

Working in the Cold



Employers should:



- Choose equipment with thermal insulating materials and tools that can be operated with gloves.
- Survey and monitor the temperature.



- Use a buddy system to watch for symptoms in others.
- Adjust the pace or rate of work (not too low that a person becomes cold, nor too high and cause heavy sweating or wet clothing).



- Train managers, supervisors and workers on symptoms, safe work practices, re-warming procedures, proper clothing practices, and what to do in case of cold injury.



- Clearly outline emergency procedures, with at least one trained person available at all times.

- Allow time for new workers to become accustomed to the conditions.
- Provide or make sure that protective clothing is worn at or below 4°C, including layers of warm clothing, with an outer layer that is wind-resistant, a hat, mittens or insulated gloves, a scarf, neck tube or face mask, and insulated, waterproof footwear.



Workers need to maintain a core body temperature of **+37°C (+98.6°F)** for normal body functioning as well as to provide energy for activity.

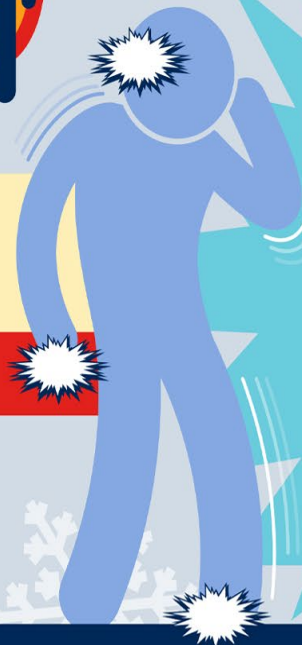
The **toes, fingers, ears and nose** are at greatest risk because they do not have major muscles to produce heat. **Mental alertness** is also reduced.

- **Chilblain** - redness, swelling, tingling and pain
- **Frostnip** - caused when top layers of skin freeze, turning white, numb and hard, but deeper tissue feels normal
- **Frostbite** - occurs when tissue temperature falls below the freezing point or when blood flow is obstructed; symptoms include inflammation of the skin in patches and slight pain



In severe cases, there could be tissue damage without pain, or burning or prickling sensations that result in blisters.

- **Immersion foot/Trenchfoot** - caused by prolonged wet or cold feet; symptoms include tingling, numbness, itching, pain, swelling, and blisters



Hypothermia is the most severe cold injury. The excessive loss of body heat can be fatal. Warning signs can include **nausea, fatigue, dizziness, irritability or euphoria, pain in the extremities** (hands, feet, ears) and **severe shivering**. Move workers to a heated shelter and seek medical advice when appropriate.



What the law says

Some jurisdictions provide a range of acceptable temperatures (http://bit.ly/cold_legislation) for specific circumstances. Others use the Threshold Limit Values⁹ for cold stress published by the American Conference of Governmental Industrial Hygienists (ACGIH) as occupational exposure limits or guidelines.

Where there are no maximum exposure limits for cold working environments, there are guidelines that can be used to conduct work/task assessments, create safe work plans, and monitor conditions.