

FIRST AID FOR COLD WATER VICTIMS

Treatment for hypothermia depends on the condition of the person. Mild hypothermia victims who show only symptoms of shivering and are capable of rational conversation may only require removal of wet clothes and replacement with dry clothes or blankets. In more severe cases where the victim is semi-conscious, immediate steps must be taken to begin the rewarming process. Get the person out of the water and into a warm environment. Remove clothing only if it can be done with a minimum of movement of the victim's body. Do NOT massage the extremities. Lay the semi-conscious person face up, with the head slightly lowered, unless vomiting occurs. The head down position allows more blood to flow to the brain. If advanced rescue equipment is available, warm humidified oxygen should be administered by face mask. If not available, mouth-to-mouth resuscitation will both assist the victim in breathing and help in rewarming the lungs. Immediately begin to rewarm the victim's body core. If available, place the person in a bath of hot water at a temperature of 105 to 110 degrees. It is important that the victim's arms and legs be kept out of the water to prevent "after-drop." After-drop occurs when the cold blood from the limbs is forced back into the body resulting in further lowering of the core temperature. After drop can be fatal. If a tub is not available, apply hot, wet towels or blankets to the victim's head, neck, chest, groin, and abdomen. Do NOT warm the arms or legs. If nothing else is available, a rescuer may use his own body heat to warm a hypothermia victim. Clothing should be removed from both rescuer and victim and body-to-body contact applied with both persons in sleeping bag or wrapped in a blanket. DO NOT GIVE ALCOHOL TO A HYPOTHERMIA VICTIM. Transfer the victim to a medical facility as soon as possible.

COLD WATER DROWNING VICTIMS MAY LIVE!

Most persons recovered in cold water "near" drowning cases show the typical symptoms of death:

1. Cyanotic (blue) skin coloration
2. No detectable breathing
3. No apparent pulse or heartbeat
4. Pupils fully dilated (opened)

These symptoms, it was discovered, did not always mean the victim was dead. They were, on the other hand, the body's way of increasing its chances of survival through what scientists call the *mammalian diving reflex*. This reflex is most evident in marine mammals such as whales, seals or porpoises. In the diving reflex, blood is diverted away from the arms and legs to circulate (at a rate of only 6-8 beats per minute, in some cases) between the heart, brain and lungs. Marine mammals have developed this ability to the point where they can remain under water for extended periods of time (over 30 minutes in some species) without brain or body damage.

Humans experience the diving reflex, but it is not as pronounced as in other mammals. The factors which enhance the diving reflex in humans are:

1. **Water temperature**—less than 70°F or colder, the more profound the response and perhaps the more protective to the brain.
2. **Age**—the younger the victim, the more active the reflex.
3. **Facial immersion**—the pathways necessary for stimulating this series of responses seem to emanate from facial cold water stimulation.

The diving reflex is a protective mechanism for humans in cold water immersions, but it may confuse the rescuer into thinking the victim is dead.

Resuscitative efforts for these victims should be started immediately.

Cardiopulmonary resuscitation (CPR) and treatment for hypothermia should be administered by trained personnel.