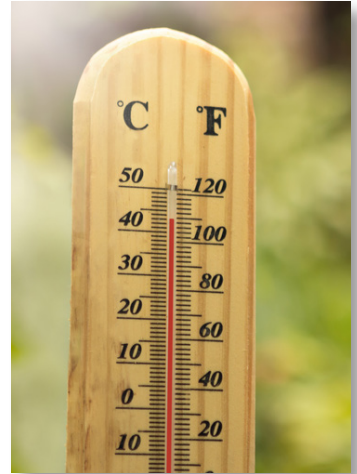


Heat-Related Injury

PRIMEX³ RISK MANAGEMENT BULLETIN

Hot summer weather and humidity pose additional challenges for those who work outside. A major concern are heat-related injuries that occur when temperatures rise into the 80's and 90's. However, even lower temperatures may also cause concern for those performing strenuous activities, such as firefighters and highway workers. Supervisors need to be mindful of high temperatures and the work being performed to ensure the well being of their workers. Recreation supervisors and those overseeing parks, beaches, pools, ball fields and other facilities where staff, children or adults are exercising in the summer heat need to be watchful for heat-related injuries. Training is essential to provide first aid when such injuries occur.



Everyone is at risk when temperatures rise above 90 degrees, but the elderly and very young are most susceptible to heat and heat-related illnesses which can cause serious injury and even death if untreated. Symptoms include nausea, dizziness, flushed or pale skin, heavy sweating, and headaches. Victims of heat-related illness should be moved to a cool place, given cool water to drink and ice packs or cool wet cloths applied to the skin. If a victim refuses water, vomits or loses consciousness, call 9-1-1 immediately!

Heat-Related Terms:

- **Heat Wave:** More than 48 hours of high heat (90° F or higher) and high humidity (80% 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.
- **Dehydration:** A major contributing factor to heat-related injuries. Under normal conditions the body loses about one gallon of fluid a day through sweating, breathing and going to the bathroom. When you engage in strenuous activity the amount of fluid loss greatly increases. If you get into a dehydrated state, you are weak, dizzy, profoundly exhausted and can have problems thinking clearly.
- **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:** 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 decreased blood flow to 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-Related Injury (continued)

PRIMEX³ RISK MANAGEMENT BULLETIN

- **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.

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. While shorts may seem beneficial too, be careful not to sacrifice the safety afforded by long pants. There is no evidence to support that shorts help to lower body temperature.
- **Drink Water.** Carry water or sports drink with you and drink continuously even if you do not feel thirsty. Avoid caffeine which dehydrates the body. Avoid using salt tablets unless directed to do so by a physician.
- **Eat Small Meals and Eat More Often.** Avoid high-protein foods, which brings about increased metabolic heat.
- **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 and 7 a.m. Plan work schedules accordingly.
- **Monitor Strenuous Activity.** Ensure that rehabilitation facilities are established for firefighters working in heavy turnout gear. Supervisors should closely monitor the condition of each person working under high heat conditions.
- **Monitor Athletic Participants.** Coaches and recreation supervisors should be conscious of high temperatures and plan activities to ensure that heat-related injuries do not occur. They should also be prepared to rapidly respond to signs of heat emergencies. Scheduling water and rest breaks is essential.
- **Wear Sunscreen.** Sunburn affects your body's ability to cool down and can make you dehydrated. If you must go outdoors, protect yourself from the sun by wearing a wide-brimmed hat, sunglasses, and by putting on sunscreen with SPF 15 or higher, 30 minutes prior to going outside. Continue to reapply it according to the package directions. **TIP:** Look for sunscreens that say "broad spectrum" or "UVA/UVB protection" on their labels. These products work best.



General Care for Heat Emergencies

- ✓ Cool the Body
- ✓ Give Fluids
- ✓ Minimize Shock

Heat Cramps or Heat Exhaustion

Move 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, 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 if the person refuses water, vomits or loses consciousness.

Heat Stroke

Heat stroke is a life-threatening situation! Help is needed fast. Call 9-1-1! Do not give victim anything to eat or drink if they are not fully alert. Move the person to a cooler place. Quickly cool the body. Wrap wet sheets around the body and fan the surrounding air. If you have ice packs or cold packs, wrap them in a cloth, placing one on each wrist and ankle, 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.



Additional Information:

- American Red Cross: www.redcross.org
- US Occupational Safety and Health Administration: www.osha.gov

For more information, please contact your Primex³ Risk Management Consultant at 800-698-2364 or email RiskManagement@nhprimex.org.