

HYPOTHERMIA



Definitions:

- **Hypothermia:** When the core body temperature drops to a level at which normal muscular and cerebral functions are impaired. Usually below 96° F
- **Chronic Hypothermia:** Heat loss is somewhat gradual. Chronic hypothermia is usually due to heat loss through radiation, convection, and evaporation.
- **Acute Hypothermia:** Heat loss occurs in a rapid manner and usually happens when someone is immersed in water.

Methods of Heat Loss:

- *Convection:* heat is carried away from the body by currents of air or water. Wind chill is an example of convection.
- *Conduction:* direct transfer of heat from the body to a colder object (e.g., wet clothes or cold ground)
- *Evaporation* of sweat or water from the surface of the skin

Sources of Heat Gain:

- *Radiation:* heat from the sun or a fire.
- *Exercise:* 75% of muscular energy is produced as heat.
- *Food:* provides calories for basic body functions and exercise. Carbohydrates provide energy quickly; protein provides greater energy, but more slowly and at the expense of more body energy.

Prevention of Hypothermia:

- ❖ Dress Appropriately - use the clothing layering system. Avoid cotton!
- ❖ Stay Dry - be aware that water comes from both the outside (environment) and the inside (perspiration).
- ❖ Stay out of the wind if possible.
- ❖ Keep your furnace burning - stay hydrated and eat foods that will provide energy such as carbohydrates and proteins.
- ❖ "Don't run faster or labor more than you have strength." Exhaustion leads to a quicker onset of hypothermia.

Symptoms of Mild/Moderate Hypothermia

- Shivering, the first sign of body cooling. Shivering later becomes uncontrollable.
- Watch for the “Umbles.” Grumbles – Irritable and complains of being cold. Mumbles – Difficulty speaking or slurred speech. Fumbles – Decrease in fine motor skills. Stumbles – Decrease in gross motor skills.
- Uncharacteristic behavior: Such behavior may be obvious only to someone who knows the victim. Inappropriate excitement or lethargy, poor judgement, and poor decision making are common. The person becomes confused and may hallucinate.
- Stiff muscles and cramps; these cause uncoordinated movements, the victim may not be able to walk along a straight line for 50 to 100 feet.
- Cold, pale and blue-gray skin owing to constricted blood vessels.

Symptoms of Severe Hypothermia

- No shivering: A victim who is conscious and shivering is "mildly" hypothermic. A barely conscious victim who is so cold that he or she is no longer shivering is "severely" hypothermic.
- Behavior changing from erratic to apathetic to unresponsive
- Stiff muscles and uncoordinated movement
- Weak, slow, irregular pulse
- Slow breathing
- Coma, with dilated pupils (It may be difficult to determine if the victim is alive or dead.)

Treatment of Hypothermic Victims:

- ✚ Find shelter from the wind and cold. This could be under a tree, in a tent, or in a sleeping bag. If possible, get the patient off of the ground onto a foam pad.
- ✚ Remove any wet clothing and replace with layers of dry clothing.
- ✚ Exercise is encouraged for mild hypothermic patients.
- ✚ Provide heat: Give warm, sweet liquids. Add heat packs or hot water bottles—insulate these to prevent burns.
- ✚ Place moderate or severe hypothermia patients in a hypothermia wrap.
- ✚ Evacuate rapidly and gently any patient with severe hypothermia symptoms.