



Tips For Protecting Your Workers From The Cold

Insights

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Recent temperatures in the northeast were near record lows, meaning employees working in cold temperatures could face serious health risks. Cold weather is particularly dangerous to employees spending long hours outside, such as construction workers. Prolonged exposure to freezing or cold temperatures can result in serious health problems like trench foot, frostbite, hypothermia, and in extreme cases death. With winter bearing down upon us, it is a good time to familiarize yourself and your employees with the danger signs and important tips to protect them from the cold weather and potentially serious health threats.

The Science Of Cold Weather

First, some science to help understand the dangers. An individual gains body heat from food and activity, and loses it through convection, conduction, radiation and sweating to maintain a constant body temperature. If the body temperature drops slightly below its normal temperature of 98.6°F, the blood vessels constrict, decreasing blood flow to reduce heat loss from the surface of the skin. The body shivers to generate heat by increasing the body's metabolic rate.

The environmental conditions that cause cold-related stress are low temperatures, high/cool winds, dampness and cold water. Wind chill, a combination of air temperature and speed, is critical to evaluate when working outside. For example, when the actual temperature is 40°F and the wind is at 35 mph, it feels like 11°F to exposed skin. A dangerous situation of rapid heat loss may occur for someone exposed to high winds and cold temperatures.

The Dangers Of Cold Weather

Trench foot is caused by long, continuous exposure to a wet, cold environment, including actual immersion in water. Work involving small bodies of water or working in trenches with water pose particular threats. Symptoms include a tingling and/or itching sensation, burning, pain, and swelling, sometimes forming blisters in more extreme cases.

Frostbite occurs when the skin tissue actually freezes, causing ice crystals to form between cells and draw water from them. This typically occurs at temperatures below 30°F, but wind chill can cause frostbite at above-freezing temperatures. Initially, frostbite symptoms include uncomfortable

sensations of coldness; tingling, stinging or aching feeling of the exposed area followed by numbness.

Hypothermia occurs when body temperature falls to a level where normal muscular and cerebral functions are impaired. While hypothermia is generally associated with freezing temperatures, it may occur in any climate where a person's body temperature falls below normal. The first symptoms, which begin when the individual's temperature drops more than one degree, include shivering, an inability to do complex motor functions, lethargy, and mild confusion.

How To Protect Employees

Obviously, employees should watch for the symptoms described above, including uncontrolled shivering, slurred speech, clumsy movements, fatigue and confused behavior. If the employee observes the danger signs, emergency help should be called.

There are many methods to protect your employees from the cold, including protective clothing, engineering controls, and common safe work practices. The Occupational Safety and Health Administration distributes a free "Cold Stress Card" with tips on handling cold weather. Some tips include:

- recognize environmental and workplace conditions that can be dangerous;
- learn the signs and symptoms of cold-induced illnesses/injuries and what to do to help workers;
- train workers about cold-induced illnesses and injuries;
- encourage workers to wear proper clothing for cold, wet, and windy conditions including layers so they can adjust to changing conditions;
- be sure that workers take frequent short breaks in warm dry shelters to allow the body to warm up;
- try to schedule work for the warmest part of the day;
- avoid exhaustion or fatigue because energy is needed to keep muscles warm;
- use the buddy system – work in pairs so that one worker can recognize danger signs;
- drink warm, sweet beverages (sugar water, sports-type drinks) and avoid drinks with caffeine (coffee, tea, sodas, or hot chocolate) or alcohol; and
- eat warm, high-calorie foods such as hot pasta dishes.

Free copies of OSHA's Cold Stress Card may be obtained through OSHA's [website](#) or by calling 1-800-321-OSHA. The card is available in both English and Spanish.

Remember that certain workers face increased risk because of numerous factors including age, if they are taking certain medications, if they are in poor physical condition or suffer from illnesses such as diabetes, hypertension or cardiovascular disease. Other more obvious risk factors include wearing inadequate or wet clothing, or having a cold.

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