



Public Health
Prevent. Promote. Protect.

Pike County General Health District

Tornado Safety Recommendations

Updated March 2008

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*The following pages were compiled based on information from the Centers
for Disease Control and Prevention.*

Tornado Basics

Although tornadoes are occasionally reported in other parts of the world, most occur in the United States east of the Rocky Mountains during the spring and summer. However, tornadoes can occur in any state at any time of the year. Nationally, an average of 800 tornadoes are sighted each year, causing about 80 deaths and more than 1,500 injuries.

About Tornadoes

A tornado is a violent whirlwind--a rotating funnel of air that extends from a cloud to the ground. Tornadoes can travel for many miles at speeds of 250 miles per hour or more. These storms change direction without warning, randomly destroying homes and power lines, uprooting trees, and even hurling large objects--such as automobiles--over long distances.

Tornadoes usually accompany severe thunderstorms. Occasionally, tornadoes occur during tropical storms or hurricanes. The path of damage left behind by a tornado averages 9 miles long by 200 yards wide, but a severe tornado can damage an area up to 50 miles long and a mile wide.

Tornadoes that occur over oceans and lakes are called *waterspouts*. Because they rotate less vigorously and affect less-populated areas, waterspouts are usually not as destructive as tornadoes; however, waterspouts can move inland and become tornadoes. Waterspouts are more common in the Southeast, particularly along the Gulf Coast, but can form over any body of warm water.

The most destructive force in a tornado is the updraft in the funnel. As this unstable air moves upward at high speed, it can suction up houses and trees and move them hundreds of feet.

How Tornadoes are Formed

When unseasonably warm humid air collides with a cold front, intense thunderstorm clouds form and tornadoes may develop.

As warm air rises within the storm clouds, cooler air rushes in from the sides, creating a whirling wind that draws surrounding air toward its center.

An area of strong rotation develops, 2 to 6 miles wide. Next to appear is a dark, low cloud base called a rotating wall cloud.

Moments later, as rotation becomes even stronger, a funnel develops.

Preparing for a Tornado

Stay Tuned for Storm Watches and Warnings

When there are thunderstorms in your area, turn on your radio or TV to get the latest emergency information from local authorities. Listen for announcements of a tornado watch or tornado warning.

Local Warning System

Learn about the tornado warning system of your county or locality. Most tornado-prone areas have a siren system. Know how to distinguish between the siren's warnings for a tornado *watch* and a tornado *warning*.

A **tornado watch** is issued when weather conditions favor the formation of tornadoes, for example, during a severe thunderstorm.

During a tornado **watch**,

- Stay tuned to local radio and TV stations or a National Oceanographic and Atmospheric Administration (NOAA) Weather Radio for further weather information.
- Watch the weather and be prepared to take shelter immediately if conditions worsen.

A **tornado warning** is issued when a tornado funnel is sighted or indicated by weather radar.

After a tornado warning is issued, *you should take shelter immediately*.

Thunderstorms

Because tornadoes often accompany thunderstorms, pay close attention to changing weather conditions when there is a severe thunderstorm watch or warning.

A **severe thunderstorm watch** means severe thunderstorms are possible in your area.

A **severe thunderstorm warning** means severe thunderstorms are occurring in your area.

Keep fresh batteries and a battery-powered radio or TV on hand. Electrical power is often interrupted during thunderstorms--just when information about weather warnings is most needed.

Important Measures To Take

- Take a few minutes with your family to develop a tornado emergency plan. Sketch a floor plan of where you live, or walk through each room and discuss where and how to seek shelter.
- Show a second way to exit from each room or area. If you need special equipment, such as a rope ladder, mark where it is located.
- Make sure everyone understands the siren warning system, if there's such a system in your area.
- Mark where your first-aid kit and fire extinguishers are located.
- Mark where the utility switches or valves are located so they can be turned off--if time permits--in an emergency.
- Teach your family how to administer basic first aid, how to use a fire extinguisher, and how and when to turn off water, gas, and electricity in your home.
- Learn the emergency dismissal policy for your child's school.
- Make sure your children know--
 - What a tornado is
 - What tornado watches and warnings are
 - What county or parish they live in (warnings are issued by county or parish)
 - How to take shelter, whether at home or at school.

