

Family Readiness Guide

For Braille and Large Print Reproduction

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General Emergency Preparedness

Your Family Disaster Plan

Disaster can strike quickly and without warning. It can force you to evacuate your neighborhood or confine you to your home. What would you do if basic services - water, gas, electricity or telephones - were cut off? Local officials and relief workers will be on the scene after a disaster, but they cannot reach everyone right away. Medical help may not arrive at all. 9-1-1 will be totally overwhelmed in a major disaster.

Families can - and do - cope with disaster by preparing in advance and working together as a team. Follow the steps listed in this brochure to create your family's disaster plan. Knowing what to do is your best protection and your responsibility.

Where will your family be when disaster strikes? They could be anywhere - at work, at school or in the car.

How will you find each other? Will you know if your children are safe?

Four Steps to Safety

1. Find Out What Could Happen to You

Disasters that May Affect Your Family

Natural	Human
Technological	Winter Storm
Bomb Threat	Structural Failures
Wildland Fire	Fire
Transportation Failures	Earthquake
Utilities Failures	Terrorism
Cold/Heat Wave	Hazardous Materials
Pandemic Influenza	

2. Create a Disaster Plan

Meet with your family and discuss why you need to prepare for disaster. Explain the dangers of fire, severe weather and earthquakes to children. Plan to share responsibilities and work together as a team.

- Discuss the types of disasters that are most likely to happen. Explain what to do in each case.
- Pick two places to meet:
 1. Right outside your home in case of a sudden emergency, like a fire.

2. Outside your neighborhood in case you can't return home. Everyone must know the address and phone number.
- Ask an out-of-state friend or relative to be your "family contact." After a disaster, it's often easier to call long distance. Other family members should call this person and tell them where they are. Everyone must know your contact's phone number.
 - Discuss what to do in an evacuation. Plan how to take care of your pets.

3. Complete This Checklist

- Post emergency telephone numbers by phones (fire, police, ambulance, etc.).
- Teach children how and when to call 9-1-1 or your local Emergency Medical Services number for emergency help.
- Show each family member how and when to turn off the water, gas and electricity at the main switches.
- Check if you have adequate insurance coverage.
- Teach each family member how to use the fire extinguisher (ABC type), and show them where it's kept.
- Install smoke detectors on each level of your home, especially near bedrooms.

- Conduct a home hazard hunt.
- Stock emergency supplies and assemble a Disaster Supplies Kit.
- Take a Red Cross first aid and CPR class.
- Determine the best escape routes from your home. Find two ways out of each room.
- Find the safe spots in your home for each type of disaster.

4. Practice and Maintain Your Plan

- Quiz your kids every six months so they remember what to do.
- Conduct fire and emergency evacuation drills.
- Replace stored water every three months and stored food every six months.
- Test and recharge your fire extinguisher(s) according to manufacturer's instructions.
- Test your smoke detectors monthly and change the batteries at least once a year. Every six months is even better.

Your Family Disaster Supplies Kit – 3 day Kit

Disasters happen anytime and anywhere. And when disaster strikes, you may not have much time to respond. A highway spill or hazardous materials incident could mean evacuation. A winter storm could confine your family at home. An earthquake, flood, tornado, or any other disaster could cut water, electricity, and telephones - for days.

After a disaster, local officials and relief workers will be on the scene, but they cannot reach everyone immediately. You could get help in hours, or it may take days. Would your family be prepared to cope with the emergency until help arrives?

Your family will cope best by preparing for disaster before it strikes. One way to prepare is by assembling a Disaster Supplies Kit. Once disaster hits, you won't have time to shop or search for supplies. But if you've gathered supplies in advance, your family can endure an evacuation or home confinement.

Prepare Your Kit

- Review the checklist below.
- Gather the supplies that are listed. You may need them if your family is confined at home.
- Place the supplies you'd most likely need for an evacuation in an easy-to-carry container.

- There are six basics you should stock for your home: water, food, first aid supplies, clothing and bedding, tools and emergency supplies, and special items.
- Your kit should be prepared for an extended time period for up to 7 days, but the minimum is a 3 day kit.

Possible Containers Include:

- A large, covered trash container
- A camping backpack
- A duffel bag

Assemble your kit in sections, so the process does not seem overwhelming.

Water

- Store water in plastic containers such as soft drink bottles. Avoid using containers that will decompose or break, such as milk cartons or glass bottles. A normally active person needs to drink at least two quarts of water each day. Hot environments and intense physical activity can double that amount. Children, nursing mothers, and ill people will need more.
- Store one gallon of water per person per day.

- Keep at least a three-day supply of water per person (two quarts for drinking, two quarts for each person in your household for food preparation/sanitation).
- Don't forget water for your pets.
- Treat all water if unsure of its purity before using it for drinking, food preparation or hygiene. Before treating, let any suspected particles settle to the bottom or strain through layers of paper towels or cloth. Water can be safely treated by:
 - Boiling for 10-12 minutes; or
 - Adding 6-10 drops of bleach per gallon of water (don't use color-safe bleach). More bleach is not better, too much can make you ill.
- Rotate your water storage every six months

Food

- Store at least a three-day supply of non-perishable food. Select foods that require no refrigeration, preparation or cooking, and little or no water. If you must heat food, pack a can of Sterno or a backpacking stove. Select food items that are compact and lightweight. Include a selection of these following foods in your Disaster Supplies Kit:
- Ready-to-eat canned meats, fruits, and vegetables
- Canned juices, milk, soup (if powdered, store extra water)

- Staples - sugar, salt, pepper
- High energy foods - peanut butter, jelly, crackers, granola bars, and trail mix
- Vitamins
- Food for infants/elder persons or persons on special diets
- Comfort/stress foods - cookies, hard candy, sweetened cereals, and instant coffee
- Disposable utensils, utility knife, can opener

First Aid Kit

Assemble a first aid kit for your home and one for each car. A first aid kit should include:

- Sterile adhesive bandages in assorted sizes
- 2-inch sterile gauze pads (4-6)
- 4-inch sterile gauze pads (4-6)
- Hypo-allergenic adhesive tape
- 40-inch triangular bandages (3-rolls)
- 2-inch sterile roller bandages (3-rolls)
- 3-inch sterile roller bandages (3-rolls)
- Scissors and tweezers
- Epi pen (if allergic to bee stings)

- Sewing needles
- Moistened towelette/wet wipes
- Antiseptic soap
- Antiseptic solution - iodine compounds
- Neosporin
- Thermometer
- Tongue depressors (2)
- Tube of petroleum jelly (Vaseline or lubricant)
- Safety pins in assorted sizes
- Cleaning agent/soap
- Latex gloves (2 pairs)
- Sunscreen
- Insect repellent
- Caladryl or generic equivalent
- First aid manual
- Rubbing alcohol
- Cotton balls
- Heavy string
- Prescription medications
- Splinting Material

Non-Prescription Drugs

- Aspirin or non-aspirin pain reliever
- Anti-diarrhea medication
- Antacid (for stomach upset)
- Laxative
- Activated charcoal (use if advised by the Poison Control Center)

Tools and Supplies

- Mess kits OR paper cups, plates, and plastic utensils
- Emergency preparedness manual
- Battery-operated radio and extra batteries, or solar powered/hand-crank radio
- Flashlight and extra batteries
- Cash or traveler's checks, change
- Non-electric can opener, utility knife
- Fire extinguisher: small canister ABC type
- Tent
- Pliers
- Tape/Duct tape
- Compass

- Matches in a waterproof container
- Aluminum foil
- Plastic storage containers
- Signal flare
- Paper, pencil
- Needles, thread
- Medicine dropper
- Shut-off wrench, to turn off household gas and water
- Whistle
- Plastic sheeting
- Extra set of car and house keys
- Map of the area (for locating shelters)

Many injuries are not life threatening and do not require immediate medical attention. Knowing how to treat minor injuries can make a difference in an emergency. Consider taking a first aid class, but simply having the following things can help you stop bleeding, prevent infection, and assist in decontamination.

Sanitation

- Toilet paper, towelettes
- Soap, liquid detergent
- Feminine supplies
- Personal hygiene items
- Plastic garbage bags, ties (for personal sanitation uses)
- Plastic bucket with tight lid
- Disinfectant and household chlorine bleach

Clothing and Bedding

- Include at least one complete change of clothing and footwear per person.
- Sturdy shoes or work boots
- Rain gear
- Blankets or sleeping bags
- Hat and gloves and thermal underwear
- Sunglasses

Special Items

- Remember family members with special requirements, such as infants and elderly or disabled persons

For Baby

- Formula
- Diapers
- Bottles & Powdered milk
- Medications

For Adults

- Heart and high blood pressure medication
- Insulin
- Prescription drugs
- Denture needs
- Contact lenses and supplies
- Extra eye glasses

For Pets

- Medications for heartworm, flea prevention, etc.
- Medical and registration records
- Sturdy leashes, harnesses
- Carriers big enough to stand and turn in
- Pet beds, toys
- Litter and litter pan and/or doggy do bags or plastic gloves
- Current photos of pets
- Food and drinkable water for three days and feeding schedule information
- Bowls and can opener
- Medical conditions, behavior problems
- Veterinarian's information

Entertainment

- Games and books

Important Family Documents

- Keep these records in a waterproof, portable container:
 - Will, insurance policies, contracts deeds, stocks and bonds
 - Passports, social security cards, immunization records
 - Bank account numbers
 - Credit card account numbers and companies
- Inventory of valuable household goods, important telephone numbers
- Family records (birth, marriage, death certificates)
- Recent family photos for identification

Important Reminders

- Store your kit in a convenient place known to all family members. Keep a smaller version of the Disaster Supplies Kit in the trunk of your car.
- Keep items in airtight plastic bags.
- Change your stored water supply every six months so it stays fresh.
- Replace your stored food every six months.

- Re-think your kit and family needs at least once a year. Replace batteries, update clothes, etc.
- Ask your physician or pharmacist about storing prescription medications.

Coping With Disasters

Physical and emotional reactions often occur as a result of a natural emergency or traumatic event such as a terrorist attack. These reactions may happen immediately or weeks or months after an event. Traumatic stress reactions can happen to people of any age and can change a person's behavior, thoughts and physical health.

Common Responses

The physical effects caused by a traumatic event include:

- Rapid heartbeat
- Increased respiratory rate
- Shortness of breath
- Nausea
- Muscle and joint aches
- Tremors
- Headaches

Seek medical attention if any of these symptoms persist. Thoughts, behaviors and emotions may also change. These changes include:

- Flashbacks or re-experiencing the event
- Withdrawal from normal social relations
- Performance problems at work or school
- Loss or increase in appetite
- Difficulty sleeping or nightmares
- Feeling overwhelmed, hopeless, numb
- Being extremely anxious, fearful, agitated or irritable
- Feeling depressed
- Increased consumption of alcohol or prescribed, over-the-counter or illicit drugs

What You Can Do for Yourself and Children

There are many things you can do to cope with traumatic events.

- Understand that your symptoms may be normal, especially right after the trauma.
- Keep to your usual routine.
- Take the time to resolve day-to-day conflicts so they do not add to your stress.

- Do not shy away from situations, people and places that remind you of the trauma.
- Find ways to relax and be kind to yourself.
- Turn to family, friends, and clergy for support, and talk about your experiences and feelings with them.
- Participate in leisure and recreational activities.
- Recognize that you cannot control everything.
- Recognize the need for trained help, and call a local mental health center.
- Let your child know that it is okay to feel upset when something bad or scary happens.
- Encourage your child to express feelings and thoughts, without making judgments.
- Return to daily routines.

