

EXTREME COLD

A Cold Weather Guide Promoting Your Personal Health & Safety



Source: U.S. Department of Health And Human Services & Centers for Disease Control and Prevention
A condensed version of the CDC's Extreme COLD Weather Guide. www.bt.cdc.gov/disasters/winter



For more information on community resources, please contact:

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When winter temperatures drop below normal, staying warm and safe can become a challenge. Extremely cold temperatures often accompany a winter storm, so you may have to cope with power failures and icy roads. Although staying indoors as much as possible can help reduce the risk of car crashes and falls on the ice, you may also face indoor hazards. Many homes will be too cold—either due to a power failure or because the heating system isn't adequate for the weather. When people must use space heaters and fireplaces to stay warm, the risk of household fires increases, as well as the risk of carbon monoxide poisoning. Exposure to cold temperatures, whether indoors or outside, can cause other serious or life-threatening health problems. Infants and the elderly are particularly at risk, but anyone can be affected. To keep yourself and your family safe, you should know how to prevent cold-related health problems and what to do if a cold-weather health emergency arises.

Plan Ahead

Prepare for extremely cold weather every winter—it's always a possibility. There are steps you can take in advance for greater wintertime safety in your home and in your car.

Emergency Supplies List:

- an alternate way to heat your home during a power failure:
 - dry firewood for a fireplace or wood stove, or
 - kerosene for a kerosene heater
- electric space heater with automatic shut-off switch and non-glowing elements
- blankets
- matches and extra batteries
- multipurpose, dry-chemical fire extinguisher
- first aid kit and instruction manual
- flashlight or battery-powered lantern
- battery-powered radio, clock or watch
- non-electric can opener
- snow shovel, rock salt
- special needs items (diapers, hearing aid batteries, medications, etc.)

Prepare Your Home for Winter

Although periods of extreme cold cannot always be predicted far in advance, weather forecasts can sometimes provide you with several days' notice. Listen to weather forecasts regularly, and check your emergency supplies whenever a period of extreme cold is predicted.

Winter Survival Kit for Your Home

Keep several days' supply of these items:

- **Food** that needs no cooking or refrigeration, such as bread, crackers, cereal, canned foods.
- **Water** stored in clean containers, or purchased bottled water (5 gallons per person) in case your water pipes freeze and rupture.
- **Medicines** that any family member may need.

If your area is prone to long periods of cold temperatures, or if your home is isolated, stock additional amounts of food, water, and medicine.

- If you plan to use a fireplace or wood stove for emergency heating, have your chimney or flue inspected each year and if you'll be using a fireplace, wood stove, or kerosene heater, install a smoke detector and a battery-operated carbon monoxide detector near the area to be heated.
- Insulate any water lines that run along exterior walls so your water supply will be less likely to freeze. To the extent possible, weatherproof your home by adding weather stripping, insulation, insulated doors and storm windows, or thermal-pane windows.

Prepare Your Car for Winter

You can avoid many dangerous winter travel problems by planning ahead. Every fall:

- Have the radiator system serviced, or check the antifreeze level yourself with an antifreeze tester. Add antifreeze, as needed.
- Replace windshield-wiper fluid with a wintertime mixture.
- Replace any worn tires, and check the air pressure in the tires.
- During winter, keep the gas tank near full to help avoid ice in the tank and fuel lines.

Indoor Safety

Heat Your Home Safely

If you plan to use a wood stove, fireplace, or space heater, be extremely careful, and remember these safety tips:

- Use fireplace, wood stoves, or other combustion heaters only if they are properly vented to the outside and do not leak flue gas into the indoor air space.
- Do not burn paper in a fireplace.
- Ensure adequate ventilation if you must use a kerosene heater.
- Use only the type of fuel your heater is designed to use—don't substitute.
- Do not place a space heater within 3 feet of anything that may catch on fire, such as drapes, furniture, or bedding, and never cover your space heater or place it on top of furniture or near water.
- Make sure that the cord of an electric space heater is not a tripping hazard but do not run the cord under carpets or rugs.
- Avoid using extension cords to plug in your space heater.
- If your space heater has a damaged electrical cord or produces sparks, do not use it.
- Store a multipurpose, dry-chemical fire extinguisher near the area to be heated.
- Protect yourself from carbon monoxide (CO) poisoning by installing a battery-operated CO detector and never using generators, grills, camp stoves, or similar devices indoors.