Extra Measures for People with Special Needs

- Write down your specific needs, limitations, capabilities, and medications. Keep this list near you always--perhaps in your purse or wallet.
- Find someone nearby (a spouse, roommate, friend, neighbor, relative, or co-worker) who will agree to assist you in case of an emergency. Give him or her a copy of your list. You may also want to provide a spare key to your home, or directions to find a key.
- Keep aware of weather conditions through whatever means are accessible to you. Some options are closed captioning or scrolled warnings on TV, radio bulletins, or call-in weather information lines.

Practicing Your Emergency Plan

Conduct drills and ask questions to make sure your family remembers information on tornado safety, particularly how to recognize hazardous weather conditions and how to take shelter.

Writing Down Important Information

A [blank form](#) is provided for you to write down important names and numbers.

Make a list of important information. Include these on your list:

- Important telephone numbers, such as emergency (police and fire), paramedics, and medical centers.
- Names, addresses, and telephone numbers of your insurance agents, including policy types and numbers.
- Telephone numbers of the electric, gas, and water companies.
- Names and telephone numbers of neighbors.
- Name and telephone number of your landlord or property manager.
- Important medical information (for example, allergies, regular medications, and brief medical history).
- Year, model, license, and identification numbers of your vehicles (automobiles, boats, and RVs).
- Bank's or credit union's telephone number, and your account numbers.
- Radio and television broadcast stations to tune to for emergency broadcast information.

Storing Important Documents

Store the following documents in a fire- and water-proof safe:

- Birth certificates
- Ownership certificates (autos, boats, etc.)
- Social security cards
- Insurance policies
- Will
- Household inventory
 - List of contents of household; include serial numbers, if applicable

- Photographs or videotape of contents of every room
- Photographs of items of high values, such as jewelry, paintings, collection items

First Aid Kit

Store your first aid supplies in a tool box or fishing tackle box so they will be easy to carry and be protected from water. Inspect your kit regularly and keep it freshly stocked.

Drugs and Medications

- Hydrogen peroxide to wash and disinfect wounds
- Antibiotic ointment
- Individually wrapped alcohol swabs
- Aspirin and non-aspirin tablets
- Prescriptions and any long-term medications (keep these current)
- Diarrhea medicine
- Eye drops

NOTE: Important medical information and most prescriptions can be stored in the refrigerator, which provides excellent protection from fires.

Dressings

- Band-aids
- Clean sheets torn into strips
- Elastic bandages
- Rolled gauze
- Cotton-tipped swabs
- Adhesive tape roll

Other First Aid Supplies

- First aid book
- Writing materials
- Scissors
- Tweezers
- Thermometer
- Bar soap
- Tissues
- Sunscreen
- Paper cups
- Plastic bags

- Safety pins
- Needle and thread
- Instant cold packs for sprains
- Sanitary napkins
- Pocket knife
- Splinting material

Reducing Household Hazards

Home Inspection Checklist

The following suggestions will reduce the risk for injury during or after a tornado. No amount of preparation will eliminate every risk.

Possible Hazards

Inspect your home for possible hazards, including the following:

- Are walls securely bolted to the foundation?
- Are wall studs attached to the roof rafters with metal hurricane clips, not nails?

Utilities

- Do you know where and how to shut off utilities at the main switches or valves?

Home Contents

- Are chairs or beds near windows, mirrors, or large pictures?
- Are heavy items stored on shelves more than 30" high?
- Are there large, unsecured items that might topple over or fall?
- Are poisons, solvents, or toxic materials stored safely ?

Securing Your Home's Structure

No home is completely safe in a tornado. However, attention to construction details can reduce damage and provide better protection for you and your family if a tornado should

strike your house. If an inspection using the "Home Inspection Checklist" reveals a possible hazard in the way your home is constructed, contact your local city or county building inspectors for more information about structural safety. They may also offer suggestions on finding a qualified contractor to do any needed work for you.

