

Hypothermia and Cold Shock - The Risks of Off Season Boating

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The warm weather boaters have left the water and are dreaming of the Spring launching season. The crowds are gone from the local waters during the colder months of the year leaving only the wind to ripple the surface. A few die-hard fishermen still work their favorite spots, enjoying the peace and quiet. Bundled up against the cold, waterfowl hunters also take advantage of the now nearly empty waterways. The crisp clear days of the cold weather seasons are the best of times for many boaters.

Enjoying these good times does not come without the risk of paying a heavy price. The water is cold, with temperatures that have gone under 60° F., during the off-season making a fall into the water a real danger of becoming a fatal accident. His love of cold weather boating puts a winter boater in a real risk of being in a man overboard situation that runs a very high risk of becoming a fatality. The sharply reduced boating traffic adds to that danger making an immediate or prompt rescue highly unlikely, requiring that off-season boaters be doubly careful and avoid solo trips.

The main objective is to avoid entering the water because Immersion in cold water rapidly incapacitates and may quickly kill boaters who are not wearing protective clothing. Surfers, sailboarders, kayakers and other folks in similar sports wear wetsuits or drysuits to protect themselves from the cold water. Smart off-season boaters, including sailors, fishermen, hunters, and others take similar precautions to improve their safety while on the water including never going out alone.

To properly prepare, you have to first understand what happens to your body in cold water. Water removes heat from a body 25 times faster than cold air and most of the body heat is lost through the head. Swimming, thrashing about, and other physical activity increases the heat loss through the limbs and extremities. If you become a person in the water (PIW) you will sharply reduce your survival time though physical activity. Strong swimmers wearing a PFD have died before they covered 100 yards in cold water. Did you know that in water with a temperature of less than 40° F., a strong man can expire before he can swim 100 feet? Two factors come into play against a you while you are immersed in cold water, they are cold shock and hypothermia.

Cold shock is the body's reaction to the shock of cold water. During cold weather boating all persons on board should wear life jackets. Cold shock from falling into icy water can trigger an involuntary gasping reflex that will cause you to inhale water through your mouth. Without a life jacket a person can drown without ever coming back to the surface. Wearing your life jacket will increase the likelihood of survival if you should accidentally fall into the cold winter water. Cold shock may also result in cardiac arrest. When the head and chest are exposed to cold water, the result is often a very sudden increase in heart rate and blood pressure. Cold water immersion can also result in

immediate loss of consciousness but, depending on the type of life jacket worn an unconscious victim can survive without drowning.

Hypothermia in layman's terms is decreased body temperature. This condition develops more slowly than the effects of cold shock and you may not be immediately aware of the symptoms. Remember that the symptoms of hypothermia include shivering as the body loses heat and body temperature drops, uncontrolled rapid breathing follows the initial gasping response and may cause a loss of consciousness, muscle rigidity and loss of voluntary motor function which results in physical helplessness. A hypothermia victim starts to shiver as core body temperature falls from 97°F. down to about 90°F. A person at risk of hypothermia must try to control breathing rate to avoid hyperventilation leading to unconsciousness following the immediate involuntary gasping response to the initial immersion into cold water. Uncontrolled or rapid breathing will speed up the chilling process. When the body's core temperature fall to 93°F. physical ability is severely diminished and mental capacity begins to deteriorate rapidly. A victim usually falls into an unconscious state when body temperature falls to 86°F. If the victim doesn't drown first, hypothermia will finish him off when the body temperature falls to or near 80°F. Survival figures show that an adult dressed in average clothing may remain conscious for one hour in water at 40°F, and perhaps as long as 2 - 3 hours in 50°F water. Remember, any movement in water accelerates body heat loss. Unnecessary movement can reduce survival time to minutes. The recent film, *Titanic*, graphically portrayed the fatal effects of lowered body temperature on persons in the water.

