Earthquake Safety Checklist FEMA B-526 / November 2017







Important Numbers and Addresses



Call 911 for emergencies Your family may not be together when an earthquake strikes, so use the spaces below to record information that will help you communicate with one another. Remember, during the first 24 hours following a major earthquake, use your telephone only in case of an emergency (see page 9). You may be able to text message before being able to make phone calls.

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Earthquake Hazards in the United States



2014 United States Geological Survey Seismic Hazard Map

Are You Prepared for the Next Earthquake?



This booklet is designed to help you and your family plan for and survive a major earthquake. By taking action to be prepared, you can lessen the impact of an earthquake on your family. Set aside some emergency supplies and make a plan for what to do at home before, during and after a disaster. You could be without help for at

least 72 hours, or as long as two weeks. Self-sufficiency during this time is key.

Movement of the ground is seldom the actual cause of death or injury. Most casualties result from partial building collapse and falling objects and debris, such as toppling chimneys, falling bricks, ceiling plaster, and light fixtures. Many of these conditions are easily preventable.

Because earthquakes occur without warning, it's important to take steps now to prepare, especially if you live in Very High and High earthquake risk areas.

Knowing what you can do and how to respond with constructive and protective actions, can make yourself, your family, and your home safer. Consult your local Building Department if you are unsure of the earthquake hazard in your area.

Have on Hand for Any Emergency Ideas for Home, Workplace, and Car

Because you don't know where you will be when an earthquake occurs, prepare a Disaster Supplies Kit for your home, workplace, and car.



□ **Food.** It's always a practical idea to keep a supply of non-perishable food on hand that can be rotated into your diet and replenished on a regular basis. Have a sufficient supply of canned or dehydrated food, powdered milk, and canned juices for at least 72 hours,

preferably two weeks. Dried cereals and fruits and non-salted nuts are good sources of nutrition. Keep the following points in mind:

- Avoid foods that will make you thirsty. Choose salt-free crackers, whole grain cereals, and canned goods with high liquid content.
- Stock foods that do not require refrigeration, cooking, water, or special preparation. You may already have many of these on hand.
- Remember to include foods for infants and those with special dietary needs.
- You should also have kitchen accessories and cooking utensils; especially a manual can opener.



□ Flashlights and spare batteries. Keep a flashlight beside your bed, at your place of work, and in your car. Do not use matches or candles after an earthquake until you are certain that no gas leaks exist. Use a windup powered generator to have unlimited emergency power.



□ **Water.** Store at least 1 gallon of water per person per day and be prepared for at least a 72-hour period. A normally active person needs at least a ½ gallon of water daily just for drinking. In determining adequate quantities, take the following into account:

- Individual needs vary depending on age, physical condition, activity, diet, and climate.
- Children, nursing mothers, and ill people need more water.
- Very hot temperatures can double the amount of water needed.
- A medical emergency might require more water.

Bottled Water

Have commercially bottled water on hand for emergencies. Keep bottled water in its original container and do not open it until needed. Pay close attention to the expiration or "use by" date. Store water in plastic containers.

If you choose to prepare your own containers of water, buy air-tight, food-grade water storage containers from surplus or camping supply stores. Clean them with dish soap and water, and rinse them completely before filling. Keep all water in a cool dark place. Water stored in your own containers should be replaced about every 6 months.

Purifying Water

If bottled water is unavailable or you have questions about the quality of water, purify before drinking. Below are three ways to purify water:

Boiling. Boiling is the best and safest method of purifying water. First, if water is cloudy, let it settle and then filter it through a clean cloth or coffee filter. Then, heat the water to a rolling boil for one full minute. At altitudes above 5,000 feet, boil water for three minutes.

Bleach. If you are not able to boil water, you can use regular household bleach to purify it. Do not use scented, color safe bleach or bleach with added cleansers, as the added chemicals might be harmful. The amount of bleach depends on the strength of the bleach and how clear the water is, as shown below.

Volume of	Amount of ble	ach to add if water is:
Water	Clear	Cloudy/Very Cold
1 quart/liter	2 drops	4 drops
1 gallon	6 drops	12 drops
2 gallons	12 drops	1/4 tsp.

*Assumes bleach contains 8.25% sodium hypochlorite. (Source: <u>https://www.epa.</u> gov/ground-water-and-drinking-water/emergency-disinfection-drinking-water).

If the water is cloudy, let it settle and filter through a clean cloth or coffee filter. Add bleach according to the table above, stir, and let stand for 30 minutes. Water should have a slight bleach odor. If it doesn't, repeat the dosage and let it stand for another 15 minutes. If it still does not smell of chlorine, discard it and find another source of water.

