

Disaster Preparedness: Emergency Procedures

One of the most important emergency procedures for any disaster is putting together a disaster preparedness kit ahead of time. These kits are collections of basic items you may need in the event of a disaster such as a hurricane, an earthquake, a pandemic, or a terrorist attack. You should actually make several kits – one for your home, one for each car, and one for school or the workplace – and store them in a place you can easily reach them when they are needed. Pack the items in easy-to-carry containers and label each one clearly. Include not only what you think you'll need during the disaster, but also what you'll need in the period directly following it, especially if you are either trapped in your house or are forced to evacuate.

Make sure the needs of everyone who would use the kits are covered, including infants, seniors, and pets. It's a good idea to involve whoever is going to use the kit in assembling it. As an example, for children, putting together the kit is the first step in helping them understand what constitutes an emergency and what to do if one should arise. You should also ask them to think of items they would like to include, such as books, games, a favorite toy, or nonperishable food. In addition, task them with helping everyone to remember to keep the kits updated. For example, they could make calendars on which to mark the dates for checking emergency supplies, replacing batteries, or rotating the emergency food and water supplies to keep them fresh. They can also be in charge of making a kit for any of their pets.

A basic kit, stored in any of the places listed above, should contain the following:

- Water. Each person and each pet needs 1 gallon per day. This includes ½ gallon for drinking and the rest for cooking or personal hygiene. Keep a 3-day supply if you need to evacuate and a 2-week supply if you need to remain in your home.
- Food. Items should be non-perishable and easy to prepare without cooking, unless you have a camp stove. Again, keep a 3-day supply if you need to evacuate and a 2-week supply if you need to remain in your home.
- A manual can opener and a multipurpose tool, such as a Swiss Army knife
- Flashlights and extra batteries (usually C or D for hand-held lights)
- A battery-powered or hand-crank radio (a NOAA Weather Radio, if possible) to listen to emergency alerts
- A two-way radio to communicate with first responders in case you need assistance.
- Sanitation and personal hygiene items
- Copies of personal documents (family and emergency contact information, medication list and pertinent medical information, proof of address, deed/lease to home, passports, birth certificates, insurance policies) wrapped in plastic
- Cell phone with chargers (in case you do have electricity)
- Extra cash
- Blankets, pillows, or sleeping bags
- Map(s) of the area, wrapped in plastic

You should also put together a **first aid kit** and keep it with your other emergency supplies. Some items to consider are: sterile gloves (nitrile, if you are allergic to latex); sterile dressings to stop bleeding; cleansing agents/soap; antibiotic ointment and towelettes; burn ointment;

Earthquake Preparedness

Earthquakes are one of nature's most destructive events. They are caused by movement of the tectonic plates that form the Earth's crust. As the plates rub against each other or move apart, the pent-up energy in the movement causes the ground to shake – the more energy is stored up, the more is released explosively, and the greater the magnitude of the quake and the potential for destruction of structures built upon it. As many regions of the world sit along a fault line between two plates, earthquake preparedness plans are essential to anticipating and weathering such an event no matter where you live.

Before the Quake

Before an earthquake hits, there are a number of things you should do, like putting together an emergency kit (containing such items as a battery-powered or hand crank radio, a flashlight and extra batteries, a first aid kit, a whistle to signal for help, moist towelettes, garbage bags, and plastic ties for personal sanitation, local maps, and a cell phone with a solar charger – see www.emergencyprocedures.net for more details – making a family communications and evacuation plan, and locating shelter for when and if the quake strikes.

- Strengthen your home. Fasten shelves securely to the walls, and place large or heavy objects on lower shelves. Also brace overhead light fixtures and top-heavy objects.
- Fasten heavy items such as pictures and mirrors securely to walls and away from beds, couches, and anywhere people sit.
- Repair any deep cracks in ceilings or the foundation, and seek expert advice if there are signs of structural defects.
- Secure your water heater, refrigerator, furnace, and gas appliances by strapping them to the wall studs and bolting them to the floor. Talk to the gas company about getting an automatic gas shut-off valve installed that is triggered by strong vibrations.
- Store breakable items, such as bottled foods, glass, and china in low, closed cabinets with latches.
- Repair defective electrical wiring and leaky gas connections. These are potential fire risks, so make sure to get a professional to do it instead of trying it yourself.
- Install flexible pipe fittings to avoid gas or water leaks, since they are more resistant to breakage.
- Store weed killers, pesticides, and flammable products securely in closed cabinets with latches and on bottom shelves.
- Hold earthquake drills with your family members, and reinforce the Drop, Cover, and Hold on technique described below. Locate safe spots in each room under a sturdy table or against an inside wall, and move to these places during each drill (you can find more information about evacuation plans and drills at www.emergencyprocedures.net/home_fire_preparedness.html).