Walls and Roof Rafters

Strengthen the areas of connection between the wall studs and roof rafters with hurricane clips as shown in the above graphic.

Shutting Off Utilities

Gas

After a tornado, DO NOT USE matches, lighters, or appliances, or operate light switches until you are sure there are no gas leaks. Sparks from electrical switches could ignite gas and cause an explosion.

If you smell the odor of gas or if you notice a large consumption of gas being registered on the gas meter, shut off the gas immediately. First, find the main shut-off valve located on a pipe next to the gas meter. Use an adjustable wrench to turn the valve to the "off" position.

Electricity

After a major disaster, shut off the electricity. Sparks from electrical switches could ignite leaking gas and cause an explosion.

Water

- Water may be turned off at either of two locations:
 1. At the main meter, which controls the water flow to the entire property.
 2. At the water main leading into the home. If you may need an emergency source of fresh water, it is better to shut off your water here, because it will conserve the water in your water heater.
- Attach a valve wrench to the water line. (This tool can be purchased at most hardware stores.)
- Label the water mains for quick identification.

Arranging and Securing Household Items

- Arrange furniture so that chairs and beds are away from windows, mirrors, and picture frames.
- Place heavy or large items on lower shelves.
- Secure your large appliances, especially your water heater, with flexible cable, braided wire, or metal strapping.
- Identify top-heavy, free-standing furniture, such as bookcases and china cabinets, that could topple over.
- Secure your furniture by using one of two methods.
 1. "L" brackets, corner brackets, or aluminum molding, to attach tall or top-heavy furniture to the wall.
 2. Eyebolts, to secure items located a short distance from the wall.
- Install sliding bolts or childproof latches on all cabinet doors.
- Store all hazardous materials such as poisons and solvents--
 - in a sturdy, latched or locked cabinet
 - in a well-ventilated area
 - away from emergency food or water supplies

During a Tornado

Signs of an Approaching Storm

Some tornadoes strike rapidly, without time for a tornado warning, and sometimes without a thunderstorm in the vicinity. When you are watching for rapidly emerging tornadoes, it is important to know that you cannot depend on seeing a funnel: clouds or rain may block your view. The following weather signs may mean that a tornado is approaching:

- A dark or green-colored sky.
- A large, dark, low-lying cloud.
- Large hail.
- A loud roar that sounds like a freight train.

If you notice any of these weather conditions, take cover immediately, and keep tuned to local radio and TV stations or to a NOAA weather radio.

NOAA Weather Radios

NOAA weather radios are the best way to receive warnings from the National Weather Service. By using a NOAA weather radio, you can receive continuous updates on all the weather conditions in your area. The range of these radios depends on where you live, but the average range is 40 miles. The radios are sold in many stores. The National Weather Service recommends buying a radio with a battery backup (in case the power goes off) and a tone-alert feature that automatically sounds when a weather watch or warning is issued.

Sighting a Funnel Cloud

If you see a funnel cloud nearby, take shelter immediately (see the following section for instructions on shelter). However, if you spot a tornado that is far away, help alert others to the hazard by reporting it to the newsroom of a local radio or TV station before taking shelter as described later. Use common sense and exercise caution: if you believe that you might be in danger, seek shelter immediately.

Taking Shelter

Your family could be anywhere when a tornado strikes--at home, at work, at school, or in the car. Discuss with your family where the best tornado shelters are and how family members can protect themselves from flying and falling debris.

The key to surviving a tornado and reducing the risk of injury lies in planning, preparing, and practicing what you and your family will do if a tornado strikes. Flying debris causes most deaths and injuries during a tornado. Although there is no *completely* safe place during a tornado, some locations are much safer than others.

At Home

Pick a place in the home where family members can gather if a tornado is headed your way. One basic rule is *AVOID WINDOWS*. An exploding window can injure or kill.

The safest place in the home is the interior part of a basement. If there is no basement, go to an inside room, without windows, on the lowest floor. This could be a center hallway, bathroom, or closet.

