Many workers spend some part of their working day in a hot environment. Workers in laundries, bakeries, and foundries, and those involved in road work or construction projects, to name just a few industries, often face hot conditions which pose special hazards to their safety and health.

Three Forms of Heat Stress
The different forms of heat-related illness are points along a continuum of severity. If an individual shows signs of one form of heat stress, it implies he or she will develop a more severe form if no intervention or relief occurs.

1. Heat Cramps
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.
- Do not return to strenuous activity for a few hours after the cramps subside because further exertion may lead to heat exhaustion or heat stroke.
- Seek medical attention for heat cramps if they do not subside in one hour.

2. Heat Exhaustion
Heat exhaustion 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 or heart problems, and people working or exercising in a hot environment.

With heat exhaustion, the skin may be cool and moist. The pulse rate will be fast and weak, and breathing will be fast and shallow. Other symptoms may include:
- Heavy sweating
- Muscle cramps
- Weakness
- Headache
- Nausea or vomiting

Treatment of heat exhaustion is usually simple; the person should rest in a cool place and drink an electrolyte solution or sports beverage to quickly restore potassium, calcium, and magnesium salts lost in sweating.

Seek medical attention immediately if symptoms worsen or if they last longer than one hour. Also seek medical attention if (1) symptoms are severe (i.e., vomiting or loss of consciousness) or (2) the victim has heart problems or high blood pressure. Severe cases may require longer treatment under medical supervision. If heat exhaustion is left untreated, it may progress to heat stroke.

3. Heat Stroke
Heat stroke is the most serious form of heat-related illness. Sweating stops altogether and the body can no longer rid itself of excess heat. Victims of heat stroke will die unless they are treated promptly.

Signs of Heat Stroke Include:
- An extremely high body temperature (103°F or higher)
- Red, hot, dry skin (no sweating) that may also be mottled or bluish
- Rapid, strong pulse
- Dizziness
- Mental confusion
- Loss of consciousness
- Coma
- Nausea
- Headache
- Delirium
- Convulsions
- Fainting

If you see any of these signs, you may be dealing with a life-threatening medical emergency. Have someone call 911 while you begin cooling off the person:
- Get him or her to a shady area.
- Cool the person rapidly using whatever methods you have. For example, immerse him or her in a tub of cool water; place in a cool shower; spray with cool water from a garden hose; sponge with cool water; or, if the humidity is low, wrap in a cool, wet sheet and fan vigorously.
- Monitor the body temperature, and continue cooling efforts until the body temperature drops to 101-102°F.
- If emergency medical personnel are delayed, call the hospital emergency room for further instructions.
- Do not give the person fluids to drink.
- Get medical assistance as soon as possible.

HEAT STROKE IS A MEDICAL EMERGENCY. CALL 911.

This Safety Tip Sheet was created by IWIF’s Loss Control, SERMA, and Communications departments from information published by the National Centers for Disease Control and Prevention (www.cdc.gov), the National Institute for Occupational Safety and Health (www.cdc.gov/niosh), and the Maryland Occupational Safety and Health Training and Education division (www.dllr.state.md.us). This IWIF Safety Tip Sheet is advisory only. It may not address all hazards or conditions in need of correction in your workplace. IWIF assumes no liability for identification of conditions or hazards. Safety and health remain your responsibility.

Employer: Please post for your employees.

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