Children And Disasters

Children experience trauma and fear during a natural disaster. If they know what to do during a disaster because they have practiced family disaster drills, they will be better off. When parents are calm, children calm down more quickly.

Before a disaster, parents can:

- Familiarize yourself with the emergency response plans of schools and/or daycare your children attend
- Find out if the school/daycare will keep your kids or send them home in an emergency.
- Decide if your child gets into your home if you are not there
- Decide if your children take care of themselves or if a neighbor takes care of them
- Develop and practice a family disaster plan
- Teach children how to recognize danger signals
- Explain how to call for help (9-1-1)
- Help children memorize important family information
- Help children memorize their street address, not the PO Box.
- Create wearable identification cards for children with guardian contact information available for rescue workers.
- Include children's toys and special foods in 72-hour kit

After a disaster, children are most afraid the disaster will happen again, someone will be hurt or killed, and they will be separated from family and left alone.

Parents can help minimize their children's fears by:

- Keeping the family together, do not leave children with relatives or friends - take your children with you
- Calmly and firmly explain the situation and your plans
- Talk to your children at eye level
- Encourage children to talk about the disaster and ask questions
- Include children in recovery activities by giving them chores that will help them feel they are helping things get back to normal
- Reassure children with firmness and love
- Sympathize with and resolve their anxieties
- Hold your children and spend more time with them

Elderly / Special Needs And Disasters

People with disabilities should take extra precautions when preparing for a disaster. One of the most important things you can do is have a buddy, someone who can help you evacuate and take care of you. During an emergency, your usual care giver may not be able to help you. Make sure your buddy knows how to operate any medical equipment you use.

If you have ongoing therapy through a provider find ways to continue those therapies if that provider is not available in emergencies.

When planning for the care of the elderly and those with special needs, please consider the following recommendations:

- Establish a close network of relatives and friends who can assist your family in an emergency.
- Make sure helpers know where to find the disaster-supply kit which includes emergency supplies, medicines, and other essential equipment.
- Remind family members to always wear a medical alert tag or bracelet if they have threatening health conditions.
- Compose a list of special items, equipment and supplies family members will need during a disaster. Extra supplies people with disabilities and special needs may require are:
 - Prescription medications, a record of when and how much of the medicine you should receive
 - Prosthetic devices
 - List of style and serial numbers of medical devices
 - Extra eye glasses and a record of the prescription
 - Emergency medical certification

- Extra oxygen
 - Extra pillows, bedding
 - Medical insurance and Medicare cards
 - Back-up power supplies or generators for heat or air-conditioning
 - Extra wheelchair batteries
 - Hearing aids, batteries
- Plan for alternative care sites for dialysis, chemotherapy, or managed drug sites.
 - Contact local Health department, Police, Fire or Emergency management to register for the special needs registry for your area.
 - Know phone numbers to contact to get emergency information for your area during disasters. In Texas dial **211** or **1-877-541-7905 (TTY)**

Animals And Disasters

Your animals need to be included in your family disaster plan since they depend on you for their well being. Your disaster plan should include a list of emergency phone numbers for local agencies that can assist you if disaster strikes - including your veterinarian, state veterinarian, local animal shelter, animal care and control, county extension service, local agricultural schools and the American Red Cross. These numbers should be kept with your disaster kit in a secure, but easily accessible place.

Pets

- If you must evacuate, **Do Not Leave Your Pets Behind!** There is a chance they will not survive or get lost before you return.
- With the exception of service animals, pets are not permitted in emergency shelters. Find out which motels allow pets and where boarding facilities are located. Boarding facilities will require veterinarian records to prove vaccinations are current.
- Include your local animal shelter's number in your list of emergency numbers - they might be able to provide information concerning pets during a disaster.
- Only some animal shelters will provide care for pets during emergencies. They should only be used as a last resort. Use friends and family or keep them with you if possible.
- Be sure your pet has proper identification tags securely fastened to the collar. If possible, attach the address and/or phone number of your evacuation site. Make sure you have a current photo of your pet for identification purposes. When documenting ownership of pets include yourself in the picture, and make sure distinguishing marks on the pet are visible in the picture.
- Microchip your pet.

- Make sure you have a secure pet carrier with identity information secured to it, leash for your pet. Pets may need to be restrained during tense emergency situations.
 - Pet food and water
 - Medication and veterinary records
 - Litter box
 - Food and water dish
 - First aid kit
 - Information sheet with pet's name, feeding schedule and any behavior problems
 - Include a muzzle-Pets get nervous during emergencies so keep them safe by not allowing them to bite others
- If you have no alternative but to leave your pet at home, there are some precautions you must take. Confine your pet to a safe area inside. **Never** leave your pet chained outside! Place a notice outside in a visible area, advising that pets are in the house and where they are located. Provide a phone number where you or a contact can be reached as well as the name and number of your vet.

- Have a back-up plan in case you are not at home when an evacuation is ordered. Find a trusted neighbor who will agree to take your pets in case you are not there and meet you at a prearranged location. Make sure this person is comfortable with your pets, knows where they are likely to be and where to find your pet emergency kit.

Livestock

- **Evacuate Livestock Whenever Possible.** Prepare in advance by having transportation and an evacuation destination prearranged. Alternate routes should be mapped out in case the planned route is inaccessible.
- The evacuation sites should have or be able to readily obtain food, water, veterinary care, handling equipment and facilities.
- If evacuation is not possible, a decision must be made whether to move large animals to available shelter or turn them outside.
- All animals should have some form of identification that will help facilitate their return.

Emergency Sanitation

After a major disaster, if water and sewage lines have been disrupted you may need to improvise emergency sanitation facilities.

Supplies

Always have basic sanitation supplies on hand

- Medium-sized plastic bucket with tight lid
- Household chlorine bleach
- Toilet paper
- Plastic garbage bags and ties (heavy duty)
- Soap, liquid detergent
- Towelettes

Sanitation

Build a makeshift toilet

- If sewage lines are broken but the toilet bowl is usable, place a garbage bag inside the bowl.
- If the toilet is completely backed up, make your own.
- Line a medium sized bucket with a garbage bag.
- Make a toilet seat out of two boards place parallel to each other across the bucket. An old toilet seat will also work.

Sanitize Waste

- After each use, pour a disinfectant such as bleach into the container. This will help avoid infection and stop the spread of disease.
- Cover the container tightly **When Not In Use.**

Waste Disposal

- Bury garbage and human waste to avoid the spread of disease by rats and insects.
- Dig a pit 2 to 3 feet deep and at least 50 feet downhill or away from any well, spring or water supply.
- If the garbage cannot be buried immediately, strain any liquids into the emergency toilet.
- Wrap the residue in several layers of newspapers and store it in a large can with a tight-fitting lid.
- Place the can outside until it can be buried.

Evacuation

Several types of disasters may force you to be evacuated from your home. If you are told to evacuate, take the following steps:

- Listen carefully to instructions given by local officials. Evacuate immediately if told to do so.

- If you have time, grab your portable disaster (3 Day) kit. Make sure that you include any last-minute items, such as prescription medication, that you may need.
- Wear appropriate clothing and sturdy shoes.
- Lock your home.
- Use travel routes outlined by local officials. Do not take short cuts; they may be unsafe.
- Keep fuel in your car if evacuation seems likely. Gas stations may be closed during emergencies

If you go to a shelter, notify staff of any special needs you may have. They will try to accommodate you and make you comfortable.

Be prepared to leave your home if:

- Your area is without electrical power or water for an extended period of time.
- There is a chemical emergency affecting your area.
- Flood water is rising.
- A wild land fire is burning near your home.
- Your home has been severely damaged.
- Local officials tell you to evacuate.

Evacuations are more common than many people realize. Hundreds of times each year, transportation and industrial accidents release harmful substances, forcing thousands of people to leave their homes. Fires and floods cause evacuations even more frequently.

Family Emergency Information

Create a list for your emergency kit that includes:

Emergency Numbers: Police, Fire and Ambulance

Family Members Name, Date of Birth and Blood Type

Family Telephone Numbers: Work, Home and Mobile

Childcare/School Contact Information

Friend's & Neighbor's Numbers

Out-of-Town Contacts

Rally Points: List location Address, Phone number for both Out of Town and Local points

Medical Information: Doctor Name and Phone; Pharmacy Name and Phone

Medication Information: Family member name, medication, dosage, and frequency of dose.

Insurance Information: Policy numbers and Agent Contact Information

Basic First Aid

Bleeding - Apply direct pressure with towel or gauze until bleeding is stopped. Clean minor cuts with Hydrogen Peroxide. Apply antibiotic ointment and band-aid.

Sprains - Apply ice immediately to swelling, and off and on for next 48 hours. Seek referral for evaluation of injury. Ibuprofen may relieve pain and inflammation. Elevate extremities where swelling is present. Compression with elastic bandage may be helpful.

Burns - Treat minor burns with cool water or cool compress. If there is blistering, seek referral for evaluation of injury. Antiseptic sprays containing Benzocaine may provide temporary relief. For large burns, go to emergency facility.

Bug Bites/Stings - Apply ice immediately. Remove stinger if visible. Apply antihistamine cream to site. Take 25 mg Benedryl by mouth. Elevate if sting is on leg or arm. Go to emergency facility for breathing difficulty or extreme swelling.

Rash/Poison Ivy - Wash area with antibacterial soap. Try not to scratch. Apply antihistamine cream or hydrocortisone cream to rash. Wash hands after applying. Take Benedryl by mouth to relieve itching. If not improved in 24 hours, seek referral for medical treatment.

Colds/Congestion/Sore Throat – Increase cold fluid consumption. Take decongestant product for congestion according to label. Use throat lozenges if needed according to directions on label. Take Tylenol for headache, fever, or pain. Seek medical referral if symptoms do not improve in 48-72 hours or if fever over 102 degrees F, stiff neck or repeated vomiting occur.

Vomiting – Take small sips of ginger ale, weak tea, Sprite, or ice chips every 5-10 minutes. Emetrol liquid may ease nausea - take as directed on label. Once liquids are tolerated without vomiting, try crackers, toast, bananas, applesauce, rice or clear soups for the next 24 hours. If tolerated, work up to a bland diet (no fried foods, fatty foods or roughage) and then back to a normal diet. If vomiting is persistent or accompanied by a fever over 102 degrees F or stiff neck, go to emergency room.

Diarrhea – Try Kaopectate or Immodium - follow directions on label. Stay on liquid diet until condition improves. If tolerated, work up to a bland diet (avoid fried foods, fats and roughage) over the next 24 hours, and then go back to normal diet.

Basic first aid supplies to keep on hand

Band-aids

Gauze Pads

Elastic Bandages

Acetaminophen (Tylenol)

Ibuprofen (Advil, Motrin)

Hydrogen Peroxide

Antihistamine Cream (Benadryl)

Antibiotic Ointment (Neosporin, Polysporin)

Hydrocortisone Cream

Benadryl Capsules or Liquid

Antibacterial Soap (Dial)

Antiseptic Spray containing Benzocaine

Decongestant Tablets (Sudafed)

Throat Lozenges

Cotton Balls, Cotton Swabs

Antacid (Tums, Maalox, Mylanta)

Antidiarrheal (Imodium, Kaopectate)

Salt

Anti-nausea (Emetrol, Pepto-Bismol)

Cough Syrup (Robitussin, Vicks)

Thermometer

Calamine Lotion, Caladryl Lotion

Carbon Monoxide Poisoning

What is Carbon Monoxide?

