



# 157<sup>th</sup> ARW Safety Savvy

## Ice Safety



Skating, sledding, or even just walking on frozen ponds and lakes is a great way to get out and enjoy the fresh air during winter. Regardless how well a person can swim, ice cold water can cause severe hypothermia in less than 30 minutes – leaving the victim too weak to get out of the frigid water. Safety on the ice requires preparation and diligence. You should try going on the ice the first time with an experienced person. However, anyone participating in recreational activities on the ice should use common sense and follow these recommended safety tips:



- ▶ Never go on the ice alone. Naturally occurring ice is unpredictable.
- ▶ Make sure you have proper safety equipment and a buddy.
  1. Wear a personal flotation device (PFD) under your winter gear. It is advisable NOT to wear a PFD in a closed vehicle. The excess bulk may make it difficult to escape from a car - especially through a window.
  2. Wear appropriate footwear. Crampons are used to convert footwear for use on the ice. Some use metal spikes and some use cables - similar to tire chains.
  3. Carry ice picks at all times (or two large nails). Put them in an accessible pocket where they will be easy to reach while floating in the water.
  4. Carry a throw rope with you. You can make one using an empty and clean plastic jug stuffed with nylon rope.
- ▶ Stopping on ice is extremely difficult. When snowmobiling or driving in low-visibility conditions, go slow enough to be able to stop if you see something. Many vehicle accidents happen because the driver couldn't stop by the time he or she saw the hole in the ice.
- ▶ When driving, remove your seatbelt (since you're going slow and easy) and your PFD (see Step 2, but keep it close and take it with you if you have to get out of the vehicle). Keep your window rolled down to facilitate a quick escape if your car falls through the ice.
- ▶ Avoid alcoholic beverages when you're on the ice. They can make you feel colder and slow down your reaction time in case of an emergency.
- ▶ Make sure you know how to escape from ice, and that you know how to help someone escape ice. ([http://firstaid.about.com/od/heatcoldexposur1/ht/06\\_iceescape.htm](http://firstaid.about.com/od/heatcoldexposur1/ht/06_iceescape.htm))
- ▶ Never trust the ice on a river or stream – it can be several feet thick in one place and unsafe only a short distance away.
- ▶ Never drive on the ice at night.
- ▶ Gauging the strength of ice is very difficult. There is no such thing as 100% safe ice.
  - Never walk or drive on cloudy ice
  - Only go on clear, thick ice
  - Spring ice is **NEVER** safe
  - The thickness of ice is never consistent - it will be flat on top, but not on the bottom
  - Snow on ice acts as an insulator - it makes ice warmer and weaker
  - Extreme cold snaps will weaken the ice
  - Ice formed over running water (rivers & streams) is more dangerous than ice formed over standing water (lakes & ponds)



## Reading ice—how was it formed and what you need to know.

Ice Type	Color	Formed From	Good Issues	Dangerous Issues	Safety Rating
First Ice or Old Ice	Oily to Opaque	Water temperature reaches 32°F (0°C) and freezes crystals into clumps	None, very unsafe and unstable	Can form a solid sheet but has no strength and is very unsafe—STAY OFF	Very poor
Gray or Black Ice	Light Gray to Dark Black	Melting ice, occurs even if air temperature is below 32°F (0°C)	None, very weak structure, unsafe and unstable	Not safe, its weak density can't hold a load—STAY OFF	Very poor
Snow Ice	White to Opaque	Water-saturated snow freezes on top of ice forming another thin ice layer	If density is high and covers large base of blue ice can be used	Most times it's weak due to being porous from air pockets	Poor to fair
Clear Ice	Blue to Clear	Freezing water formed over a long period of below freezing temperatures	High density, very strong, safest ice to be on if thick enough	Stay off if less than 4 inches (10 cm) thick	Best

General ice thickness guidelines from the Minnesota Department of Natural Services (new, clear ice only):

- Less than 2 inches - **STAY OFF!**
- 4" and thicker - probably safe for walking and ice fishing on foot
- 5" and thicker - probably safe for ATV or snowmobiling
- 8-12" and thicker - probably safe for small cars or light pickups
- 12-15" and thicker - probably safe for medium trucks



"Thick and blue, tried and true. Thin or crispy, way too risky."

Another site on Ice Rescue (pictures):

<http://gf.nd.gov/education/ice-brochure.html>

How to treat Hypothermia:

[http://firstaid.about.com/od/heatcoldexposur1/ht/06\\_hypothermia.htm](http://firstaid.about.com/od/heatcoldexposur1/ht/06_hypothermia.htm)

**Don't get stuck out on the ice unprepared!**

**Your Risk Management Staff**

**This document was derived from multiple sources. Sources are available upon request in the 157 ARW/SE Office.**