Water disinfection tablets. You can disinfect water with tablets that contain chlorine, iodine, chlorine dioxide, or other disinfecting agents. These are available online or at pharmacies and sporting goods stores. Follow the instructions on the product label as each product may have a different strength.



□ Portable, battery-powered radio or television and spare batteries. Most telephones will be out of order or used for emergency purposes, so portable radios or digital televisions will be your best source of information. You may also want to have a battery-powered citizens band (CB) radio, other two-way radio, or wind-up powered radio.



□ **First aid kit and manual.** Keep a first aid kit and emergency reference material such as a first aid book or free information available via FEMA Ready (<u>http://www.ready.gov/</u><u>publications</u>) at home and in your car. Have members of your household take basic first aid and CPR courses.



□ **Fire extinguishers.** Keep a fire extinguisher at home and in your car. Some extinguishers are good only for certain types of fires - electrical, grease, or gas. Class ABC extinguishers are designed for safe use on any type of fire. Your fire department can show you how to properly use an extinguisher.



□ **Special needs.** Keep a supply of special needs items, such as medications, extra eyeglasses, contact lens solutions, hearing aid batteries, items for infants (formula, diapers, bottles, and pacifiers), sanitation and hygiene items (moist towelettes and toilet paper), and any other items unique to your family's needs.



□ Prepare customized emergency plans for people with disabilities in advance. Whether small or widespread, emergencies can pose special challenges for individuals with disabilities. Make more than one exit from your home wheelchair-accessible in case the primary exit is blocked in a disaster.



□ **Tools.** In addition to a pipe wrench and crescent/adjustable wrench (for turning off gas and water valves), you should have a lighter, a supply of matches in a waterproof container, and a whistle for signaling rescue workers.



Pipe Wrench



Crescent/Adjustable Wrench



□ Important papers and cash. Be sure to have a supply of cash for use if ATMs, banks, and credit card systems are not operating. Also, keep copies of credit and identification cards and important documents, such as insurance policies and financial records.



□ **Clothes.** If you live in a cold climate, you must think about warmth because you might not have heat after an earthquake. Think about your clothing and bedding supplies. Be sure to have one complete change of clothing and shoes per person, including the following:

- long pants jacket or coat
 - sturdy shoes
- long sleeve shirt hat, mittens or
 - sleeping bag warm blanket (one per gloves, and scarfs person)



□ Pet needs. Identify a shelter area for your pet, gather the necessary supplies, ensure that your pet has proper ID and up-to-date veterinarian records, and make sure you have a pet carrier and a leash.

Home Preparedness

In the event of an earthquake, you may be instructed to shut off the utility services at your home. Teach responsible members of your family how to turn off the gas, electricity, and water at valves and main switches. Consult your local utilities if you need more information.

You can shut off all water to your property by finding the water meter box (usually at the street or sidewalk). Inside the water meter box, you will see a valve that is similar to the valve on your gas meter. Turn it the same direction as you would your gas valve. Based on your geographic location, the water main shutoff valve may be located inside your home.





Circuit Box with Shut-Off Step 1: Shut off individual breaker. Step 2: Shut off main breaker. Pull out Electrical Cartridge Fuses Step 1: Pull out individual fuses. Step 2: Pull out main fuses.

Caution: Do not shut off gas unless an emergency exists. If gas is ever turned off, a professional must restore service.

Earthquake Hazard Hunt

You can identify potential dangers in your home by conducting an earthquake hazard hunt. Knowledge of the issues below and actions taken to mitigate them can decrease your risk of damage and/or injury from an earthquake.

Some possible hazards are:

- Tall, heavy furniture that could topple, such as bookcases, china cabinets, or modular wall units.
- Water heaters that could be pulled away from pipes and rupture.
- Appliances that could move enough to rupture gas or electrical lines.
- Hanging plants in heavy pots that could swing free of hooks.
- Heavy picture frames or mirrors over a bed.
- Latches on kitchen cabinets or other cabinets that will not hold the door closed during shaking.
- Breakables or heavy objects that are kept on high or open shelves.
- A masonry chimney that could crumble and fall through an unsupported roof.
- Flammable liquids, such as painting or cleaning products, which would be safer in a garage or outside shed.

Take steps to correct these hazards — secure or relocate heavy items, as appropriate. To learn more about home hazards, view the Earthquake Home Hazard Hunt, FEMA 528 at:

http://www.fema.gov/media-library/assets/documents/3261

Family Earthquake Drill

It's important to know what to do for protection when your home starts to shake. By planning and practicing what to do before an earthquake occurs, you can condition yourself and your family to react correctly and spontaneously when the first jolt or shaking is felt. An earthquake drill can teach your family what to do in an earthquake.

