

Macomb Township Fire Department
Fire and Life Safety Tips
January 2010



Ice and Cold Water Safety

Ice Thickness

It is important to remember that there is no such thing as 100% safe ice! Many factors affect the strength of ice besides thickness.

- Thawing and refreezing
- Pockets of air can form under the ice on lakes where the water levels are raised and lowered by flood control.
- Ice seldom freezes uniformly
- The insulating effect of snow slows down the freezing process
- Ice formed over flowing water and currents is often dangerous
- Schools of fish moving warm water up can open holes in the ice

Never venture onto the ice alone, and follow these ice safety practices:

- Let someone know when you will be on the ice and when you will return.
- Wear a life jacket or float coat.
- Carry two screwdrivers, ice picks, or large nails to help gain a firm grip, should you have to pull yourself out of the water.
- Avoid areas of thin ice or open water.

Be aware and know what to do:

It is important to pay close attention when on the ice. Cold water will cool a body 25 times faster than cold air of the same temperature.

If you feel the ice begin to crack beneath you, follow these steps:

1. Do not run.
2. Lie on your stomach and spread your arms and legs (like an airplane).
3. Stretch your arms over your head and bring them together.
4. Roll away from the crack. Do not bend your knees or elbows.

If someone has fallen through the ice:

1. Do not go onto the ice-if it broke once, it will break again.
2. Call for help.
3. Tell the victim to hold their hands close to their face and breathe into their hands.
4. Toss them something that floats. (Try a cooler, or empty plastic bottle)
5. Encourage them to use car keys, a pen, or other object in their pocket to begin to pull themselves onto the ice.

If the victim is close enough to shore, you can help pull them in:

1. Kneel or lie face down on solid ground.
2. Throw or extend whatever you can find, such as jumper cables or skis, or push a boat ahead of you.

If YOU fall through the ice:

1. Try not to panic.
2. Do not remove your winter clothing. Heavy clothes will not drag you down. They trap air to provide warmth and flotation.
3. Turn toward the direction you came. That is probably the strongest ice.
4. Place your hands and arms on the unbroken surface.
5. Kick your feet and dig in your ice picks to work your way back onto the solid ice.
6. Lie flat on the ice and roll away from the hole. This will help distribute your weight.
7. Get to a warm, dry, sheltered area.

Stages of Cold Water Immersion and Hypothermia:

Stage 1: Cold Shock/Sudden Disappearance

This response begins immediately upon immersion and will peak within the first 30 seconds to 5 minutes. Breathing and circulation are affected.

Involuntary gasping, rapid breathing, dizziness and confusion start immediately causing water inhalation and possible drowning. A sudden rise in heart rate and blood pressure also occur, possibly resulting in stroke or heart attack.

Stage 2: Swim Failure

A person must attempt to self-rescue, stay afloat or swim to safety within the next 30 minutes. Nerves and muscles in the arms and legs will cool quickly.

Strength of handgrip and movement speed will drop 60 percent to 80 percent.

Stage 3: Hypothermia

After the skin, arms and legs have cooled to the water temperature, cooling of the inner organs of the body's core begins. This is called hypothermia. It develops after 30 minutes if cooling is not stopped. The symptoms follow a predictable progression:

- Shivering
- Skin color becomes flushed initially, but later may turn blue
- Slurred speech
- Clumsiness and poor coordination
- Withdrawn and apathetic
- Heart rate and blood flow slow down
- Limbs become stiff as muscles get rigid
- Mental confusion
- Shivering ceases
- Unconsciousness
- Heart failure may occur, but usually drowning occurs first

Stage 4: Rescue and Post Immersion Responses

Survivors being removed from the water face significant physiological changes in blood volume and distribution. Rescue method and proper treatment of the victim is crucial. Handle victims gently and minimize movement. Wrap the person in blankets to prevent further heat loss Call 911.

Call 911 immediately or seek immediate medical attention if you or someone needs treatment from these types of injuries.

References

Ohio Department of Natural Resources

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