During the Quake

When you feel the ground start to shake, what you do depends on whether you are inside a building or out. If you are inside, use the Drop, Cover, and Hold On technique – drop to the floor, cover yourself by getting under a heavy piece of furniture, and hold onto it until the shaking stops. If there isn't a table or desk or something equally sturdy near you, cover your face with your arms and curl up in an inside corner of the building you're in. If you're in bed, though, stay there and cover your face with a pillow; it's safer than moving. If you have to move, minimize your movements to only a few steps to get to a safe place.

Stay away from glass and windows, as they may shatter, outside doors and walls, and anything that could fall, such as lighting fixtures, or unbolted, large furniture, like a bookcase. Although urban legend has it that you should stand in a doorway, do not do so unless you know for certain it is a strongly supported, load-bearing doorway. Many inside doorways are lightly constructed and do not offer protection.

Stay inside until the shaking stops. Do not exit a building during the shaking, as it is a highly dangerous maneuver. Research has shown that most injuries that occur during earthquakes do so when people inside buildings try to leave, only to be hit by flying debris once they've gotten out. If you're already outside, stay in an open area until the shaking stops. Only move if you are near a building, streetlight, telephone pole, and/or utility wires, as they may come down in the quake. The greatest danger exists directly outside buildings, at exits, and alongside exterior walls. Ground movement during an earthquake is seldom the direct cause of death or injury. Instead, most earthquake-related casualties result from collapsing walls, flying glass, and falling objects.

If you are in a moving vehicle at the time the shaking starts, stop as quickly as safety permits and stay in the vehicle. Avoid stopping near or under buildings, trees, overpasses, and utility wires, as they may topple on the car. Proceed cautiously once the earthquake has stopped, avoiding any roads, bridges, or ramps that might have been damaged.

Earthquake preparedness is the key to surviving this destructive natural disaster. Establish your evacuation plans and perform drills to ensure you know what to do when the time comes. Assemble your emergency kit and store it in a safe location, one you can easily reach if an earthquake should occur. Taking the time beforehand to be prepared may well save you and your family's lives.

adhesive bandages and gauze in a variety of sizes; eye wash solution to flush the eyes or to use as a general decontaminant; a thermometer; N-95 or surgical masks; non-prescription drugs, such as aspirin or other NSAIDs (non-steroidal anti-inflammatory) pain relievers, antacids, laxatives, and anti-diarrheal drugs; and a seven-day supply of prescription medications for everyone in your family who takes them. Also include specialized needs such as hearing aid batteries, infant formula, diapers, syringes, insulin, etc. You should periodically rotate medicines to account for expiration dates.

In addition, you may need to include prescribed medical supplies, such as glucose and blood pressure monitoring equipment if someone is a diabetic, or canes, walkers, and wheelchairs for the elderly or disabled. It's also a good idea to have scissors, tweezers, and petroleum jelly or other lubricant on hand.

Some additional supplies to keep at home or in your kit based on the types of disasters common to your area include: a whistle; matches; rain gear; towels; work gloves; tools/supplies for securing your home; extra clothing, a hat, and sturdy shoes; plastic sheeting (to seal windows and doors against biological hazards); duct tape (to secure plastic sheeting); household liquid bleach (to clean or to purify contaminated water); and entertainment items, to help pass the time and to keep young children comfortable and reassured.

If you have pets, you will also need to stock supplies to help them through the disaster. These include:

- Food and water for at least three days for each pet, food and water bowls
- Depending on the pet, litter and a litter box or newspapers, paper towels, plastic trash bags, and grooming items
- Medications and medical records stored in a waterproof container, a pet first aid kit, and information on your pet's medical needs
- Sturdy leashes, harnesses, and carriers to transport pets safely and to ensure that your pets cannot escape. A carrier should be large enough for the animal to stand in comfortably, turn around, and lie down. You should also include blankets or towels for bedding and warmth
- Familiar toys and the pet's bed, if you can easily take it, to reduce stress
- Current photos and descriptions of your pets to help others identify them in case you become separated, and to prove they are yours
- Information on feeding schedules, medical conditions, behavior problems, and the name and telephone number of your veterinarian, in case you have to board your pets or place them in foster care

Having emergency procedures in place before a disaster occurs, including assembling preparedness kits, is essential to weathering any type of disaster, both during and after the event itself. Use the information above as a basic guideline, and tailor the list according to your specific needs. The more prepared you are ahead of time, the better off you're likely to be if you should find yourself in disaster conditions.