CO is found in combustion fumes, such as those produced by cars and trucks, small gasoline engines, stoves, lanterns, burning charcoal and wood, and gas ranges and heating systems. CO from these sources can build up in enclosed or semi-enclosed spaces. People and animals in these spaces can be poisoned by breathing it.

What are the symptoms of CO poisoning?

The most common symptoms of CO poisoning are headache, dizziness, weakness, nausea, vomiting, chest pain, and confusion. High levels of CO inhalation can cause loss of consciousness and death. Unless suspected, CO poisoning can be difficult to diagnose because the symptoms mimic other illnesses. People who are sleeping or intoxicated can die from CO poisoning before ever experiencing symptoms.

Self-Care at Home

- Move all family members and pets to fresh air away from the source of carbon monoxide (CO).
- No home therapy is available for carbon monoxide poisoning.
- You must seek medical care in a hospital emergency department.

How you can heat your house safely or cook when the power is out?

- Never use a gas range or oven for heating.
- Never use a charcoal grill or a barbecue grill indoors.
- Never burn charcoal indoors.
- Never use a portable gas camp stove indoors.
- Never use a generator inside your home, basement, or garage or near a window, door, or vent.

Household Chemical Emergencies

Before a Household Chemical Emergency

- Buy only as much of a chemical as you think you will use.
- Keep products containing hazardous materials in their original containers and never remove the labels unless the container is corroding.
- Never store hazardous products in food containers.
- Never mix household hazardous chemicals or waste with other products.

Take the following precautions to prevent and respond to accidents:

- Follow the manufacturer's instructions for the proper use of the household chemical.
- Never smoke while using household chemicals.
- Never use hair spray, cleaning solutions, paint products, or pesticides near an open flame.
- Clean up any chemical spill immediately. Use rags to clean up the spill. Wear gloves and eye protection. Allow the fumes in the rags to evaporate outdoors, then dispose of the rags by wrapping them in a newspaper and placing them in a sealed plastic bag in your trash can.
- Dispose of hazardous materials correctly. Take household hazardous waste to a local collection program.

During a household chemical emergency, be prepared to seek medical assistance:

- Call Poison Control at 1-800-222-1222 and follow directions.

If there is a danger of fire or explosion:

- Get out of the residence immediately. Do not waste time collecting items or calling the fire department when you are in danger. Call the fire department from outside (a cellular phone or a neighbor's phone) once you are safely away from danger.
- Stay upwind and away from the residence to avoid breathing toxic fumes.

If someone has been exposed to a household chemical:

- Find any containers of the substance that are readily available in order to provide requested information. Call emergency medical services.
- Follow the emergency operator or dispatcher's first aid instructions carefully. The first aid advice found on containers may be out of date or inappropriate. Do not give anything by mouth unless advised to do so by a medical professional or poison control.

Accidental Poisoning

Before Poisoning

- Place poison control number near the phone 1-800-222-1222.
- Do not leave children alone or unattended.
- Be aware of all potential hazards in your home.
- Never call medicine “candy.”
- Teach children to ask before putting anything in mouth.
- Keep activated charcoal on hand.

After Poisoning

- Stay calm.
- Call the Poison Control Center at 1-800-222-1222.
- Follow the Poison Control Center's instructions.

Inhaled Poisoning

- Immediately get the victim to fresh air.
- Avoid breathing fumes.
- Open doors and windows wide.
- If victim is not breathing, have someone call 9-1-1 then start CPR.

Poison on the Skin

- Remove contaminated clothing.
- Flood skin with water for ten minutes.
- Call the Poison Control Center at 1-800-222-1222.
- Follow the Poison Control Center's instructions.

Poison in the Eye

- Flood eye with lukewarm (not hot) water poured from a large glass two or three inches from the eye.
- Repeat process for 15 minutes.
- Call the Poison Control Center at 1-800-222-1222.
- Follow the Poison Control Center's instructions.

Swallowed Poison

- Do not give the victim anything to eat or drink.
- Call the Poison Control Center at 1-800-222-1222.
- Follow the Poison Control Center's instructions.

Chemical Agent Emergencies

Chemical agents are poisonous vapors, aerosols, liquids, and solids that have toxic effects on people, animals, or plants. They can be released by bombs or sprayed from aircraft, boats, and vehicles. They can be used as a liquid to create a hazard to people and the environment. Some chemical agents may be odorless and tasteless. They can have an immediate effect (a few seconds to a few minutes) or a delayed effect (2 to 48 hours). While potentially lethal, chemical agents are difficult to deliver in lethal concentrations. Outdoors, the agents often dissipate rapidly. Chemical agents also are difficult to produce.

A chemical attack could come without warning. Signs of a chemical release include people having difficulty breathing; experiencing eye irritation; losing coordination; becoming nauseated; or having a burning sensation in the nose, throat, and lungs. Also, the presence of many dead insects or birds may indicate a chemical agent release.

Before a Chemical Attack

What you should do to prepare for a chemical threat:

- Check your disaster supplies kit to make sure it includes:
 - A roll of duct tape and scissors.
 - Plastic for doors, windows, and vents for the room in which you will shelter in place. To save critical time during an emergency, pre-measure and cut the plastic sheeting for each opening.
- Choose an internal room to shelter, preferably one without windows and on the highest level.

During a Chemical Attack

What you should do in a chemical attack:

If you are instructed to remain in your home or office building, you should:

- Close doors and windows and turn off all ventilation, including furnaces, air conditioners, vents, and fans.
- Seek shelter in an internal room and take your disaster supplies kit.
- Seal the room with duct tape and plastic sheeting.
- Listen to your radio for instructions from authorities.

If you are caught in or near a contaminated area, you should:

- Move away immediately in a direction upwind of the source.
- Find shelter as quickly as possible.

After a Chemical Attack

Decontamination is needed within minutes of exposure to minimize health consequences. Do not leave the safety of a shelter to go outdoors to help others until authorities announce it is safe to do so.

A person affected by a chemical agent requires immediate medical attention from a professional. If medical help is not immediately available, decontaminate yourself and assist in decontaminating others.

Decontamination guidelines are as follows:

- Use extreme caution when helping others who have been exposed to chemical agents.
- Remove all clothing and other items in contact with the body. Contaminated clothing normally removed over the head should be cut off to avoid contact with the eyes, nose, and mouth. Put contaminated clothing and items into a plastic bag and seal it.
Decontaminate hands using soap and water. Remove eyeglasses or contact lenses. Put glasses in a pan of household bleach to decontaminate them, and then rinse and dry.
- Flush eyes with water.
- Gently wash face and hair with soap and water before thoroughly rinsing with water.
- Decontaminate other body areas likely to have been contaminated. Blot (do not swab or scrape) with a cloth soaked in soapy water and rinse with clear water.
- Change into uncontaminated clothes. Clothing stored in drawers or closets is likely to be uncontaminated.
- Proceed to a medical facility for screening and professional treatment.

Earthquakes

Before An Earthquake

Secure water heater, storage shelves, heavy mirrors, shelves, etc. to walls.

- Place large or heavy objects on lower shelves.
- Know where and how to shut off electricity, gas and water at main switches and valves.
- Have earthquake drills - identify safe spots in each room.
- Have an out-of-state contact person.
- Develop a plan for reuniting your family after an earthquake.
- Review your insurance policies.
- Keep a good pair of shoes and a flashlight near your bed.
- Prepare to survive on your own for at least three days. See "Your Family Disaster Supplies Kit" for instructions.

During an Earthquake

Drop!

Cover!

Hold On!

- Stay calm.
- Inside: stay inside and find protection in a doorway, or crouch under a desk or table, away from windows, glass, brick walls and chimneys.
- Outside: stand away from buildings, trees, telephones and electric lines.
- On the road: drive away from under-passes/over-passes; stop in a safe area; stay in your vehicle.
- In an office building: stay next to a pillar or column, or under a heavy table or desk.
- Stay where you are until the shaking has stopped and you are sure it is safe to move.

After an Earthquake

- Check for injuries. Provide first aid.
- Check for fires; gas, water, sewage breaks; downed electric lines; building damage and potential problems during after shocks, such as cracks around fireplace and foundation. Turn off interrupted utilities as necessary.
- Clean up dangerous spills.
- Wear shoes and leather gloves.

- Tune radio to an emergency station and listen for instructions from public safety agencies.
- Use the telephone only for emergencies.
- As soon as possible, notify family that you are safe.
- Do not use matches or open flames until you are sure there are no gas leaks.
- Don't turn light switches off and on. Sparks created by the switch contacts can ignite gas fumes
- In public buildings, follow evacuation procedures immediately and return only after the building has been declared safe by the appropriate authorities.

Food Safety During Disasters

ABCD's of Keeping Food Safe in an Emergency

Always keep meat, poultry, fish, and eggs refrigerated at or below 40 °F and frozen food at or below 0 °F. This may be difficult when the power is out.

Keep the refrigerator and freezer doors closed as much as possible to maintain the cold temperature. The refrigerator will keep food safely cold for about 4 hours if it is unopened. A full freezer will hold the temperature for approximately 48 hours (24 hours if it is half full) if the door remains closed. Obtain dry or block ice to keep your refrigerator as cold as possible if the power is going to be out for a prolonged period of time. Fifty pounds of dry ice should hold an 18-cubic foot full freezer for 2 days. Plan ahead and know where dry ice and block ice can be purchased.

Be prepared for an emergency...

... by having items on hand that don't require refrigeration and can be eaten cold or heated on the outdoor grill. Shelf-stable food, boxed or canned milk, water, and canned goods should be part of a planned emergency food supply. Make sure you have ready-to-use baby formula for infants and pet food. Remember to use these items and replace them from time to time. Be sure to keep a hand-held can opener for an emergency.

Consider what you can do ahead of time to store your food safely in an emergency. If you live in a location that could be affected by a flood, plan your food storage on shelves that will be safely out of the way of contaminated water. Coolers are a great help for keeping food cold if the power will be out for more than 4 hours - have a couple on hand along with frozen gel packs. When your freezer is not full, keep items close together - this helps the food stay cold longer.

Digital, dial, or instant-read food thermometers and appliance thermometers will help you know if the food is at safe temperatures. Keep appliance thermometers in the refrigerator and freezer at all times. When the power is out, an appliance thermometer will always indicate the temperature in the refrigerator and freezer no matter how long the power has been out. The refrigerator temperature should be 40 °F or below; the freezer, 0 °F or lower. If you're not sure a particular food is cold enough, take its temperature with a food thermometer.

Keep bottled water on hand in case of emergency. (one gallon of water per person per day).

- If you don't have bottled water, you should boil water to make sure it is safe. Boiling water will kill most types of disease-causing organisms that may be present. If the water is cloudy, filter it through clean cloths or allow it to settle, and draw off the clear water for boiling. Boil the water for one minute, let it cool, and store it in clean containers with covers.

- If you can't boil water, you can disinfect it using household bleach. Bleach will kill some, but not all, types of disease-causing organisms that may be in the water. If the water is cloudy, filter it through clean cloths or allow it to settle, and draw off the clear water for disinfection. Add 1/8 teaspoon (or 8 drops) of regular, unscented, liquid household bleach for each gallon of water, stir it well and let it stand for 30 minutes before you use it. Store disinfected water in clean containers with covers.
- If you have a well that had been flooded, the water should be tested and disinfected after flood waters recede. If you suspect that your well may be contaminated, contact your local or state health department or agriculture extension agent for specific advice.

