



## Staying Warm and Safe in Canadian Winters

Winter does not just bring snow and cold temperatures, it also brings enjoyable winter activities such as skiing, ice skating, snowmobiling, sledding, ice fishing, and snowshoeing. While these activities create lasting winter memories, they also have the potential to cause injury.

It is important for everyone enjoying the outdoors to know how to recognize when someone has been exposed to cold for too long, prevent cold-related emergencies, and be able to provide help when needed.

### Prevention

- Cover your head and trunk by wearing a hat and layers of tightly woven fabrics such as wool or synthetics.
- Cover up exposed areas such as your fingers, cheeks, ears, and nose.
- If your clothes get wet when you are in the cold, change into dry clothes as soon as possible.
- Drink plenty of warm fluids to help your body stay warm, but avoid caffeine and alcohol.

### Recognizing when someone is suffering from a cold-related emergency

When a person is exposed to cold temperatures it may result in a decrease in body temperature, which is called a **cold-related emergency**. Hypothermia, one type of emergency, can happen to anyone who is exposed to cold temperatures for too long, and it can be life threatening.

**Mild hypothermia**—Shivering and complaining of cold, numbness in fingers and toes, body temperature slightly below normal.

**Moderate hypothermia**—Shivering, numbness in fingers and toes, lack of coordination and/or speech, confused or unusual behaviour, impaired judgment.

**Severe**—Person has stopped shivering and complaining of cold, lack of coordination and/or speech, confused or unusual behaviour, impaired judgment, glassy stare, body temperature below 30°C, breathing has slowed down or stopped, possible unconsciousness.

### Frostbite

Frostbite is a serious condition in which body tissues freeze. It happens most often in the fingers, toes, ears, and nose. It often starts as skin that is paler than usual and then progresses to a white waxy appearance.

### How to help

- Call EMS/9-1-1 for severe hypothermia.
- Treat the person gently and monitor breathing carefully.
- Get the person away from the cold and into shelter.
- Remove any wet clothing and gently dry the person.
- Warm the person by wrapping him or her in blankets or putting on dry clothing. Cover the head and neck. Warm the person slowly.
- If hot water bottles or heating pads are available put them under armpits, around the groin and back of the neck being careful not to burn these areas.
- Do not rub areas that appear to be affected by frostbite.
- If the person is alert, give him or her sips of warm liquids to drink.
- Active re-warming such as hot baths should be used only when the person is far from a medical facility.

### Outdoor temperatures and wind chill readings

Wind chill is a term used by weather forecasters to tell us how much colder the wind makes unprotected skin feel. Wind doesn't change the temperature outside, but it affects our skin temperature. A person will feel it's colder because the wind steals body heat by blowing away the warm air that surrounds the skin.



## Wind Chill Hazards and Risk of Frostbite

Wind chill	Risk of frostbite	Health concern	What to do
0 to -9°C	Low	<ul style="list-style-type: none"> <li>Slight increase in discomfort.</li> </ul>	<ul style="list-style-type: none"> <li>Dress warmly, with the outside temperature in mind.</li> </ul>
-10 to -27°C	Low	<ul style="list-style-type: none"> <li>Uncomfortable.</li> <li>Risk of hypothermia if outside for long periods without adequate protection.</li> </ul>	<ul style="list-style-type: none"> <li>Dress in layers of warm clothing, with an outer layer that is wind-resistant.</li> <li>Wear a hat, mittens, and scarf.</li> <li>Keep active.</li> </ul>
-28 to -39°C	Increasing risk: exposed skin can freeze in 10 to 30 minutes	<ul style="list-style-type: none"> <li>Check face and extremities (fingers, toes, ears, and nose) for numbness or whiteness.</li> <li>Risk of hypothermia if outside for long periods without adequate protection.</li> </ul>	<ul style="list-style-type: none"> <li>Dress in layers of warm clothing, with an outer layer that is wind-resistant.</li> <li>Cover exposed skin: wear a hat, mittens and a scarf, neck tube or face mask.</li> <li>Keep active.</li> </ul>
-40 to -47°C	High risk: exposed skin can freeze in 5 to 10 minutes*	<ul style="list-style-type: none"> <li>Check face and extremities (fingers, toes, ears, and nose) for numbness or whiteness (frostbite).</li> <li>Risk of hypothermia if outside for long periods without adequate protection.</li> </ul>	<ul style="list-style-type: none"> <li>Dress in layers of warm clothing, with an outer layer that is wind-resistant.</li> <li>Cover all exposed skin: wear a hat, mittens and a scarf, neck tube or face mask.</li> <li>Keep active.</li> </ul>
<b>WARNING LEVEL*</b> -48 to -54°C	High risk: exposed skin can freeze in 2 to 5 minutes*	<ul style="list-style-type: none"> <li>Check face and extremities for numbness or whiteness (frostbite).</li> <li>Serious risk of hypothermia if outside for long periods.</li> </ul>	<ul style="list-style-type: none"> <li>Be careful. Dress very warmly in layers of clothing, with an outer layer that is wind-resistant.</li> <li>Cover all exposed skin: wear a hat, mittens and a scarf, neck tube or face mask.</li> <li>Be ready to cut short or cancel outdoor activities.</li> <li>Keep active.</li> </ul>
-55°C and colder	High risk: exposed skin can freeze in less than 2 minutes	<p style="text-align: center;"><b>DANGER!</b></p> <ul style="list-style-type: none"> <li>Outdoor conditions are hazardous.</li> </ul>	<ul style="list-style-type: none"> <li>Stay indoors.</li> </ul>

\* In sustained winds over 50 km/h, frostbite can occur faster than indicated.

Source: Meteorological Service of Canada - Environment Canada - Government of Canada

