

## Dealing with Hypothermia

With temperatures below average for November and December of 2008, cold temperatures, snow and harsh winds have come early this season. These winter conditions serve as a reminder of the risks that come with harsh weather. Individuals with acquired brain injury (ABI) can be at greater risk for some of these dangers, including hypothermia. When your body loses heat faster than it's produced, hypothermia results; it's a dangerous condition that happens when body temperature drops to 96° (or lower) Fahrenheit (35.5° Celsius).

There are two types of hypothermia: acute and chronic. Acute hypothermia is the more dangerous; the body temperature goes down very swiftly, often in a matter of seconds or minutes (for example when a victim falls through an ice-covered lake). Chronic hypothermia occurs when the body temperature goes down over a longer period of time often due to exposure. ABI individuals can be more susceptible to hypothermia due to a variety of factors including medications, decreased awareness of surroundings and alcohol or tobacco use. Decreased sensation in extremities also increases risk.

### How can I avoid hypothermia?

*Caregivers of individuals with ABI will need to help them follow these guidelines to prevent hypothermia.*

The best way is to stay warm. Reduce the chances of hypothermia by dressing in layers of warm clothing and limiting exposure to extremely cold temperatures. The risk of hypothermia and susceptibility to falls increase as snow melts during the day and quickly freezes at night. Use extreme caution on snow and ice. If you must shovel snow at your home, work slowly and be sure of your footing.

Be prepared for outdoor conditions by keeping up with weather reports and dressing appropriately. Layer clothes with an inner, middle and outer layer. Extremities are the most susceptible part of the body to cold stress, especially frostbite, and so don't forget your hat, scarf, gloves and boots!

Stay dry. Heat is lost much more quickly in water or when the body is wet. Minimal moisture can drain warmth from your body four times faster. Sweat is good during warm days, but not on cold days. Choose clothes that both retain heat and keeps moisture away from the surface of your skin. Natural fibers such as wool



and cotton help do the trick. Dry skin and hair thoroughly after showering or swimming, and if you get wet, change into dry clothes immediately. Use an umbrella and water resistant coats during poor weather conditions to keep warm and dry.

Hydration is just as important in the winter as it is in the summer. Cold air can be extremely drying. Drink warm liquids to keep your body hydrated and help raise body temperatures. Drink water whenever possible and avoid dehydrating beverages such as alcohol and caffeine.

Take it easy. Cold weather puts an extra strain on the body, which increases blood pressure and heart rate. It is best to altogether avoid strenuous tasks such as shoveling snow during extreme temperatures and weather conditions. When such work cannot be delayed, schedule work during the warmest times of the day. Start slowly, take frequent breaks (approximately every 30 minutes) and stop when you start to sweat.

Avoid wind. Wind and breezes aid the evaporation of skin moisture, which in turn cools the body. In addition, certain skin problems such as psoriasis and severely dry skin can increase body heat loss.

When it's extremely cold, breathe through your nose. The sinuses preheat cold air before it enters the body and capture heat from the lungs before it exits the body. To reduce heat loss and strain on your lungs, avoid breathing through your mouth and/or panting. Put a scarf over your mouth and nose in extreme cold.

## Hypothermia *continued*

Be aware of and prepared for cold indoor conditions. Being indoors does not mean that you are immune to temperature fluctuations. Low living room temperatures and limited bedroom heating are major factors associated with cold-related deaths.

Use the Buddy System. Arrange with a relative, neighbor or friend to call you during times of extreme cold. If you are traveling, let someone know of your destination and expected arrival time. Give them contact information for your point of destination. You might also prepare emergency contact numbers.

Prepare an emergency kit for the car. This should contain a first aid kit with extra prescription medication, a radio, flashlight and batteries in the event of a power outage, extra stores of water and non-perishable food. Also include extra blankets.

### **What are some of the signs for hypothermia?**

Early signs of hypothermia are subtle. It's important to note that medications, duration of exposure to the cold, and substance use can impair your judgment in determining your body's exposure to extreme cold. Therefore, when you are in cold environments you should be particularly aware of the following changes in your body:

- Extreme shivering
- Shallow breathing
- Slurred speech
- Weak pulse / slow breathing
- Stiffness in arms and/or legs
- Dry, cold and numb skin
- Blurred vision
- Disorientation, confusion, impaired judgment, poor control of body movements and slow reactions
- Drowsiness - sometimes mistaken for drunkenness, which can lapse into coma



## How can I care for someone with hypothermia?

To care for someone with hypothermia you should take the following steps:

1. Move the person out of the cold. If going indoors isn't possible, protect the person from the wind, cover his or her head and insulate his or her body from the cold ground.
2. Remove wet clothing. Replace wet things with a warm, dry covering.
3. Dial 911 or call for emergency medical assistance. While waiting for help to arrive, monitor the person's breathing. If breathing stops or seems dangerously slow or shallow, begin cardiopulmonary resuscitation (CPR) immediately.
4. Don't apply direct heat. Don't use hot water, a heating pad or a heating lamp to warm the victim. Instead, apply warm compresses to the neck, chest wall and groin. Don't attempt to warm the arms and legs. Heat applied to the arms and legs forces cold blood back toward the heart, lungs and brain causing the core body temperature to actually drop. This can be fatal.
5. Don't give the person alcohol. Offer warm nonalcoholic drinks unless he or she is vomiting or too drowsy.
6. Don't massage or rub the person. Handle people with hypothermia gently because they're at risk of cardiac arrest.

## Hypothermia *continued*

### What is frostbite?

When exposed to very cold temperatures, skin and underlying tissues may freeze, resulting in frostbite. The areas most likely to be affected are your hands, feet, nose and ears.

You can identify frostbite by the hard, pale and cold quality of the skin that has been exposed to the cold. As the area thaws, the flesh becomes red and painful. If your fingers, ears or other areas are frostbitten:

1. Get out of the cold.
2. Warm your hands by tucking them into your armpits. If your nose, ears or face is frostbitten, warm the area by covering it with dry, gloved hands.
3. Don't rub the affected area, especially with snow.
4. If there's any chance of refreezing, don't thaw out the affected areas. If they're already thawed out, wrap them up so they don't refreeze.
5. Get emergency medical help if numbness remains during warming. If you can't get immediate help, warm severely frostbitten hands or feet in warm (not hot) water.

### How can overall healthy living help me avoid hypothermia?

Good cardiovascular health helps reduce risk of hypothermia. Lack of lean muscle decreases the body's ability to circulate blood efficiently. Exercise helps maintain and build lean muscle. It also elevates metabolic rates, even several hours after exercise, which improves circulation and maintains body temperatures. It results in better control of core body temperature and sweating abilities.

Malnutrition leads to inadequate energy stores of body fat and lean body mass and decreases metabolic rate, which lead to decreased blood flow and heat distribution. A healthy diet will help keep your body heat regulated. Avoid cold foods, especially before bed. Caloric needs increase in response to colder temperatures and high altitudes (when the body is taxed, energy is expended through heat loss), so eat proportionally to exertion. ❖

*First Aid Section taken from the Mayo Web site:*

<http://www.mayoclinic.com/health/hypothermia/DS00333>



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