Tips

- Do not eat foods that came into contact with flood waters.
- Discard any food that is not in a waterproof container if there is any chance that it has come into contact with flood water. Food containers that are not waterproof include those with screw-caps, snap lids, pull tops, and crimped caps. Also, discard cardboard juice/milk/baby formula boxes and home canned foods if they have come in contact with flood water, because they cannot be effectively cleaned and sanitized.

- Inspect canned foods and discard any food in damaged cans. Can damage is shown by swelling, leakage, punctures, holes, fractures, extensive deep rusting, or crushing/denting severe enough to prevent normal stacking or opening with a manual, wheel-type can opener.

Steps to Salvage All-Metal Cans and Retort Pouches

Undamaged, commercially prepared foods in all-metal cans and retort pouches (for example, flexible, shelf-stable juice or seafood pouches) can be saved if you do the following:

- Remove the labels, if they are the removable kind, since they can harbor dirt and bacteria.
- Thoroughly wash the cans or retort pouches with soap and water, using hot water if it is available.
- Brush or wipe away any dirt or silt.
- Rinse the cans or retort pouches with water that is safe for drinking, if available, since dirt or residual soap will reduce the effectiveness of chlorine sanitation.
- Then, sanitize them by immersion in one of the two following ways:
 - Place in water and allow the water to come to a boil and continue boiling for 2 minutes, or

- Place in a freshly made solution consisting of 1 tablespoon of unscented, liquid chlorine bleach per gallon of drinking water (or the cleanest, clearest water available) for 15 minutes.
- Air-dry cans or retort pouches for a minimum of 1 hour before opening or storing.
- If the labels were removable, then re-label your cans or retort pouches, including the expiration date (if available), with a marker.
- Food in reconditioned cans or retort pouches should be used as soon as possible, thereafter.
- Any concentrated baby formula in reconditioned, all-metal containers must be diluted with clean, drinking water.

Sanitize Cookware, Dishes and Utensils :

Thoroughly wash metal pans, ceramic dishes, and utensils (including can openers) with soap and water, using hot water if available. Rinse and then sanitize them by boiling in clean water or immersing them for 15 minutes in a solution of 1 tablespoon of unscented, liquid chlorine bleach per gallon of drinking water (or the cleanest, clearest water available).

Safety of Frozen Foods that may have thawed:

Never taste food to determine its safety! You will have to evaluate each item separately. If an appliance thermometer was kept in the freezer, read the temperature when the power comes back on. If the appliance thermometer stored in the freezer reads 40 °F or below, the food is safe and may be refrozen. If a thermometer has not been kept in the freezer, check each package of food to determine the safety. Remember you can't rely on appearance or odor. If the food still contains ice crystals or is 40 °F or below, it is safe to refreeze. Refrigerated food should be safe as long as power is out no more than 4 hours. Keep the door closed as much as possible. Discard any perishable food (such as meat, poultry, fish, eggs, and leftovers) that have been above 40 °F for 2 hours.

Heat Related Safety

Extreme Heat

Emergency Information

1. Heat kills by pushing the human body beyond its limits. Under normal conditions, the body's internal thermostat produces perspiration that evaporates and cools the body. However, in extreme heat and high humidity, evaporation is slowed and the body must work extra hard to maintain a normal temperature.
2. Most heat disorders occur because the victim has been overexposed to heat or has over exercised for his or her age and physical condition. Other conditions that can induce heat-related illnesses include stagnant atmospheric conditions and poor air quality.
3. A prolonged drought can have a serious economic impact on a community. Increased demand for water and electricity may result in shortages of resources. Moreover, food shortages may occur if agricultural production is damaged or destroyed by a loss of crops or livestock.

Danger Zones

All areas in the United States are at risk of drought at any time of the year. Drought gripped much of the West and Midwest from 1987 to 1991. The Missouri River Basin and California have experienced extended periods of drought as well.

What is Extreme Heat?

Temperatures that hover 10 degrees or more above the average high temperature for the region and last for several weeks are defined as extreme heat. Humid or muggy conditions, which add to the discomfort of high temperatures, occur when a "dome" of high atmospheric pressure traps hazy, damp air near the ground.

Excessively dry and hot conditions can provoke dust storms and low visibility. Droughts occur when a long period passes without substantial rainfall. A heat wave combined with a drought is a very dangerous situation.

To prepare for extreme heat, you should:

- Install window air conditioners snugly; insulate if necessary.
- Check air-conditioning ducts for proper insulation.
- Install temporary window reflectors (for use between windows and drapes), such as aluminum foil-covered cardboard, to reflect heat back outside.
- Weather-strip doors and sills to keep cool air in.

- Cover windows that receive morning or afternoon sun with drapes, shades, awnings, or louvers. (Outdoor awnings or louvers can reduce the heat that enters a home by up to 80 percent.)
- Keep storm windows up all year.

During a Heat Emergency

What you should do if the weather is extremely hot:

- Stay indoors as much as possible and limit exposure to the sun.
- Stay on the lowest floor out of the sunshine if air conditioning is not available.
- Consider spending the warmest part of the day in public buildings such as libraries, schools, movie theaters, shopping malls, and other community facilities. Circulating air can cool the body by increasing the perspiration rate of evaporation.
- Eat well-balanced, light, and regular meals. Avoid using salt tablets unless directed to do so by a physician.
- Drink plenty of water. Persons who have epilepsy or heart, kidney, or liver disease; are on fluid-restricted diets; or have a problem with fluid retention should consult a doctor before increasing liquid intake.
- Limit intake of alcoholic beverages.

- Dress in loose-fitting, lightweight, and light-colored clothes that cover as much skin as possible.
- Protect face and head by wearing a wide-brimmed hat.
- Check on family, friends, and neighbors who do not have air conditioning and who spend much of their time alone.
- Never leave children or pets alone in closed vehicles.
- Avoid strenuous work during the warmest part of the day. Use a buddy system when working in extreme heat, and take frequent breaks.

Infectious Disease

Infectious diseases kill more people worldwide than any other single cause. Infectious diseases are caused by germs. Germs are tiny living things that are found everywhere - in air, soil and water. You can get infected by touching, eating, drinking or breathing something that contains a germ. Germs can also spread through animal and insect bites, kissing and sexual contact. Vaccines, proper hand washing and medicines can help prevent infections.

There are four main types of germs:

- Bacteria - one-celled germs that multiply quickly and may release chemicals which can make you sick
- Viruses - capsules that contain genetic material, and use your own cells to multiply
- Fungi - primitive vegetables, like mushrooms or mildew
- Protozoa - one-celled animals that use other living things for food and a place to live

Infectious diseases spread through two types of contact

Direct contact

An easy way to catch most infectious diseases is by coming in contact with someone who has one. This "someone" can be a person, an animal or, for an unborn baby, its mother.

Indirect contact

Disease-causing organisms can also be passed along by indirect contact. Many germs can linger on an inanimate object, such as a tabletop, doorknob or faucet handle. When you touch the same doorknob grasped by someone ill with the flu or a cold, for example, you can pick up the germs he or she left behind. If you then touch your eyes, mouth or nose before washing your hands, you may become infected. Some infections occur from organisms that naturally live in the environment but are not passed from person to person, like fungal infections or bacterial infections such as Anthrax.

Prevent the spread of infectious diseases

Decrease your risk of infecting yourself or others:

- **Wash your hands often.** This is especially important before and after preparing food, before eating and after using the toilet.

- **Use hand sanitizer when hand washing facilities are not available.**
- **Get vaccinated.** Immunization can drastically reduce your chances of contracting many diseases. Make sure to keep your recommended vaccinations, as well as your children's, up-to-date.
- **Use antibiotics sensibly.** Only take antibiotics when necessary. And if they're prescribed, take them exactly as directed - don't stop taking them early because your symptoms have gone away.
- **Stay at home if you have signs and symptoms of an infection.** Don't go to work if you are vomiting, have diarrhea or are running a fever. Don't send your child to school if he or she has these signs and symptoms, either.
- **Cover Your Cough and Sneeze** Coughing can spread germs through the air. By covering your cough and sneeze you can prevent the transmission of germs
- **Be smart about food preparation.** Keep counters and other kitchen surfaces clean when preparing meals. In addition, promptly refrigerate leftovers - don't let cooked foods remain at room temperature for extended periods of time.
- **Don't Share food or drink.** Germs may be passed from one to another when sharing of food or drink takes place.

- **Pay special attention to cleaning the 'hot zones' in your home.** These include the kitchen and bathroom - two rooms that can have high concentrations of bacteria and other infectious agents.
- **Don't share personal items.** Use your own toothbrush, comb and razor blade. Avoid sharing drinking glasses or dining utensils.
- **Travel wisely.** Don't fly when you're ill. With so many people confined to a small area, you may infect other passengers on the plane. And your trip won't be comfortable, either. Depending on where your travels take you, talk to your doctor about any special immunizations you may need.
- **Keep your pets healthy.** Bring your pet to a veterinarian for regular care and vaccinations. Keep your pet's living area clean.

With a little common sense and the proper precautions, you can avoid infectious diseases and keep from spreading them.

Isolation And Quarantine

Understanding Isolation and Quarantine:

Isolation and quarantine are two common public health strategies designed to protect the public by preventing exposure to infected or potentially infected persons.

In general, isolation refers to the separation of persons who have a specific infectious illness from those who are healthy and the restriction of their movement to stop the spread of that illness. Isolation is a standard procedure used in hospitals today for patients with tuberculosis and certain other infectious diseases.

Quarantine, in contrast, generally refers to the separation and restriction of movement of persons who, while not yet ill, have been exposed to an infectious agent and therefore may become infectious. Quarantine of exposed persons is a public health strategy, like isolation, that is intended to stop the spread of infectious disease.

Both isolation and quarantine may be conducted on a **voluntary basis** or **compelled on a mandatory basis** through legal authority.

State and Local Law

A state's authority to compel isolation and quarantine within its borders is derived from its inherent "police power" -- the authority of a state government to enact laws and promote regulations to safeguard the health, safety, and welfare of its citizens. As a result of this authority, the individual states are responsible for intrastate isolation and quarantine practices, and they conduct their activities in accordance with their respective statutes.

State and local laws and regulations regarding the issues of compelled isolation and quarantine vary widely. Historically, some states have codified extensive procedural provisions related to the enforcement of these public health measures, whereas other states rely on older statutory provisions that can be very broad. In some jurisdictions, local health departments are governed by the provisions of state law; in other settings, local health authorities may be responsible for enforcing state or more stringent local measures. In many states, violation of a quarantine order constitutes a criminal misdemeanor.

Examples of other public health actions that can be compelled by legal authorities include disease reporting, immunization for school attendance, and tuberculosis treatment.

Federal Law

The HHS Secretary has statutory responsibility for preventing the introduction, transmission, and spread of communicable diseases from foreign countries into the United States , e.g., at international ports of arrival, and from one state or possession into another.

The communicable diseases for which federal isolation and quarantine are authorized are set forth through executive order of the President and include: **cholera, diphtheria, infectious tuberculosis, plague, smallpox, yellow fever, and viral hemorrhagic fevers . Severe acute respiratory syndrome (SARS) was added** to this list in April 2003.

By statute, U.S. Customs and Coast Guard officers are required to aid in the enforcement of quarantine rules and regulations. Violation of federal quarantine rules and regulations constitutes a criminal misdemeanor, punishable by fine and/or imprisonment.

Federal quarantine authority includes the authority to release persons from quarantine on the condition that they comply with medical monitoring and surveillance.

Interplay between Federal and State/Local Laws

States and local jurisdictions have primary responsibility for isolation and quarantine within their borders. The federal government has residual authority under the Commerce Clause of the U.S. Constitution to prevent the interstate spread of disease.