For added protection, get under something sturdy such as a heavy table or workbench. If possible, cover your body with a blanket, sleeping bag, or mattress, and protect your head with anything available--even your hands. Avoid taking shelter where there are heavy objects, such as pianos or refrigerators, on the area of floor that is directly above you. They could fall through the floor if the tornado strikes your house.

In a Mobile Home

DO NOT STAY IN A MOBILE HOME DURING A TORNADO. Mobile homes can turn over during strong winds. Even mobile homes with a tie-down system cannot withstand the force of tornado winds.

Plan ahead. If you live in a mobile home, go to a nearby building, preferably one with a basement. If there is no shelter nearby, lie flat in the nearest ditch, ravine, or culvert and shield your head with your hands.

If you live in a tornado-prone area, encourage your mobile home community to build a tornado shelter.

On the Road

The least desirable place to be during a tornado is in a motor vehicle. Cars, buses, and trucks are easily tossed by tornado winds.

DO NOT TRY TO OUTFRAN A TORNADO IN YOUR CAR. If you see a tornado, stop your vehicle and get out. Do not get under your vehicle. Follow the directions for seeking shelter outdoors (see next section).

Outdoors

If you are caught outside during a tornado and there is no adequate shelter immediately available--

- Avoid areas with many trees.
- Avoid vehicles.
- Lie down flat in a gully, ditch, or low spot on the ground.
- Protect your head with an object or with your arms.

Long-Span Buildings

A long-span building, such as a shopping mall, theater, or gymnasium, is especially dangerous because the roof structure is usually supported solely by the outside walls. Most such buildings hit by tornados cannot withstand the enormous pressure. They simply collapse.

If you are in a long-span building during a tornado, stay away from windows. Get to the lowest level of the building--the basement if possible--and away from the windows.

If there is no time to get to a tornado shelter or to a lower level, try to get under a door frame or get up against something that will support or deflect falling debris. For instance, in a department store, get up against heavy shelving or counters. In a theater, get under the seats. Remember to protect your head.

Office Buildings, Schools, Hospitals, Churches, and Other Public Buildings

Extra care is required in offices, schools, hospitals, or any building where a large group of people is concentrated in a small area. The exterior walls of such buildings often have large windows.

If you are in any of these buildings--

- Move away from windows and glass doorways.
- Go to the innermost part of the building on the lowest possible floor.
- Do not use elevators because the power may fail, leaving you trapped.
- Protect your head and make yourself as small a target as possible by crouching down.

Shelter for People with Special Needs

Advance planning is especially important if you require assistance to reach shelter from an approaching storm (see specific instructions in the next section).

- If you are in a wheelchair, get away from windows and go to an interior room of the house. If possible, seek shelter under a sturdy table or desk. Do cover your head with anything available, even your hands.
- If you are unable to move from a bed or a chair and assistance is not available, protect yourself from falling objects by covering up with blankets and pillows.
- If you are outside and a tornado is approaching, get into a ditch or gully. If possible, lie flat and cover your head with your arms.

Recovery from a Tornado

Injury may result from the direct impact of a tornado, or it may occur afterward when people walk among debris and enter damaged buildings. A study of injuries after a tornado in Marion, Illinois, showed that 50 percent of the tornado-related injuries were suffered during rescue attempts, cleanup, and other post-tornado activities. Nearly a third of the injuries resulted from stepping on nails. Other common causes of injury included falling objects and heavy, rolling objects. Because tornadoes often damage power lines, gas lines, or electrical systems, there is a risk of fire, electrocution, or an explosion. Protecting yourself and your family requires promptly treating any injuries suffered during the storm and using extreme care to avoid further hazards.

Injuries

Check for injuries. Do not attempt to move seriously injured people unless they are in immediate danger of further injury. Get medical assistance immediately. If someone has stopped breathing, begin CPR if you are trained to do so. Stop a bleeding injury by applying direct pressure to the wound. Have any puncture wound evaluated by a physician. If you are trapped, try to attract attention to your location.

