

## Don't Get Caught Out in the Cold! Winter Weather Awareness and Safety Tips



Prolonged exposure to cold temperatures can cause serious injury or illness such as hypothermia or frostbite. Whether you are outside, in a vehicle, or inside of a building or home during a winter storm, there are precautions that should be taken to ensure your health and safety.

Should you become stranded in severe winter weather, the following tips can help you understand and effectively respond to the dangers of wind chill temperatures and freezing outdoor conditions.

### UNDERSTANDING COLD TEMPERATURES

**What is wind chill temperature?** Wind chill is the temperature that it “feels like” on exposed skin, not the actual temperature reading on an outdoor thermometer. As the wind increases, it causes the body temperature to become cooler by carrying away the heat. Both humans and animals are affected by wind chill; however, inanimate objects like cars, exposed water pipes, and plants are not affected because these objects cannot cool below the actual air temperature. The National Weather Service will issue either a wind chill warning or a wind chill advisory if conditions become critical. A **wind chill warning** is issued when wind chill temperatures are life threatening. A **wind chill advisory** is issued when wind chill temperatures are potentially hazardous.

**What is hypothermia?** Hypothermia is a condition caused by an abnormally low body temperature (below 95° F); if not treated, it can quickly lead to unconsciousness and death. Hypothermia not only happens when temperatures reach the freezing mark. It can also occur at temperatures of 50° or even higher in wet and windy weather, or at 60° to 70° in water. Frail and inactive people, such as the elderly and sick, can develop hypothermia indoors if they are not dressed warmly. Early symptoms of mild to moderate hypothermia include shivering, cold and pale skin, listlessness, impaired judgment, clumsy movement, and slurred speech. Symptoms of severe hypothermia include a cold abdomen, rigid muscles, slow pulse, slow breathing, drowsiness, and confusion. Seek medical attention immediately if you think someone is suffering from hypothermia. If medical care is unavailable, start warming the body slowly by:

- For **mild hypothermia**, remove the victim out of the cold and wind. Replace cold and wet clothes with dry or wool garments.
- For **moderate hypothermia**, first remove cold and wet clothing. Then warm the person with your own body heat by wrapping a blanket around both of you. If the

victim is conscious and alert, give him or her **warm** liquids, such as milk or water; **avoid** anything containing alcohol or caffeine.

- For **severe hypothermia**, seek medical assistance if the victim does not respond to the recommendations listed above. If medical assistance is not available, consider administering a warm water bath (100° to 105°). Please be aware that rewarming a person in warm water can cause shock or heart attack. This option should only be used as a **last resort** and if medical assistance is not available.

**What is frostbite?** Frostbite is damage to the body tissues caused by prolonged exposure to cold. Areas of the body that are most likely to suffer from this kind of damage are the extremities such as fingers, toes, earlobes, or the tip of the nose. Frostbite victims will experience a loss of feeling and a white or pale appearance in the area of the body affected. Frostbite is rated by its severity and should be treated accordingly. There are four degrees of frostbite:

- First degree is when the skin is whitish or red in color, and some tingling or burning sensation is present.
- Second degree is when the outer skin feels hard and frozen, but the tissue underneath is normal. Blistering will likely occur.
- Third degree is when both the skin and tissue are hard and frozen. The skin will turn white, blotchy, and/or blue, with feelings of burning, throbbing, shooting pain followed by numbness.
- Fourth degree is when the skin appears red or blue and turns dry, black, and rubbery. Blisters may appear as small bloody spots under the skin, along with deep, aching joint pain.

Seek medical attention for frostbite. However, if medical attention is unavailable follow the recommendations below:

- Take shelter from the cold and wind.
- Check for signs of hypothermia. Treat for hypothermia first and frostbite second.
- Protect the frozen body part, and do not attempt to warm the area if refreezing is possible; wait until you reach shelter.
- Warm frozen areas with warm breath or by tucking the frozen areas into warm clothing against bare skin.
- Do not rub or massage the frozen area. This action can cause more tissue damage. If possible, avoid walking on frostbitten feet.
- To prevent bruising, wrap the frozen area in blankets or soft material, and keep elevated.
- If available, soak the area in warm water (104° to 108°) for 15 to 30 minutes.
- Do not break blisters that may appear on the skin in the affected areas.
- Pain relievers such as aspirin, ibuprofen, or acetaminophen may be given if needed. Do not give aspirin to anyone younger than 20.