The federal government has primary responsibility for preventing the introduction of communicable diseases from foreign countries into the United States .

By statute, the HHS Secretary may accept state and local assistance in the enforcement of federal quarantine regulations and may assist states and local officials in the control of communicable diseases.

It is possible for federal, state, and local health authorities simultaneously to have separate but concurrent legal quarantine power in a particular situation (e.g., an arriving aircraft at a large city airport).

Because isolation and quarantine are "police power" functions, public health officials at the federal, state, and local levels may occasionally seek the assistance of their respective law enforcement counterparts to enforce a public health order.

For more information, visit CDC's Web site, or call the CDC public response hotline at (800) CDC-INFO (English), (888) 246-2857 (Español), or (888) 232-6348 (TTY)

Landslides And Debris Flow

Landslides, also known as mudslides and debris flow, may occur in all parts of the United States and can be caused by a variety of factors including earthquakes, storms and fires. Landslides can occur quickly, often with little notice. The best way to plan for a mudslide is to stay informed about changes in and around your home and area that could signal that a landslide is likely to occur. Look for changes in landscape and water drainage, or new cracks in foundations and sidewalks.

- Prepare for landslides by following proper land-use procedures - avoid building near steep slopes or along natural erosion valleys.
- Consult a professional for advice on appropriate preventative measures for your home or business, such as flexible pipe fittings, which can better resist breakage.

Stay informed

Local authorities may not immediately be able to provide information on what is happening and what you should do. However, you should listen to NOAA Weather Radio, watch TV, listen to the radio or check the Internet often for official news and instructions as they become available.

Landslide and Debris Flow (Mudslide)

Landslides occur in all U.S. states and territories. In a landslide, masses of rock, earth, or debris move down a slope. Landslides may be small or large, slow or rapid. They are activated by:

- storms,
- earthquakes,
- volcanic eruptions,
- fires,
- alternate freezing or thawing,
- and steepening of slopes by erosion or human modification.

Debris and mud flows are rivers of rock, earth, and other debris saturated with water. They develop when water rapidly accumulates in the ground, during heavy rainfall or rapid snowmelt, changing the earth into a flowing river of mud or “slurry.” They can flow rapidly, striking with little or no warning at avalanche speeds. They also can travel several miles from their source, growing in size as they pick up trees, boulders, cars, and other materials.

Landslide problems can be caused by land mismanagement, particularly in mountain, canyon, and coastal regions. In areas burned by forest and brush fires, a lower threshold of precipitation may initiate landslides. Land-use zoning, professional inspections, and proper design can minimize many landslide, mudflow, and debris flow problems.

Protect yourself from the effects of a landslide or debris flow:

- Do not build near steep slopes, close to mountain edges, near drainage ways, or natural erosion valleys.
- Get a ground assessment of your property.
- Contact local officials, state geological surveys or departments of natural resources, and university departments of geology. Landslides occur where they have before, and in identifiable hazard locations. Ask for information on landslides in your area, specific information on areas vulnerable to landslides, and request a professional referral for a very detailed site analysis of your property, and corrective measures you can take, if necessary.
- If you are at risk from a landslide talk to your insurance agent. Debris flow may be covered by flood insurance policies from the National Flood Insurance Program (NFIP).

- Minimize home hazards:
 - Have flexible pipe fittings installed to avoid gas or water leaks, as flexible fittings are more resistant to breakage (only the gas company or professionals should install gas fittings).
 - Plant ground cover on slopes and build retaining walls.
 - In mudflow areas, build channels or deflection walls to direct the flow around buildings.
 - Remember: If you build walls to divert debris flow and the flow lands on a neighbor's property, you may be liable for damages.

Recognize Landslide Warning Signs

- Changes occur in your landscape such as patterns of storm-water drainage on slopes (especially the places where runoff water converges) land movement, small slides, flows, or progressively leaning trees.
- Doors or windows stick or jam for the first time.
- New cracks appear in plaster, tile, brick, or foundations.
- Outside walls, walks, or stairs begin pulling away from the building.
- Slowly developing, widening cracks appear on the ground or on paved areas such as streets or driveways.

- Underground utility lines break.
- Bulging ground appears at the base of a slope.
- Water breaks through the ground surface in new locations.
- Fences, retaining walls, utility poles, or trees tilt or move.
- A faint rumbling sound that increases in volume is noticeable as the landslide nears.
- The ground slopes downward in one direction and may begin shifting in that direction under your feet.
- Unusual sounds, such as trees cracking or boulders knocking together, might indicate moving debris.
- Collapsed pavement, mud, fallen rocks, and other indications of possible debris flow can be seen when driving (embankments along roadsides are particularly susceptible to landslides).

During a Landslide or Debris Flow

What you should do if a landslide or debris flow occurs:

- **Stay alert and awake.** Many debris-flow fatalities occur when people are sleeping. Listen to a NOAA Weather Radio or portable, battery-powered radio or television for warnings of intense rainfall. Be aware that intense, short bursts of rain may be particularly dangerous, especially after longer periods of heavy rainfall and damp weather.

- **If you are in areas susceptible to landslides and debris flows, consider leaving if it is safe to do so.** Remember that driving during an intense storm can be hazardous. If you remain at home, move to a second story if possible. Staying out of the path of a landslide or debris flow saves lives.
- **Listen for any unusual sounds that might indicate moving debris, such as trees cracking or boulders knocking together.** A trickle of flowing or falling mud or debris may precede larger landslides. Moving debris can flow quickly and sometimes without warning.
- **If you are near a stream or channel, be alert for any sudden increase or decrease in water flow and for a change from clear to muddy water.** Such changes may indicate landslide activity upstream, so be prepared to move quickly. Don't delay! Save yourself, not your belongings.
- **Be especially alert when driving.** Embankments along roadsides are particularly susceptible to landslides. Watch the road for collapsed pavement, mud, fallen rocks, and other indications of possible debris flows.

What to Do if You Suspect Imminent Landslide Danger

- **Contact your local fire, police, or public works department.** Local officials are the best persons able to assess potential danger.
- **Inform affected neighbors.** Your neighbors may not be aware of potential hazards. Advising them of a potential threat may help save lives. Help neighbors who may need assistance to evacuate.
- **Evacuate.** Getting out of the path of a landslide or debris flow is your best protection.
- **Curl into a tight ball and protect your head if escape is not possible.**

After a Landslide or Debris Flow

Guidelines for the period following a landslide:

- **Stay away from the slide area.** There may be danger of additional slides.
- **Listen to local radio or television stations** for the latest emergency information.
- **Watch for flooding,** which may occur after a landslide or debris flow. Floods sometimes follow landslides and debris flows because they may both be started by the same event.

- **Check for injured and trapped persons near the slide**, without entering the direct slide area. Direct rescuers to their locations.
- **Help a neighbor who may require special assistance** - infants, elderly people, and people with disabilities. Elderly people and people with disabilities may require additional assistance. People who care for them or who have large families may need additional assistance in emergency situations.
- **Look for and report broken utility lines and damaged roadways and railways to appropriate authorities.** Reporting potential hazards will get the utilities turned off as quickly as possible, preventing further hazard and injury.
- **Check the building foundation, chimney, and surrounding land for damage.** Damage to foundations, chimneys, or surrounding land may help you assess the safety of the area.
- **Replant damaged ground as soon as possible** since erosion caused by loss of ground cover can lead to flash flooding and additional landslides in the near future.

Seek advice from a geotechnical expert for evaluating landslide hazards or designing corrective techniques to reduce landslide risk. A professional will be able to advise you of the best ways to prevent or reduce landslide risk, without creating further hazard

Insect/Animal Hazards

Protect Yourself from Animal- and Insect-Related Hazards After a Natural Disaster

General

- Avoid wild or stray animals.
- Call local authorities to handle animals.
- Secure all food sources and remove any animal carcasses to avoid attracting rats.
- Get rid of dead animals, according to guidelines from your local animal control authority, as soon as you can. See “Animal Disposal” (www.bt.cdc.gov/disasters/animaldisposal.asp) for answers to frequently asked questions.
- For guidance on caring for animals entering shelters and for people working with or handling animals following an emergency, see “Interim Guidelines for Animal Health and Control of Disease Transmission in Pet Shelters” (www.bt.cdc.gov/disasters/hurricanes/katrina/animalhealthguidelines.asp).

- For more information, contact your local animal shelter or services, a veterinarian, or the Humane Society for advice on dealing with pets or stray or wild animals after an emergency. Also see “Resources for Planning How to Protect Your Pets in an Emergency” (www.bt.cdc.gov/disasters/petprotect.asp).

Avoid Mosquitoes

- Rain and flooding in a hurricane area may lead to an increase in numbers of mosquitoes, which can carry diseases, such as West Nile virus or dengue fever. In most cases, the mosquitoes will be pests but will not carry communicable diseases. Local, state, and federal public health authorities will be actively working to control the spread of any mosquito-borne diseases. For more information on West Nile virus, see CDC’s West Nile virus website (www.cdc.gov/westnile).
- To protect yourself from mosquitoes, use screens on dwellings; wear long pants, socks, and long-sleeved shirts; and use insect repellents that contain DEET or Picaridin. Follow directions on the product label and take care when using DEET on small children. More information about these and other recommended repellents can be found in the fact sheet “Updated Information Regarding Insect Repellents” (www.cdc.gov/ncidod/dvbid/westnile/RepellentUpdates.htm).

- To help control mosquito populations, drain all standing water left outdoors in open containers, such as flower pots, tires, pet dishes, or buckets.

Prevent Contact With Rodents

- Remove food sources, water, and items that can provide shelter for rodents.
- Wash dishes, pans, and cooking utensils immediately after use.
- Dispose of garbage and debris as soon as possible.
- For more information, see “Rodent Control After Hurricanes and Floods” (www.bt.cdc.gov/disasters/hurricanes/katrina/rodents.asp).

Prevent or Respond to a Snake Bite

- Be aware of snakes that may be swimming in the water to get to higher ground and those that may be hiding under debris or other objects.
- If you see a snake, back away from it slowly and do not touch it.
- If you or someone you know are bitten, try to see and remember the color and shape of the snake, which can help with treatment of the snake bite.

- Keep the bitten person still and calm. This can slow down the spread of venom if the snake is poisonous. Seek medical attention as soon as possible. Dial 911 or call local Emergency Medical Services. Apply first aid if you cannot get the person to the hospital right away.
 - Lay or sit the person down with the bite below the level of the heart.
 - Tell him/her to stay calm and still.
 - Cover the bite with a clean, dry dressing.

Nuclear Events

Nuclear Power Plant Emergency

Nuclear power plants use the heat generated from nuclear fission in a contained environment to convert water to steam, which powers generators to produce electricity. Nuclear power plants operate in most states in the country and produce about 20 percent of the nation's power. Nearly 3 million Americans live within 10 miles of an operating nuclear power plant.

Although the construction and operation of these facilities are closely monitored and regulated by the Nuclear Regulatory Commission (NRC), accidents are possible. An accident could result in dangerous levels of radiation that could affect the health and safety of the public living near the nuclear power plant.

Local and state governments, federal agencies, and the electric utilities have emergency response plans in the event of a nuclear power plant incident. The plans define two "emergency planning zones." One zone covers an area within a 10-mile radius of the plant, where it is possible that people could be harmed by direct radiation exposure. The second zone covers a broader area, usually up to a 50-mile radius from the plant, where radioactive materials could contaminate water supplies, food crops, and livestock.

