

It is a hot sunny day and you decide to go outside and do some yard work. As you are working you notice that it is warmer and more humid than you originally thought. You have just a few more things you want to finish before you go back inside. Without taking a break to rest or cool down and without taking time to drink some water you continue on hoping to finish soon. As you are working you continue to sweat profusely and have developed a headache, are starting to feel weak and light headed or dizzy. Without trying or planning to you have just worked yourself into a state of HEAT EXHAUSTION!

A healthy body temperature is maintained by the nervous system. As the body temperature increases, the body tries to maintain its normal temperature by transferring heat. Sweating and blood flow to the skin help us keep our bodies cool. A heat-related illness occurs when our bodies can no longer transfer enough heat to keep us cool.

A high body temperature (**hyperthermia**) can develop rapidly in extremely hot environments, such as when a child is left in a car in the summer heat. Hot temperatures can also build up in small spaces where the ventilation is poor, such as attics or boiler rooms. People working in these environments may quickly develop hyperthermia.

High temperature caused by a **fever** is different from a high body temperature caused by a heat-related illness. A fever is the body's normal reaction to infection and other conditions, both minor and serious. Heat-related illnesses produce a high body temperature because the body cannot transfer heat effectively or because external heat gain is excessive.

Often, environmental and physical conditions can make it hard to stay cool. Heat-related illness is often caused or made worse by **dehydration** and **fatigue**. Exercising during hot weather, working outdoors, and overdressing for the environment increase your risk. **Caffeine** or alcohol also increase your risk of dehydration.

Many medicines increase your risk of a heat-related illness. Some medicines decrease the amount of blood pumped by the heart (cardiac output) and limit blood flow to the skin, so your body is less able to cool itself by sweating. Other medicines can alter your sense of thirst or increase your body's production of heat. If you take medicines regularly, ask your doctor for advice about hot-weather activity and your risk of getting a heat-related illness

There are several types of heat related illnesses that can cause a multitude of different problems or possibly even death. The following is a brief description of each and the signs/symptoms to watch out for and what to do to treat each one.

## Heat-related Illnesses and First Aid



**Heat stroke**, the most serious form of heat-related illness, happens when the body becomes unable to regulate its core temperature. Sweating stops and the body can no longer rid itself of excess heat. Signs include confusion, loss of consciousness, and seizures. **"Heat stroke is a medical emergency that may result in death!"** Call 911 immediately.

**Heat exhaustion** is the body's response to loss of water and salt from heavy sweating. Signs include headache, nausea, dizziness, weakness, irritability, thirst, and heavy sweating.



after working hours.

**Heat cramps** are caused by the loss of body salts and fluid during sweating. Low salt levels in muscles cause painful cramps. Tired muscles—those used for performing the work—are usually the ones most affected by cramps. Cramps may occur during or

**Heat rash**, also known as prickly heat, is skin irritation caused by sweat that does not evaporate from the skin. Heat rash is the most common problem in hot work environments.

The chart below shows **symptoms** and **first aid measures** to take if someone shows signs of a heat-related illness.

	<b>Symptoms</b>	<b>First Aid*</b>
<b>Heat stroke</b>	<ul style="list-style-type: none"> <li>▪ Confusion</li> <li>▪ Fainting</li> <li>▪ Seizures</li> <li>▪ Excessive sweating or red, hot, dry skin</li> <li>▪ Very high body temperature</li> </ul>	<ul style="list-style-type: none"> <li>▪ Call 911</li> </ul> <p style="text-align: center;">While waiting for help:</p> <ul style="list-style-type: none"> <li>▪ Place patient in shady, cool area</li> <li>▪ Loosen clothing, remove outer clothing</li> <li>▪ Fan air on patient; cold packs in armpits</li> <li>▪ Wet patient with cool water; apply ice packs, cool compresses, or ice if available</li> <li>▪ Provide fluids (preferably water) as soon as possible</li> <li>▪ Stay with patient until help arrives</li> </ul>
<b>Heat exhaustion</b>	<ul style="list-style-type: none"> <li>▪ Cool, moist skin</li> <li>▪ Heavy sweating</li> <li>▪ Headache</li> <li>▪ Nausea or vomiting</li> <li>▪ Dizziness</li> <li>▪ Light headedness</li> <li>▪ Weakness</li> <li>▪ Thirst</li> <li>▪ Irritability</li> <li>▪ Fast heart beat</li> </ul>	<ul style="list-style-type: none"> <li>▪ Have patient sit or lie down in a cool, shady area</li> <li>▪ Give patient plenty of water or other cool beverages to drink</li> <li>▪ Cool patient with cold compresses/ice packs</li> <li>▪ Take to clinic or emergency room for medical evaluation or treatment if signs or symptoms worsen or do not improve within 60 minutes.</li> <li>▪ Do not return to work that day</li> </ul>
<b>Heat cramps</b>	<ul style="list-style-type: none"> <li>▪ Muscle spasms</li> <li>▪ Pain</li> <li>▪ Usually in abdomen, arms, or legs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Have patient rest in shady, cool area</li> <li>▪ Patient should drink water or other cool beverages</li> <li>▪ Wait a few hours before allowing patient to return to strenuous work</li> <li>▪ Have patient seek medical attention if cramps don't go away</li> </ul>
<b>Heat rash</b>	<ul style="list-style-type: none"> <li>▪ Clusters of red bumps on skin</li> <li>▪ Often appears on neck, upper chest, folds of skin</li> </ul>	<ul style="list-style-type: none"> <li>▪ Try to work in a cooler, less humid environment when possible</li> <li>▪ Keep the affected area dry</li> </ul>

\* Remember, if you are not a medical professional, use this information as a guide only to help others in need.

