

Ready for Winter?

Winter Woes

As we enter the winter season, we encounter new safety and health issues. Slips and falls are not the only hazards winter weather conditions create for workers. Working long hours, whether on the job or off, in extreme cold with low visibility are prime conditions for cold injury and accidents. Our minds may be dreaming of warmer spring weather, but we're not out of the cold yet.

Cold Injury: Signs and Symptoms

Injuries from cold exposure are divided into two types: non-freezing and freezing. Non-freezing injuries include hypothermia, chilblains, pernio, and trench/immersion foot. Frostnip and frostbite are considered freezing injuries.



Freezing Injuries

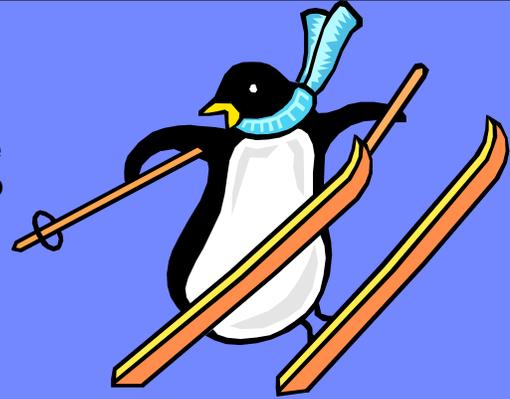


Frostnip is a mild, reversible freezing of the outer layers of skin tissue, but frostbite is an irreversible freezing in the layers of the skin and deeper tissue. The capillary walls of the frostbitten area are damaged, increasing cell wall permeability and causing local inflammation. Frostbite can be superficial or deep. An individual with superficial frostbite will experience a loss of sensation and have gray-white skin in the affected area. The skin and tissues, as well as the muscle and bone, are affected by deep frostbite. Individuals with deep frostbite will experience numbness. The affected area will be cold, hard, and white. The toes, fingers, nose, ears, and cheeks are the most common sites of freezing cold injury.

Frostnip and mild frostbite can be treated by placing the injured body part in the armpits or groin area for warmth. If there is absolutely no possibility of the tissue refreezing, the frozen tissue may be rewarmed and insulated until medical attention is received. However, caution must be used to avoid applying excessive heat to rewarm frozen tissue, since this may produce a devastating secondary burn injury. Frostbitten tissue should be warmed slowly, over a time period of 25 to 40 minutes, to avoid tissue damage. Do not rub the affected area because rubbing causes damage to the skin and tissue. When normal feeling, movement, and skin color have returned, the affected area should be dried and wrapped to keep it warm. If there is a chance the affected area may get cold again, do not warm the skin. If the skin is warmed and then becomes cold again it will cause severe tissue damage.

Non-freezing injuries

Hypothermia results when the body is unable to produce enough heat to replace the heat lost to the environment. It may occur at air temperatures up to 65 degrees or at water temperatures up to 72 degrees. Symptoms normally begin when the body temperature drops below 95 degrees. At first, individuals may shiver or stomp their feet to help generate heat. With continued exposure, they may fall into a state of dazed consciousness, unable to complete even simple motor functions. The victim's speech becomes slurred and his or her behavior may become irrational. Chiblainis involve the hands and feet. After prolonged exposure to wet cold, they will usually cause a red or purple swelling on a toe or a finger and an itchy feeling. A severe form of chiblainis, pernio is characterized by black eschars on the hands and feet and can be very painful.



While waiting for emergency personnel, only conscious individuals with mild hypothermia should be rewarmed in the workplace. Move the victim to a warm, dry area, remove any wet clothing, and wrap the person in blankets or warm him or her with a radiant heat source. Have the person drink warm, decaffeinated, non-alcoholic sweet drinks, such as sugar water or sports-type drinks, to rewarm the body and replace lost fluids. Because the body requires a large amount of fluids in cold weather dehydration is also more likely in a cold working environment.

Individuals with mild hypothermia should be encouraged to stay active and move their arms and legs to create muscle heat. If they are unable to do so, place warm bottles or hot packs in the armpits, groin, neck, and head areas. Hypothermia victims should not be rubbed or placed in a warm water bath because it may stop their hearts.

