Heat Illness Prevention

State Compensation Insurance Fund

Radiant heat from hot surfaces, heat from hot processes and the heat from the sun can all cause workers to endure mild to serious illnesses, and in extreme cases, death. The summer weather is in full effect and it is important for workers to understand the signs and symptoms of heat-related illnesses so they may take the proper preventive steps. Employees who work in a hot environment should be trained in the causes, recognition, prevention and treatment of heat related illnesses.

Environmental factors that contribute to heat stress include high air temperatures, high relative humidity, and little or no air movement. Individual factors that affect risk are age, sex, nutrition, physical fitness, hydration, alcohol, drug use, and certain conditions such as diabetes. The body regulates its temperature in heated conditions by sweating and by increasing blood flow to the skin, however when the body's natural defenses are overwhelmed, mild to severe heat-related illnesses may develop. Through pre-employment or pre-transfer medical examinations, people with high sensitivity to heat or with pre-existing health issues, can be detected.

For each hour a worker sweats, up to a quart of water and important minerals may be lost in a hot environment. Sufficient water intake is not determined by thirst alone, workers should drink 8 ounces of water every 15-20 minutes. Alcohol and caffeine consumption should be discouraged as they contribute to dehydration.

Clothing affects heat retention. Workers should be encouraged to wear lightweight, light-colored, and loose-fitting clothing that promotes heat loss. When working outside, exposed skin should be covered including the head and neck areas by wearing a brimmed hat and neckerchief. Cooling garments and reflective clothing may also help to decrease heat buildup, however other type of protective wear may actually retain heat. Also, removing one’s shirt will actually increase the heat experienced by an individual.

Engineering controls, such as providing shades over work areas or shields between the radiant heat source and workers, can also reduce heat exposure. Good air flow increases evaporation and cooling of the skin, so general ventilation and spot cooling with fans or air conditioners in areas of high heat is vital. Since body heat increases when workers are more active, mechanizing heavy jobs may be necessary.

The process of acclimatization allows workers to gradually get used to to the heat. This process can begin by limiting exposure and/or temperature. Acclimatization can be achieved setting up hot jobs during cooler parts of the day or cooler seasons of the year. It can also be done by allowing frequent rest breaks in cool areas, adding more workers to reduce workloads or reducing the overall workday.

Supervisors should monitor work areas hourly to check temperature, humidity, and workers’ responses to heat. Being able to recognize the symptoms of heat-related illnesses and implementing preventive and control measures will keep workers healthy and productive in hot environments. θ