

## IMPORTANT THINGS ABOUT WINTER CAMPING

1. You warm the sleeping bag; it does not warm you! Plan to dress lightly by changing into clean clothes when you retire for the night. The clothes you wear during a regular day contain about a pint of moisture from normal perspiration and increase your risk to hypothermia.
2. A closed-cell sleeping pad does not absorb moisture. A dark green or black "Ensolite" closed-cell pad is designed for cold weather; the light-colored "Ensolite" sleeping pad is not. Open-cell pads absorb moisture. An air mattress is useless in winter! If you do not have a backpacking type sleeping bag rated to at least 10-15 degrees F., bring an extra wool blanket. A fleece liner in your sleeping bag provides an extra layer of warmth.
3. You should pack all clothes in heavy-duty Ziploc or plastic bags before you pack them in your pack. Natural moisture in your clothes when you are camping can be uncomfortable when you get dressed in the morning. Backpacks and duffels are not waterproof and they do absorb moisture.
4. Wearing a wool watch cap when you sleep is helpful; remember the chimney effect. When you wear a cap, your feet stay warmer. Fact: 70% of heat loss from the body is through the head.
5. Waterproof your shoes or boots with a "Sno-Seal" before your camping trip. Two or three treatments several days apart are useful. Mink oil does not waterproof.
6. Putting some of the clothes you will wear the next day inside your sleeping bag when you go to bed will warm them up. Always bring at least one extra pair of wool socks for emergencies. Plan on using several pairs of socks each day.
7. Ventilate your tent at night. A closed tent allows condensation to build up on the roof of the tent and it might "snow" or "rain" in your tent.
8. If you are cold or get wet, talk to your leaders. Don't wait until you are numb or until the early morning hours. Learn what hypothermia is before going winter camping and learn to prevent it.
9. No one will have extra clothes or equipment to loan to you should yours gets wet. Take a few precautions before you leave to go winter camping so you stay warm and dry. If you have questions, get answers to those questions before you leave. Keep an extra set of clothes in the car just in case; it's good insurance.

Keeping warm is the most important part of cold weather camping. Use the C-O-L-D method to assure staying warm.

### - C - Clean

Since insulation is only effective when heat is trapped by dead air spaces, keep your insulating layers clean and fluffy. Dirt, grime, and perspiration can mat down those air spaces and reduce the warmth of a garment.

### - O - Overheating

Avoid overheating by adjusting the layers of your clothing to meet the outside temperature and the exertions of your activities. Excessive sweating can dampen your garments and cause chilling later on.

### - L - Loose Layers

A steady flow of warm blood is essential to keep all parts of your body heated. Wear several loosely fitting layers of clothing and footwear that will allow maximum insulation without impeding your circulation.

### - D - Dry

Damp clothing and skin can cause your body to cool quickly, possibly leading to frostbite and hypothermia. Keep dry by avoiding cotton clothes that absorb moisture. Always brush away snow that is on your clothes before you enter a heated area. Keep the clothing around your neck loosened so that body heat and moisture can escape instead of soaking several layers of clothing.

## Hypothermia 101 *By Eric Weiss, January 1998, Backpacker Magazine*

As the temperature dips, hypothermia can threaten survival for backwoods adventurers unaware of its warning signs.

Hypothermia is an abnormally low body-core temperature caused by exposure to a cold environment.

### How to Recognize Hypothermia

#### **Mild Hypothermia**

When core body temperature drops below 95°F, mild hypothermia sets in.

- Person feels cold and shivers at maximum level.
- Person maintains normal consciousness level, remains alert, and has normal or slightly impaired coordination.
- When core body temperature drops below 93°F, the person develops slurred speech, memory loss, poor judgment, and carelessness.