Avoid venturing out onto the cold wintry waters alone, because a buddy can save your life, or vice versa. If you find yourself in cold water, try to get back in or on your boat immediately. If the boat capsizes, do not leave the boat because the overturned boat is easier to spot than a single person in the water. If you are not wearing thermal protection and you can't get out of the water, keep as still as possible. Fold your arms against your chest, cross your legs to reduce the amount of cooling surface. Rely on the buoyancy of your life jacket and float quietly until help arrives. If two or more people are in the water, huddle close together. Put your arms around each other to slow down heat loss. Stay together and stay still, letting your life jackets keep you afloat.



Graphic: U. S. Coast Guard Auxiliary Internet

Planning for cold weather off-season boating is essential. Wear clothing that will protect you in the event of cold water immersion. Always wear your personal flotation device. On land, conventional wisdom advises that you wear layers of warm clothes. On the water this will not help you. The shoreside winter clothes will not be effective in retaining your body heat. You can wear layers of clothing under or inside a waterproof shell. An effective cold water outer suit is a waterproof fabric with neoprene waterproof gaskets at the wrists, neck, waist and ankles. Survival suits, like the Stearns and Mustang types, are available from local boating equipment retailers or through catalogues. You can also wear cold water survival suits under your regular clothes. These suits are worn by windsurfers and river paddlers and are similar to a divers dry suit.

As you plan your trip you should pack dry clothing in a waterproof bag. Make sure that your boat has adequate bailing equipment. You may want to make provisions to facilitate re-entry into your boat by having a boarding ladder or even a rope overside. Your life jacket should have a sound producing device such as a whistle or horn and a reflective device attached to it. Before you leave home check the weather forecast for the day because a cold rain can soak you and bring on hypothermia almost as fast as a dunking. Prepare a float plan and leave it with someone, or at least notify someone where you are going and when you expect to be back. When you return let them know you're back. Never go out alone. Using the buddy system is a proven lifesaver. While you are out, observe the boats around you, their location and proximity to your boat. On cold water, you have to depend on each other for quick rescue in case of an accident. You know, you watch them and they watch you and you help each other out.

If you are going out into cold weather situations, whether on the water or on land, you may run into someone who is experiencing hypothermia. You might be able to save that person's life by knowing the right way of providing first aid.

Hypothermia First Aid

1. Mild hypothermia symptoms are indicated by the victim shivering, but coherent. Move victim to place of warmth. Remove wet clothes, give warm, sweet drinks; NO alcohol or caffeine. Keep victim warm for several hours.
2. Moderate hypothermia symptoms include reduced body temperature with shivering decreased or stopped. Victim may seem irrational with deteriorating coordination. Treat same as above but no drinks. Victim should be kept lying down with torso, thighs, head and neck covered with dry clothes, coats, or blankets to stop heat further heat loss. Seek medical attention immediately.

3. Severe hypothermia symptoms show shivering probably stopped, victim resists help or may be semi-conscious to unconscious. Victim must be kept prone, on back and immobilized. Cover torso, head, neck and thighs with dry covers to stem further heat loss. Do not stimulate arms and legs in any manner. Cold blood returning to the body core may cause cardiac arrest. Get medical help immediately.
4. Once removed from the water, victim appears dead, no breathing or pulse apparent and body is rigid. Assume victim can be revived. Apply dry clothing or covers like above. Look for signs of pulse or breathing during first two minutes. If pulse or breathing are found, even in trace amounts, DO NOT start CPR. In this state, CPR can cause cardiac arrest. If you can't find a pulse or sign of breathing, CPR should be started only by a trained and qualified crew member. Rush victim to nearest medical facility by best means available.

Cold weather boating has its rewards for the prudent mariner. Following a few simple rules will help keep you safe, or at least increase your chances of returning home. Wear warm clothing. Wear a PFD at all times. Every year we read and hear about the 'experienced boaters' that die in cold weather boating accidents. Nearly every one of those missing mariners was not wearing a flotation device. File a float plan. Never go out alone. Check the weather before leaving home. While on the boat keep an eye on the weather and know when to quit and head for home. Even in cold weather, leaving the dock is optional, but returning is mandatory.