General Safety Precautions

Here are some safety precautions that could help you avoid injury after a tornado:

- Continue to monitor your battery-powered radio or television for emergency information.
- Be careful when entering any structure that has been damaged.
- Wear sturdy shoes or boots, long sleeves, and gloves when handling or walking on or near debris.
- Be aware of hazards from exposed nails and broken glass.
- Do not touch downed power lines or objects in contact with downed lines. Report electrical hazards to the police and the utility company.
- Use battery-powered lanterns, if possible, rather than candles to light homes without electrical power. If you use candles, make sure they are in safe holders away from curtains, paper, wood, or other flammable items. Never leave a candle burning when you are out of the room.
- Never use generators, pressure washers, grills, camp stoves, or other gasoline, propane, natural gas, or charcoal-burning devices inside your home, basement, garage, or camper—or even outside near an open window, door, or vent. Carbon

monoxide (CO)--an odorless, colorless gas that can cause sudden illness and death if you breathe it--from these sources can build up in your home, garage, or camper and poison the people and animals inside. Seek prompt medical attention if you suspect CO poisoning and are feeling dizzy, light-headed, or nauseated.

- Hang up displaced telephone receivers that may have been knocked off by the tornado, but stay off the telephone, except to report an emergency.
- Cooperate fully with public safety officials.
- Respond to requests for volunteer assistance by police, fire fighters, emergency management, and relief organizations, but do not go into damaged areas unless assistance has been requested. Your presence could hamper relief efforts, and you could endanger yourself.

Inspecting the Damage

- After a tornado, be aware of possible structural, electrical, or gas-leak hazards in your home. Contact your local city or county building inspectors for information on structural safety codes and standards. They may also offer suggestions on finding a qualified contractor to do work for you.
- In general, if you suspect any damage to your home, shut off electrical power, natural gas, and propane tanks to avoid fire, electrocution, or explosions.
- If it is dark when you are inspecting your home, use a flashlight rather than a candle or torch to avoid the risk of fire or explosion in a damaged home.
- If you see frayed wiring or sparks, or if there is an odor of something burning, you should immediately shut off the electrical system at the main circuit breaker if you have not done so already.
- If you smell gas or suspect a leak, turn off the main gas valve, open all windows, and leave the house immediately. Notify the gas company, the police or fire departments, or State Fire Marshal's office, and do not turn on the lights, light matches, smoke, or do anything that could cause a spark. Do not return to your house until you are told it is safe to do so.

Safety During Clean Up

- Wear sturdy shoes or boots, long sleeves, and gloves.
- Learn proper safety procedures and operating instructions before operating any gas-powered or electric-powered saws or tools.

- Clean up spilled medicines, drugs, flammable liquids, and other potentially hazardous materials.

Children's Needs

After a tornado, children may be afraid the storm will come back again and they will be injured or left alone. Children may even interpret disasters as punishment for real or imagined misdeeds. Explain that a tornado is a natural event.

Children will be less likely to experience prolonged fear or anxiety if they know what to expect after a tornado. Here are some suggestions:

- Talk about your own experiences with severe storms, or read aloud a book about tornadoes.
- Encourage your child to express feelings of fear. Listen carefully and show understanding.
- Offer reassurance. Tell your child that the situation is not permanent, and provide physical reassurance through time spent together and displays of affection.
- Include your child in clean-up activities. It is comforting to children to watch the household begin to return to normal and to have a job to do.

NOTE: Symptoms of anxiety may not appear for weeks or even months after a tornado; they can affect people of any age. If anxiety disrupts daily activities for any member of your family, seek professional assistance through a school counselor, community religious organization, your physician, or a licensed professional. Counselors are listed under Mental Health Services in the yellow pages of your telephone directory.



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Power Outage Safety Recommendations

Updated March 2008

Food Safety

If the power is out for less than 2 hours, then the food in your refrigerator and freezer will be safe to consume. While the power is out, keep the refrigerator and freezer doors closed as much as possible to keep food cold for longer.

