

What are the health dangers of exposure to warm weather?

After a long cold winter, most of us are anxious to enjoy the warm days of summer. As soon as the sun comes out we are outside working in the garden, enjoying a game of golf, or just taking a nice long walk. Besides planning ahead for the wonderful warm weather activities, people also need to plan ahead to prevent serious problems caused by the heat.

When the weather's hot, your body works overtime trying to keep cool. Excess heat escapes through sweating, exhalation of warmed air, and increased blood flow to the skin. But hot weather can overwhelm those mechanisms, leading to a wide array of uncomfortable symptoms. If nothing is done to remedy these symptoms, serious harm even life-threatening problems can occur.

What are the symptoms of heat-related ailments?

The following are the three most dangerous types of heat-related ailments listed in order of severity. These conditions can occur in stages:

- Heat syncope---fainting caused when the body compensates for too much heat by diverting blood from the brain to the skin.
- Heat exhaustion---extreme fatigue characterized by muscle aches, nausea, and fever. Additional symptoms include clammy skin, diarrhea, rapid pulse, vomiting, and weakness.
- Heat stroke---failure of the body's temperature control systems. Heat stroke can be fatal depending upon severity and treatment. Symptoms include confusion, agitation, hyperventilation, racing pulse, lethargy, convulsions, and eventually loss of consciousness. The body temperature rises to extremely high levels, sometimes above 110 degrees Fahrenheit, which can damage major organs.

If you are aware of the danger signs of heat-related illnesses, life threatening situations can be avoided. You also need to keep in mind that symptoms can develop over several days or strike during a single burst of strenuous activity. Two conditions, which signal that your body is under extreme stress from heat, are heat edema, and prickly heat.

Heat edema is swelling of the hands and feet when blood vessels expand and allow fluid to pool under the skin. People often notice this first when their shoes feel too tight or one their rings won't fit the finger that they used to wear it on. Prickly heat is an irritating rash that is caused by a blockage of the sweat pores, usually under clothing. This often happens when people overdress for the weather or wear clothing that is very fitted and doesn't "breathe". Neither of these conditions are harmful, but you need to view them as warning signs that you should cool off to avoid a more serious condition. You can remove or loosen heavy and restrictive clothing, move out of the sun if possible, and drink fluids immediately.

When should I call a doctor?

Seek immediate medical help if you or someone else develops any of the following symptoms during hot weather:

- Confusion, lethargy
- Agitation
- Intense muscle aches, feverishness, or nausea.
- Convulsions or loss of consciousness

While you are waiting for help to arrive you can provide support for a heat stroke victim:

- Take the person out of the heat
- Fan with a newspaper or towel
- Sprinkle with water
- Elevate the feet to direct blood back toward the head
- If the person is conscious, offer plenty of fluids

What can I do to prevent heat stroke and related conditions?

Of course, preventing heat stroke and related conditions is always the best advice. Remember these tips and you will be able to enjoy the warm summer or at least tolerate it without life threatening problems.

- Wear loose-fitting, lightweight, light-colored clothing
- Limit vigorous activity during hot, humid weather
- If you have to exercise in the heat, start with brief workouts and increase them gradually over two weeks or more. Try to schedule your vigorous exercise during cooler morning or evening hours.
- Drink plenty of water, before, during, and after exercise. Drink more than you need to satisfy your thirst. Also, remember drinks such as soda and coffee have caffeine and can actually rob your body of fluids so drink these sparingly.
- Avoid alcohol before, during, and immediately after you exercise. Alcohol causes you to lose more fluid than you consume.
- Talk with your doctor about any medications you are taking, prescription and over-the-counter, and how they may interfere with your body's ability to regulate temperature. Some of these include gastrointestinal drugs containing atropine (Donnatal); antidepressants or antipsychotics (Thorazine, Haldol, Prozac); antihistamines (Benadryl); certain cardiovascular medications including betablockers (Blocadren) and diuretics (Diuril); and Parkinson's disease medications. If you use any of these medications, be especially careful to limit your exertion and drink plenty of water during hot, humid weather.

Be a smart consumer and anticipate what you will need to avoid problems with the heat. The long hot summer is a welcome change from snow and sleet, so enjoy it!

First Aid for Heat Exhaustion & Heat Stroke

© American Institute for Preventive Medicine

Sweat acts like our natural air conditioner. As sweat evaporates from our skin, it cools us off. Our personal cooling system can fail, though, if we overexert ourselves on hot and humid days. When this happens, our body heat can climb to dangerous levels. This can result in heat exhaustion or a heat stroke which is life-threatening.

Heat exhaustion takes time to develop. Fluids and salt are vital for health. They are lost as children and adults sweat a lot during exercise or other strenuous activities. It is very important to drink lots of liquids before, during and after exercise in hot weather. As strange as it seems, people suffering from heat exhaustion have low, normal or only slightly elevated body temperatures.

Signs and Symptoms of heat exhaustion include:

- Cool, clammy, pale skin
- Sweating
- Dry mouth
- Fatigue, weakness
- Dizziness
- Headache
- Nausea, sometimes vomiting
- Muscle cramps
- Weak and rapid pulse

Heat stroke, unlike heat exhaustion, strikes suddenly, with little warning. When the body's cooling system fails, the body's temperature rises fast. This creates an emergency condition.

Signs of heat stroke include:

- Very high temperature (104 degrees F or higher)
- Hot, dry, red skin
- No sweating
- Deep breathing and fast pulse - then shallow breathing and weak pulse
- Dilated pupils
- Confusion, delirium, hallucinations
- Convulsions
- Loss of consciousness

Chronic medical conditions such as diabetes, use of alcohol, and vomiting or diarrhea can put children and adults at risk for a heat stroke during very hot weather. Heat stroke in children is not only due to high temperatures and humidity, but also to not drinking enough fluids.

Prevention

Heat exhaustion and heat stroke can be prevented with this advice:

- Do not stay in or leave anyone in closed, parked cars during hot weather.
- Take caution when you must be in the sun. At the first signs of heat exhaustion, get out of the sun or your body temperature will continue to rise.
- Do not exercise vigorously during the hottest times of the day. Instead, run, jog or exercise closer to sunrise or sunset. If the outside temperature is 82 degrees F or above and the humidity is high, do your activity for a shorter time.
- Wear light, loose-fitting clothing, such as cotton, so sweat can evaporate. And, put on a wide-brimmed hat with vents.
- Drink lots of liquids, especially if your urine is a dark yellow, to replace the fluids you lose from sweating. Thirst is not a reliable sign that your body needs fluids. When you exercise, it is better to sip rather than gulp the liquids.
- Drink water or water with salt added if you sweat a lot. (Use 1/2 teaspoon salt in 1 quart of water.) Sport drinks such as Gatorade, All Sport and PowerAde are good too.
- If you feel very hot, try to cool off. Open a window, use a fan or turn on an air conditioner.
- Limit your stay in hot tubs or heated whirlpools to 15 minutes. Don't use them when you are alone.
- Do not drink alcohol or beverages with caffeine because they speed up fluid loss.
- Stay out of the sun if you are taking water pills, mood altering or antispasmodic medications. Check which ones are safe with your doctor.
- Do not bundle a baby in blankets or heavy clothing. Infants don't tolerate heat well because their sweat glands are not well-developed.
- Some people perspire more than others. Those who do should drink as much fluid as they can during hot, humid days.
- Know the signs of heat stroke and heat exhaustion and don't ignore