The potential danger from an accident at a nuclear power plant is exposure to radiation. This exposure could come from the release of radioactive material from the plant into the environment, usually characterized by a plume (cloud-like formation) of radioactive gases and particles. The major hazards to people in the vicinity of the plume are radiation exposure to the body from the cloud and particles deposited on the ground, inhalation of radioactive materials, and ingestion of radioactive materials.

Radioactive materials are composed of atoms that are unstable. An unstable atom gives off its excess energy until it becomes stable. The energy emitted is radiation. Each of us is exposed to radiation daily from natural sources, including the Sun and the Earth. Small traces of radiation are present in food and water. Radiation also is released from man-made sources such as X-ray machines, television sets, and microwave ovens. Radiation has a cumulative effect. The longer a person is exposed to radiation, the greater the effect. A high exposure to radiation can cause serious illness or death.

Although the risk of a chemical accident is slight, knowing how to handle these products and how to react during an emergency can reduce the risk of injury.

Before a Nuclear Power Plant Emergency

Obtain public emergency information materials from the power company that operates your local nuclear power plant or your local emergency services office. If you live within 10 miles of the power plant, you should receive these materials yearly from the power company or your state or local government.

Minimizing Exposure to Radiation

Distance - The more distance between you and the source of the radiation, the better. This could be evacuation or remaining indoors to minimize exposure.

Shielding - The more heavy, dense material between you and the source of the radiation, the better

Time - Most radioactivity loses its strength fairly quickly.

During a Nuclear Power Plant Emergency

The following are guidelines for what you should do if a nuclear power plant emergency occurs. Keep a battery-powered radio with you at all times and listen to the radio for specific instructions. Close and lock doors and windows.

If you are told to evacuate:

- Keep car windows and vents closed; use recirculating air.

If you are advised to remain indoors:

- Turn off the air conditioner, ventilation fans, furnace, and other air intakes.
- Go to a basement or other underground area, if possible.
- Do not use the telephone unless absolutely necessary.

If you expect you have been exposed to nuclear radiation:

- Change clothes and shoes.
- Put exposed clothing in a plastic bag.
- Seal the bag and place it out of the way.
- Take a thorough shower.

Keep food in covered containers or in the refrigerator. Food not previously covered should be washed before being put in to containers.

After a Nuclear Event

Ensure your safety

Find out how to care for your safety after a disaster

Your first concern after a disaster is your family's health and safety. You need to consider possible safety issues and monitor family health and well-being.

Aiding the Injured

Check for injuries. Do not attempt to move seriously injured persons unless they are in immediate danger of death or further injury. If you must move an unconscious person, first stabilize the neck and back, then call for help immediately.

- If the victim is not breathing, carefully position the victim for artificial respiration, clear the airway, and commence mouth-to-mouth resuscitation.
- Maintain body temperature with blankets. Be sure the victim does not become overheated.
- Never try to feed liquids to an unconscious person.

Health

- Be aware of exhaustion. Don't try to do too much at once. Set priorities and pace yourself. Get enough rest.
- Drink plenty of clean water.. Eat well.. Wear sturdy work boots and gloves.
- Wash your hands thoroughly with soap and clean water often when working in debris.

Safety Issues

- Be aware of new safety issues created by the disaster. Watch for washed out roads, contaminated buildings, contaminated water, gas leaks, broken glass, damaged electrical wiring, and slippery floors.
- Inform local authorities about health and safety issues, including chemical spills, downed power lines, washed out roads, smoldering insulation, and dead animals.

Radiological Events

A radiation threat, commonly referred to as a "dirty bomb" or "radiological dispersion device (RDD)", is the use of common explosives to spread radioactive materials over a targeted area. It is not a nuclear blast. The force of the explosion and radioactive contamination will be more localized. While the blast will be immediately obvious, the presence of radiation will not be clearly defined until trained personnel with specialized equipment are on the scene. As with any radiation, you want to try to limit exposure. It is important to avoid breathing radiological dust that may be released in the air.

If There is a Radiation Threat or "Dirty Bomb"

- If you are outside and there is an explosion or authorities warn of a radiation release nearby, cover your nose and mouth and quickly go inside a building that has not been damaged. If you are already inside check to see if your building has been damaged. If your building is stable, stay where you are. Close windows and doors; turn off air conditioners, heaters or other ventilation systems.

- If you are inside and there is an explosion near where you are OR you are warned of a radiation release inside, cover nose and mouth and go outside immediately. Look for a building or other shelter that has not been damaged and quickly get inside. Once you are inside a safe building, close windows and doors; turn off air conditioners, heaters or other ventilation systems.
- If you think you have been exposed to radiation, take off your clothes (place outdoors in a container) and shower as soon as possible. Wash thoroughly around the mouth and nose.
- Stay where you are, watch TV, listen to the radio, or check the Internet for official news as it becomes available.

Remember:

To limit the amount of radiation you are exposed to, think about shielding, distance, and time.

- **Shielding:** If you have a thick shield between yourself and the radioactive materials more of the radiation will be absorbed, and you will be exposed to less.
- **Distance:** The farther away you are away from the blast and the fallout (dust and debris) the lower your exposure.

Time: Minimizing time spent exposed will also reduce your risk.

Shelter-In-Place

Shelter-in-place simply means staying inside your home or business. During an accidental release of toxic chemicals, or emergencies involving hazardous materials where air quality may be threatened, shelter-in-place keeps you inside a protected area and out of danger.

Tips

- at home

- Choose a room in advance for your shelter. The best room is one with as few windows and doors as possible. A large room, preferably with a water supply, is desirable—something like a master bedroom that is connected to a bathroom.
- Contact your workplaces, your children's schools, nursing homes where you may have family and your local town or city officials to find out what their plans are for "shelter-in-place."
- Find out when warning systems will be tested. When tested in your area, determine whether you can hear or see sirens and/or warning lights from your home.

- at work

Help ensure that the emergency plan and checklist involves all employees. Volunteers or recruits should be assigned specific duties during an emergency. Alternates should be assigned to each duty.

The shelter kit should be checked on a regular basis. Duct tape and first aid supplies can sometimes disappear when all employees know where the shelter kit is stored. Batteries for the radio and flashlight should be replaced regularly.

The appropriate steps depend on the emergency situation. If you hear a warning signal, listen to local radio or television stations for further information. You will be told what to do, including where to find the nearest shelter if you are away from your "shelter-in-place" location.

- at home

If you are told to "shelter-in-place," act quickly. Follow the instructions of local authorities. In general:

1. Bring children and pets indoors immediately. If your children are at school, do not try to bring them home unless told to. The school will shelter them.
2. Close and lock all outside doors and windows. Locking may provide a tighter seal.
3. If you are told there is danger of explosion, close the window shades, blinds or curtains.

4. Turn off the heating, ventilation or air conditioning system. Turn off all fans, including bathroom fans operated by the light switch.
5. Close the fireplace or woodstove damper.
6. Get your disaster supplies kit and make sure the radio is working.
7. Take everyone, including pets, into an interior room with no or few windows and shut the door.
8. If you have pets, prepare a place for them to relieve themselves where you are taking shelter. Pets should not go outside during a chemical or radiation emergency because it is harmful to them and they may track contaminants into your shelter. The Humane Society of the United States suggests that you have plenty of plastic bags and newspapers, as well as containers and cleaning supplies, to help deal with pet waste.
9. If you are instructed to seal the room, use duct tape and plastic sheeting, such as heavy-duty plastic garbage bags, to seal all cracks around the door into the room. Tape plastic over any windows. Tape over any vents and seal electrical outlets and other openings. As much as possible, reduce the flow of air into the room.

10. Call your emergency contact and keep the phone handy in case you need to report a life-threatening condition. Otherwise stay off the phone, so that the lines will be available for use by emergency responders.
11. Keep listening to your radio or television until you are told all is safe or you are told to evacuate. Do not evacuate unless instructed to do so.
12. When you are told that the emergency is over, open windows and doors, turn on ventilation systems and go outside until the building's air has been exchanged with the now clean outdoor air. Follow any special instructions given by emergency authorities to avoid chemical or radiological contaminants outdoors.

- in your vehicle

1. If you are very close to home, your workplace or a public building, go there immediately and go inside. Follow the "shelter-in-place" recommendations for that location.
2. If you are unable to get indoors quickly and safely, then pull over to the side of the road. Stop your vehicle in the safest place possible. If it is sunny outside, it is preferable to stop under a bridge or in a shady spot to avoid being overheated.
3. Turn off the engine.
4. Close windows and vents.

5. If possible, seal the heating, ventilating and air conditioning vents with duct tape or anything else you may have available.
6. Listen to the radio periodically for updated advice and instructions. (Modern car radios consume very little battery power and should not affect your ability to start your car later.)
7. Stay where you are until you are told it is safe to get back on the road. Be aware that some roads may be closed or traffic detoured. Follow the directions of law enforcement officials.

- at work

Check with your workplace to learn their plans for dealing with a hazardous materials emergency. Their "shelter-in-place" plans should include the following:

1. Employers should close the office, making any customers, clients or visitors in the building aware that they need to stay until the emergency is over. Close and lock all windows, exterior doors and any other openings to the outside.
2. A knowledgeable person should use the building's mechanical systems to turn off all heating, ventilating and air conditioning systems. The systems that automatically provide for exchange of inside air with outside air, in particular, need to be turned off, sealed or disabled.

3. Unless there is an imminent threat, employers should ask employees, customers, clients and visitors to call their emergency contacts to let them know where they are and that they are safe.
4. If time permits and it is not possible for a person to monitor the telephone, turn on call-forwarding or alternative telephone answering systems or services. If the business has voicemail or an automated attendant, it should be switched to a recording that indicates that the business is closed and that staff and visitors are remaining in the building until authorities advise it is safe to leave.
5. If you are told there is danger of explosion, close any window shades, blinds or curtains near your workspace.
6. Take your workplace disaster supplies kits and go to your pre-determined sheltering room(s) and, when everyone is in, shut and lock the doors. There should be radios or TVs in the room(s).
7. Turn on the radios or TVs. If instructed to do so by officials, use duct tape and plastic sheeting, such as heavy-duty plastic garbage bags, to seal all cracks around the door(s) and any vents into the room. Seal any windows and/or vents with sheets of plastic and duct tape. As much as possible, reduce the flow of air into the room.

8. One person per room should write down the names of everyone in the room. Call your business-designated emergency contact to report who is in the room with you and their affiliation with your business (employee, visitor, client, customer).
9. Keep listening to the radio or watching TV for updates until you are told all is safe or you are told to evacuate.
10. When you are told that all is safe, open windows and doors, turn on heating, ventilating and air conditioning systems and go outside until the building's air has been exchanged with the now-clean outdoor air. Follow any special instructions given by emergency authorities to avoid chemical or radiological contaminants outdoors.

Terrorism

Preparing for a Terrorist Bombing: A Common Sense Approach

Although terrorists use a variety of methods to inflict harm and create fear, bombs are used most frequently. According to the U. S. Federal Bureau of Investigation, bombings accounted for nearly 70 percent of all terrorist attacks in the U.S. and its territories between 1980 and 20011. This document focuses on common sense principles that will be useful in a bombing event.

What can I do now?

CDC and the American Red Cross encourage every organization, family and individual to take time to prepare for an emergency or disaster. These steps can help you get started:

- **Know your work, school and community disaster plans.** If you are not familiar with the plans, contact your supervisor, school administrators, or your local fire department for information.
- **Identify an alternative hospital.** Hospitals closest to the event are always the busiest.

What should I do if I think someone is going to set off a bomb?

