

## **The MacScouter -- Scouting Resources Online**

### **Winter Camping & Hypothermia**

# **Hypothermia -- The Silent Killer**

**By Gary Ross, EMT-D**

It's August now. The last of the summer warmth. Days grow shorter. Autumn is near, and then winter...

This segment is on hypothermia. Hypothermia is condition of general body cooling (in contrast to frostbite which is localized). It can kill you. But do not let the introduction mislead you. Hypothermia generally occurs during cold weather, but it can occur at any temperature (but generally below 60 degrees).

#### **CAUSES:**

Three factors are major causal factors in hypothermia: cold, water, and wind.

- 1) In a cold environment, the body must work harder to regulate heat; contact with cold air, water, snow, ground or clothing will cause heat losses due to conduction.
- 2) If a person is submersed in water, heat will be lost due to conduction and convection. At a water temperature of 32 degrees death occurs in 15 minutes; at 70 degrees survival for as long as 48 hours has been observed. Loss of heat by evaporation is a major contributor also. Wet skin or clothing will cool of the body quickly, especially if it is windy and/or cold.
- 3) Wind will cause heat loss due to convection, and will accelerate heat loss due to evaporation.
- 4) Hypothermia occurs much more quickly in the elderly and chronically ill.

Hypothermia is insidious. As the body's core temperature drops, more and more body systems suffer from the effects of cold. The presence and severity of hypothermia can be assessed by the signs and symptoms below. A patient is hypothermic at any temperature below 98.6 degrees fahrenheit (rectal). 98-94 degrees is mild hypothermia; 94-84 degrees is moderate hypothermia, and below 84 degrees is severe hypothermia.

#### **STAGES OF HYPOTHERMIA:**

98 - 95 degrees - Sensation of chilliness, skin numbness; minor impairment in muscular performance, especially in use of hands; shivering begins.

95 - 93 degrees - More obvious muscle incoordination and weakness; slow stumbling pace; mild confusion and apathy. Skin pale and cold to touch.

93 - 90 degrees - Gross muscular incoordination with frequent stumbling and falling and inability to use hands; mental sluggishness with slow thought and speech; retrograde amnesia.

90 - 86 degrees - Cessation of shivering; severe muscular incoordination with stiffness and inability to walk or stand; incoherence, confusion, irrationality.

86 - 82 degrees - Severe muscular rigidity; patient barely arousable; dilatation of pupils; inapparent heartbeat and pulse. Skin ice cold.

82- 78 degrees and below - Unconsciousness; death due to cessation of heart action.

#### **TREATMENT OF HYPOTHERMIA:**

Two situations are possible. One is where evacuation to a medical facility is possible within several hours. The other is where evacuation will be delayed or impossible. The other parameter is stage of hypothermia.

#### **Moderate hypothermia;**

Get the patient as sheltered as possible (tent, snow cave, etc.) Remove wet clothing and replace with dry clothing. Keep patient laying down. Place patient in a sleeping bag with a second rescuer of normal body temperature. Direct skin to skin contact is preferable. Warm stones or bottles can also be placed in the bag (be careful not to burn patient). Make sure all extremities and exposed areas (e.g. face, nose, ears) are protected. If patient is conscious and able to swallow without danger to his/her airway, give sugar and sweet, warm (not hot) fluids by mouth. **DO NOT GIVE ALCOHOL.** If evacuation is **IMPOSSIBLE** and facilities permit, immerse patient in tub of water at 105 degrees Fahrenheit. Monitor patient's temperature rectally with thermometer if possible. Continue rewarming efforts until patient's core temperature is restored to normal. Always evacuate a hypothermic patient as quickly and gently as possible, including rewarmed patients.

#### **Severe hypothermia:**

Patients in severe hypothermia are often erroneously thought to be dead. Neither pulse, nor heart sounds, nor respirations may be apparent. Handle a severely hypothermic patient with great care - **VERY GENTLE HANDLING.** Cut away wet clothing and replace with dry clothing. Maintain an airway, but use no adjuncts (e.g. oral airway). Once you start CPR, **DON'T GIVE UP.** Get help. Do not attempt to rewarm patient unless evacuation is **IMPOSSIBLE.** Keep patient supine, in a 10 degree head-down tilt.

Handle every hypothermic patient very gentle. Rough handling can cause cardiac arrest and death. Get every patient into shelter, replace wet clothes with dry ones. Apply external heat if condition dictates. And give warm, sugary food and drink if patient's condition allows. Get help. If possible, have rescuers bring a heated oxygen unit, and administer to patient. Perhaps equipment can be air-dropped. Keep calm and do not become a victim yourself.

**THE HYPOTHERMIC PATIENT ISN'T DEAD UNTIL HE'S WARM AND DEAD.**

#### **PREVENTION OF HYPOTHERMIA:**

Dress properly for current and possible conditions. Be prepared for sudden weather changes especially at elevations. Have at least one wool garment for the upper and lower parts of your body. Wool is the only material with any insulating value when wet. Carry or wear a windproof, waterproof garment. Always have a wool hat and wool mittens. Have extra clothing available especially mittens and hats. A large proportion of body heat is lost through the head. Wear suitable boots, insulated if necessary; wear wool socks, and always carry extra wool socks. Avoid getting overheated and perspiring, this cools you down - fast. Wear layers and remove clothing as necessary. Better having extra than too little. Dress sensibly and expect the worst.

Sit out bad weather. Better waiting than be overtaken by a blizzard or thunderstorm. Do not push on through the night. Make camp early and rest thoroughly. You can continue tomorrow with a much greater safety margin.

Do not get exhausted. Exhaustion promotes heat loss, and thus hypothermia. Besides, if your exhausted, you are probably drenched.

Do not get in over your head. If your experience is limited to day hikes on moderate trails, do not try to go out and tackle Mt. Washington in February. Be smart. Learn to use a map and compass. Learn fire starting techniques. Learn first-aid. Be calm. Be prepared.

Lastly, learn about hypothermia. Know the causes, warning signs, and treatment. Learn how not to get cold.

**NOTE:** Special hypothermia thermometers are available which measure between about 70 and 100 degrees Fahrenheit. I recommend carrying one in your first-aid kit on all cold weather excursions. Contact me for information on where you can purchase one.

I hope you found this information useful and important and feel free to contact me if you have any questions. Have fun in the great outdoors, but be careful. Mother Nature is never malicious, just incredibly powerful.

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