



WILDLANDS LEAGUE

A chapter of the Canadian Parks and Wilderness Society

Fact Sheet on Hypothermia

Hypothermia is the lowering of the body's core temperature. There are two types of hypothermia: acute and chronic. Acute hypothermia is the rapid lowering of the body's core temperature. Chronic hypothermia is the slow lowering of the core temperature. If the temperature drop occurs in less than 4 hours, it is acute, otherwise it is chronic. Acute hypothermia is also called immersion hypothermia and typically occurs when a person is in cold water. It is important to note the difference between the two since treatment will be different.

Hypothermia is considered severe when the body's core temperature drops below 32C and mild when the core temperature is between normal and 32C. A difference between acute and chronic hypothermia is the severity of something called afterdrop. This is the continued dropping of the core temperature after the person has been brought to a warm place. Afterdrop complicates treating severe hypothermia.

Water conducts heat away at 20-25 times the rate than air does. This is one reason why exposure to cold water is more traumatic than exposure to air at the same temperature. Sometimes people will not be aware that they are hypothermic. It is thus important for people in a group to keep an eye on their companions for signs of hypothermia. Exposure to cold does not automatically induce hypothermia. It typically will take time to develop unless there is exposure to very cold water or there is no protection (wet or drysuit) against the cold.

The following table lists body core temperatures and typical signs and symptoms. Not all hypothermia victims will exhibit all these symptoms; it will vary from person to person. Note that symptoms change as a person's core temperature.

Body Temp.	Symptoms
37 -36C	Normal temperature range
36-35C	Shivering may begin
35-34C	Cold sensation, goose bumps, unable to perform complex tasks with hands, shivering may be mild to severe, skin numb.
34-32C	Shivering intense. Lack of muscle coordination becomes apparent, movements slow and labored, stumbling pace, mild confusion, may appear alert, unable to walk a 10 meter line properly.
32-30C	Violent shivering persists, difficulty speaking, sluggish thinking, amnesia starts to appear and may be retrograde, gross muscle movements sluggish, unable to use hands, stumbles frequently, signs of depression.
30-27C	Shivering stops, exposed skin blue or puffy, muscle coordination very poor, inability to walk, confusion, incoherent irrational, but may be able to maintain posture and the appearance of psychological contact.
27-25C	Muscles severely rigid, semiconscious, stupor, loss of psychological contact, pulse and respiration slow, pupils can dilate.
25-24C	Unconsciousness, heart beat and respiration erratic, pulse and heart beat may be unapparent, muscle tendon reflexes cease.
Below 24C	Pulmonary edema, failure of cardiac and respiratory centers, probable death. Death may occur before this level.

Mild shivering and cold hands/feet do not indicate that you are severely hypothermic. These signs do mean you are losing more heat than you are producing and your body is adjusting its temperature. Cold hands and feet indicate your body is fighting the cold by reducing blood flow to the extremities. This helps to reduce heat loss and helps maintain the body's core temperature. Do take these signs as a warning.