At Home

Leave the area immediately.

Call 9-1-1. Tell the operator what you saw or know (suspicious persons, packages, or vehicles).

Follow directions from people in authority (police, fire, EMS, or military personnel, or from neighborhood leaders).

At Work

Follow existing evacuation guidelines.

Follow directions from people in authority (police, fire, EMS, or military personnel, or from workplace supervisors).

At School

Follow existing evacuation guidelines.

Follow directions from people in authority (police, fire, EMS, or military personnel, or from school administrators).

In Public

Leave the area immediately.

Call 9-1-1. Tell the operator what you saw or know (suspicious persons, packages, or vehicles).

Follow directions from people in authority (police, fire, EMS, or military personnel, or from community leaders).

What should I do during a terrorist bombing?

If you are in a bombing event:

- **Leave the area immediately.**
- **Avoid crowds.** Crowds of people may be targeted for a second attack.
- **Avoid unattended cars and trucks.** Unattended cars and trucks may contain explosives.
- **Stay away from damaged buildings** to avoid falling glass and bricks. Move at least 10 blocks or 200 yards away from damaged buildings.
- **Follow directions from people in authority** (police, fire, EMS, or military personnel, or from school or workplace supervisors).
- **Call 9-1-1 once you are in a safe area**, but only if police, fire, or EMS has not arrived.
- **Help others who are hurt or need assistance to leave the area** if you are able. If you see someone who is seriously injured, seek help. Do not try to manage the situation alone.

What should I do after the bombing?

When the explosion is over:

- **Follow your family, job, or school emergency disaster plan for leaving and staying away from the scene of the event.** Remember, returning to the scene will increase the risk of danger for rescue workers and you.
- **Avoid crowds.** Crowds of people may be targeted for a second attack.
- **Avoid unattended cars and trucks.** Unattended cars and trucks may contain explosives.
- **Stay away from damaged buildings** to avoid falling glass and bricks. Move at least 10 blocks or 200 yards away from damaged buildings.
- **Follow directions from people in authority** (police, fire, EMS, or military personnel, or from school or workplace supervisors).
- **Call 9-1-1 once you are in a safe area**, but only if police, fire, or EMS has not arrived to help injured people.
- **Help others who are hurt or need assistance to leave the area** if you are able. If you see someone who is seriously injured, seek help. Do not try to manage the situation alone.
- **Listen** to your radio or television for news and instructions.

What if rescue workers are not available to transport me or other injured persons?

9-1-1 services (police, fire, EMS and ambulance) might be delayed indefinitely following a terrorist event, therefore:

- **Always have a back-up plan** for transportation.
- **Follow advice from your local public safety offices** (local health department, local emergency management offices, fire and police departments and reliable news sources).

When should I go to the hospital or clinic?

Seek medical attention if you have any of the following problems:

- Excessive bleeding
- Trouble breathing
- Persistent cough
- Trouble walking or using an arm or leg
- Stomach, back or chest pains
- Headache
- Blurred vision or burning eyes
- Dry mouth
- Vomiting or diarrhea

- Rash or burning skin
- Hearing problems
- Injuries that increase in pain, redness or swelling
- Injuries that do not improve after 24 to 48 hours

Help others who are hurt or need assistance to leave the area, if you are able. If you see someone who is seriously injured, seek help. Do not try to manage the situation alone.

Where should I go for care?

Go to a hospital or clinic away from the event if you can. Most victims will go to the nearest hospital. Hospitals away from the event will be less busy.

What can I expect at the hospital?

- **Long waits.** To avoid long waits, choose a hospital farther away from the event. While this might increase your travel time, you might receive care sooner.
- **Triage.** Following a terrorist attack or other disasters, injuries are generally treated on a “worst first” basis, called “triage.” Triage is not “first come, first served”. If your injuries are not immediately life threatening, others might be treated before you. The goal of triage is to save as many lives as possible.

- **Limited information.** In a large-scale emergency such as a terrorist attack, police, fire, EMS, and even hospitals and clinics cannot track every individual by name. Keep in mind that it may be difficult for hospitals to provide information about loved ones following a terrorist attack. Be patient as you seek information.

Mass casualties and injuries from terrorism, CDC's Emergency Preparedness and Response Website.
<http://emergency.cdc.gov>.

Chemical Attack

Signs of a chemical attack would include many people suffering from watery eyes, choking and having trouble breathing and many sick or dead birds, fish or small animals. If you suspect a chemical attack has occurred:

- Avoid the contaminated area. Get away from the area or shelter in place, using the option that minimizes your exposure to the chemical.
- Wash with soap and water immediately if you were exposed to a chemical.
- Seek medical attention.
- Notify local law enforcement or health authorities.

Biological Attack

A biological attack may not be immediately obvious. Patterns of unusual illnesses or a surge of sick people seeking medical treatment may be the first sign of an attack. If you believe there has been a suspicious release of biological substances:

- Quickly get away from the area.
- Cover your mouth and nose with layers of fabric, such as a t-shirt or towel.
- Wash with soap and water.
- Contact local law enforcement or health authorities.

The CDC has listed the following agents as Category A agents, meaning they pose the greatest potential public health threat: anthrax, botulism, plague, smallpox, tularemia and viral hemorrhagic fevers. Contact your local health department for more information each agent.

Mass Casualty/Explosions

If there is an Explosion

- Take shelter against your desk or a sturdy table.
- Exit the building ASAP.
- Do not use elevators.
- Check for fire and other hazards.
- Take your emergency supply kit if time allows.
- Help others and provide first aid as necessary.

If there is a Fire

- Exit the building ASAP.
- Crawl low if there is smoke
- Use a wet cloth, if possible, to cover your nose and mouth.
- Use the back of your hand to feel the upper, lower, and middle parts of closed doors.
- If the door is not hot, brace yourself against it and open slowly.
- If the door is hot, do not open it. Look for another way out.
- Do not use elevators

- If you catch fire, do not run. Stop, drop, and roll to put out the fire.
- If you are at home, go to a previously designated meeting place.
- Account for your family members and carefully supervise small children.
- Never go back into a burning building.

If You Are Trapped in Debris

- If possible, use a flashlight to signal your location to rescuers.
- Avoid unnecessary movement so that you don't kick up dust.
- Cover your nose and mouth with anything you have on hand. (Dense-weave cotton material can act as a good filter. Try to breathe through the material.)
- Tap on a pipe or wall so that rescuers can hear where you are.
- If possible, use a whistle to signal rescuers.
- Shout only as a last resort. Shouting can cause a person to inhale dangerous amounts of dust.

Weather Related Events

Severe weather can strike with little or no warning. Take these steps to protect yourself and family in severe weather.

Flooding

Before a flood

- Know the elevation of your property in relation to flood plains, streams and other waterways. Determine if your property may be flooded.
- Plan what to do and where to go in case of a flood.
- Prepare a Family Emergency Supplies Kit - 72 Hour Kit
- Fill your car with gas in case you have to evacuate.
- Move furniture and essential items to higher elevation, if time permits.
- Have a portable radio and flashlights with extra batteries.
- Open basement windows to equalize water pressure on foundations and walls.
- Secure your home.
- Consider flood and earthquake insurance.

Evacuation

- Listen to local radio or TV for weather information.
- If asked to evacuate, shut off main power switch, main gas valve and water valve. Follow local evacuation plan and routes.
- Do not attempt to drive over a flooded road; it may be washed out. While on the road, watch for possible flooding of bridges, dips and low areas.
- Watch out for damaged roads, slides and fallen wires.
- Drive slowly in water; use low gear.
- Abandon your vehicle immediately if it stalls and seek higher ground.
- Do not attempt to cross a stream on foot where water is above your knees.
- Register at your designated evacuation center and remain there until informed you may leave.

After a Flood

- Remain away from evacuated area until public health officials and building inspector have given approval.
- Check for structural damage before entering.
- Make sure electricity is off; watch for electrical wires.
- Do not use open flame as a light source because of the possibility of escaping gas. Use flashlights. Beware of dangerous sparks
- Do not use food contaminated by flood water.
- Test drinking water for suitability with test kits.
- Avoid walking in flood water. Do not let children play in flood water.

High Winds

Before High Winds

- Survey your property. Take note of materials stored, placed or used, which could become missiles and destroy other structures or be destroyed. Devise methods of securing these items where they will still be accessible for day-to-day needs.
- Keep tall trees properly pruned away from power lines.
- Keep radio and/or TV on and monitor for wind advisories.
- If possible, board up, tape or shutter all windows, but leave some ventilation.
- Store water in case water service is interrupted.
- Have a supply of flashlights, spare batteries, candles, first aid equipment, medicines, etc., available for use.
- Have plastic sheeting available in case roof is damaged and it begins to rain.
- Secure outdoor furniture, trash cans, tools, etc.
- Take pictures of the house/yard, and inside possessions for possible insurance purposes

During High Winds

- Take shelter in hallways and closets; avoid windows.
- If outside, take shelter from flying debris.

After Winds Subside

- Inspect your home for structural and roof damage.
- Check all utilities and power lines for damage and proper operation.
- Monitor radio and TV for instructions from local leaders.

Hurricanes

Hurricane Hazards

- Hurricane Winds
- Rainfall and Flooding
- Storm Surge
- Tornadoes
- Hazard Forecast Updates

One of the most dramatic, damaging, and potentially deadly events that occur in this country is a hurricane.

Hurricanes are products of the tropical ocean and atmosphere. Powered by heat from the sea, they are steered erratically by the easterly trade winds and the temperate westerly winds, as well as by their own energy. As they move ashore, they bring with them a storm surge of ocean water along the coastline, high winds, tornadoes, torrential rains, and flooding.

Each year on average, ten tropical storms develop over the Atlantic Ocean, Caribbean Sea, or Gulf of Mexico. About six of these typically strengthen enough to become hurricanes. Many of these remain over the ocean with little or no impact on the continental United States. However, about five hurricanes strike the United States coastline every three years. Of these five, two will be major hurricanes measuring a category 3 or higher (defined as having winds above 111 miles per hour) on the Saffir-Simpson Scale. These storms can end up costing our nation millions, if not billions, of dollars in damages.

During a hurricane, homes, businesses, public buildings, and infrastructure may be damaged or destroyed by many different storm hazards. Debris can break windows and doors, allowing high winds and rain inside the home. In extreme storms (such as Hurricanes Hugo, Andrew and Katrina), the force of the wind alone can cause tremendous devastation, as trees and power lines topple and weak elements of homes and buildings fail. Roads and bridges can be washed away and homes saturated by flooding. Destructive tornadoes can also be present well away from the storms center during landfall. Yet, storm surge alone poses the highest threat to life and destruction

in many coastal areas throughout the United States and territories. And these threats are not limited to the coastline -- they can extend hundreds of miles inland, under the right conditions.

What is a Hurricane?

A hurricane is a type of tropical cyclone, the generic term for a low pressure system that generally forms in the tropics. A typical cyclone is accompanied by thunderstorms, and in the Northern Hemisphere, a counterclockwise circulation of winds near the earth's surface.

All Atlantic and Gulf of Mexico coastal areas are subject to hurricanes or tropical storms. Parts of the Southwest United States and the Pacific Coast experience heavy rains and floods each year from hurricanes spawned off Mexico. The Atlantic hurricane season lasts from June to November, with the peak season from mid-August to late October.

Hurricanes can cause catastrophic damage to coastlines and several hundred miles inland. Winds can exceed 155 miles per hour. Hurricanes and tropical storms can also spawn tornadoes and microbursts, create storm surges along the coast, and cause extensive damage from heavy rainfall.