## STRANDED IN A VEHICLE?

One of the most important things to remember during the winter weather months is to keep your car and other vehicles in tip-top shape. Keeping your vehicle fueled and in good repair can reduce your chance of becoming stranded on the road in dangerous weather conditions. Winterize your car by checking the battery, heater, defroster, thermostat, ignition system, lights, flashers, exhaust, brakes, and tires. Fluid levels should be checked on a regular basis, including: antifreeze, windshield washer fluid, and oil. **Assemble an emergency supplies kit for your vehicle.**

If unforeseen conditions cause you to become stranded in your car during a winter storm, then consider the following tips:

- If you have a cell phone, call 9-1-1 for help.
- Pull your car off the road; turn on the hazard lights, and hang a distress flag from the radio antenna.
- Stay inside your vehicle; rescuers will mostly likely find you there.
- Stay with your car. Do not try to walk to safety unless you can see a building from where you are parked.
- Run the engine for 10 minutes every hour for heat; conserve fuel—do not run the engine continuously.
- Crack the window open to avoid carbon monoxide poisoning.
- Make sure the exhaust pipe is not blocked by snow.
- For warmth, huddle with other passengers, and use your coat as a blanket. Other items that can be used for insulation during extreme cold are road maps, seat covers, floor mats, newspapers, or extra clothing.
- Exercise frequently (clap hands, arm circles, leg bends, etc.) to keep blood circulating and to keep warm, but don't overexert.

## STRANDED INSIDE YOUR HOME OR A BUILDING?

There are many things that can be done to prepare homes and buildings for winter storms. Winterize your home, barn, shed, or any other structure that may provide shelter for your family, neighbors, livestock, or equipment.

- Seal leaks around doors and windows.
- Check attic insulation to make sure it's adequate.
- Have a heating professional perform a routine check on the furnace and heating system components
- Fill oil or propane tanks.
- Have the chimney inspected and cleaned.
- Clear rain gutters of any debris.
- Cut back any tree limbs that could fall on a house or other structure during a storm.

- Wrap exposed water pipes and water bibs with an insulation sleeve or layers of old newspapers. If using newspaper, cover with plastic to keep out moisture.
- Make sure to **assemble a family disaster supplies kit** just in case you are faced with loss of power or you become stranded in your home because of road closures.

If you are stranded in your home due to severe winter weather conditions, consider the following tips:

- Listen to local radio or television stations or a NOAA weather radio for updates and information on current weather conditions. Roads closures may limit your access to some parts of the community.
- Stay inside. If you must travel, only do so during the daylight hours. Travel with a partner if possible, and let a friend or family member know your route and itinerary.
- If your home heating fuel is running low, you will need to take steps to conserve the fuel. Keep your house cooler than normal by turning down the thermostat, and close the vents to rooms that are used less often.
- Close doors and air vents to rooms that are not being used.
- Stuff towels or rags in cracks under doors, and cover the windows at night.
- If you need to use alternative heat from a fireplace, wood stove, or space heater, know how to use it safely and appropriately. Carefully follow the manufacturer's directions for use. Adequate ventilation should be provided to avoid the buildup of carbon monoxide.
- If using kerosene heaters, maintain ventilation to avoid buildup to toxic fumes. Keep heaters at least three feet from flammable objects and away from the reach of children. Refuel kerosene heaters outside.
- If you use a gas-powered generator, it must be set up in a dry outdoor area and away from air intakes to avoid carbon monoxide poisoning. Be sure to follow manufacturer's instructions, and check the wattage requirements/limits.
- Keep your body nourished. Consume enough calories to provide your body with energy so it can produce its own heat. Drink plenty of water to prevent dehydration.

## **STRANDED OUTDOORS?**

Before planning outdoor activities during the winter months, take a moment to check your local forecast. Listen to local radio or television stations or a NOAA weather radio. Weather updates from one of these sources can help you determine if outdoor activities can be safely enjoyed. It's always a wise idea to plan your activities around the weather. However, if you find yourself stranded outdoors during severe winter conditions, these tips may be helpful:

- Find shelter. If you cannot locate shelter, find a place to escape from direct wind, such as a lean-to.
- Try to mark the spot you are sheltering in so that rescuers can find you.
- Make an effort to stay dry.

- Try to build a small fire for heat and to attract attention.
- Don't eat snow—it will lower your body temperature. Melt the snow first.
- Don't overexert yourself.

## Resources:

American Red Cross – Staying Safe in Cold Weather

<http://www.redcross.org/services/hss/tips/coldweather.html>

Kemper, Donald W. (2003) Healthwise Handbook: A Self-Care Guide for You (16<sup>th</sup> ed.). Boise, ID: Healthwise, Inc.

NOAA National Weather Service – Wind Chill Temperature Index

<http://www.nws.noaa.gov/om/windchill/index.shtml>

NOAA National Weather Service – Winter Storms: The Deceptive Killers

<http://www.weather.gov/om/winterstorm/winterstorms.pdf>

Winter Preparedness Safety Tips

<http://www.fema.gov/hazards/winterstorms/wntsft.shtml>

*This information was written by Lisa Norman with Texas Cooperative Extension, The Texas A&M University System, November 2005, <http://fcs.tamu.edu/>.*

---

*Educational programs of Texas AgriLife Extension Service are open to all people without regard to race, color, sex, disability, religion, age, or national origin.*

Issued in furtherance of Cooperative Extension Work in Agriculture and Home Economics, Acts of Congress of May 8, 1914, as amended, and June 30, 1914, in cooperation with the United States Department of Agriculture, Edward G. Smith, Director, Texas Cooperative Extension, The Texas A&M University System.