- Each family member should know to Drop, Cover, and Hold On when they feel an earthquake. If they can cover in a safe spot, they should do so, but they should not attempt to move during an earthquake, as the risk of injury is much higher.
- **Safe spots:** The best places to be are under heavy pieces of furniture, such as a desk or sturdy table and against inside walls
- Danger spots: Be aware of the dangers associated with breaking window glass, falling objects, falling mirrors, falling chimneys, and toppling of tall, unsecured pieces of furniture
- **Reinforce** this knowledge by physically placing yourself in the safe locations. This is especially important for children. Be aware of a possible tsunami if you live in a coastal area. Some communities have local tsunami hazard maps and warning systems.



- **Be prepared** to evacuate in a tsunami emergency Some communities have high ground or safe areas identified as Tsunami Evacuation Sites.
- In the days or weeks after this exercise, hold surprise drills.
- Be prepared to deal with what you may experience after an earthquake — both physically and emotionally.

How to Ride Out the Earthquake

Limit your movements during an earthquake to a few steps to a nearby safe place. Stay indoors until the shaking has stopped and you are sure it is safe to leave.



If you are indoors:

- Drop, Cover, and Hold On Take cover under a sturdy desk, table, or bench, or against an inside wall, and hold on. If there is no desk or table near you, cover your face and head with your arms and crouch in an inside corner of the building.
- Do not use elevators.
- Stay away from glass, windows, outside doors and walls, and anything that could fall, such as lighting fixtures and furniture.

- If you are in bed when the earthquake strikes, stay there. Hold on and protect your head with a pillow, unless you are under a heavy light fixture that could fall. In that case, move to the nearest safe place.
- Stay inside until the shaking stops and it is safe to go outside. Most injuries during earthquakes occur when people are hit by falling objects while entering or leaving buildings.
- Be aware that electricity may go out or that sprinkler systems or fire alarms may turn on.

If you are outdoors:

- Stay there.
- Move away from buildings, trees, streetlights, and utility wires.

If you are in a car:

- Stop as quickly as safety permits, pull to the side of the road, and stay in the car.
- Use a GPS tracking device or satellite messenger to send an emergency assistance request if there is a severe medical emergency. A satellite messenger device is an advanced GPS, which is able to send your exact GPS coordinates and selected messages over commercial satellites to tell others of your location and status.
- Avoid stopping near or under buildings, trees, overpasses, and utility wires.
- Do not attempt to drive across bridges or overpasses that have been damaged.
- Proceed cautiously after the earthquake has stopped, watching for road and bridge damage.



If you are in a public transportation vehicle:

Listen to or become familiar with public transportation emergency plans.







If you are trapped under debris:

- Do not light a match.
- Cover your mouth with a handkerchief or clothing. Do not move about or kick up dust.
- Tap on a pipe or wall so that rescuers can find you. Use a whistle if one is available.
- Shout only as a last resort shouting can cause you to inhale dangerous amounts of dust.

When the Ground Stops Shaking



Check for Injuries. If anyone has stopped breathing, follow the American Heart Association's guidelines on CPR. Stop any bleeding injury by applying direct pressure to the wound. Do not move seriously injured people unless they are in immediate danger of further injury. Cover injured persons with blankets to keep them warm.



Keep a battery-powered radio with you so you can listen for emergency updates and news reports.



Be aware of possible tsunamis if you live in a coastal area. Tsunamis are also known as seismic sea waves. When local authorities issue a tsunami warning, assume that a series of dangerous waves is on the way. Move inland to higher ground as quickly as possible. Or move to a Vertical Evacuation Refuge



Do not use the telephone as telephone lines may be down and service limited.

Use mobile phones or text messaging to report an emergency. Be aware of wireless network traffic during emergencies, which can cause congestion and blocked calls or text messages.



Wear shoes in areas near fallen debris or broken glass.

Check for Hazards



If possible, put out small fires. If this is not possible, leave your home immediately, notify the fire department if possible, and alert your neighbors.



Use a battery-powered flashlight to inspect your home. Turn the flashlight on outside, before entering, because the battery may produce a spark that could ignite leaking gas.



Be prepared for aftershocks. These secondary earthquakes are usually less violent than the main quake, but they can be strong enough to cause additional damage and weaken buildings. Stay away from damage areas unless your assistance has been specifically requested by police, fire, or relief organizations.



Check water and food supplies. If the water is cut off, use emergency water supplies — in water heaters and melted ice cubes. Throw out all food that may be spoiled or contaminated.



Do not use your car, unless there is an emergency. Do not go sightseeing through damaged areas. You will only interfere with the relief effort. Keep streets clear for the passage of emergency vehicles.



