

SAFETY BULLETIN

Summer Heat

August 2001



HEATSTROKE / SUNSTROKE

This is not necessarily the result of exposure to the sun. It is caused by exposure to an environment in which the body can no longer rid itself of excess heat. As a result, the body soon reaches a point where the heat-regulating mechanism breaks down completely and the internal temperature rises rapidly.

SYMPTOMS

Hot, dry skin which may be red or bluish, severe headache, visual disturbances, rapid temperature rise,



THE VICTIM SHOULD BE REMOVED FROM THE HEAT IMMEDIATELY AND COOLED RAPIDLY, USUALLY BY WRAPPING IN COOL, WET SHEETS.

PRECAUTIONS



Acclimatization:

Acclimatize workers to heat by giving them short exposures, followed by gradually longer periods of work in the hot environment.

Mechanical Cooling: Forced ventilation and spot cooling by mechanical means (*fans, blowers*) are helpful in cooling. Using power tools rather than manual labour keeps the body cooler.



Rehydration: Workers should be advised to drink water beyond the point of thirst (every 15 to 20 minutes). High-carbohydrate diet tends to increase fluid absorption and caffeinated beverages like coffee tend to increase



Safety & Fire Department

For more detailed information on Heat Stress, please refer to the preceding pages.

HEAT STRESS IN THE WORKPLACE

Heat stress includes a series of conditions where the body is under stress from overheating. It can include heat cramps, heat exhaustion, heat rash or heat stroke. Each produces bodily symptoms that can range from profuse sweating to dizziness to cessation of sweating and collapse. Heat stress can be caused by high temperatures, heavy work loads, the type of clothing being worn, etc.

It is important to know the signs of heat stress and the proper first aid to treat it. (See Common Forms of Heat Stress and recommended first aid on page 4).

The signs of heat stress are often overlooked by the victim. The employee may at first be confused or unable to concentrate, followed by more severe symptoms such as fainting and/or collapse. If heat stress symptoms occur, move the employee to a cool, shaded area, give him water and immediately contact the supervisor.

At Risk Employees

Some employees are more likely to have heat disorders than others. Younger employees and those more physically fit are often less likely to have problems. Employees with heart, lung or kidney disease, diabetes and those on medications are more likely to experience heat stress problems. Diet pills, sedatives, tranquilizers, and caffeinated drinks can all worsen heat stress effects.

It often takes two to three weeks for employees to become acclimatized to a hot environment. This acclimatization can subsequently be lost in only a few days away from the heat. Thus employees should be more cautious about heat stress after coming back from a vacation, when beginning a new job, or after the season's first heat wave. In short, precautions should be taken anytime there are elevated temperatures (approaching 33 degrees C) and the job is physically demanding.

Other Factors

Other heat stress factors are also very important. In addition to temperature, increased relative humidity, decreased air movement or lack of shading from direct heat (radiant temperature) will all affect the potential for heat stress.

Prevention of Heat Stress – Supervisors

- **Allow time for employees to adjust to hot jobs when possible. It often takes two to three weeks for an employee to become acclimated to a hot environment.**
- **Adjust the work schedule, if possible. Assign heavier work on cooler days or during the cooler part of the day.**
- **Reduce the workload. Increase the use of equipment during the summer period to reduce physical labor.**
- **Establish a schedule for work and rest periods during hot days.**
- **Train workers to recognize signs and symptoms of heat stress disorders and be prepared to give first aid if necessary.**
- **Choose appropriate employees. Avoid placing "high risk" employees in hot work environments for extended time periods. Realize individual employees vary in their tolerance to heat stress conditions.**

Prevention of Heat Stress – Site Workers

- **Learn to recognize the symptoms of heat stress. Pace the work, taking adequate rest periods (in shade or cooler environment).**
- **Use adequate fans for ventilation and cooling, especially when wearing personal protective equipment (PPE).**
- **Site workers have to wear regulation overalls and hardhats. Always try to keep shaded from direct sunshine when possible. Your hardhat will not only protect your head from falling objects and such, but will also protect your head from direct sunshine.**
- **Drink plenty of water. In hot environments the body requires more water than it takes to satisfy thirst. Small quantities taken at frequent intervals, about 150-200 mL of water every 15 to 20 minutes is an effective method for body fluid replacement.**

COMMON FORMS OF HEAT STRESS

Condition	Signs/Symptoms	First Aid
Heat Cramps	Painful muscle spasms	Salt water intake (.5% solution) Sport drink intake (Gatorade) Rest in cool environment Heavy sweating
Heat Syncope	Brief fainting Blurred vision	Water intake Lie down in cool environment
Dehydration	Fatigue Reduced movement	Fluid and salted food intake
Heat Exhaustion	Pale and clammy skin Possible fainting Weakness, fatigue Nausea Dizziness Heavy sweating Blurred vision Body temp slightly elevated	Lie down in cool environment Water intake Loosen clothing
Heat Stroke	Cessation of sweating Skin hot and dry Red face High body temperature Unconsciousness Collapse Convulsions Confusion or erratic behavior Life threatening condition	Immediate, total cooling Transport to hospital