

Topic: Cold Stress

The Cold Facts about Hypothermia and Frostbite

When you work in extreme cold environments, being cold isn't just physically uncomfortable; it's dangerous. Protect yourself by learning the signs of hypothermia and frostbite and how to reduce your risks of experiencing either.

Hypothermia

When your body is exposed to cold temperatures, it begins to lose heat faster than the body can produce it, so it turns to stored energy. Eventually, this stored energy gets used up, resulting in hypothermia. When the body temperature is too low, the brain can't function properly, making it difficult to think or move properly. It's a dangerous situation that you need to recognize and treat quickly. Symptoms include:

- uncontrolled shivering,
- slurred speech,
- fatigue,
- loss of coordination, and
- confusion.

At the first sign of these early symptoms of hypothermia:

- Move the victim into a warm place.
- Remove any wet clothing.
- Warm the center of the body—the chest, neck, head and groin—using either an electric blanket or through skin-to-skin contact under layers of blankets or towels.
- If the person is conscious, offer warm, non-alcoholic beverages to help increase the body temperature.

If the victim is not shivering, has blue skin and dilated pupils, he is in the late stages of hypothermia and requires emergency medical treatment. If there isn't a pulse, begin CPR.

Frostbite

Frostbite is an injury caused by freezing of the skin and underlying tissues. Initial symptoms of frostbite include cold skin and a prickling feeling. As frostbite progresses, the symptoms include:

- numbness,
- red, white, bluish or grayish skin,
- hard or waxy-looking skin, and
- muscle and joint stiffness, causing clumsiness.

To treat frostbite:

- Get the victim to a dry, warm shelter and remove wet clothes.
- Gently soak frostbitten areas in warm, but not hot, water. Do not use direct heat as it can burn frostbitten skin.

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- Do not rub snow on frostbitten skin and, to avoid further tissue damage, do not walk on frostbitten feet or toes.

How to protect yourself

Here are some ways you can help your body maintain its temperature when you're working in a cold environment.

- Wear layers of loose-fitting clothing, including waterproof boots and a hat. Avoid clothing made of cotton, especially next to the skin, as it will extract heat out of the body once it gets wet.
- Drink warm, sweet beverages. Avoid caffeine and alcohol, as these ingredients restrict blood vessels and impede the body's ability to heat itself.
- Eat warm, high-calorie foods.
- Stay well-rested to ensure the body has enough energy to keep itself warm.

Conclusion

Injuries or illness incurred when working in cold environments can have long-term effects and are potentially fatal. The best protection is to dress properly, eat properly and keep an eye on each other.

Quiz

1. Uncontrolled shivering is a symptom of frostbite.
True or False
2. A cup of strong coffee, with a splash of alcohol, will quickly warm up the body.
True or False
3. Cotton clothing should not be worn next to the skin, as it will rob the body of heat if the clothing gets wet.
True or False
4. At the first signs of hypothermia, you should warm the victim's extremities, namely the hands and feet.
True or False
5. Hard or waxy-looking skin is an early symptom of:
 - a. Hypothermia.
 - b. Frostbite.
 - c. Both of the above.
 - d. Neither of the above.

Answers:

1 False, 2 False, 3 True, 4 False, 5b