



SAFETY TIP

Heat Stress Warning!



On average, 175 Americans die of heat-related injuries each year. This is a tragic figure considering prevention can be relatively easy. *One of the best ways to reduce heat stress on workers is to minimize heat in the workplace.* However, there are some work environments where heat production is difficult to control, such as when furnaces or sources of steam or hot water are present in the work area or when the workplace itself is outdoors and exposed to varying warm weather conditions.

Indoor operations that can cause heat stress problems include:

- Iron and steel foundries
- Nonferrous foundries
- Brick-firing and ceramic plants
- Glass products facilities
- Rubber products factories
- Electrical utilities (particularly boiler rooms)



- Bakeries, confectioneries
- Food canneries
- Laundries
- Chemical plants
- Mining sites, smelters
- Steam tunnels



Outdoor operations conducted in hot weather include:

Construction, refining asbestos and lead removal, hazardous waste site activities especially those that require workers to wear semipermeable or impermeable protective clothing, are also at risk for causing heat stress in workers.

Educate, Educate, Educate

The key to preventing excessive heat stress is educating the employer and worker on the hazards of working in heat and the benefits of implementing proper controls and work practices. The following safety precautions should be used to prevent heat related stress while working on the job:

1. **Engineering controls** - general ventilation, spot cooling by local exhaust, evaporative cooling, mechanical refrigeration, cooling fans, eliminating steam leaks, equipment modifications, using power tools to reduce manual labor, heat shielding, personal cooling devices and protective clothing.
2. **Work practices** - Drinking water can reduce the occurrence of heat stress. Workers in hot environments should drink 5 to 7 ounces of fluids every 15 or 20 minutes to replenish the necessary fluids in the body. Having workers onsite who are trained in first aid to recognize and treat heat stress disorders is essential. Employers should also consider an individual worker's physical condition when determining his or her fitness for working in hot environments. Older workers, obese workers and personnel on some types of medication are at greater risk.



3. **Acclimatization** - It typically takes 5 to 7 days for a worker to become acclimated to their environment. Workers should be given enough time to become acclimated, especially after returning from an extended vacation or illness. This period should begin with 50 percent of the normal workload on the first day, gradually building up to 100 percent by day seven.
4. **Work and rest** - Longer rest periods in cool areas can help workers avoid heat stress. Heavy work should be scheduled during the cooler parts of the day and appropriate protective clothing should be provided. Supervisors need to be trained to detect early signs of heat stress and should permit workers to interrupt their work if necessary.
5. **Employee education** - It is absolutely vital that all workers understand their need to replace fluids and salt lost through sweat and be able to recognize dehydration, exhaustion, fainting, heat cramps, salt deficiency, heat exhaustion, and heat stroke as heat-related disorders. Workers should also be informed of the importance of daily weighing before and after work to avoid dehydration.

When the body is unable to cool itself through sweating, serious heat illnesses may occur. The most severe heat-induced illnesses are heat exhaustion and heat stroke. If left untreated, heat exhaustion could progress to heat stroke and possible death.

High Temperature + High Humidity + Physical Work = HEAT ILLNESS

What are the symptoms of Heat Exhaustion?

Heat exhaustion symptoms include: headaches; dizziness or lightheadedness; weakness; mood changes such as irritability, confusion, or the inability to think straight; upset stomach; vomiting; decreased or dark-colored urine; fainting or passing out; and pale, clammy skin

What should you do?

- Act immediately. If not treated, heat exhaustion may advance to heat stroke and death.
- Move the victim to a cool, shaded area to rest. Don't leave the person alone. If symptoms include dizziness or lightheadedness, lay the victim on his or her back and raise the legs 6 to 8 inches. If symptoms include nausea or upset stomach, lay the victim on his or her side.
- Loosen and remove any heavy clothing.
- Have the person drink cool water (about a cup every 15 minutes) unless sick to the stomach.
- Cool the person's body by fanning and spraying with a cool mist of water or applying a wet cloth to the person's skin.
- Call 911 for emergency help if the person does not feel better in a few minutes.

For more information regarding heat stress refer to the following:

[OSHA Technical Manual: Heat Stress](#)

[Protecting Workers in Hot Environments \(OSHA\)](#)

[OSHA Guidance on Heat Exhaustion and Heat Stroke](#)

[Working in Hot Environments](#)

[Safety and Health Topics: Heat Stress](#)

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Information was abstracted from the OSHA and NIOSH websites