



## Quenching the Summer Heat

*Involve employees in your evaluation of PPE, engineering controls, and administrative controls.*

*by Fred Elliott*

We're entering the season when OSHA wants employers to pay special attention to heat-related illnesses. Managers should know the symptoms and take quick action when heat-related problems occur.

### OSHA'S 10 TIPS FOR WORKERS AND EMPLOYERS ARE:

#### 1. DRINK COOL WATER.

Someone working in a hot environment should drink cool water in small amounts frequently—one cup every 20 minutes. Employers should make water available. Avoid alcohol, coffee, tea, and caffeinated soft drinks, which cause dehydration.

#### 2. DRESS APPROPRIATELY.

Wear lightweight, loose-fitting clothing and change clothing if it becomes completely saturated. Use sunscreen and wear a hat when working outdoors.

#### 3. WORK IN VENTILATED AREAS.

All workplaces should have good general ventilation, as well as spot cooling in work areas of high heat production. Good air flow increases evaporation of sweat, which cools the skin.

#### 4. WORK LESS, REST MORE.

Supervisors should assign a lighter workload and longer rest periods during days of intense heat. Short, frequent work/rest cycles are best. Schedule heavy work for cooler parts of the day.

#### 5. ASK WORKERS HOW THEY'RE FEELING.

Supervisors should monitor workplace temperature and humidity and check workers' responses to heat at least hourly. Allow a large margin of safety, be alert to early signs of heat-related illness, and allow workers to stop for a rest break if they become uncomfortable.

#### 6. KNOW THE SIGNS AND TAKE PROMPT ACTION.

Employees and employers should learn to spot the signs of heat stroke, which can be fatal. Get emergency medical attention immediately if someone exhibits confusion, loss of consciousness, flushed face, hot and dry skin, or has stopped sweating.

#### 7. TRAIN FIRST AID WORKERS.

First aid workers should be able to recognize and treat the signs of heat stress, heat exhaustion, heat cramps, and other heat-related illness. Be sure all workers know who is trained to give first aid.

#### 8. REDUCE WORK FOR ANYONE AT RISK.

Employers should use common sense when determining fitness for work in hot environments. Lack of acclimatization, age, obesity, poor conditioning, pregnancy, inadequate rest, previous heat injuries, certain medical conditions and medications are some factors that increase someone's susceptibility to heat stress.

#### 9. CHECK WITH YOUR DOCTOR.

Certain medical conditions, such as heart conditions and diabetes, and some medications can increase the risk of injury from heat exposure. Employees who have medical conditions or take medications should ask their doctors before working in hot environments.

#### 10. WATCH OUT FOR OTHER HAZARDS.

Use common sense and monitor other environmental hazards that often accompany hot weather, such as smog and ozone.

## CATEGORIES OF HEAT ILLNESS

**HEAT CRAMPS** are muscle spasms caused by heavy sweating. They normally affect the arms, legs, or stomach and frequently they don't occur until after work, at night, or when relaxing. To prevent them, the Oklahoma State University Environmental Health & Safety Department advises drinking electrolyte solutions during the day and eating fruit such as bananas.

**HEAT EXHAUSTION** occurs when surface blood vessels and capillaries that originally enlarged to cool the blood collapse from loss of body fluids and necessary minerals. Symptoms include headache, heavy sweating, dizziness, fatigue, nausea, cool moist skin, weak and rapid pulse, and low to normal blood pressure.

**HEAT STROKE** is a **life-threatening illness** that occurs when the body has exhausted its supply of water and salt, and the victim's body temperature rises dangerously. It can be mistaken for heart attack, so co-workers must be able to recognize its symptoms: elevated body temperature, no sweating, dry skin that is red or flushed, rapid pulse, breathing difficulty, high blood pressure, and possibly the dizziness, headache, nausea, and confusion associated with heat exhaustion.

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## HEAT STRESS ASSESSMENT CHECKLIST

**Assessing a site for heat stress risks involves answering these questions:**

- Is the environment hot or uncomfortable?
- Are the work demands high?
- Would cooling apparel decrease the risks of heat stress among the workforce?
- How is the workers' morale? Are they behaving safely and rationally?
- Do workers have a history of fatigue, weakness, rashes, headaches, or high body temperature in or around the site?
- Is the average worker suffering from high body temperature, high heart rate, or abnormal sweat loss?
- Are adequate supplies of water and/or electrolyte-replacing drinks made available throughout the work day?
- Are these supplies personalized rather than communal?
- Are rest breaks called frequently - - and more often as the ambient heat rises?

## MANY OCCUPATIONS AFFECTED

Summer is the high season of outdoor work in most regions of the United States and in sectors ranging from agriculture to highway and road construction crews. But many jobs that never venture outside are prone to heat problems in summer, as well.

Foundries, marinas, auto repair bays, welding shops, highway work zones, commercial kitchens, laundries, mines, and stadiums come readily to mind. Many other sites are danger zones for occupational heat stress, as well.

As is the case with virtually all other safety hazards, the best defense for heat stress is establishing and enforcing proper procedures with all employees who are exposed.

Sweat can drain a worker's body of up to six quarts of water in one day. Replacing this fluid can be accomplished by drinking water or electrolyte-replacing drinks in small quantities and as frequently as possible all day long. And while supervisors and employees must be able to recognize symptoms and signs of heat stress, it is important to remove the affected individual immediately to a cooler environment. Managers must be willing to terminate a situation with the potential for heat stress, regardless of deadlines or work schedules.

***The worker's environment, activity level, clothing, and hydration are important factors for preventing heat stress.***

## TRAINING AND PREPAREDNESS

Training is an essential element in the heat stress prevention handbook. It is a good idea to train all employees on the hazards and precautions, not just those who are assigned to work in high-heat environments. Involve them in your evaluation of PPE and engineering controls that can cool them, including personal cooling systems, cooling vests, fans, and ventilation systems, and in administrative controls such as seasonal work/rest schedules.

Knowing the factors involved in heat stress should equip you to anticipate the worst before it happens. Choosing the right apparel, adequately hydrating your workforce, and being able to recognize heat stress symptoms and potential danger zones are the recipe for keeping employees fit and cool on a hot job site.

*Fred Elliott is a freelance writer in Austin, Texas, who frequently explores workplace safety and health topics.*

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