



## Heat Related Illnesses, Prevention and First Aid

Workers who are exposed to extreme heat or work in hot environments may be at risk of heat stress. Exposure to extreme heat can result in occupational illnesses and injuries. Heat stress can result in heat stroke, heat exhaustion, heat cramps, or heat rashes. Heat can also increase the risk of injuries in workers as it may result in sweaty palms, fogged-up safety glasses, and dizziness. Burns may also occur as a result of accidental contact with hot surfaces or steam.



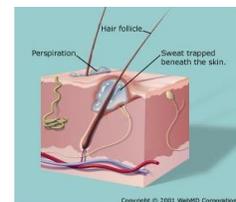
**Heat Stroke** is the most serious form of heat related illness. When this happens the body becomes unable to regulate its core temperature and the body's temperature rises rapidly, the sweating mechanism fails, and the body is unable to cool down. When heat stroke occurs, the body temperature can rise to 106 degrees Fahrenheit or higher within 10 to 15 minutes. Heat stroke can cause death or permanent disability if emergency treatment is not given.

**Heat Exhaustion** is the body's response to the loss of water and salt from heavy sweating. Signs include headache, nausea, dizziness, weakness, irritability, and excessive sweating. Workers most prone to heat exhaustion are those that are elderly, have high blood pressure, and those working in a hot environment. Heat Exhaustion can progress to Heat Stroke if not properly treated.



**Heat Cramps** are caused by the loss of body fluid and salt from sweating. Low salt levels in muscle tissue because painful muscle cramps. Tired muscles, those used for performing work, are usually the ones most affected by cramps. Cramps may occur during or after the work shift is completed. Heat cramps may also be a symptom of heat exhaustion.

**Heat Rash** also known as prickly heat, is skin irritation from sweat that does not evaporate. Heat rash is the most common type of heat related injury. The sweat glands become blocked, forming a barrier and trapping sweat beneath the skin, where it builds up, causing the characteristic bumps. As the bumps burst and sweat is released, there may be a prickly, or stinging sensation that gives this condition its name.



### Recognize the Illness and Symptoms- provide appropriate First Aid

Illness	Symptoms	First Aid*
<b>Heat Stroke</b>	Confusion Fainting Seizures Excessive sweating or red, hot, dry skin Very high body temperature	Call 911 While waiting for help Place worker in shady, cool area Loosen clothing, remove outer clothing Fan air on worker; cold packs in armpits Wet worker with cool water; apply ice packs, cool compresses, or ice if available Provide fluids (preferably water) as soon as possible Stay with worker until help arrives



<b>Heat Exhaustion</b>	Cool, moist skin Heavy sweating Headache Nausea or vomiting Dizziness Light headedness Weakness Thirst Irritability Fast heart beat	Have worker sit or lie down in a cool, shady area Give worker plenty of water or other cool beverages to drink Cool worker with cold compresses/ice packs Take to clinic or emergency room for medical evaluation or treatment if signs or symptoms worsen or do not improve within 60 minutes. Do not return to work that day
<b>Heat Cramps</b>	Muscle spasms Pain Usually in abdomen, arms, or legs	Have worker rest in shady, cool area Worker should drink water or other cool beverages Wait a few hours before allowing worker to return to strenuous work Have worker seek medical attention if cramps don't go away
<b>Heat Rash</b>	Clusters of red bumps on skin Often appears on neck, upper chest, folds of skin	Try to work in a cooler, less humid environment when possible Keep the affected area dry

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

## How can heat illness be prevented?

Employers should establish a complete heat illness prevention program to prevent heat illness. This includes: Provide workers with water, rest and shade; gradually increase workloads and allow more frequent breaks for new workers or workers who have been away for a week or more to build a tolerance for working in the heat (**acclimatization**). Modify work schedules as necessary; plan for emergencies and train workers about the symptoms of heat-related illnesses and their prevention. Monitor workers for signs of illness. **Workers new to the heat or those that have been away from work and are returning can be most vulnerable to heat stress and they must be acclimatized.**

## To prevent heat related illness and fatalities:

- Drink water every 15 minutes, even if you are not thirsty.
- Rest in the shade to cool down.
- Wear a hat and light-colored clothing.
- Learn the signs of heat illness and what to do in an emergency.
- Keep an eye on fellow workers.
- "Easy does it" on your first days of work in the heat. You need to get used to it.
- Medication can increase your risk of developing a heat related illness, check with your doctor or pharmacist when taking any medication and working in hot conditions.

**Remember these three simple words: Water, Rest and Shade.** Taking these precautions can mean the difference between life and death.