

UTAH OSHA SAFETYLINE

NEWSLETTER



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Protecting Workers from Summer Heat Stress and Illnesses

As the May rain storms subside we move rapidly into summer, and the summer heat. Even though heat related deaths are preventable, hundreds of people die from extreme heat and heat related illnesses each year. As an employer, it is your responsibility to ensure a safe and healthful workplace for your employees. Fortunately there is a lot you can do to protect workers from heat hazards.

Acclimatize workers by exposing them to work in a hot environment for progressively longer periods. NIOSH (1986) suggests that workers who have had previous experience in jobs where heat levels are high enough to produce heat stress may acclimatize with a regimen of 50% exposure on day one, 60% on day two, 80% on day three, and 100% on day four. For new workers who will be similarly exposed, the regimen should be 20% on day one, with a 20% increase in exposure each additional day.

Replace Fluids by providing cool (50°-60°F) water or any cool liquid (except alcoholic beverages) to workers and encourage them to drink small amounts frequently, e.g., one cup every 20 minutes. Ample supplies of liquids should be placed close to the work area. Although some commercial replacement drinks contain salt, this is not necessary for acclimatized individuals because most people add enough salt to their summer diets. Reduce the physical demands by reducing physical exertion such as excessive lifting, climbing, or digging with heavy objects. Spread the work over more individuals, use relief workers or assign extra workers. Provide external pacing to minimize overexertion.

Provide recovery areas such as air-conditioned enclosures and rooms and provide intermittent rest periods

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with water breaks.

Reschedule hot jobs for the cooler part of the day, and routine maintenance and repair work in hot areas should be scheduled for the cooler seasons of the year.

What kind of heat disorders and health effects are possible and how should they be treated?

Heat Stroke is the most serious heat related disorder and occurs when the body's temperature regulation fails and body temperature rises to critical levels. The condition is caused by a combination of highly variable factors, and its occurrence is difficult to predict. Heat stroke is a medical emergency that may result in death. The primary signs and symptoms of heat stroke are confusion; irrational behavior;

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loss of consciousness; convulsions; a lack of sweating (usually); hot, dry skin; and an abnormally high body temperature, e.g., a rectal temperature of 41°C (105.8°F). The elevated metabolic temperatures caused by a combination of work load and environmental heat, both of which contribute to heat stroke, are also highly variable and difficult to predict.



If a worker shows signs of possible heat stroke, professional medical treatment should be obtained immediately. The worker should be placed in a shady, cool area and the outer clothing should be removed. The worker's skin should be wetted and air movement around the worker should be increased to improve evaporative cooling until professional methods of cooling are initiated and the seriousness of the condition can be assessed. Fluids should be replaced as soon as possible. The medical outcome of an episode of heat stroke depends on the victim's physical fitness and the timing and effectiveness of first aid treatment.

Regardless of the worker's protests, no employee suspected of being ill from heat stroke should be sent home or left unattended unless a physician has specifically approved such an order.

Heat Exhaustion signs and symptoms are headache, nausea, vertigo, weakness, thirst, and giddiness. Fortunately, this condition responds readily to prompt treatment. Heat exhaustion should not be dismissed lightly. Fainting or heat collapse which is often associated with heat exhaustion. In heat collapse, the brain does not receive enough oxygen because blood pools in the extremities. As a result, the exposed individual may lose consciousness. This reaction is similar to that of heat exhaustion and does not affect the body's heat balance. However, the onset of heat collapse is rapid and unpredictable and can be dangerous especially if workers are operating machinery or controlling an operation that should not be left unattended; moreover, the victim may be injured when he or she faints. Also, the signs and symptoms seen in heat exhaustion are similar to those of heat stroke, a medical emergency. Workers suffering from heat exhaustion should be removed from the hot environment and given fluid replacement. They should also be encouraged to get adequate rest and when possible ice packs should be applied.

Heat Cramps are usually caused by performing hard physical labor in a hot environment. These cramps have been attributed to an electrolyte imbalance caused by sweating. Cramps appear to be caused by the lack of water replenishment. Because sweat is a hypotonic solution ($\pm 0.3\%$ NaCl), excess salt can build up in the body if the water lost through sweating is not replaced. Thirst cannot be relied on as a guide to the need for water; instead, water must be taken every 15 to 20 minutes in hot environments. Under extreme conditions, such as working for 6 to 8 hours in heavy protective gear, a loss of sodium may occur. Recent studies have shown that drinking commercially available carbohydrate-electrolyte replacement liquids is effective in minimizing physiological disturbances during recovery.

Heat Rashes are the most common problem in hot work environments where the skin is persistently wetted by un-evaporated sweat. Prickly heat is manifested as red papules and usually appears in areas where the clothing is restrictive. As sweating increases, these papules give rise to a prickling sensation. Heat rash papules may become infected if they are not treated. In most cases, heat rashes will disappear when the affected individual returns to a cool environment.

Heat Fatigue is often caused by a lack of acclimatization. A program of acclimatization and training for work in

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hot environments is advisable. The signs and symptoms of heat fatigue include impaired performance of skilled manual, mental, or vigilance jobs. There is no treatment for heat fatigue except to remove the heat stress before a more serious heat-related condition develops.

(Source: OSHA heat stress emergency preparedness guide)



Job Hazard Analysis

You are probably familiar with the term “Job Hazard Analysis” (JHA). This technique of identifying hazards, before employees encounter them, is one of the most proactive actions an employer can take to ensure a safe and healthful workplace for their employees. Several OSHA standards require employers to assess particular areas of their business. One such assessment is for Personal Protective Equipment (PPE). 29 CFR 1910.132(d)(1) requires employers to assess their workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment. The standard goes on to spell out what the employer must do if they find a hazard. In the State of Utah, employers must also follow the regulations that are a part of the Utah Administrative Code (UAC). One such requirement for identifying hazards is UAC R614-1-5(D)(3): Management shall inspect or designate a competent person or persons to inspect frequently for unsafe conditions and practices, defective equipment and materials, and where such conditions are found to take appropriate action to correct such conditions immediately. Most workplace injuries or fatalities could have been prevented if a hazard analysis had been conducted.

What makes an effective JHA? Employee buy in, management commitment, documentation, and constant review are just some of the ways that your JHA can be effective. Having your employees provide input to hazards they see on the job gives them a voice in their safety. Once an employee has brought up a hazard, management must follow through and act on that information to keep employees motivated to participate in this assessment. Be proactive by reviewing your JHA’s often and correct those hazards that are being identified. The few minutes it takes to do a JHA could save one of your employees a lifetime of pain and suffering. A detailed guide on conducting a JHA in your workplace is available on www.osha.gov, search for Booklet #3071.

WORKPLACE SAFETY WEEK

During the 2013 Utah Legislature Session a Concurrent Resolution, sponsored by Senator Karen Mayne, was passed designating the week of June 23-29, 2013 , as Workplace Safety Week in the State of Utah.

The Utah Labor Commission, The Associated General Contractors, of Utah, The Worker’s Compensation Fund, and other business and community leaders are partnering to increase public awareness of safety in the workplace. During the week organizations will be sponsoring safety fairs, seminars, essay contests, and many other activities will be held. Student scholarships will also be awarded as a part of this emphasis on workplace safety .The employees of Utah OSHA will be traveling throughout the State during this week to provide information and consultation on workplace safety and how to prevent accidents or illnesses in the workplace.

What is your company going to do to celebrate Workplace Safety Week?