Individuals exhibiting the signs of severe hypothermia and unconscious victims are in a life-threatening situation and should be transported to a medical facility immediately.



These individuals should be handled carefully, keeping all extremities completely covered. Individuals who are exposed to cold water temperatures face an even greater danger because body heat is lost up to 25 times faster in the water. Individuals should get or be helped out of the water immediately, if possible, or climb on anything floating. Swimming only uses the body's heat and can reduce survival time by about 50 percent. The possibility of exposure to and falls into cold water must be taken into account during the emergency planning process.

Other Cold Weather Hazards

Cold weather not only brings new hazards to the workplace it also increases the likelihood of workplace accidents. Snow, ice, and reduced visibility increase the incidence of accidents in the cold. It's really hard to hold onto a tool or small piece of equipment when your hands start going numb. Workers have to be especially careful.



Cold weather also can adversely affect equipment. In addition to longer warmup periods, most equipment will become more brittle in freezing conditions. In particular, nylon slings will experience reduced capacities, which should be accounted for before

Dressing for Warmth

The principles of using a layered clothing system provide flexibility and protection when working in cold weather. Proper clothing for cold environments should include a system of insulation, layering, and ventilation. Recommend the inner layer of clothing be made of a material, such as polypropylene, that pulls moisture away from the skin to the outer layers of clothing. The middle layers of clothing should be made of materials such as wool or Thinsulate™ that provide insulation without adding significant weight that might inhibit task performance. The outer layer should repel wind and water but allow water vapor and moisture from perspiration to pass through. Fabrics such as GorTex™ are breathable.

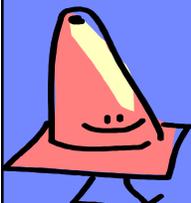
The same layering principle applies to protection of the head, hands, and feet. Facemasks will help prevent frostbite and conserve heat loss. Individuals should ensure that a complete change of clothes is available in case their clothes get wet or they sweat excessively; to ensure maximum insulation, all clothing should be kept clean.



Working Precautions

Shielding work areas from the wind and snow or providing safe heating equipment can reduce the stresses of cold weather.

When possible, schedule work during the warmest hours of the day and take frequent breaks in a heated area. The work activity level should be moderate to avoid heavy sweating that could result in wet clothing, and the individual should consider the weight and bulkiness of winter clothing in determining the work activity output.



Individuals should know proper rewarming techniques, appropriate first aid treatment, proper cold-weather apparel, eating and drinking require-

Safety Tips Snow Shoveling

Here are some Safety Tips to keep in mind while shoveling snow:

Dress in Layers -- Most people throw on a heavy coat, then quickly overheat once they've been at it a few minutes. This puts your heart under greater strain. Try wearing a shirt under a sweater under a light jacket, and strip off layers as you warm up.

Drink Water -- Most people shovel snow in the morning when they're dehydrated. Dehydration also stresses the heart, so drink a couple of glasses of water about thirty minutes before you start tossing snow.

Take it Slow -- Take a break every 5 or 10 minutes while you're working. And never let your heart rate exceed 85 percent of its maximum. To find out your maximum heart rate subtract your age from 220.

Don't Ignore Chest Pain or Tightness -- If this kind of ache strikes assume the worst and call an ambulance or have someone drive you to an emergency room.



Quick Tips

Perhaps we can all be forgiven for wanting to focus a bit on a festive holiday spirit. But, while we're doing that, let's not lose sight of some safety issues that, while important each day of the year, have a dynamic ring during this season.

- + Use only factory-assembled electrical cord sets and extension cords that are 3-wire type.
- + Visually inspect all electrical equipment before use; remove any equipment with frayed cords, missing ground prongs, cracked tool casings, etc.
- + Ground all power supply systems, electrical circuits, and electrical equipment.
- + Ensure space heaters and stoves are in good working order to reduce carbon monoxide (CO) buildup.
- + Never use a generator indoors or in enclosed or partially enclosed spaces; generators need 3-4 feet of clear space for adequate ventilation.
- + CO monitors with audible alarms should be employed whenever possible.

Tips for Safe Winter Driving

Winter driving can be hazardous and scary, especially in northern regions that get a lot of snow and ice. Additional preparations can help make a trip safer, or help motorists deal with an emergency.