Hurricanes are classified into five categories based on their wind speed, central pressure, and damage potential (see chart). Category Three and higher hurricanes are considered major hurricanes, though Categories One and Two are still extremely dangerous and warrant your full attention.

How are the Hurricane Categories Determined?

Saffir-Simpson Hurricane Scale

Scale Number (Category): 1

Sustained Winds (MPH): 74-95

Damage: Minimal: Unanchored mobile homes, vegetation and signs.

Storm Surge: 4-5 feet

Scale Number (Category): 2

Sustained Winds (MPH): 96-110

Damage: Moderate: All mobile homes, roofs, small crafts, flooding.

Storm Surge: 6-8 feet

Scale Number (Category): 3

Sustained Winds (MPH): 111-130

Damage: Extensive: Small buildings, low-lying roads cut off.

Storm Surge: 9-12 feet

Scale Number (Category): 4

Sustained Winds (MPH): 131-155

Damage: Extreme: Roofs destroyed, trees down,
roads cut off, mobile homes destroyed.
Beach homes flooded.

Storm Surge: 13-18 feet

Scale Number (Category): 5

Sustained Winds (MPH): More than 155

Damage: Catastrophic: Most buildings destroyed.
Vegetation destroyed. Major roads cut off.
Homes flooded

Storm Surge: Greater than 18 feet

Hurricanes can produce widespread torrential rains. Floods are the deadly and destructive result. Slow moving storms and tropical storms moving into mountainous regions tend to produce especially heavy rain. Excessive rain can trigger landslides or mud slides, especially in mountainous regions. Flash flooding can occur due to intense rainfall. Flooding on rivers and streams may persist for several days or more after the storm.

Between 1970 and 1999, more people lost their lives from freshwater inland flooding associated with land falling tropical cyclones than from any other weather hazard related to tropical cyclones.

Before a Hurricane

To prepare for a hurricane, you should take the following measures:

- Make plans to secure your property. Permanent storm shutters offer the best protection for windows. A second option is to board up windows with 5/8" marine plywood, cut to fit and ready to install. Tape does not prevent windows from breaking.
- Install straps or additional clips to securely fasten your roof to the frame structure. This will reduce roof damage.
- Be sure trees and shrubs around your home are well trimmed.
- Clear loose and clogged rain gutters and downspouts.
- Determine how and where to secure your boat.
- Consider building a safe room.

During a Hurricane

If a hurricane is likely in your area, you should:

- Listen to the radio or TV for information.
- Secure your home, close storm shutters, and secure outdoor objects or bring them indoors.
- Turn off utilities if instructed to do so. Otherwise, turn the refrigerator thermostat to its coldest setting and keep its doors closed.
- Turn off propane tanks.- Avoid using the phone, except for serious emergencies.
- Moor your boat if time permits.
- Ensure a supply of water for sanitary purposes such as cleaning and flushing toilets. Fill the bathtub and other large containers with water.

You should evacuate under the following conditions:

- If you are directed by local authorities to do so. Be sure to follow their instructions.
- If you live in a mobile home or temporary structure—such shelters are particularly hazardous during hurricanes no matter how well fastened to the ground.
- If you live in a high-rise building—hurricane winds are stronger at higher elevations.
- If you live on the coast, on a floodplain, near a river, or on an inland waterway.
- If you feel you are in danger.

If you are unable to evacuate, go to your safe room. If you do not have one, follow these guidelines:

- Stay indoors during the hurricane and away from windows and glass doors.
- Close all interior doors—secure and brace external doors.
- Keep curtains and blinds closed. Do not be fooled if there is a lull; it could be the eye of the storm - winds will pick up again.
- Take refuge in a small interior room, closet, or hallway on the lowest level.
- Lie on the floor under a table or another sturdy object.

Thunderstorms And Lightning

Protect Yourself

- Get inside a home or large building when a storm approaches. Stay indoors and don't venture outside unless absolutely necessary.
- Stay away from open doors, windows, fireplaces, radiators, stoves, metal pipes, sinks and appliances.
- Do not use electrical appliances.
- Use telephone for emergencies only.

If you are outside, with no time to reach a safe building or vehicle, follow these rules:

- Do not stand under a natural lightning rod such as a tall, isolated tree in an open area.
- In a forest, seek shelter in a low area under a thick growth of small trees.
- In open areas, go to a low place such as a ravine or valley. Be alert for flash floods.
- Do not stand on a hilltop, in an open field, on the beach or in a boat on the water.
- Avoid isolated sheds or other small structures in open areas.
- Get out of the water and off small boats.

- Get away from anything metal - tractors, farm equipment, motorcycles, golf carts, golf clubs and bicycles, camping chairs, etc.
- Stay away from wire fences, clothes lines, metal pipes, rails, exposed sheds or anything that is high and could conduct electricity. Some of these items could carry electricity to you from some distance away.
- When you feel an electrical charge - if your hair stands on end or your skin tingles - squat low to the ground on the balls of your feet. Place your hands over your ears and your head between your knees. **Do Not Lie Flat On The Ground.**

Tornadoes

Tornadoes are nature's most violent storms. Spawned from powerful thunderstorms, tornadoes can cause fatalities and devastate a neighborhood in seconds. A tornado appears as a rotating, funnel-shaped cloud that extends from a thunderstorm to the ground with whirling winds that can reach 300 miles per hour. Damage paths can be in excess of one mile wide and 50 miles long. Every state is at some risk from this hazard.

Some tornadoes are clearly visible, while rain or nearby low-hanging clouds obscure others. Occasionally, tornadoes develop so rapidly that little, if any, advance warning is possible.

Before a tornado hits, the wind may die down and the air may become very still. A cloud of debris can mark the location of a tornado even if a funnel is not visible.

Tornadoes generally occur near the trailing edge of a thunderstorm. It is not uncommon to see clear, sunlit skies behind a tornado.

The following are facts about tornadoes:

- They may strike quickly, with little or no warning.
- They may appear nearly transparent until dust and debris are picked up or a cloud forms in the funnel.
- The average tornado moves Southwest to Northeast, but tornadoes have been known to move in any direction.
- The average forward speed of a tornado is 30 MPH, but may vary from stationary to 70 MPH.
- Tornadoes can accompany tropical storms and hurricanes as they move onto land.
- Waterspouts are tornadoes that form over water.
- Tornadoes are most frequently reported east of the Rocky Mountains during spring and summer months.
- Peak tornado season in the southern states is March through May; in the northern states, it is late spring through early summer.
- Tornadoes are most likely to occur between 3 p.m. and 9 p.m., but can occur at any time.

What to do Before a Tornado

Be alert to changing weather conditions.

- Listen to NOAA Weather Radio or to commercial radio or television newscasts for the latest information.
- Look for approaching storms
- Look for the following danger signs:
 - Dark, often greenish sky
 - Large hail
 - A large, dark, low-lying cloud (particularly if rotating)
 - Loud roar, similar to a freight train.

If you see approaching storms or any of the danger signs, be prepared to take shelter immediately.

What to Do During a Tornado

If you are under a tornado **Warning**, seek shelter immediately!

If you are in: A structure (e.g. residence, small building, school, nursing home, hospital, factory, shopping center, high-rise building)

Then: Go to a pre-designated shelter area such as a safe room, basement, storm cellar, or the lowest building level. If there is no basement, go to the center of an interior room on the lowest level (closet, interior hallway) away from corners, windows, doors, and outside walls. Put as many walls as possible between you and the outside. Get under a sturdy table and use your arms to protect your head and neck. Do not open windows.

If you are in: A vehicle, trailer, or mobile home

Then: Get out immediately and go to the lowest floor of a sturdy, nearby building or a storm shelter. Mobile homes, even if tied down, offer little protection from tornadoes.

If you are in: The outside with no shelter

Then: Lie flat in a nearby ditch or depression and cover your head with your hands. Be aware of the potential for flooding.

Do not get under an overpass or bridge. You are safer in a low, flat location.

Never try to outrun a tornado in urban or congested areas in a car or truck. Instead, leave the vehicle immediately for safe shelter.

Watch out for flying debris. Flying debris from tornadoes causes most fatalities and injuries.

Winter Storms

Before Winter Storms and Extreme Cold

Add the following supplies to your disaster supplies kit:

- Rock salt to melt ice on walkways
- Sand to improve traction
- Snow shovels and other snow removal equipment.

Prepare your home and family

- **Prepare for possible isolation in your home** by having sufficient heating fuel; regular fuel sources may be cut off. For example, store a good supply of dry, seasoned wood for your fireplace or wood-burning stove.
- **Winterize your home** to extend the life of your fuel supply by insulating walls and attics, caulking and weather-stripping doors and windows, and installing storm windows or covering windows with plastic.

- **Winterize your house, barn, shed or any other structure that may provide shelter** for your family, neighbors, livestock or equipment. Clear rain gutters; repair roof leaks and cut away tree branches that could fall on a house or other structure during a storm.
- **Insulate pipes** with insulation or newspapers and plastic and allow faucets to drip a little during cold weather to avoid freezing.
- **Keep fire extinguishers on hand**, and make sure everyone in your house knows how to use them. House fires pose an additional risk, as more people turn to alternate heating sources without taking the necessary safety precautions.
- **Learn how to shut off water valves** (in case a pipe bursts).
- **Know ahead of time what you should do to help elderly or disabled friends, neighbors or employees.**
- **Hire a contractor to check the structural ability of the roof** to sustain unusually heavy weight from the accumulation of snow - or water, if drains on flat roofs do not work.

Prepare your car

- **Check or have a mechanic check the following items on your car:**
 - **Antifreeze levels** - ensure they are sufficient to avoid freezing.
 - **Battery and ignition system** - should be in top condition and battery terminals should be clean.
 - **Brakes** - check for wear and fluid levels.
 - **Exhaust system** - check for leaks and crimped pipes and repair or replace as necessary. **Carbon monoxide is deadly and usually gives no warning.**
 - **Fuel and air filters** - replace and keep water out of the system by using additives and maintaining a full tank of gas.
 - **Heater and defroster** - ensure they work properly.
 - **Lights and flashing hazard lights** - check for serviceability.
 - **Oil** - check for level and weight. Heavier oils congeal more at low temperatures and do not lubricate as well.
 - **Thermostat** - ensure it works properly.
 - **Windshield wiper equipment** - repair any problems and maintain proper washer fluid level.

- **Install good winter tires.** Make sure the tires have adequate tread. All-weather radials are usually adequate for most winter conditions. However, some jurisdictions require that to drive on their roads, vehicles must be equipped with chains or snow tires with studs.
- **Maintain at least a half tank of gas** during the winter season.
- **Place a winter emergency kit in each car** that includes:
 - a shovel
 - windshield scraper and small broom
 - flashlight
 - battery powered radio
 - extra batteries
 - water
 - snack food
 - matches
 - extra hats, socks and mittens
 - First aid kit with pocket knife
 - Necessary medications
 - blanket(s)
 - tow chain or rope
 - road salt and sand
 - booster cables

- emergency flares
- fluorescent distress flag

Dress for the Weather

- **Wear several layers** of loose fitting, lightweight, warm clothing rather than one layer of heavy clothing. The outer garments should be tightly woven and water repellent.
- **Wear mittens**, which are warmer than gloves.
- **Wear a hat.**
- **Cover your mouth** with a scarf to protect your lungs.
- **Know how to prevent Carbon Monoxide poisoning.**

The information contained in this guide was provided by a cooperative agreement between the Texas Department of State Health Services the Northeast Texas Public Health District.

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