

Hypothermia



The Mountaineers Sea Kayaking



Hypothermia

Every year, students comment on the emphasis the class places on hypothermia. One might think the intent of the class is to scare off new prospects for kayaking by instilling fear of the water in them. However, just the opposite is true. The class emphasis on this subject is designed to give new paddlers a healthy respect for the conditions we paddle in here in the Pacific Northwest. The bottom line is that the water is cold. If you, as a new paddler, are unprepared for it, it can be dangerous.

This class teaches you the conditions that can arise from exposure to the water without the proper clothing. You will also be instructed as to what is considered proper clothing for different types of paddles.

Clothing we discuss in the class for the most part can be clothing you already have (if you are an outdoors type person) or it is available in inexpensive outlets. Ask your instructors about where to obtain clothing. The Sea Kayaking Resources Document also has some proven outfitters that provide good quality clothing at reduced prices. The one exception will be a dry suit or wet suit if you choose to purchase your own. It is highly recommended that you rent these items until you are sure of what is going to work well for you.

Finally, remember that in kayaking we dress for the water in which we may find ourselves and not necessarily for the outside air temperature and conditions.

Hypothermia and Cold Water Survival

Hypothermia is a serious threat to Northwest boaters, and it takes the lives of several Washingtonians each year. Our marine waters and most of the state's lakes and streams remain cold throughout the year, so hypothermia is a danger that knows no season. A boater who ends up in the water may begin falling victim to hypothermia in a matter of only a few minutes, so quick action is often the key to survival. Understanding and avoiding hypothermia can mean the difference between being alive or dead when help arrives.

What is Hypothermia?

Hypothermia is subnormal temperature within the central body. When a person is immersed in cold water, the skin and nearby tissues cool very fast. However, it may take 10 to 15 minutes before the temperature of the heart and brain starts to drop. When the core temperature drops below 90° F serious complications begin to develop. Death may occur at about 80° F; however, a person may drown at a higher temperature due to loss of consciousness or inability to use the arms and legs.

How long can I Survive in Cold Water?

Survival in cold water depends on many factors. The temperature of the water is only one. Others include body size, fat, and activity in the water. Large people cool slower than small people. Fat people cool slower than thin people. Children cool faster than adults.

By swimming or treading water, a person will cool about 35 percent faster than if remaining still. "Drown-proofing" — the technique of staying afloat, facedown, with lungs full of air, and raising the head every 10 to 15 seconds for a breath — conserves energy, but also results in rapid heat loss through the head and neck. This technique reduces survival time by nearly one-half in cold water.

An average person, wearing light clothing and a personal floatation device (PFD), may survive 2-1/2 to 3 hours in 50° F water by remaining still. This survival time can be increased considerably by getting as far out of the water as possible and covering the head. Getting into or onto anything that floats can save your life. The following predicts survival times for an average person in 50° F water:





Predicted Survival Time	
No Floatation	hours
Drown-proofing	1.5
Treading Water	2.0
With Floatation	hours
Swimming	2.0
Holding Still	2.7
HELP	4.0
Huddle	4.0

What do I do if an Accident Occurs?

If you fall into cold water, remember that water conducts heat many times faster than air. Most boats will float even when capsized or swamped, so get in or on the boat to get as far out of the water as possible. Wearing a PFD is a must. It will keep you afloat even if you are unconscious. Remaining still and, if possible, assuming the fetal, or, Heat Escape Lessening Posture (HELP), will increase your survival time. About 50 percent of the heat is lost from the head. It is therefore important to keep the head out of the water. Other areas of high heat loss are the neck, the sides, and the groin.

Note: It is impossible to assume the HELP position while wearing some PFDs. However, even a partial HELP position gives some protection to the high heat loss areas, thus increasing survival time.



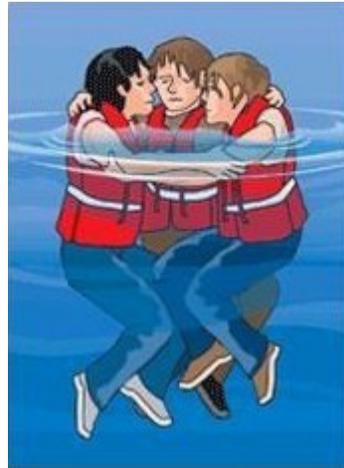
HELP
Heat Escape
Lessening Posture





Huddle

Retains body heat and increases survival time



If there are several people in the water, huddling close, side to side in a circle, also will help preserve body heat. Placing children in the middle of the circle will lend them some of the adult body heat and extend their survival time.

