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Injuries and Illness from Cold Stress increase as Winter Sets In

SALT LAKE CITY – With the change in seasons and cold winter storms becoming more common place, it is important for employers and employees to be more vigilant in their preparations for cold weather work. The Utah Occupational Safety and Health Division (UOSH) of the Utah Labor Commission has seen an increase in cold weather related injuries which can cause cold stress for workers.

What is cold stress? Working in cold environments, indoors and outdoors, exposes workers to cold stress. In cold environments the body is forced to work harder to maintain its temperature. Cold stress occurs by driving down the skin temperature and eventually the internal body temperature. This may lead to serious health problems, cause tissue damage, and possibly death.

Some of the most serious injuries and illnesses caused by cold stress are frostbite and hypothermia. Frostbite is an injury to the body caused by freezing of the skin and underlying tissues. The lower the temperature, the quicker frostbite can occur. Frostbite typically affects the extremities of the body, including the fingers, toes, nose, ears, cheeks, chin, hands and feet. In severe cases amputation may be required. Some symptoms of frostbite are cold skin, a prickling feeling, pain in the affected areas, numbness, reddened skin that develops gray or white patches, affected area feels firm or hard, and in severe cases blisters may occur. Hypothermia occurs when the body temperature drops below 95°F and one's body heat is lost faster than it can be replaced. When a person's body temperature drops, the heart, nervous system and other organs cannot function normally. This is the most serious type of cold stress. Some symptoms of mild hypothermia are shivering, dizziness, nausea, faster breathing, increased heart rate, slight confusion, lack of coordination and fatigue. Symptoms of moderate to severe hypothermia are when the body stops shivering, confusion, slurred speech, lack of concern about one's condition, weak heart rate, slow/shallow breathing, loss of consciousness and possibly death.

How can cold stress be prevented? Employers should first implement engineering controls, apply administrative controls, and ensure the use of proper personal protective equipment.

Employers should also train workers on cold stress injuries and illnesses, how to recognize the symptoms and how to apply first aid treatment. Some examples of engineering controls for the cold are radiant heaters, shields to stop wind, and providing areas that are warm for workers to use during the work shift. Some administrative controls are scheduling limited time working in cold environments, avoiding work during extreme cold times of the day, providing warm liquids for worker consumption (not alcohol), monitoring workers for cold stress symptoms, and maintaining a means of communication for workers.

In addition, use of the proper types of clothing can reduce the effects of cold stress. This includes dressing in layered loose fitting clothing, wearing hats, using insulated gloves, wearing waterproof boots, etc.

For further information and resources on cold stress, please refer to the OSHA webpage on cold environments (https://www.osha.gov/dts/weather/winter_weather/index.html) and to the NIOSH webpage on cold stress (<http://www.cdc.gov/niosh/topics/coldstress/>).

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