Light and Cook Safely

If there is a power failure:

- Use battery-powered flashlights or lanterns rather than candles, if possible.
- Never leave lit candles unattended.
- Never use a charcoal or gas grill indoors—the fumes are deadly.
- Never use an electric generator indoors, inside the garage, or near the air intake of your house because of the risk of carbon monoxide poisoning:
- Plug in appliances to the generator using individual heavy-duty, outdoor-rated cords.
- Do not store gasoline indoors where the fumes could ignite.

Keep a Water Supply

Extreme cold can cause water pipes in your home to freeze and sometimes rupture. When very cold temperatures are expected:

- Leave all water taps slightly open so they drip continuously.
- Keep the indoor temperature warm.
- Improve the circulation of heated air near pipes. For example, open kitchen cabinet doors beneath the kitchen sink.

If you cannot thaw your pipes, or the pipes are ruptured, use bottled water or get water from a neighbor's home. As an emergency measure—if no other water is available—snow can be melted for water. Bringing water to a rolling boil for one minute will kill most microorganisms or parasites that may be present, but won't remove chemical pollutants sometimes found in snow.

Eat and Drink Wisely

Eating well-balanced meals will help you stay warmer. Do not drink alcoholic or caffeinated beverages—they cause your body to lose heat more rapidly. Instead, drink warm, sweet beverages or broth to help maintain your body temperature. If you have any dietary restrictions, ask your doctor.

Outdoor Safety

Dress Warmly and Stay Dry

Be sure the outer layer of your clothing is tightly woven, preferably wind resistant, to reduce body-heat loss. Wool, silk, or polypropylene inner layers of clothing will hold more body heat than cotton. Stay dry—wet clothing chills the body rapidly. Excess perspiration will increase heat loss, so remove extra layers of clothing whenever you feel too warm. Do not ignore shivering. It's an important first sign that the body is losing heat. Persistent shivering is a signal to return indoors.

Avoid Exertion

Cold weather puts an extra strain on the heart. If you have heart disease or high blood pressure, follow your doctor's advice about shoveling snow or performing other hard work in the cold. Otherwise, if you have to do heavy outdoor chores, dress warmly and work slowly. Remember, your body is already working hard just to stay warm, so don't overdo it.

Understand Wind Chill

The Wind Chill index is the temperature your body feels when the air temperature is combined with the wind speed. It is based on the rate of

Adults and children should wear:

- a hat
- a scarf or knit mask to cover face and mouth
- sleeves that are snug at the wrist
- mittens rather than gloves
- water-resistant coat and boots
- several layers of loosefitting clothing

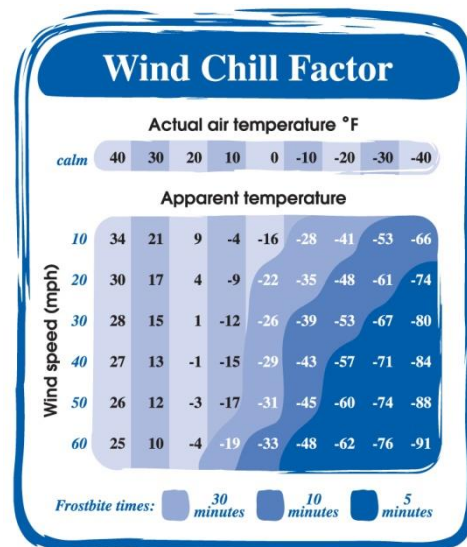
heat loss from exposed skin caused by the effects of wind and cold. As the speed of the wind increases, it can carry heat away from your body much more quickly, causing skin temperature to drop. When there are high winds, serious weather-related health problems are more likely, even when

temperatures are only cool.

The Wind Chill Chart shows the difference between actual air temperature and perceived temperature, and amount of time until frostbite occurs.

Avoid Ice

Walking on ice is extremely dangerous. Many cold-weather injuries result from falls on ice-covered sidewalks, steps, driveways, and porches. Keep your steps and walkways as free of ice as possible by using rock salt or another chemical de-icing compound. Sand may also be used on walkways to reduce the risk of slipping.



