



Macomb Township Fire Department

Cold Weather Injuries

Fire and Life Safety Tips

December 2010

Serious health problems can result from prolonged exposure to the cold. The most common cold-related problems are 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 because a person may not know it is happening and won't be able to do anything about it. Hypothermia is most likely at very cold temperatures, but it can occur even at cool temperatures (above 40°F) if a person becomes chilled from rain, sweat, or submersion in cold water.

- **Definition**

- **Hypothermia** is a condition in which core temperature drops below that required for normal metabolism and body functions which is defined as 35.0 °C (95.0 °F). Body temperature is usually maintained near a constant level of 36.5–37.5 °C (98–100 °F) through biologic homeostasis or thermoregulation. If exposed to cold and the internal mechanisms are unable to replenish the heat that is being lost, a drop in core temperature occurs. As body temperature decreases, characteristic symptoms occur as noted below.

- **Recognizing Hypothermia**

Warnings signs of hypothermia:

- **Adults:**
 - Shivering, exhaustion
 - Confusion, fumbling hands
 - Memory loss, slurred speech
 - Drowsiness
- **Infants:**
 - Bright red, cold skin
 - Very low energy

- **Treatment**

This treatment may be as simple as just warming the person up. This warming up may just require an additional layer of clothing, a hot drink or maybe a fire. In more advance cases, other steps may have to be taken.

Advanced treatment may require:

- Undressing the victim and place them in a sleeping bag with another individual, cuddle and use body heat to assist in warming the victim. (Some disagree on this step, but I believe the additional body heat can help).
- Finding shelter in a warm building.
- Give the victim warm fluids and, if possible, increase sugar intake—but only if the victim is conscious.
- Avoid alcohol! Alcohol causes vasodilatation (increase in surface blood flow), which leads to increased heat loss.
- Call 911 or Seek medical treatment immediately if it is possible in your situation.

- **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 nose, ears, cheeks, chin, fingers, or toes. Frostbite can permanently damage the body, and severe 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.

- **Definition**

- **Frostbite** (*congelatio* in medical terminology) is the medical condition where localized damage is caused to skin and other tissues due to extreme cold. Frostbite is most likely to happen in body parts farthest from the heart and those with large exposed areas. The initial stages of frostbite are sometimes called "frostnip".

- **Recognizing Hypothermia**

- 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 signs may indicate frostbite:
 - a white or grayish-yellow skin area
 - skin that feels unusually firm or waxy
 - numbness
- A victim is often unaware of frostbite until someone else points it out because the frozen tissues are numb.

- **Treatment**

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—this increases the damage.
- Immerse the affected area in warm—not hot—water (the temperature should be comfortable to the touch for unaffected parts of the body).
- Or, warm the affected area using body heat. For example, the heat of an armpit can be used to warm frostbitten fingers.
- Do not rub the frostbitten area with snow or massage it at all. This can cause more damage.
- Don't use a heating pad, heat lamp, or the heat of a stove, fireplace, or radiator for warming. Affected areas are numb and can be easily burned.

Seek immediate medical care or call 911 for any person who is believed to have Hypothermia and / or Frostbite. Try to keep the person warm and dry, preferably indoors or at least out of the wind, until help arrives.

References



The Mountain Ambulance Service (MAS)tm

Call Sign - Rescue 70
PO Box 85
Mountain, Wi 54149



http://en.wikipedia.org/wiki/Main_Page