Should I Swim for Shore?

This is a most difficult decision. It depends on many things. Some good swimmers have been able to swim up to .8 mile in 50° F water before being overcome by hypothermia.

Others have not been able to swim 100 yards. Furthermore, distances on the water are very deceptive. Staying with the boat is usually the best thing to do. This will make it easier for rescuers to spot you. Even a capsized boat is easier to see than a person in the water. Do not swim unless there is absolutely no chance of rescue and you are absolutely certain you can make it. If you do swim, use a PFD or some other flotation aid.

First Aid for Hypothermia Victims

1. Make sure the victim has an open airway and is able to breathe. Then, check for respiration and pulse. Respiration may be slow and shallow and the pulse may be very weak. So check vital signs very carefully. If there is no pulse or respiration, CPR must be started immediately.
2. Prevent further heat loss:
 - a) Gently move the victim to shelter and warmth as rapidly as possible
 - b) Gently remove all wet clothing; cut it away if necessary. The small amount of heat energy the victim has left must not be expended on warming and drying wet clothing.
 - c) Wrap the victim in blankets or a sleeping bag. If available, place warm water bottles or other gentle sources of heat under the blanket on the victim's neck, groin, and on the sides of the chest.
3. Transport the victim to a hospital as soon as possible. Only a physician should determine when the patient should be released. Incorrect treatment of hypothermia victims may induce a condition known as After-Drop. After-Drop is a continued fall in the victim's core temperature even after he has been rescued. This is caused by improper re-warming, allowing cold, and stagnant blood from the extremities to return to the core of the body. When this cold blood returns to the core of the body it may drop the core temperature below a level that will sustain life. For the same reason, hypothermia victims must be handled gently and should not be allowed to walk. Additionally, remember to avoid the following when dealing with a person with hypothermia:



**Do not:**

- Place an unconscious victim in a bath tub.
- Give a victim anything to drink, including hot liquids and especially alcohol.
- Rub the victim's skin; especially do not rub it with snow.

How Can I Avoid Hypothermia?

Because most boaters who die in water-related accidents had no intention of going into the water, the obvious answer is to avoid those behaviors that cause accidental immersions. **Therefore, do not:**

- Stand or move around in a small boat.
- Overload your boat or distribute the load unevenly.

Things You Should Do:

- Dress for immersion by wearing a wetsuit or drysuit.
- Always wear a PFD on the water.

Hypothermia Discussion**Questions**

- 1) What is hypothermia?
- 2) What symptoms appear as the body's core temperature lowers?
- 3) How much body heat can be lost through the head and neck?
- 4) How do you treat the EARLY stages of hypothermia?
- 5) Describe the condition called "after drop."
- 6) Why is it advisable to dress in layers?
- 7) Why is cotton such a poor choice for insulation?
- 8) True or False: Swimming can increase survival time, so, if you exit your boat, striking out for shore should always be attempted.
- 9) True or False: Energy reserves have little or no effect on vulnerability to hypothermia.
- 10) True or False: A hypothermia victim may resume usual activity as soon as his/her temperature has returned to normal.
- 11) Think of several paddling scenarios that could lead to hypothermia.





Answers

- 1) Abnormally low body temperature.
- 2) Sensation of cold and shivering, loss of manual dexterity, clumsiness, slurred speech, rigid muscles, confusion, impaired judgment, no longer feel cold, euphoric. The “umbles,” mumble...fumble...stumble.
- 3) At least 50% of heat loss occurs through the head and neck — Keep them out of the water, if possible.
- 4) Exercise, warm shower or bath; hot drink (early stage only), remove wet clothes; insulate victim to prevent further heat loss. KEYS: slow, gentle and long re-warming.
- 5) Cold blood returning from the extremities can cause an unusual heartbeat that can result in a heart attack.
- 6) Clothing layers provide the best way to adapt to changing conditions.
- 7) Cotton’s absorbent fibers hold large amounts of moisture next to the skin, and conduct away body heat.
- 8) False (review hypothermia document)
- 9) False (review hypothermia document)
- 10) False (review hypothermia document)
- 11) Skipping meals and drinks; capsize; unexpected rain or wind; hard paddle — resulting in fatigue and/or perspiration; early sunset; no dry clothes after paddling.

