

EXTREME COLD

Hypothermia and Frostbite

Hypothermia

When exposed to cold temperatures, your body begins to lose heat faster than it can be produced. Prolonged exposure to cold will eventually use up your body's stored energy. The result is hypothermia, or abnormally low body temperature. Body temperature that is too low affects the brain, making the victim unable to think clearly or move well. This makes hypothermia particularly dangerous as a victim might not know it is happening and won't be able to do anything about it.

Hypothermia is most likely to occur at very cold temperatures, but it can even occur at cool temperatures (above 40°F) if a person becomes chilled from rain, sweat, or submersion in cold water.

Victims of hypothermia are often (1) elderly people with inadequate food, clothing or heat; (2) babies sleeping in cold bedrooms; (3) people who remain outdoors for long periods – the homeless, hikers, hunters, etc.; and (4) people who drink alcohol or use illicit drugs.

Recognizing Hypothermia

Warning signs of hypothermia:

Adults:

- ✓ Shivering, exhaustion
- ✓ Confusion, fumbling hands
- ✓ Memory loss, slurred speech
- ✓ drowsiness

Infants:

- ✓ Bright red, cold skin
- ✓ Very low energy

What to do

If you notice any of these signs, take the person's temperature. If it is below 95°, the situation is an emergency – get medical attention immediately.

If medical care is not available, begin warming the person as follows:

- ✓ Get the victim into a warm room or shelter
- ✓ If the victim has wet clothing on, remove it
- ✓ Warm the center of the body first – chest, neck, head and groin – using a blanket or body to body contact under loose, dry layers of clothes, blankets, etc.
- ✓ Warm beverages can help increase body temperature but do not give alcoholic beverages.
- ✓ After body temperatures has increased, keep the person dry and wrapped in a warm blanket, including the head and neck. Get medical attention as soon as possible.

A person with severe hypothermia may be unconscious and may seem to have a pulse or be breathing. In this case, handle the victim gently, and get emergency assistance immediately. Even if the victim appears dead, CPR should be provided. CPR should continue while the victim is being warmed, until the victim responds or medical aid become available. In some cases, hypothermia victims who appear to be dead can be successfully resuscitated.

FROSTBITE

Frostbite is an injury to the body that is caused by freezing. Frostbite causes a loss of feeling and color in affected areas. It most often affects the ears, nose, cheeks, chin, fingers, or toes. Frostbite can permanently damage the body, and sever cases can lead to amputation. The risk of frostbite is increased in people with reduced blood circulation and among people who are not dressed properly for extremely cold temperatures.

Recognizing Frostbite

At the first signs of redness or pain in any skin area, get out of the cold or protect any exposed skin – frostbite may be beginning. Any of the following may indicate frostbite: a white or grayish – yellow skin area, skin that feels unusually firm or waxy and numbness.

What to do

If you detect symptoms of frostbite, seek medical care. Because frostbite and hypothermia both result from exposure, first determine whether the victim also shows signs of hypothermia. Hypothermia is more serious and requires emergency medical attention.

If (1) there is frostbite but no sign of hypothermia and (2) immediate medical care is not available, proceed as follows:

- Get into a warm room as soon as possible
- Unless absolutely necessary, do not walk on frostbitten feet or toes
 - Immerse affected area in warm water – not hot- water
 - Do not rub the frostbitten area with snow or massage it all.
- Don't use a heating pad, heat lamp, or the heat of a fire, stove or radiator. Affected areas are numb and can be burned.
 - Seek medical attention as soon as possible.

In both cases, always seek medical attention. If you're on campus call EMU Public Safety at 911 from a campus phone or 734.487.1222 from a cell phone for assistance.

Adapted from U.S. Department of Health and Human Services Centers for Disease Control and Prevention: Extreme Cold, A Prevention Guide to promote Your Personal Health and Safety, 2010.

The content of this document were created by Robert Morford, EMU Emergency Management, and does not necessarily represent the policies of Eastern Michigan University and its partners.