



ICE SAFETY

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Ice is unpredictable. The density can change anywhere and at anytime. It seems as soon as we get a heavy snowfall and freezing temperatures, sunny days bring on a thaw. The jet stream fluctuates north and south more frequently because of atmospheric disturbances.



Every winter, 25 to 30 Canadians die in ice-related incidents, and countless others fall through the ice. Taking the time to explain ice safety with your children so that they are aware of the potential hazards can prevent injuries and accidents.

Lake and pond ice surfaces are never safe! The crust that forms on top of a river is unstable due to water swirling beneath it. Lake ice is most fragile in frozen areas around an open patch and along the shore. Avoid rivers and lake shorelines, where smooth ice that looks solid is weak.



The best advice we can offer you is to have your children stay off lake and pond ice surfaces but if you do decide to venture out, here are a few safety guidelines we strongly recommend.

Outdoor ice surface areas designated for skating and other outdoor activities are maintained by knowledgeable personnel in your community. Ice should be regularly tested to ensure that it is thick enough and strong enough for recreational use.

Tony Rodgers, spokesperson for the [Halifax Regional Search and Rescue](#), advises all parents to call local community authorities to check the thickness of the ice before heading out on the ice in lakes and ponds. Ice must be:

- at least 15 centimetres (about 6 inches) thick for skating by oneself,
- 20 centimetres (about 8 inches) for group skating, and
- 25 centimetres (about 10 inches) for snowmobiling.



On average, it takes at least five to seven consecutive days of sub-zero temperatures prior to the ice becoming safe enough to skate on. Walk around the ice carefully. To test the integrity of the ice, chip at it to determine the safety and density. If the ice comes off in chunks, it denotes that this is a high-density area - the ice is strong and should be safe. If the ice flakes or comes off in thin layers, the ice is weak, deteriorating and unsafe.

There are four basic types of ice conditions:

Black or Grey Ice is in an advanced stage of deterioration and rotting. This ice looks light grey to dark blue/black due to water saturation. This type of ice cannot hold weight.

Snow Ice is formed by wet layers of snow, which have gone through the process of thawing and refreezing. The appearance can be from white to opaque and there will be visible air pockets. Density of snow ice is low, porous and weak. Do not consider this ice safe unless it has formed over clear ice.

Clear Ice is the strongest ice and therefore the safest because of its thickness - more than four inches in depth. This type of ice is formed during extended periods of sub-zero temperatures. It appears to be blue/black to clear when viewed but, if clear ice is located near the middle or edge of a pond, it is not suitable for pond skating.

Frazil Ice is the first ice to form. It is very porous and incredibly weak. It looks oily to opaque and can actually form in one solid sheet. Stay clear of this type of ice at all costs.

It is very important to inspect all ice with extreme caution.



- ➡ Parents should indicate where the smoothest ice surface is, and as well, where the ice is the thickest and safest. If there are protruding objects in the pond, this will greatly affect the stability of the ice.
- ➡ Teach your children to never skate near pockets of open water on a frozen lake because this indicates that the ice is thin and they are near a cracked surface.
- ➡ Teach children what to do if they hear the ice crack:
 - ***Lay down on the ice***
 - ***Crawl or roll back to land***
 - ***Call for help loudly and clearly***
- ➡ Ensure your children wear warm clothing to prevent frostbite or hypothermia. A thermal protective, buoyant suit will increase chances of survival if your child falls through the ice. If you do not have one, consider wearing a lifejacket/personal flotation device (PFD) over a standard snowmobile suit or layered winter clothing.
- ➡ Check the weather and avoid ice related activities during storms or warm weather.
- ➡ Check ice conditions and confirm the thickness of the ice with local authorities, i.e. city staff, police, snowmobile clubs, fire stations, etc.).
- ➡ Obey all ice-warning signs.
- ➡ Avoid walking on ice that is on or near moving water.
- ➡ Keep away from unfamiliar paths or unknown ice.
- ➡ Avoid travelling on ice at night. A frequent cause of All Terrain Vehicles (ATV) and snowmobile-related drownings is reduced visibility and walking or driving upon a weak ice area.
- ➡ Never go on the ice alone. A friend may be able to rescue you or go for help if you get into trouble.
- ➡ Before you leave shore, inform someone of your destination and expected time of return.
- ➡ River currents and moving water at the narrows (where one lake flows into another) can quickly change ice thickness or have much thinner ice than other locations on the river or on the lake.
- ➡ Assemble a small personal safety kit, no larger than the size of a man's wallet. The kit should include a lighter, waterproof matches (or magnesium fire starter), pocketknife, compass and whistle.
- ➡ It is a good idea to carry an ice pick, an ice staff, rope and cellular phone.



- A pair of ice-claws can be attached to a belt around your waist. Simply drive the claws into firm ice and pull yourself up with you arms while working your legs to get on top of the ice again. The flotation device will keep your head above the icy water.
- If your children are playing on ice, they should be under constant adult supervision. Children not within your arm's reach have ventured too far.
- Dry clothes and an extra pair of mittens are helpful when children get wet and need to maintain warmth.
- Don't drive on ice if you can avoid it. If you can't avoid it, have an escape plan. Open your windows, unlock your doors, and turn on your lights to allow for a quick escape from your vehicle. Some ice-safety experts recommend that you have your seatbelt unfastened and your door slightly ajar to speed up an escape. Don't wear a lifejacket while riding inside an enclosed vehicle because the extra bulk and flotation could hamper your escape through a window.