If the power is out for longer than 2 hours, follow the guidelines below:

- For the Freezer section: A freezer that is half full will hold food safely for up to 24 hours. A full freezer will hold food safely for 48 hours. Do not open the freezer door if you can avoid it.
- For the Refrigerated section: Pack milk, other dairy products, meat, fish, eggs, gravy, and spoilable leftovers into a cooler surrounded by ice. Inexpensive Styrofoam coolers are fine for this purpose.
- Use a food thermometer to check the temperature of your food right before you cook or eat it. Throw away any food that has a temperature of more than 40 degrees Fahrenheit.

For guidelines on refreezing food when the power comes back on, visit the Food Safety and Inspection Service's page on [Food Safety in an Emergency](#).

The following resources provide additional information on preparing for emergencies and determining if your food is safe after a power outage:

- [Food Safety After a Power Outage, American Red Cross](#)
Provides tips on safely storing your food and a chart to help you determine if your food is still safe.
- [Keeping Food Safe in an Emergency, United States Department of Agriculture](#)
Fact sheet and FAQs on food and water safety including guidance on when to discard perishable foods.
- [Being Prepared, American Red Cross](#)
Comprehensive site on preparing for emergencies including power outages.
- [Food Safety Office, CDC](#)
Comprehensive food safety information.

Safe Drinking Water

When power goes out, water purification systems may not be functioning fully. Safe water for drinking, cooking, and personal hygiene includes bottled, boiled, or treated water. Your state, local, or tribal health department can make specific recommendations for boiling or treating water in your area. Here are some general rules concerning water for drinking, cooking, and personal hygiene. Remember:

- Do not use contaminated water to wash dishes, brush your teeth, wash and prepare food, wash your hands, make ice, or make baby formula. If possible, use

baby formula that does not need to have water added. You can use an alcohol-based hand sanitizer to wash your hands.

- If you use bottled water, be sure it came from a safe source. If you do not know that the water came from a safe source, you should boil or treat it before you use it. Use only bottled, boiled, or treated water until your supply is tested and found safe.
- Boiling water, when practical, is the preferred way to kill harmful bacteria and parasites. Bringing water to a rolling boil for 1 minute will kill most organisms.
- When boiling water is not practical, you can treat water with chlorine tablets, iodine tablets, or unscented household chlorine bleach (5.25% sodium hypochlorite):
 - If you use chlorine tablets or iodine tablets, follow the directions that come with the tablets.
 - If you use household chlorine bleach, add 1/8 teaspoon (~0.75 mL) of bleach per gallon of water if the water is clear. For cloudy water, add 1/4 teaspoon (~1.50 mL) of bleach per gallon. Mix the solution thoroughly and let it stand for about 30 minutes before using it.

Note: Treating water with chlorine tablets, iodine tablets, or liquid bleach will not kill parasitic organisms.

Use a bleach solution to rinse water containers before reusing them. Use water storage tanks and other types of containers with caution. For example, fire truck storage tanks and previously used cans or bottles may be contaminated with microbes or chemicals. Do not rely on untested devices for decontaminating water.

Extreme Heat and Cold

Heat

Be aware of yours and others' risk for heat stroke, heat exhaustion, heat cramps and fainting. To avoid heat stress, you should:

- Drink a glass of fluid every 15 to 20 minutes and at least one gallon each day.
 - Avoid alcohol and caffeine. They both dehydrate the body.
- Wear light-colored, loose-fitting clothing.
- When indoors without air conditioning, open windows if outdoor air quality permits and use fans.
- Take frequent cool showers or baths.
- If you feel dizzy, weak, or overheated, go to a cool place. Sit or lie down, drink water, and wash your face with cool water. If you don't feel better soon, get medical help quickly.
- Work during cooler hours of the day when possible, or distribute the workload evenly throughout the day.

Heat stroke is the most serious heat illness. It happens when the body can't control its own temperature and its temperature rises rapidly. Sweating fails and the body cannot cool down. Body temperature may rise to 106°F or higher within 10 to 15 minutes. Heat stroke can cause death or permanent disability if emergency care is not given.