Switch off electrical power if there is damage to your home's electrical wiring. If the situation is unsafe, leave your home and seek help.



Check the building for cracks and damage, particularly around chimneys and masonry walls. Leave immediately if it looks like the building might collapse. Use fireplaces only if the chimney does not have damage and cracks.



Check to see that water and sewage lines are intact before using the toilet. Plug bathtub and sink drains to prevent sewage backup.



Do not touch downed lines or broken appliances.



Check closets and cupboards. Open doors cautiously. Beware of objects tumbling off shelves.



Clean up spilled medicines, bleaches, gasoline, and other flammable liquids.





Use charcoal or gas grills for emergency cooking, only outdoors.

Check gas, electrical, and water lines, and check appliances for damage. If you smell gas or see a broken line, shut off the main valve from the outside. Do not switch on the electricity again until the power company has first checked your home. Remember, if gas is turned off, a professional must restore service. Do not search for gas leaks with a lighted match.

Caution: Do not use electrical switches or appliances if gas leaks are suspected; sparks can ignite gas from broken lines.

Plan to Reunite

Post a message in clear view that states where you can be found. Take your Disaster Supplies Kit. List reunion points in case of separation. Such points may be the homes of neighbors, friends, or relatives; schools; or community centers. Use the blanks below to list reunion points, or add an emergency phone registration in the Next of Kin Registry (NOKR) by calling 1-800-915-5413; or by making an entry via an Emergency Information Link (https://pleaseno.ipower.com/nok/restricted/reg.php)

1. ______ ______ 2. ______ Information about earthquake hazards and measures for reducing risks is available from the following:

FEMA/U.S. Department of Homeland Security FEMA helpline: 1-800-621-3362 FEMA website: <u>http://www.fema.gov</u> FEMA Earthquake page: <u>http://www.fema.gov/earthquake</u>. The National Earthquake Hazards Reduction Program <u>https://www.fema.gov/national-earthquake-hazards-reduction-program</u>

http://www.nehrp.gov/

FEMA Publications

You can order printed copies of the following publications by calling the FEMA Distribution Facility at 1-800-480-2520. As noted, some are available for download from the FEMA website.

Before Disaster Strikes, FEMA A-291. Available in both English and Spanish. No downloads available.

After Disaster Strikes: How to Recover Financially from a Natural Disaster, FEMA 292. Available in English. No downloads available.

Are You Ready? An In-depth Guide to Citizen Preparedness, IS-22. Full publication and individual sections available online in both English and Spanish at: <u>http://</u> www.ready.gov/are-you-ready-guide

Earthquake Home Hazard Hunt, FEMA 528. Available in English at: <u>http://www.fema.gov/media-library/assets/</u> <u>documents/3261</u>

Food and Water in an Emergency, FEMA 477. Available online in both English and Spanish. English: <u>http://www.fema.gov/pdf/library/f&web.pdf</u> Spanish: <u>http://www.fema.gov/pdf/library/spa_f&web477.pdf</u>

Helping Children Cope with Disaster, FEMA 478. Available online in both English and Spanish. English: <u>http://www.fema.gov/pdf/library/children.pdf</u> Spanish: <u>http://www.fema.gov/pdf/library/spa_children478.pdf</u>

Preparing for Disaster for People with Disabilities and other Special Needs, FEMA 476. Available online in both English and Spanish.

English: <u>http://www.fema.gov/pdf/library/pfd_all.pdf</u> Spanish: <u>https://www.fema.gov/pdf/library/spa_pfd_all476.pdf</u> *Preparing for Disaster,* FEMA 475. Available online in both English and Spanish. English: <u>http://www.fema.gov/pdf/library/pfd.pdf</u> Spanish: <u>http://www.fema.gov/pdf/library/spa_pfd475.pdf</u>

U.S. Geological Survey

For earthquake information, consult the USGS Earthquake Hazards Program at: <u>http://earthquake.usgs.gov/</u>

American Red Cross

Information about the American Red Cross can be found at: <u>http://www.redcross.org</u>

Emergency Contact Information Wallet Card

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- Call a friend or relative who lives outside the state and ask them to be your family's "outof-state contact".
- Explain to them that after a disaster they will be your means of communicating with other family members, both in and out of state. Make sure they understand it will be their responsibility to be available to take calls immediately following a disaster in your area.
- Call your emergency out-of-area contact and:
 - Tell them how you are, where you are and/or plan to be.
 - Ask if other family members have checked in and left messages.
 - Let them know when you plan to call back and check in again.
- Notify all your friends and family members that this one person will be the person to contact if they need to get a message to you. Tell them not to call direct.



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FEMA B-526 Catalog No. 09076-2