

Cold Weather Fact Sheet

Cold-related problems can increase for employers and workers when the wind blows. Wind chill refers to the cooling effect wind has on the skin together with the temperature. As winds increase, heat is carried away from the body at a faster rate, driving down both skin temperature and eventually the internal body temperature. According to Texas Department of Health (TDH), in 2002, exposure to excessive cold resulted in 28 deaths in Texas. Hypothermia and frostbite are two cold-related conditions workers with prolonged exposure to cold weather need to take to precautions against.

Hypothermia

Hypothermia, the severe or prolonged loss of body heat, begins when a person's body temperature falls below 95 degrees. Because the temperature drop may be gradual, and an early symptom of hypothermia is mental confusion, the victim may not know a problem exists.

Some workers can be at an increased risk to hypothermia if they have predisposing health conditions such as cardiovascular disease, diabetes, and hypertension; they take certain medication; and/or they are in poor physical condition, have a poor diet, or are older.

Watch for hypothermia symptoms including:

- confusion;
- drowsiness;
- slurred speech;
- a drop in blood pressure;
- shallow breathing; and
- a pinkish tint to the skin.

Frostbite

Not only can wind chill cause rapid body heat loss, it also can cause frostbite, the freezing of body tissues. Frostbite can occur in 15 minutes or less at wind chill values of 18 below zero or lower.

Workers can be at an increased risk to frostbite because of factors such as exhaustion, hunger, and dehydration, which further lower the body's defenses against cold.

Watch for the symptoms of frostbite including:

- cold, white, and hard skin;
- pain;
- itching;
- loss of feeling in the affected area;
- colored spots or blotches on skin;
- swelling and blistering;

- skin becomes red and blotchy when warmed; and
- tissue loss, depending on the severity of the frostbite.

How to Protect Workers

Employers can take steps to reduce the potential dangers of hypothermia and frostbite:

- Train workers about cold-related conditions.
- Recognize the environmental and workplace conditions that lead to potential cold induced illnesses and injuries.
- Be extremely cautious in the wind. A strong wind, even in only moderately cool weather, can cause a wind chill far below freezing.
- Encourage workers to wear proper clothing for cold, wet, and windy conditions. Layer clothing to adjust to changing environmental temperatures. Wear underwear that will keep water away from skin (polypropylene).
- Encourage workers to wear a hat, gloves, and a “cold weather mask.” Since considerable body heat is lost through the scalp, hands, nose, cheeks, and ears, these areas need protection.
- Be sure that workers take frequent short breaks in warm dry shelters to allow 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 plenty of fluids that are warm and sweet; avoiding drinks with caffeine or alcohol.
- Eat regularly; eating warm, high-calorie foods.
- Check your skin frequently for any signs of frostbite.

If a worker shows any signs of hypothermia or frostbite get emergency help.

Wind Chill Chart

Employers and workers should always check local weather forecasts for information on temperature and wind chill. The National Weather Service has created a Wind Chill Chart, which combines the temperature and wind speed to calculate wind chill. To access the Wind Chill Chart visit www.weather.gov/om/windchill/index/shtml. An additional feature of the chart is Frostbite Time, which calculates the time it takes body tissues to freeze.

This fact sheet was produced with information from the Texas Health Department, National Weather Service, Occupational Safety and Health Administration, and Texas Workers' Compensation Commission.