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# Hypothermia

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## Hypothermia

Hypothermia can be defined as heat loss greater than your body's heat production. The loss of body heat proceeds in stages, starting with shivering and loss of muscle control, to a shutting down of the vital organs at around 80° F body core temperature. Hypothermia is caused by extended exposure to cold, water and wind, and is most dangerous in a combination of the three. It has plagued people ever since we left the shelter of caves and houses to roam the outdoors; hypothermia has been studied systematically from about 300 BC. Although you may look outside and think "Not a good day to be on the water, you could easily get hypothermia," you may be surprised to know that you can get hypothermia almost anywhere, and in water as warm as 70°.

Temperature is regulated in the cerebrum of the brain and you are most happy at about 98.6° F. A core temperature drop of 2 degrees is considered true hypothermia. Heat can be lost through radiation, evaporation, convection, and conduction. Remember, with wind chill, a 50° day with a 20 mph wind becomes a 32° day. And if you are wet or fall in the water, you may lose body heat 24 times faster. You lose 50% of your body heat from your head and neck. So how long can you last in the Bay? With a PFD on in 53° F water, about 2 1/2 hours. Most people drown before hypothermia sets in due to the lack of a life jacket.

**What are the symptoms?** Mild hypothermia will cause uncontrolled shivering, cool skin and slurred speech with fatigue and uncoordinated movements. Shivering is good, it is the body's way of generating heat, but if you see someone uncontrollably shivering then they are hypothermic! If someone is cold and has stopped shivering, or has fallen into the water, then severe hypothermia has set in and this becomes an emergency.

**What to do?** The best solution is prevention! Dress warmly, in layers, wear a hat, and try to stay dry. If hypothermia is detected, the goal is to prevent further heat loss, not rewarm the person. Take them below, out of the wind. Remove any wet clothing. Place them in a sleeping bag or blankets. Hot Cocoa doesn't do anything but avert your attention from the true treatment. After they warm up, hot beverages are fine. You do not want to warm them up too fast because you can cause "rewarming shock." In 1812, Napoleon's surgeon, Baron DJ Larrey, observed that "the soldiers closest to the fire died first." As crew members, we do our best to anticipate the weather, make sure the passengers are dressed appropriately, keep our eyes on them, and if a problem develops, treat it promptly and appropriately.

Visit the [MacScout](#) website to learn more about hypothermia.

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Nautilus Institute

608 San Miguel Ave., Berkeley, CA 94707-1535 | Phone: (510) 423-0372 | Email:

[nautilus@nautilus.org](mailto:nautilus@nautilus.org)