The Three P's of Safe Winter Driving:

PREPARE for the trip

PROTECT yourself

PREVENT crashes on the road

PREPARE

Maintain Your Car: Check battery, tire tread, and windshield wipers, keep your windows clear, put no-freeze fluid in the washer reservoir, and check your antifreeze.

Have On Hand: flashlight, jumper cables, abrasive material (sand, kitty litter, even floor mats), shovel, snow brush and ice scraper, warning devices (like flares) and blankets. For long trips, add food and water, medication and cell phone.



Stopped or Stalled? Stay with your car, don't over exert, put bright markers on antenna or windows and shine dome light, and, if you run your car, clear exhaust pipe and run it just enough to stay warm.

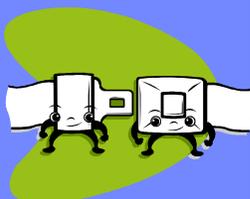
Plan Your Route: Allow plenty of time (check the weather and road conditions and leave early if necessary), be familiar with the maps/ directions, and let others know your route and arrival time.

Practice Cold Weather Driving!

- During daylight, rehearse maneuver slowly on the ice or snow in an empty lot.
- Steer into a skid. If the back of your car is skidding to the left, for example, turn the steering wheel to the left.
- Don't pump your brakes, and avoid locking them up. If your brakes lock, take your foot off the brake pedal for a moment.
- Slow down. Triple the usual distance between your car and the one ahead because stopping distances are longer on snow and ice.
- Stay in the plowed lane; avoid driving over the ridges between the plowed areas. If you must switch lanes, slow down, signal and move over slowly.
- Don't pass a snowplow or spreader unless it is absolutely necessary.
- Never use cruise control on wet, snowy, or icy pavement.
- Don't idle for a long time with the windows up or in an enclosed space.

PROTECT YOURSELF

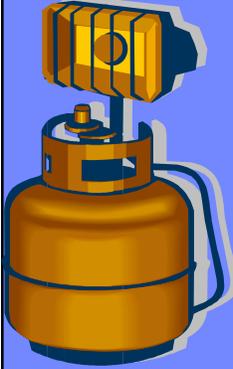
- Buckle up and use child safety seats properly.
- Never place a rear-facing infant seat in front of an air bag.
- Children 12 and under are much safer in the back seat.



PREVENT CRASHES

- Drugs and alcohol never mix with driving.
- Slow down and increase distances between cars.
- Keep your eyes open for pedestrians walking in the road.
- Avoid fatigue – Get plenty of rest before the trip, stop at least every three hours, and rotate drivers if possible.
- If you are planning to drink, designate a sober driver.





Carbon Monoxide Can Be Deadly

You can't see or smell carbon monoxide. Carbon monoxide (CO) is produced whenever any fuel such as gas, oil, kerosene, wood, or charcoal is burned. If appliances are not working properly or are used incorrectly, dangerous levels of CO can result. Hundreds of people die accidentally every year from CO poisoning caused by malfunctioning or improperly used fuel-burning appliances. Even more die from CO produced by idling cars.

CO Poisoning Symptoms

- ◆ Severe carbon monoxide causes neurological damage, illness, coma and death.
- ◆ Moderate levels causes severe headaches, dizziness, confusion, nauseated, or faint.
- ◆ Low levels cause shortness of breath, mild nausea, and mild headaches.
- ◆ Symptoms are similar to those of the flu, food poisoning, or other illnesses.

Prevention is the Key to Avoiding Carbon Monoxide Poisoning

- ◆ DO have your fuel-burning appliances inspected by a trained professional.
- ◆ DO choose appliances that vent their fumes to the outside whenever possible.
- ◆ DO read and follow all of the instructions that accompany any fuel-burning device.
- ◆ DON'T idle the car in a garage.
- ◆ DON'T use a gas oven or charcoal grill to heat your home.
- ◆ DON'T sleep in any room with an unvented gas or kerosene space heater.
- ◆ DON'T use any gasoline-powered engines in enclosed spaces.
- ◆ DON'T ignore symptoms, particularly if more than one person is feeling them. You could lose consciousness and die if you do nothing.

