



Extreme Cold

Extreme cold occurs when temperatures drop significantly below average for that time of the year. Exposure to cold temperatures, whether indoors or outside, can cause other serious or life-threatening health problems. To keep yourself and your family safe, you should know how to prevent cold-related health problems and what to do if a cold-weather health emergency arises.

What is wind chill?

The wind chill index is used to describe the temperature the body feels when the temperature of the air is combined with the wind. It represents the feeling of cold on our skin. Wind chill is based on the rate of heat loss from the skin caused by cold and wind. It is important to note that when the wind speed increases, heat is removed from the body quickly.

Those at risk

During extreme cold weather, everyone is at risk, but some groups are more vulnerable than others. They include:

- Homeless people
- Outdoor workers
- Sport enthusiasts (skiers, ice skaters)
- People living in homes that are poorly insulated or without heat
- People living in homes without power (usually due to other weather-related events such as a winter storm)
- Children and infants (under 1 year). Infants lose body heat more easily than adults & unlike adults can't

make enough body heat by shivering.¹

- People 65 years of age or older → Older adults often make less heat because of a slower metabolism & less physical activity.¹

Assisting those in need

When it is safe to do so, you can:

- Visit, telephone or check in on them regularly.
- Ensure they have warm clothing, basic necessities and a safe means to stay warm.
- Take them to warm locations such as local libraries or shopping malls.

Outdoor safety

Playing outdoors should be enjoyed all through the year. There are plenty of outdoor winter activities that will have you breathing crisp fresh air. However, precautions need to be taken.

You can avoid cold-related injury by following these cold weather safety tips:

- Cover exposed skin (exposed skin can become frostbitten in 30 seconds).
- Wear a hat (up to 40% of body heat loss can occur through the head).
- Wear gloves or mittens and a scarf to protect the chin, lips and cheeks.
- Keep children indoors if the temperature falls below -25°C, or if

the wind chill is -28°C or greater. (Canadian Paediatric Society)

- Drink warm fluids – but NOT caffeinated or alcoholised beverages as they cause your body to lose heat more rapidly.
- If you start to sweat, cool off a little (wet clothes can freeze).
- Wear clothes in layers: inner layer, middle layer and outer layer.
- Keep moving. Limit time sitting – stand up and move around.
- Take shelter from the wind – this can reduce wind chill exposure.
- Always be alert for signs of frostbite and hypothermia.
- Plan ahead – listen to the weather forecast.

Health affects of extreme cold exposure

Frostnip – mild form of frostbite where only the skin freezes.² Symptoms include:

- Skin appears yellowish or white
- Skin feels soft to the touch
- Experience a painful tingling or burning sensation

If you think there has been frostnip, warm the area gradually using a warm hand or warm heat. Do not rub the area and avoid using direct heat which can burn the skin. Once the area is warm do not re-expose it to the cold.

Frostbite – most commonly affects the hands, legs, and fingers and can lead to serious health complications. If

¹ Centre for Disease Control, "Extreme Cold – A Prevention Guide to Promote Your Personal Health and Safety", PG 6

²Environment Canada, "Wind Chill-The Chilling Facts," PG 3

you experience any of the symptoms listed below, **seek medical attention immediately** for frostbite.

- Pale grey, waxy textured skin in affected area (cold to the touch)
- Numbness and localized pain
- Swelling and blistering

If you think frostbite has set in, do not rub or massage the affected area; that can cause more damage. Warm up the area slowly with warm compresses or use your own body to re-warm the area (e.g. use your underarms to warm the hand of the opposite limb). If toes or feet are frostbitten, try not to walk on them.

Hypothermia – occurs when the body's normal temperature becomes too low (less than 35°C). If you experience any of the following symptoms, **seek medical attention immediately**:

- Shivering, confusion, weakness
- Mumbling, stumbling, and/or fumbling
- Pale skin colour (for infants, look for cold reddish skin and low energy)
- Symptoms may be subtle in older persons

If you suspect that hypothermia has set in, gently remove wet clothing and get the person to a warm place as soon as possible. Use several layers of blankets and warm the person gradually. If the person is alert, give warm beverages – do not give alcohol.

Winter asthma

During the winter season, there are a few reasons asthma may be triggered. There's an increased chance for respiratory infections and the air may be cold and dry.

However some advance planning can help:

- Wash hands often to stop the spread of germs.
- Wear a scarf loosely over the mouth and nose.
- Breathe through the nose when outdoors. This helps warm and humidify the air before it reaches the lungs.
- Keep rescue inhalers close by and in a warm place.
- Use controller medication consistently; follow your asthma action plan.
- If symptoms become more frequent or longer lasting than usual, see your physician to adjust your asthma management accordingly.

For more information

To speak with a public health professional or for more information call Your Health Connection at 721-7520 (1-877-721-750) or visit the following websites:

Simcoe Muskoka District Health Unit

www.simcoemuskokahealth.org

Centres for Disease Control

www.cdc.gov

Environment Canada

<http://www.ec.gc.ca/>