available, stay on the lowest floor, out of the sunshine.
- Consider spending the warmest part of the day in air-conditioned public buildings such as a library, movie theatre or shopping center.



- Use fans, as circulating air increases the body's ability to cool by perspiration and evaporation.
- Eat well-balanced, light meals regularly.
- Don't take salt tablets unless instructed to do so by a physician.
- Drink lots of water. If you have a fluid retention problem or are on a fluid restricted diet, consult your doctor about liquid intake. Also consult your doctor if you have epilepsy, heart, kidney or liver disease.
- Don't drink alcoholic beverages.
- Wear loose-fitting, lightweight, light-colored clothing and cover as much skin as possible.
- Wear a wide brimmed hat to protect the face and neck.
- Never leave children or pets in closed vehicles.
- Don't do heavy labor during the hottest part of the day. If you must work in extreme heat, use the buddy system and take frequent breaks.

CONDITION	SYMPTOMS	FIRST AID
Sunburn	Red, painful skin, possible swelling, blisters, fever and headaches.	<ul style="list-style-type: none"> • Wash the affected area with soap to remove oils that may block pores and prevent natural cooling. • Apply dry, sterile bandages to blisters and seek medical attention.
Heat Cramps	Painful spasms that usually occur in the legs and abdomen. Heavy sweating.	<ul style="list-style-type: none"> • Get the affected person to a cooler area. • Lightly massage the affected muscles. • Give sips of up to 1/2 a glass of cool water every 15 minutes. • If the person is nauseated, stop giving liquids.
Heat Exhaustion	Heavy sweating, weakness, cold, pale and clammy skin. Weak and hard to find pulse. Normal temperature possible. Fainting and vomiting.	<ul style="list-style-type: none"> • Get the victim out of the sun and to a cooler location. • Lay them down and loosen clothing. Fan and apply cool, wet cloths. • Give small sips of cool water. If the person is nauseated, stop giving liquids. If the person vomits, seek immediate medical attention.
Heat Stroke (Sun Stroke)	Skin hot and dry to the touch. High body temperature (106 degrees or higher). Rapid and strong pulse. Unconsciousness possible.	<ul style="list-style-type: none"> • Heat stroke can be deadly. Seek immediate medical assistance and get the victim to a hospital as quickly as possible. Delayed medical treatment may be fatal. • Move the victim to a cooler area. • Reduce body temperature with a cold bath or sponging. Remove clothing and fan the victim. Watch for breathing problems. • If their body temperature rises again, repeat the process. • Do not give fluids and be extremely cautious.



By preparing for **extreme heat**, knowing what to do during a heat wave and being aware of heat illness symptoms and treatments, you can beat the heat, and ensure the safety of yourself and your loved ones.