



Tips for Preventing Heat-Related Illness and Injuries

Background: Heat-related deaths and illness are preventable yet annually many people succumb to extreme heat. Historically, from 1979-2003, excessive heat exposure caused 8,015 deaths in the United States. During this period, more people in this country died from extreme heat than from hurricanes, lightning, tornadoes, floods, and earthquakes combined.

Heatwave guidelines

Recommendations for Employers:

- Schedule hot jobs for the cooler part of the day.
- Acclimatize workers by exposing them for progressively longer periods to hot work environments.
- Reduce the physical demands of workers.
- Assign extra workers for physically demanding jobs.
- Provide cool water or liquids to workers. - Avoid drinks with caffeine, alcohol, or large amounts of sugar.
- Provide rest periods with water breaks.
- Provide cool areas for use during break periods.
- Monitor workers who are at risk of heat stress. Use a Buddy System – Avoid having employees work solo, especially in areas of high heat. Make sure employees monitor the condition of co-workers. Heat-induced illness can cause a person to become confused or lose consciousness.
- Provide heat stress training that includes information about worker risk, prevention, symptoms, and the importance of monitoring yourself and coworkers for symptoms.

Recommendations for Workers:

- Heed early warnings of heat stress, such as headache, heavy perspiration, high pulse rate, and shallow breathing. Take a break immediately and get to a cooler location. Watch for heat stress signs among your co-workers.
- Dress for hot weather. Lightweight, light-colored clothing reflects heat. Wear light-colored, loose-fitting, breathable clothing such as cotton. Avoid non-breathing synthetic clothing. Be aware that protective clothing or personal protective equipment may increase the risk of heat stress.
- Drink plenty of water. Don't let yourself "dry out". During hot weather you will need to increase your fluid intake, regardless of your activity level. Don't wait until you're thirsty to drink. During heavy exertion in a hot environment, drink two to four glasses (16-32 ounces) of cool fluids each hour. If your doctor generally limits the amount of fluid you drink or has you on water pills, ask how much you should drink while the weather is hot. Don't drink liquids that contain alcohol, or large amounts of sugar—these actually cause you to lose more body fluid. Also avoid very cold drinks, because they can cause stomach cramps.
- Increase your salt intake, preferably by adding salt to your food. (Consult your physician if you are on a salt-restricted diet.)
- Don't try to get a suntan while you are working! It's harder for your internal cooling system to work through sunburned skin. Wear a hat and long-sleeved shirt to prevent burning (which we know can increase the risk of skin cancer).

Heat Related Illnesses

Heat Stroke - Heat stroke occurs when the body is unable to regulate its temperature. The body's temperature rises rapidly, the sweating mechanism fails, and the body is unable to cool down. Body temperature may rise to 106°F or higher within 10 to 15 minutes. Heat stroke can cause death or permanent disability if emergency treatment is not provided. Warning signs of heat stroke vary but may include the following: An extremely high body temperature (above 103°F, orally), red, hot, and dry skin (no sweating), rapid, strong pulse, throbbing headache, dizziness, nausea, confusion, and unconsciousness

If you see any of these signs, you may be dealing with a life-threatening emergency. Have someone get medical assistance as soon as possible. Call 911 and notify their supervisor. Begin cooling the victim. Do the following: Get the victim to a shady area. Cool the victim rapidly using whatever methods you can. For example, immerse the victim in a tub of cool water; place the person in a cool shower; spray the victim with cool water from a garden hose; sponge the person with cool

water; or if the humidity is low, wrap the victim in a cool, wet sheet and fan him or her vigorously. If emergency medical personnel are delayed, call the hospital emergency room for further instructions. Do not give the victim fluids to drink. Sometimes a victim's muscles will begin to twitch uncontrollably as a result of heat stroke. If this happens, keep the victim from injuring himself, but do not place any object in the mouth and do not give fluids. If there is vomiting, make sure the airway remains open by turning the victim on his or her side.

Heat Exhaustion - Heat exhaustion is a milder form of heat-related illness that can develop after several days of exposure to high temperatures and inadequate or unbalanced replacement of fluids. It is the body's response to an excessive loss of the water and salt contained in sweat. Those most prone to heat exhaustion are elderly people, people with high blood pressure, and people working or exercising in a hot environment. Warning signs of heat exhaustion include heavy sweating, paleness, muscle cramps, tiredness, weakness, dizziness, headache, nausea or vomiting, and fainting. The skin may be cool and moist. The victim's pulse rate will be fast and weak, and breathing will be fast and shallow. If heat exhaustion is untreated, it may progress to heat stroke. Seek medical attention immediately if symptoms are severe or the victim has heart problems or high blood pressure. Otherwise, help the victim to cool off, and seek medical attention if symptoms worsen or last longer than 1 hour. Cooling measures that may be effective include cool, nonalcoholic beverages, rest, cool shower, bath, or sponge bath, or an air-conditioned environment.

Heat Cramps - Heat cramps usually affect people who sweat a lot during strenuous activity. This sweating depletes the body's salt and moisture. The low salt level in the muscles may be the cause of heat cramps. Heat cramps may also be a symptom of heat exhaustion. Heat cramps are muscle pains or spasms—usually in the abdomen, arms, or legs—that may occur in association with strenuous activity. If you have heart problems or are on a low-sodium diet, get medical attention for heat cramps. If medical attention is not necessary, take these steps: Stop all activity, and sit quietly in a cool place. Drink clear juice or a sports beverage. Seek medical attention for heat cramps if they do not subside in 1 hour.

Heat Syncope - Heat syncope is a fainting (syncope) episode or dizziness that usually occurs with prolonged standing or sudden rising from a sitting or lying position. Factors that may contribute to heat syncope include dehydration and lack of acclimatization. Symptoms of heat syncope include light-headedness, dizziness, and fainting. Workers with heat syncope should sit or lie down in a cool place when they begin to feel symptoms. Slowly drink water, clear juice, or a sports beverage.

Heat Rash - Heat rash is a skin irritation caused by excessive sweating during hot, humid weather. Symptoms of heat rash include a red cluster of pimples or small blisters, more likely to occur on the neck and upper chest, in the groin, under the breasts, and in elbow creases. Workers experiencing heat rash should try to work in a cooler, less humid environment when possible. Keep the affected area dry. Dusting powder may be used to increase comfort.

Safety Problems - Other safety problems are aggravated in hot working conditions. Slippery, sweaty hands, dizziness and fogged safety glasses can cause workers to hurt themselves or others. They can also be burned by accidental contact with hot objects and surfaces in these environments. Workers and supervisors alike must protect themselves from heat-induced irritability, carelessness and distraction, which can impair their physical and mental performance. Avoid the tendency to remove personal protective equipment.

If you have questions, please contact your Risk Management Consultant, or Jim Rhoads, NJPHA-JIF Safety Director, 610-937-2694, or e-mail james_rhoads@pmagroup.com

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