Warning signs of heat stroke vary but can include:

- Red, hot, and dry skin (no sweating)
- Rapid, strong pulse
- Throbbing headache
- Dizziness, nausea, confusion, or unconsciousness
- An extremely high body temperature (above 103°F)

If you suspect someone has heat stroke, follow these instructions:

- Immediately call for medical attention.
- Get the person to a cooler area.
- Cool the person rapidly by immersing him/her in cool water or a cool shower, or spraying or sponging him/her with cool water. If the humidity is low, wrap the person in a cool, wet sheet and fan him/her vigorously.
- Monitor body temperature and continue cooling efforts until the body temperature drops to 101-102°F.
- Do not give the person alcohol to drink. Get medical assistance as soon as possible.
- If emergency medical personnel do not arrive quickly, call the hospital emergency room for further instructions.

For more information on heat-related illnesses and treatment, see the [CDC Extreme Heat website](#). Information for workers can be found on the NIOSH webpage [Working in Hot Environments](#).

These resources also provide information about extreme heat:

- [Public Health Issues Related to Summertime Blackouts](#)
- [Heat Stress, NIOSH \(National Institute for Occupational Safety and Health\)](#)
Comprehensive heat-induced occupational illness and injury information.

Cold

Hypothermia happens when a person's core body temperature is lower than 35°C (95°F). Hypothermia has three levels: acute, subacute, or chronic.

- **Acute hypothermia** is caused by a rapid loss of body heat, usually from immersion in cold water.
- **Subacute hypothermia** often happens in cool outdoor weather (below 10°C or 50°F) when wind chill, wet or too little clothing, fatigue, and/or poor nutrition lower the body's ability to cope with cold.

- **Chronic hypothermia** happens from ongoing exposure to cold indoor temperatures (below 16°C or 60°F). The poor, the elderly, people who have hypothyroidism, people who take sedative-hypnotics, and drug and alcohol abusers are prone to chronic hypothermia, and they typically:
 - misjudge cold
 - move slowly
 - have poor nutrition
 - wear too little clothing
 - have poor heating system

Causes of Hypothermia

- Cold temperatures
- Improper clothing, shelter, or heating
- Wetness
- Fatigue, exhaustion
- Poor fluid intake (dehydration)
- Poor food intake
- Alcohol intake

Preventing Hypothermia

- Everyone, especially the elderly and ill, should have adequate food, clothing, shelter, and sources of heat.
- Electric blankets can help, even in poorly heated rooms.
- Wear layers of clothing, which help to keep in body heat.
- Move around. Physical activity raises body temperature.

Water cooler than 75°F (24°C) removes body heat more rapidly than can be replaced. The result is hypothermia. To avoid hypothermia:

- Avoid swimming or wading in water if possible.
 - If entering water is necessary:
- Wear high rubber boots in water.
- Ensure clothing and boots have adequate insulation.
- Avoid working/playing alone.
- Take frequent breaks out of the water.
- Change into dry clothing when possible.

Helping Someone Who Is Hypothermic

As the body temperature decreases, the person will be less awake and aware and may be confused and disoriented. Because of this, even a mildly hypothermic person might not think to help himself/herself.

- Even someone who shows no signs of life should be brought quickly and carefully to a hospital or other medical facility.

- Do not rub or massage the skin.
- People who have severe hypothermia must be carefully rewarmed and their temperatures must be monitored.
 - Do not use direct heat or hot water to warm the person.
- Give the person warm beverages to drink.
- Do not give the person alcohol or cigarettes. Blood flow needs to be improved, and these slow blood flow.

For more information about hypothermia, see [Extreme Cold: A Prevention Guide to Promote Your Personal Health and Safety](#).

First Aid for Electrical Shock

If you believe someone has been electrocuted take the following steps:

1. Look first. Don't touch. The person may still be in contact with the electrical source. Touching the person may pass the current through you.
2. Call or have someone else call 911 or emergency medical help.
3. Turn off the source of electricity if possible. If not, move the source away from you and the affected person using a nonconducting object made of cardboard, plastic or wood.
4. Once the person is free of the source of electricity, check the person's breathing and pulse. If either has stopped or seems dangerously slow or shallow, begin cardiopulmonary resuscitation (CPR) immediately.
5. If the person is faint or pale or shows other signs of shock, lay the person down with the head slightly lower than the trunk of his or her body and the legs elevated.
6. Don't touch burns, break blisters, or remove burned clothing. Electrical shock may cause burns inside the body, so be sure the person is taken to a doctor.

