

Hypothermia in the Outdoors

Introduction to Backcountry

Hypothermia

When you are losing the fight against the cold

- **Physiological responses to heat loss**
 - ▶ Surface blood vessels constrict
 - ▶ Blood flow to extremities restricted
 - ▶ Shivering begins
- **Elderly and children at greater risk**
- **Early stage (self care possible) - 90-95 F**
 - ▶ Cold hands & feet
 - ▶ Intense shivering
 - ▶ Some coordination loss

Hypothermia

Advanced stages symptoms

- **More severe (86-90/94 F)/ Need other care**
 - ▶ Violent shivering followed by shivering decrease
 - ▶ Sluggish thinking and speech
 - ▶ Loss of muscular coordination
- **Extreme (85-78 F) / Need hospital care**
 - ▶ Irrational/ loss of contact
 - ▶ Muscular rigidity
 - ▶ Pulse weakens/ BP down/ pale/ death like
 - ▶ Death (78-80 F)

Wind Chill

- <http://www.srh.noaa.gov/elp/wxcalc/windchill.shtml>
- Wind Chill Cold Threat
- 21°F to 40°F COLD. Unpleasant.
- 1°F to 20°F VERY COLD. Very unpleasant.
- -19°F to 0°F BITTER COLD. Frostbite possible. Exposed skin can freeze within 5 minutes.
- -20°F to -69°F EXTREMELY COLD. Frostbite likely. Exposed skin can freeze within 1 minute. Outdoor activity becomes dangerous.
- -70°F and lower FRIGIDLY COLD. Exposed skin can freeze in 30 seconds.

Hypothermia Response

Take action early

- **Early response**
 - ▶ Shelter
 - ▶ Dry and warm insulators
 - ▶ Hot liquids
 - ▶ Mild movement if not 'cold immersion' victim
- **Later stage responses**
 - ▶ Active re-warming
 - ▶ Monitor vitals
 - ▶ Transport if possible (beware of 'cold immersion')

The best way to get hypothermia

Most people think of hypothermia danger as the result of extremely cold, winter like conditions when in fact the 'real story' of the person who dies from hypothermia is more like this . . . went hiking on a cool day (45-50 degrees) without adequate gear, got wet via unexpected rain or slipping in a stream, wind picks up a bit, person ignores early signs then confusion or coordination leads to getting lost or perhaps twisting an ankle and now it's nightfall with a 20 degree temp drop with no shelter and no fire and we continue to cool faster than the body can replace heat. Moving from bad to worse 'Joe Camper' may or may not survive. If there are other hazards in his environment like places he can fall or drown the worst becomes much more likely. His death may be reported as accidental . . . but the real cause (hypothermia). Then again . . . acting well he can survive!

Key questions

- What are the symptoms and stages of hypothermia as related to core body temperatures?
- Why must you respond early in terms of self care?
- What are the responses or treatments?

