

Winter Weather: Cold!

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The National Weather Service offices that serve New England have declared the week of October 31st through November 4, 2011 ****WINTER WEATHER AWARENESS WEEK****. This Winter Weather message is courtesy of the National Weather Service Forecast Offices in Gray and Caribou, Maine.

Extreme Cold, Hypothermia, Frostbite and Windchill

Cold air, strong winds, and cold wind chill temperatures are common in Northern New England during winter. However, if you are not prepared, these cold conditions can lead to hypothermia, frostbite, and possibly death. To understand the dangers and warning signs associated with the cold, let's examine how the human body regulates its temperature.

#Hypothermia

The human body loses heat during the winter due to the conduction and convection of heat from the skin to nearby air, due to evaporation of moisture from the skin surface, and due to normal respiration. To compensate for this heat loss, the body burns energy to produce heat to keep the body temperature at a relatively constant level. However, if a body loses heat faster than it can produce heat, the body temperature will cool to below normal levels, a medical condition known as **hypothermia**.

Hypothermia will gradually worsen unless the overall rate of heat loss can be stopped. The warning signs for hypothermia may start with shivering and shaking and may end in death. Initially, as the body temperature starts to drop, shivering begins. At the same time, the brain begins to reduce the amount of blood that is circulated to the extremities of the body in order to conserve heat for the vital organs near the body's central core.

If the central core of the body continues to cool, uncontrollable shaking, memory loss, disorientation, incoherence, slurred speech, drowsiness, and apparent exhaustion may develop. These are all signs of a very serious situation.

If the body core temperature drops below 95 degrees Fahrenheit, just 4 degrees below normal, immediate care is needed, as the person will likely become irrational. Once the body core temperature drops below 90 degrees, the person loses muscle control, and outside help is the person's only hope for survival. If that help is not available, heart and/or respiratory failure and death will eventually follow as the core temperature continues to drop.

If a person is suffering from hypothermia, it's critically important that the person be warmed properly. If warmed improperly, death may result. In a hypothermic person, cold blood is concentrated in the extremities. If these extremities are warmed too quickly, this cold blood will be released into the body's central core, possibly lowering the central core temperature to a fatal level. Use the following steps to raise the core temperature of a hypothermic person:

* Get the person into dry clothing if clothes are wet. * Put on additional clothing to warm the person's head and trunk, such as a hat and vest. * Wrap the person in a warm blanket and be sure the head and neck are covered. Do not cover the extremities. * Give warm liquids to drink, but no alcohol, drugs, or coffee. * Seek medical attention, if necessary.

Remember, temperatures do not have to be below freezing for hypothermia to develop. The combination of temperature, wind, and exposure to the elements can be deadly. Hypothermia can develop in elderly people in a

cool room with few, if any, warning signs.

#Frostbite

FROSTBITE is a condition in which the body tissue actually freezes. Frostbite is often associated with hypothermia. In a hypothermic person, the brain greatly reduces the amount of blood that is circulated to the extremities of the body and they begin to cool. This increases the chances that the tissue at the end of the extremity may actually freeze. The most susceptible areas for frostbite include the fingers, toes, nose, and ear lobes.

#Wind Chill Temperature

Cold air and high winds contribute the possibility that a person may develop hypothermia or frostbite. To help measure the cooling effects of wind and cold air on the human body, a value known as the wind chill temperature was developed.

While inanimate objects are not affected by wind chill, warm blooded animals, including humans, are susceptible to the cooling affects from the wind.

To alert people to the dangers associated with the combination of wind and cold temperatures, the National Weather Service issues ****Wind Chill Warnings**** and ****Wind Chill Advisories****. The following values are used for all of Maine.

WIND CHILL WARNINGS:

Issued for wind chill temperatures of:

* -30 degrees or colder (southern and western Maine, Gray forecast area) or * -35 degrees or colder (northern and downeast Maine, Caribou forecast area)

WIND CHILL ADVISORIES:

Issued for wind chill temperatures:

* Between -20 and -30 degrees (southern and western Maine) or * Between -20 and -34 degrees (northern and downeast Maine)

Extremely cold temperatures, even without wind, also increase the threat of frostbite, especially if you are outside over an extended period of time. Be sure to dress appropriately for any outside activities on cold days.

More weather and safety information can always be found on National Weather Service websites:

* [Gray, Maine Forecast Office (covers western and southern Maine, and New Hampshire)](<http://www.weather.gov/gyx>) * [Caribou, Maine Forecast Office (covers northern and eastern Maine)](<http://www.weather.gov/car>)

See also:

* [Question of the day: Does the wind chill temperature affect my car or car

battery?](http://www.maine.gov/mema/prepare/prepare_faq.shtml?id=83671) * [Preparedness tip of the day](http://www.maine.gov/mema/prepare/prepare_tips.shtml) * [Current road conditions: 511 Maine](<http://www.511maine.gov>) * [Winter storm warnings](<http://www.maine.gov/mema/weather/winter.htm>)

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