If a Child Falls Through the Ice

- Do not approach the hole because you could fall in as well.
- Call for help.
- Start a rescue procedure from a distance with encouragement and a long assist such as a rope, ladder, hockey stick, etc.
- If there are lifejackets or buoyant objects around use them to protect yourself in the event you fall in the ice.
- When the child grabs the assist, pull gently to ease him/her out of the water.
- Then, tell the child to crawl along the ice with feet spread apart.
- Help the child to safety as soon as you are able to approach.
- Remove wet clothing as soon as dry garments are available.



Remember!

When children are participating in winter activities, you can reduce the risk of injury by ensuring:

- **Proper supervision**
- **Safe environments**
- **Hazard awareness**
- **Age appropriate activities**

MYTH:

If the weather has been cold, the ice must be solid.

REALITY:

Other factors that are largely independent of air temperature (e.g. wind, a layer of snow on the ice, currents and fluctuating water levels) can weaken ice, making it unable to bear weight. A sudden drop in air temperature, which is actually more dangerous than a sudden rise, can create cracks in the ice.

MYTH:

I do not need protection from the sun during the winter.

REALITY:

Even during the winter months, you can get a sunburn. It is important to protect yourself and your family from the sun all year round. Be sure to wear sunscreen with a minimum of SPF 15 to help guard against the sun's harmful rays.

Water Levels Rise during Spring Time

As ice melts water levels rise in lakes, rivers and streams creating fast-running water, which can pose a significant threat to the safety of your children. We recommend the following safety guidelines:

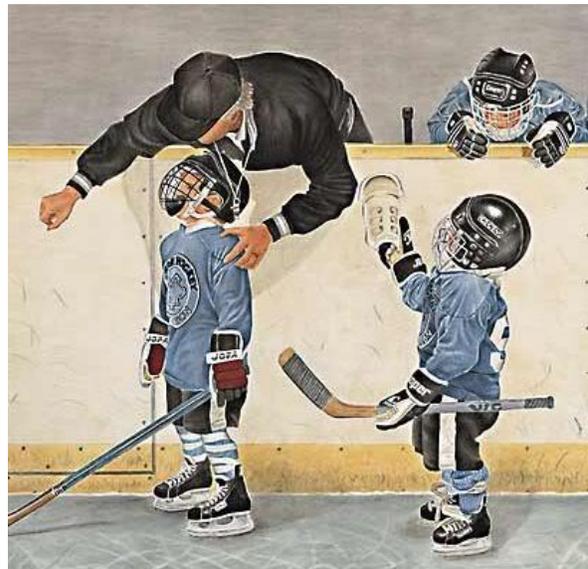
- ➔ Keep away from fast-flowing rivers and streams during spring floods. Even if the water is only a few inches deep, fast moving water can knock children off their feet and carry them down stream beyond safety.
- ➔ River and stream banks are very unstable and prone to collapsing during periods of high water.
- ➔ Warm days and cold nights create weak ice during the spring season.



Ice Skating – At the Rink



- ➔ Teach your children not to touch the blades of their skates. They are very sharp and could cut their fingers.
 - ➔ Make sure your children's skates fit really well with good ankle support to avoid twists or sprains. Their balance and safety on the ice is dependent on it.
 - ➔ It is always wise to ensure your children wear a CSA certified helmet when skating on ice. They may be seriously injured if they fall and hit their head, run into an object or another person.
- ➔ Check weather forecasts to anticipate your children's clothing needs throughout the day. Teach children the signs of frostbite and hypothermia as well as the importance of dressing warmly.
 - ➔ Children should wear neck warmers instead of scarves and remove drawstrings from clothing.
 - ➔ Find a good rink in your neighbourhood where your children will feel comfortable skating.
 - ➔ If your children are new to skating it is a good idea to take them to the rink when it is less crowded.



- ➡ Skating rinks normally have a direction or flow of traffic that everyone follows. Teach your children to skate in the same direction as everyone else on the ice.
- ➡ Children who are just beginning to learn to skate should stick to the sides of the rink, and parents should always skate alongside their children.
- ➡ Make sure young children have access to proper support by holding your hand or the railing around the rink.
- ➡ Monitor children for wet clothes, chilling, frostbite and fatigue. Frostnip leaves the skin white and numb and is an early warning sign of the onset of frostbite. When you bring your child home, remove all the wet clothing and immerse the chilled body parts in warm (not hot) water - 104-108°F (40-42°C), until they are able to feel sensation again. Frostbite occurs mostly on exposed areas of the body - fingers, toes, ears, noses and cheeks. The affected area becomes very cold and turns white or yellowish gray. If you notice frostbite, take your child immediately to the nearest hospital.



Additional Resources

[Ice Safety](#) includes:

Ice-skating on a pond or a lake
 What to do if a child slips through the ice
 Myth vs. Reality
 Water Levels Rise during Spring Thaw

[Winter Safety](#) includes:

Emergency Plan
 Emergency Survival Kit
 Car Emergency Survival Kit
 Power Failure Survival Tips
 Frostbite
 Stranded in a Car during a Winter Storm
 The Best Clothing for Cold Weather
 Hypothermia
 After the Storm
 Emergency Management for all Provinces and Territories
 Additional Resources and References

[Beware of Thin Ice](#)

[Winter Emergencies! How well are you prepared?](#)

[Frostbite and Hypothermia](#)