#### **Mild Hypothermia Treatment**

1. Move the person from the cold environment to a sheltered environment.
2. Replace any wet clothing with dry, insulated garments.
3. Give the person warm food and lots of sugary hot fluids (an average-size adult needs about 60 kilocalories of hot drinks or about 2 quarts of highly sugary liquids such as drink mixes) to elevate core temperature 10 F.
4. Slow heat loss by wrapping the person in a sleeping bag, plastic bag, or tarp. Huddling with the person in a sleeping bag will help slow heat loss.
5. Resist the urge to use hot water bottles or heat packs. They can turn off the body's shivering mechanism, and they add very little heat to the body core. Instead, bring water to a boil and have the person inhale the steam, or build a fire.

#### **Profound Hypothermia**

When core body temperature drops below 90 degrees F, profound hypothermia develops.

- The person becomes weak and lethargic.
- The person has an altered mental state (is disoriented, confused, combative or irrational, or in a coma).
- The person is uncoordinated.
- When core body temperature drops below 88 degrees F, person stops shivering.
- When core body temperature drops below 86 degrees F, person's heart pumps less than two-thirds the normal amount of blood. Pulse and breathing are half their normal rates.
- When core body temperature drops below 83 degrees F, the heart is very irritable and unstable, and likely to develop abnormalities. The person is in danger of cardiac arrest. Rough handling of the person increases the potential for cardiac arrest.

**Sobriety Test for Hypothermia:** An excellent test to determine if someone is developing profound hypothermia is to have the person try to walk a straight line, heel-to-toe, as in a sobriety test. If the person cannot perform this task and is not intoxicated, it indicates the progression from mild to profound hypothermia.

#### **Profound Hypothermia Treatment**

Treatment in the backcountry is aimed at stabilizing the person and preventing any further cooling.

1. Handle the person very gently. Rough handling may cause his heart to fail.
2. Place the person in a sleeping bag, or place blankets or clothing underneath and on top of him. Any heat that you can provide will probably not rewarm the person but will help prevent further cooling.
3. A person with significantly altered mental state should not be allowed to eat or drink because of the potential for choking or vomiting.
4. Rewarming is best done in a hospital, because of the potential complications associated with profound hypothermia. Professional assistance is usually needed to evacuate a profoundly hypothermic person.

**Caution:** First-aid management of hypothermic victims should not be based solely on measurements of body temperature because it is often difficult to obtain an accurate temperature in the field.

It may be difficult to distinguish whether a person is profoundly hypothermic or dead. The profoundly hypothermic person may have a pulse and respirations that are barely detectable. Double-check carefully, feeling for the carotid pulse (it is found on either side of the center of the throat where the carotid artery goes to the head). Check this for at least one minute since the heart rate may be very slow. Place a glass or plastic surface next to the person's mouth to see if it fogs up.

**When to perform CPR:** If the person is breathing or has any pulse, no matter how slow, do not initiate CPR, as this may cause the heart to stop beating completely. If there is no sign of a pulse or breathing after one minute, what to do next depends on your situation:

1. If you are alone or with only one other person, cover the hypothermic person and place him in a protected shelter (place insulation beneath and on top of him). Both rescuers should go for help and stay together for safety.
2. If there are multiple rescuers, and it is safe to stay with the victim, begin CPR. Chest compressions should be done at one-half the normal rate. At least two people should go for help and stay together for safety.
3. If the person can be easily transported out of the backcountry in an improvised stretcher, the rescuers may elect to do this while performing CPR during the transport as best as possible.

Never assume that a profoundly hypothermic person is dead until his body has been warmed thoroughly and there are still no signs of life. It is possible, though rare, that one without detectable signs of life will recover when rewarmed.

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Adapted from *Wilderness 911: A Step-by Step Guide for Medical Emergencies and Improvised Care in the Backcountry*, Eric A. Weiss, MD

**S**ize up the situation

**U**ndo haste makes waste

**R**emember where you are

**V**anquish fear

**I**mprovise

**V**alue living

**A**ct after thinking

**L**earn basic skills