

# Cold Weather Injury Prevention

With the onset of cold weather, workers must take the necessary precautions to prevent and treat cold-related injuries. Employees that commonly work outdoors, such as construction, agricultural, maritime, or utility workers, are among the most vulnerable for cold-related injuries. Prolonged exposure to freezing or cold temperatures may cause serious injuries such as trench foot, frostbite, and hypothermia. In extreme cases, including cold water immersion, exposure can lead to death. It is important for all employees to understand the warning signs of cold-related injuries and the means to prevent injury.

Under cold conditions, blood vessels in the skin, arms, and legs constrict, decreasing blood flow to extremities. This minimizes cooling of the blood and keeps critical internal organs warm. At prolonged and/or very low temperatures, reducing blood flow to the extremities can result in lower skin temperature. When the body is unable to warm itself, serious cold-related injuries may occur.

Cold is a physical hazard that is a common exposure for many workers and cold-related injuries are almost always preventable if the appropriate precautions are taken. Injuries that occur from cold can range from uncomfortable to life threatening. Know what can happen.

INJURY	SEVERITY	DESCRIPTION
Chilblain	Painful injury	Skin becomes tender, red, swollen
Trench foot	Serious injury	Extremities becomes numb, with swelling, tingling, itching; may lead to loss of skin or skin ulcers; amputation potential
Frostbite	Serious injury	Deep layers of skin freeze, causing sharp, prickly sensation, often with skin discoloration; severe cases include skin peeling and/or loss of a body part
Hypothermia	Life threatening	Body core drops below 95°F, can lead to irregular pulse, unconsciousness, and death

## Hypothermia Symptoms

- Numbness, stiffness, drowsiness, poor coordination
- Slow or irregular breathing and heart rate
- Slurred speech
- Cool skin, puffiness in the face
- Shivering with teeth chattering
- Victim feels cold and has pain in extremities
- May lead to confusion, disorientation, memory loss
- If not treated immediately, can cause death

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Hypothermia can occur when air temperatures are above freezing, especially if brisk winds are present and/or clothing has become damp from work or adverse weather. Workers are at higher risk from cold exposure if they are not acclimatized to the cold, are not physically fit, have a chronic illness that affects the heart or blood vessels (i.e. heart disease, asthma, bronchitis, diabetes), are fatigued, and/or do not wear the appropriate clothing.

### **A Healthy Body Is Less Susceptible**

- Use moisturizing lotions, lip balm
- Stay in peak physical shape
- Stay active to produce more heat
- Eat warm, high-calorie foods such as hot pasta and soups
- Drink warm, sweet beverages (i.e. hot chocolate or sports drinks); the sugar helps the body generate additional heat
- Avoid dehydration, drink plenty of water
- Avoid alcohol, caffeine, tobacco
- Keep extremities dry

### **Dress Properly**

Proper dress will keep you warm and dry. Wet clothes increase heat loss. The best clothing has good ventilation so moisture can escape.

- Dress in layers
- Wear a liner in your hardhat
- Keep clothes dry
- Wear water resistant boots
- Wear synthetic fabrics such as polypropylene next to the skin
- Wear outer windproof layer
- Avoid tight-fitting footwear
- Wear mittens with liners if possible
- Change socks frequently

### **Get Out Of The Cold**

- Allow rest and warm-up breaks
- Use warming devices, if available
- Try to schedule work for the warmest part of the day
- Work in pairs (buddy system) to help workers recognize danger signs
- Work in a shelter, when possible
- Work with your back to the wind

### **Training**

Before being assigned to work in extreme cold, workers should be trained in the following:

- Signs and symptoms of cold-related injuries
- Appropriate first aid treatment and re-warming procedures
- Proper clothing and equipment
- Safe work practices
- Guidelines for breaks, eating, and drinking
- Risk factors that increase the health effects of cold exposure

If you maintain good physical health, eat and drink properly, wear appropriate clothing, and minimize time spent in the cold, you are more likely to stay safe and avoid injury.

For more information, contact your local Hartford agent or your Hartford Loss Control Consultant. Visit The Hartford's Loss Control web site at <http://www.thehartford.com/corporate/losscontrol/>

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