

Safety Short

COLD WEATHER CONDITIONS

Whether you work indoors or out, exposure to the cold can cause serious health problems. As temperatures decrease, your risk of developing cold-related illnesses increases. Most often, cold-related illnesses are preventable conditions. However, they can have significant consequences, including death, if left untreated. Some risk factors that may increase the risk of a cold injury include heart disease, asthma/bronchitis, and diabetes. The best protection against cold-related health risks is to be aware and be prepared. Workers should recognize the signs and symptoms of overexposure in themselves and others.

How to Prevent Cold Exposures

Work Factors:

- Ensure that workers understand the risks of cold exposure.
- Ensure that workers are medically fit to work in the cold environment.
- Nutrition is important! Discourage coffee, encourage warm sweet drinks and soups, and make high-caloric foods available.
- Do shift rotations by having additional employees available to relieve workers who are working in the cold.
- Provide hot drinks and regular breaks under extremely cold conditions.

Clothing:

- Wear several layers of clothing, making use of air trapped in the layers as an insulating factor.
- Synthetic fabrics worn next to the skin wick away sweat.
- If the environment is wet and cold, ensure the outer layer of clothing is waterproof or water-resistant.
- Have a change of clothing readily available.
- 40 % of body heat is lost through the head. Encourage the use of hats or hoods to prevent heat loss from the head.
- Footwear should be large enough to allow the wearing of one or two pairs of socks.
- If workers get hot while working in a cold environment, they should open their jackets, but keep their hats and gloves on.

Training:

Prior to working in an extremely cold environment, train the workers on:

- Proper clothing and equipment.
- Safe work practices.
- Guidelines for eating and drinking.
- Risk factors that increase the health effects of cold exposure.
- How to recognize signs and symptoms of frostbite and hypothermia.
- Appropriate first aid treatment, including rewarming procedures.



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Major Disorders Related to Cold Exposure

Hypothermia: occurs when the body cannot maintain its core body temperature. Hypothermia can occur from exposure to cold weather and from exposure to cool temperatures (above 40°F) if a person becomes chilled from rain, sweat, or submersion in cold water. Any worker shivering severely should come in out of the cold.

Frostbite: occurs when body parts are frozen due to exposure to severe cold or by contact with extremely cold objects. Pain in the extremities may be the first warning sign. It most often affects the nose, ears, cheeks, chin, fingers, and toes. Frostbite can cause permanent damage, and the most severe cases can result in amputation. Frostbite occurs more often from touching cold metal objects than from exposure to cold air. Heat is rapidly transferred from skin to metal.

Hypothermia

Early Symptoms of Hypothermia include:

- Shivering
- Blue lips and fingers
- Poor coordination

Symptoms of Moderate Hypothermia include:

- Mental impairment
- Confusion
- Poor decision-making
- Disorientation
- Inability to take precautions from the cold
- Heart slowdown
- Slow breathing

Symptoms of Severe Hypothermia include:

- Unconsciousness
- Difficult to locate pulse
- No shivering
- No detectable breathing

First-Aid for Hypothermia

1. Carefully remove victim to shelter.
2. Keep victim awake.
3. Remove wet clothing and wrap victim in warm covers.
4. Rewarm neck, chest, abdomen, and groin – but not extremities.
5. Apply direct body heat or use safe heating devices.
6. Give warm, sweet drinks, but only if victim is conscious.
7. Monitor breathing. Administer artificial respiration if necessary.
8. Call 911.

Frostbite

Symptoms of Frostbite include:

- Redness or pain in any skin area.
- White or grayish-yellow skin area.
- Skin that feels unusually firm or waxy.
- Numbness.

Severe frostbite results in blistering that usually takes about ten days to subside. Once damaged, tissues will always be more susceptible to frostbite.

First-Aid for Frostbite

1. Move into a warm room as soon as possible.
2. Warm frostbitten area gradually with body heat. *Do not rush.*
3. Do not walk on frostbitten feet or toes. This increases damage.
4. Do not rub the frostbitten area with snow or massage it at all.
5. Don't use a heating pad, heat lamp, or the heat of a stove, fireplace, or radiator for warming. Areas can be burned.
6. Get medical attention.

