



Frostbite & Hypothermia

Frostbite freezes the skin. It can damage tissue below the skin, too. Most often, frostbite affects the toes, fingers, earlobes, chin, and tip of the nose.

Hypothermia is when body temperature drops below 96°F. The body loses more heat than it can make. This usually occurs from staying in a cold place for a long time.

For Frostbite and Frostnip	
Signs & Symptoms <ul style="list-style-type: none">■ Cold, numb skin swells and feels hard and solid.■ Loss of function. Absence of pain.■ Skin color changes from white to red to purple. Blisters occur.■ Slurred speech.■ Confusion.	<p>Frostnip is a less serious problem. The skin turns white or pale and feels cold, but the skin does not feel hard and solid.</p> <p>Causes</p> <p>When temperatures drop below freezing, frostbite and frostnip can occur. Both can set in very slowly or very quickly. This will depend on how long the skin is exposed to the cold and how cold and windy it is.</p>

For Hypothermia	
Signs & Symptoms <p>With <i>mild hypothermia</i>, symptoms include: Shivering; slurred speech; memory lapses; and the abdomen and back feel cold.</p> <p>With <i>moderate hypothermia</i>, shivering stops, but the skin feels ice cold and looks blue. The person may act confused, drowsy, very cranky, and/or stuporous. Muscles may be rigid and stiff. Pulse rate and breathing slow down.</p> <p>With <i>severe hypothermia</i>, the person has dilated pupils, no response to pain, and loses consciousness. The person appears to be dead. Death occurs in half or more of persons with severe hypothermia.</p>	Causes <ul style="list-style-type: none">■ Exposure to cold temperatures (wet or dry). Many factors increase the risk. Examples are: Wet clothing or lying on a cold surface; circulation problems; diabetes; and old age. The elderly are more prone to hypothermia if they live in a poorly heated home and do not dress warm enough.■ Immersion. This can be from 6 hours or less of exposure to cold water immersion. It can also be from water immersion or exposure on land to cold, wet weather near freezing for up to 24 hours.■ Shock. (See at www.HealthyLearn.com.)



Treatment

Self-care measures can treat frostnip. Prompt emergency medical care is needed for frostbite to keep the area affected from getting infected and to prevent the loss of a limb. Hypothermia needs emergency medical care.

Wind Chill Temperature

As the wind increases, the body is cooled at a faster rate. This causes the skin temperature to drop. Wind chill temperature combines outdoor air temperature and wind speed to give a temperature of what it “feels like” on the skin. The National Weather Service has a “Wind Chill Chart” that shows temperatures, wind speeds, and exposure times that cause frostbite. To get this, access www.nws.noaa.gov/om/windchill.

Frostbite & Hypothermia, Continued

Questions to Ask

Do any of these problems occur?

- No breathing. {**Note:** Give **Rescue Breaths** or **CPR**, as needed. See at www.HealthyLearn.com.}
- Pale or blue colored skin, lips, and/or nailbeds.
- Loss of or decreasing level of consciousness. Fainting.
- Body temperature is less than 95°F.
- Rigid and stiff muscles.
- Mental confusion. Feeling drowsy.
- Slow pulse. Problems breathing.
- Stumbling. Lack of coordination.
- **Signs and symptoms of frostbite.** (See on previous page.)



NO

With a low body temperature, did the person have a recent infection and now has **signs of sepsis** (lethargy, chills, vomiting, looks sick, and delirium)?



NO

Have any of these persons had prolonged exposure to the cold?

- Elderly persons.
- Persons with a history of alcoholism or drug abuse.
- Persons whose immune systems are depressed due to disease and/or medication.



NO

After being warmed, does the person continue to shiver? Or, does his or her body temperature not return to normal after 4 hours of warming?



NO



{**Note:** Continue to look for symptoms. The damage from exposure to the cold may not be noted for 72 hours.}

See Self-Care / First Aid on next page



Frostbite & Hypothermia, Continued

Self-Care / First Aid

First Aid for Frostbite and Hypothermia Before Emergency Care

- Gently move the person to a warm place and **Call 9-1-1!**
- Check for a response. (See Step 2 at www.HealthyLearn.com.) Give **Rescue Breaths** or **CPR** (see at www.HealthyLearn.com), as needed.
- Loosen or remove wet and/or tight clothing. Remove jewelry.
- Don't rub the area with snow or soak it in cold water.
- Warm the affected area by soaking it in a tub of warm water (101°F to 104°F) and an antiseptic solution, such as Betadine.
- Stop when the affected area becomes red, not when sensation returns. This should take about 45 minutes. If done too fast, thawing can be painful and blisters may develop.
- If warm water is not available, cover the person with blankets, coats, etc., or place the frostbitten body part in a warm body area, such as an armpit or on the abdomen (human heat) or use a blow dryer, if available.
- Keep exposed areas elevated, but protected.
- Don't rub or massage a frostbitten area.
- Protect the exposed area from the cold. It is more sensitive to re-injury.
- Don't break blisters.

First Aid for Frostnip

- Warm the affected area. This can be done a number of ways:
 - Place cold fingers in armpits.
 - Place cold feet onto another person's warm stomach.
 - Put the affected area in warm water (101°F to 102°F).

After warming the area, the skin may be red and tingling. If it is not treated, frostnip can lead to frostbite.

- Protect the exposed area from the cold. It is more sensitive to re-injury.

Prevention

To Prevent Frostbite and Outdoor Hypothermia

- Stay indoors, as much as possible, when it is very cold and windy.
- Wear clothing made of wool or polypropylene. These fabrics stay warm even when wet. Layer clothing. Wear 2 or 3 pairs of socks instead of 1 heavy pair. Wear roomy shoes. Do not wear items that constrict the hands, wrists, or feet.
- Wear a hat that keeps your head and ears warm. A major source of heat loss is through the head.



Wear outerwear that is windproof and waterproof.