

Heat Stress

In a normal year, about 175 Americans die from heat-related illnesses. From 1936 to 1975, nearly 20,000 people succumbed to the heat, and in 1980 alone, more than 1,250 people died from the effects of heat and solar radiation. Employers need to be aware of the effects heat can have on at-risk employees.

Acclimatization

The majority of heat-related illnesses do not occur in the hottest summer months of July and August as most people tend to believe. Employees are more likely to suffer from heat illnesses during the months of May and June because they have not yet become acclimatized to the hotter temperatures. When possible, employers should expose employees gradually to the heat.

Human Risk Factors

Employees with medical conditions such as high blood pressure, obesity, diabetes and heart disease are especially at risk to heat-related illness. Other factors include increasing age, poor physical condition, certain medications and alcohol intake. Individual employees can handle heat in varying amounts due to these and other factors. Any combination of the above conditions increase an employee's propensity for heat-related illness.

Environmental Factors

Employers need to be aware of the environmental factors that can lead to a higher risk for heat-related illness. They include high temperatures, high humidity, air movement (or lack thereof), high insulation levels around the body, radiant temperature of surroundings, and amount of physical activity being performed. Again, any combination of the above factors will increase the danger of a heat-related illness.

Heat Stress Disorders

Heat Rash is a bumpy, red rash which itches severely. It is caused by a hot, humid environment and plugged sweat glands. Employees should wash regularly and keep the skin as clean and dry as possible.

Heat Cramps are painful muscle cramps caused by a loss of body salt through excessive sweating. They normally occur in the arms, legs and stomach and symptoms may not exhibit themselves until later when relaxing after working in the heat. Heat cramps can be avoided by drinking plenty of non-alcoholic, caffeine-free fluids. Salt tablets may be recommended in some cases but only on a physician's order.

Heat Exhaustion results from inadequate salt and water intake. This illness occurs when the body's cooling system becomes overactive just prior to shutting down. Victims will sweat heavily, their skin will be cool and moist, pulse weak, and they may seem unusually tired, confused, clumsy, or irritable and their vision may be blurred. Victims should be removed from the hot environment and cooled down. Immediate medical attention is needed.

Heat Stroke is the deadliest of all heat stress conditions. It occurs when the body's cooling mechanism shuts down after extreme loss of salt and fluids. The victim's body temperature will rise to 103 degrees Fahrenheit or greater, their skin will be hot, red and dry, pulse will be fast and weak, and they may have a headache and/or dizziness. Heat stroke is considered a catastrophic illness and has a high death rate. Later stages cause a loss of consciousness and may lead to convulsions and ultimately death. Victims should be removed from the heat and cooled. Conscious victims should be offered sips of water. **NEVER ATTEMPT TO GIVE AN UNCONSCIOUS PERSON ANYTHING BY MOUTH.**

Engineering Controls and Practices

There are a number of things an employer can do to help avoid subjecting employees to heat-related illness. Windows should be opened in hot work areas. Fans should be used when possible. Postpone or schedule non-essential tasks to occur outside the hours of 10:00 a.m. to 2:00 p.m. Provide additional workers when possible to help with more strenuous tasks in hot work areas. Lightweight, bright-colored clothing should be worn when working in hot work environments. They allow the skin to breathe and reflect the sun's rays while heavy, dark colors absorb heat and insulate the skin. Cool rest areas should be provided as close to the work area as possible. Ideally the rest area should be around 76 degrees Fahrenheit. Employees should be encouraged to take short, frequent breaks and drink 5 to 7 ounces of fluids for every 15 to 20 minutes of exposure to hot work conditions.

The Safety and Loss Prevention Division of the State Accident Fund offers free training to policyholders on Heat Stress in the Workplace as well as many other topics relating to employee safety and health. We also offer mock OSHA inspections to help you evaluate your risk of regulatory citation in the event of an OSHA visit to your facilities. If you have questions or would like to schedule a training session or inspection at your facility, please contact us.