Tornado Preparedness

Tornado preparedness is essential, as tornadoes are nature's most violent storms. They originate from powerful thunderstorms, and they can devastate an area in mere seconds. A tornado appears as a rotating, funnel-shaped cloud that extends from a thunderstorm down to the ground. It contains whirling winds that can reach up to 300 miles per hour, and the path of the damage can be in excess of one mile wide and 50 miles long. Some tornadoes are clearly visible, while rain or low, nearby clouds obscure others; however, you may be able to see a cloud of debris even if the funnel is not visible. Before a tornado hits, the wind may die down and the air may become very still – the calm before the storm, as it were, but, occasionally, tornadoes develop so rapidly that little, if any, advance warning is possible.

The U.S. has more tornadoes than any other area on the globe – they develop in the spring, as the weather changes in the fall, when summer storms hit, and as the byproducts of hurricanes. Though the Midwestern part of the country is known as “tornado alley,” there really is no place in the country that's immune from this force of nature. Add to this the fact that hurricanes and severe thunderstorms can produce directional winds nearly as destructive as the vortex of a twister, and it's easy to see why we need additional preparedness beyond the simple “duck and cover.”

What shelter will work best?

As with any disaster, preparedness is the key to survival. One of the most important steps to take is to ensure you will have safe shelter. Severe storms with driving rain, possible hail, and projectiles hurled by strong winds offer extreme danger. Ideally, you would want to be in a steel-reinforced concrete safe room in the basement of a structurally sound building when the storm hits, but if you don't happen to have one available, there are still some things you can do now:

1. Reinforce your house. There are simple things you can do to strengthen your home. Angle brackets, strapping, and techniques to install them to make your roof, walls, doors, and overall connection to the foundation stronger, can all be found at your local home-supply store or on the Internet. In addition, you can greatly strengthen your doors by using longer screws to hold your hinges and strike plates in place. This not only protects against the wind, but it also helps against the average intruder.
2. Create a safe room or area within your home. The best place to pick is an area near the center of your house, below ground, if possible, or at least on the lowest floor. Consider the following:

- Turn your walk-in closet into a safe room by retrofitting. First, remove the sheetrock from walls and ceiling. Next, add extra wall studs held in place with screws, strapping, and angle brackets. And finally, replace the sheetrock with one or two layers of ¾" marine plywood held in place with structural adhesive and screws. After that, you can finish and paint it as you like, but it will be sturdy enough to keep you safe during a storm.
 - If you live in a mobile home, you will not be able to do a safe retrofit. Instead, your best bet for safety would be a storm cellar. One simple and relatively inexpensive way to do this is to have a septic tank company install a clean new unit in your yard, leaving about a foot above the ground. You can build a strong cover over the top, using that either as an outdoor deck, or as the foundation for a storage shed. You will, however, be able to open the flooring to take shelter below when the storm hits. Some locations may reimburse you for building a safe room, so check with your tax assessor, county extension office, insurance provider, or local emergency management office.
3. Learn where protection is located. When a tornado strikes you might be at home, but it's more likely you'll be at work, out running errands, or somewhere else out of doors. When you go places, ask questions. Does the building you're in have shelters? For example, the Denver Airport's restrooms are designated as tornado shelters. If not, does the building have a basement where you could hide? Are you on the road? If so, how far are you from a known safe building, or from a deep ditch? The more you know, the safer you will be.

How is time important?

When it comes to emergencies, your most important asset is time. The two best ways to gain extra time in weather emergencies are to prepare now, and to get as early a warning as possible that severe weather is heading your way. By the time you hear your community's alert sirens, it's too late to do anything. Here are a few ideas on how you can save time to be safe:

1. Buy a NOAA Weather Alert Radio. Not only do they warn you of inclement weather, but the system is now being tied in to the regular EAS (Emergency Alert System) to warn you of other emergencies.
2. Sign up for an alternate alert service such as the Weather Channel or the Emergency E-mail & Wireless Network. When you hear the warning, take action immediately! Don't try to be a tornado chaser and videotape the funnel. Every second you waste brings you closer to disaster.
3. Learn the indicators of severe tornado weather. Some "symptoms" may include:

- A large anvil-shaped thunderhead cloud or thick, very dark cloud cover with a pea-soup consistency.
- Hail or, in some cases, unseasonable snow.
- Green lightning (as lightning flashes behind clouds heavily laden with water).
- A sudden change in humidity, wind direction, or wind speed, rain volume, or rain direction.
- A sudden change in air pressure (your ears may pop).

If you see any of these, get to your safe area immediately.

Tornado preparedness is essential for survival. Learn the conditions that can precipitate such severe weather, and plan ahead for how you will keep you and your family safe. Tornadoes can happen anywhere, and it's better to be safe than sorry, no matter where you're located.