Power Line Hazards and Cars

If a power line falls on a car, you should stay inside the vehicle. This is the safest place to stay. Warn people not to touch the car or the line. Call or ask someone to call the local utility company and emergency services.

The only circumstance in which you should consider leaving a car that is in contact with a downed power line is if the vehicle catches on fire. Open the door. Do not step out of the car. You may receive a shock. Instead, jump free of the car so that your body clears the vehicle before touching the ground. Once you clear the car, shuffle at least 50 feet away, with both feet on the ground.

As in all power line related emergencies, call for help immediately by dialing 911 or call your electric utility company's Service Center/Dispatch Office.

Do not try to help someone else from the car while you are standing on the ground.

Avoid Carbon Monoxide

For important information about the risk of carbon monoxide poisoning during a power outage, see [Protect Yourself from Carbon Monoxide Poisoning After an Emergency](#) and [Carbon Monoxide Poisoning Fact Sheet](#) (from CDC's National Center for Environmental Health [NCEH]).

Safety at Work During Power Recovery

As power returns after an outage, people at work may be at risk of electrical or traumatic injuries as power lines are reenergized and equipment is reactivated. CDC recommends that employers and employees be aware of those risks and take protective steps if they are in contact with or in proximity to power lines, electrical components, and the moving parts of heavy machinery. More information on electrical safety is available in our fact sheet on [Worker Safety in Power Outages](#) or at www.cdc.gov/niosh/injury/traumaelec.html.

Be Prepared for an Emergency

CDC recommends that people make an emergency plan that includes a disaster supply kit. This kit should include enough water, dried and canned food, and emergency supplies (flashlights, batteries, first-aid supplies, prescription medicines, and a digital thermometer) to last at least 3 days. Use battery-powered flashlights and lanterns, rather than candles, gas lanterns, or torches (to minimize the risk of fire). You can find more information on emergency plans and supply kits at www.ready.gov.



Public Health
Prevent. Promote. Protect.

Pike County General Health District

Carbon Monoxide Safety Recommendations

Updated March 2008

Carbon monoxide (CO) is an odorless, colorless gas that can cause sudden illness and death if inhaled.

When power outages occur during emergencies such as hurricanes or winter storms, the use of alternative sources of fuel or electricity for heating, cooling, or cooking can cause CO to build up in a home, garage, or camper and to poison the people and animals inside.

Every year, more than 500 people die in the U. S. from accidental CO poisoning.

CO is found in combustion fumes, such as those produced by small gasoline engines, stoves, generators, lanterns, and gas ranges, or by burning charcoal and wood. CO from these sources can build up in enclosed or partially enclosed spaces. People and animals in these spaces can be poisoned and can die from breathing CO.

How to Recognize CO Poisoning

Exposure to CO can cause loss of consciousness and death. The most common symptoms of CO poisoning are headache, dizziness, weakness, nausea, vomiting, chest pain, and confusion. People who are sleeping or who have been drinking alcohol can die from CO poisoning before ever having symptoms.

Important CO Poisoning Prevention Tips

- Never use a gas range or oven to heat a home.
- Never use a charcoal grill, hibachi, lantern, or portable camping stove inside a home, tent, or camper.
- Never run a generator, pressure washer, or any gasoline-powered engine inside a basement, garage, or other enclosed structure, even if the doors or windows are open, unless the equipment is professionally installed and vented. Keep vents and flues free of debris, especially if winds are high. Flying debris can block ventilation lines.
- Never run a motor vehicle, generator, pressure washer, or any gasoline-powered engine outside an open window, door, or vent where exhaust can vent into an enclosed area.
- Never leave the motor running in a vehicle parked in an enclosed or partially enclosed space, such as a garage.
- If conditions are too hot or too cold, seek shelter with friends or at a community shelter.
- If CO poisoning is suspected, consult a health care professional right away.