National Weather Service (NWS) Wind Chill Chart adapted May 2004 from <http://www.nws.noaa.gov/om/windchill/>

Be Cautious About Travel

- Listen for radio or television reports of travel advisories issued by the National Weather Service.
- Do not travel in low visibility conditions.
- If you must travel by car, use tire chains and take a mobile phone with you and fully charged.
- If you must travel, let someone know your destination and when you expect to arrive. Ask them to notify authorities if you are late.
- Check and restock the winter emergency supplies such as bottled water, blankets and flares.
- Always carry additional warm clothing appropriate for the winter conditions.

What to Do if You Get Stranded

Staying in your vehicle when stranded is often the safest choice if winter storms create poor visibility or if roadways are ice covered. These steps will increase your safety when stranded:

- Tie a brightly colored cloth to the antenna as a signal to rescuers and raise the hood of the car (if it is not snowing).
- Move anything you need from the trunk into the passenger area.
- Wrap your entire body, including your head, in extra clothing, blankets, or newspapers.
- Stay awake. You will be less vulnerable to cold-related health problems.
- Run the motor (and heater) for about 10 minutes per hour, opening one window slightly to let in air. Make sure that snow is not blocking the exhaust pipe—this will reduce the risk of carbon monoxide poisoning.
- As you sit, keep moving your arms and legs to improve your circulation and stay warmer.
- Do not eat unmelted snow because it will lower your body temperature.
- Huddle with other people for warmth.

Cold-Weather Health Emergencies

Hypothermia

When exposed to cold temperatures, your body begins to lose heat faster than it can be produced. Prolonged exposure to cold will eventually use up your body's stored energy. The result is hypothermia, or abnormally low body temperature. Body temperature that is too low affects the brain, making the victim unable to think clearly or move well. This makes hypothermia particularly dangerous because a person may not know it is happening and won't be able to do anything about it. Hypothermia is most likely at very cold temperatures, but it can occur even at cool temperatures (above 40°F) if a person becomes chilled from rain, sweat, or submersion in cold water.

Recognizing Hypothermia

Warnings signs of hypothermia:

- Shivering, exhaustion, confusion, fumbling hands, memory loss, slurred speech and drowsiness.

What to Do

If you notice any of these signs, take the person's temperature. If it is below 95°, the situation is an emergency—get medical attention immediately. If medical care is not available, begin warming the person, as follows:

- Get the victim into a warm room or shelter and remove any wet clothing.
- Warm the center of the body first—chest, neck, head, and groin—using an electric blanket, if available. Or use skin-to-skin contact under loose, dry layers of blankets, clothing, towels, or sheets.
- Warm beverages can help increase the body temperature, but do not give alcoholic beverages. Do not try to give beverages to an unconscious person.
- After body temperature has increased, keep the person dry and wrapped in a warm blanket, including the head and neck.
- Get medical attention as soon as possible.

A person with severe hypothermia may be unconscious and may not seem to have a pulse or to be breathing. In this case, handle the victim gently, and get emergency assistance immediately. Even if the victim appears dead, CPR should be provided.

Frostbite

Frostbite is an injury to the body that is caused by freezing. Frostbite causes a loss of feeling and color in affected areas. It most often affects the nose, ears, cheeks, chin, fingers, or toes. The risk of frostbite is increased in people with reduced blood circulation and among people who are not dressed properly for extremely cold temperatures.

Recognizing Frostbite

At the first signs of redness or pain in any skin area, get out of the cold or protect any exposed skin—frostbite may be beginning. Also look for a white or grayish-yellow skin area, skin that feels unusually firm or waxy and numbness. A victim is often unaware of frostbite until someone else points it out because the frozen tissues are numb.

What to Do

If you detect symptoms of frostbite, seek medical care. Because frostbite and hypothermia both result from exposure, first determine whether the victim also shows signs of hypothermia, as described previously.

- Get into a warm room as soon as possible.
- Unless absolutely necessary, do not walk on frostbitten feet or toes—this increases the damage.
- Immerse the affected area in warm—not hot—water (the temperature should be comfortable to the touch for unaffected parts of the body).
- Do not rub the frostbitten area with snow or massage it at all. This can cause more damage.
- Don't use a heating pad, heat lamp, or the heat of a stove, fireplace, or radiator for warming. Affected areas are numb and can be easily burned.

These procedures are not substitutes for proper medical care. Hypothermia is a medical emergency and frostbite should be evaluated by a health care provider. It is a good idea to take a first aid and emergency resuscitation (CPR) course to prepare for cold-weather health problems. Knowing what to do is an important part of protecting your health and the health of others.