

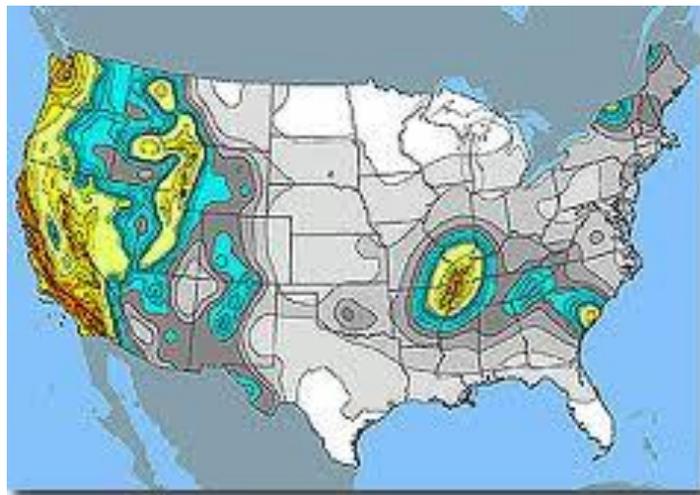
# YOU LIVE IN EARTHQUAKE COUNTRY

Your past experience in earthquakes may give you a false sense of safety; you didn't do anything, or you ran outside, yet you survived with no injuries. Or perhaps you got under your desk and others thought you overreacted. However, you likely have never experienced the kind of strong earthquake shaking that we now understand is possible in much large earthquakes: sudden and intense back and forth motions of several feet per second will cause the floor or the ground to jerk sideways out from under you, and every unsecured object around you could topple, fall, or become airborne, potentially causing serious injury. This is why you must learn to immediately protect yourself after the first jolt... don't wait to see if the earthquake shaking will be strong. Please remember, Earthquakes in our area can be much larger than an 8.0 on our slip/strike type faults

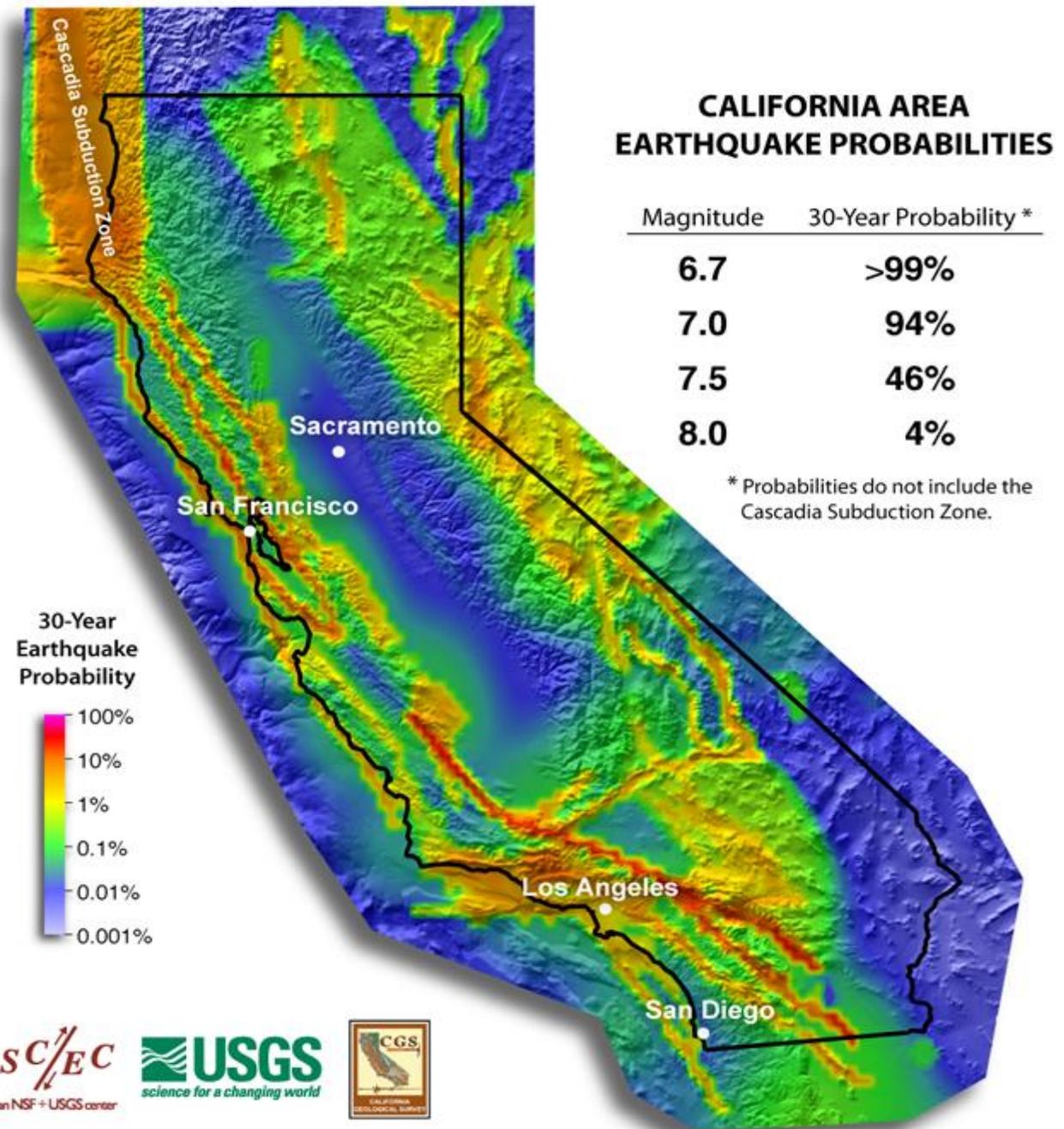
**UNDERSTAND & PRACTICE THE RIGHT THING TO DO...**

**IT COULD SAVE YOUR LIFE**

You will be more likely to react quickly when shaking begins if you have actually read & practiced how to protect yourself on a regular basis. A great time to practice Drop, Cover, and Hold On is by participating in the [Great California ShakeOut](#) every October.



# UNDERSTANDING THE THREAT



This information was presented in 2007. Quakes can be deadly, as shown by the 1989 magnitude 6.9 Loma Prieta and the 1994 magnitude 6.7 Northridge earthquakes. The likelihood of at least one even more powerful quake of magnitude 7.5 or greater in the next 30 years is 46%—such a quake is most likely to occur in the southern half of the State.

Prepare now for the powerful quakes that are inevitable in California’s future.

**Trying to move during shaking puts you at risk:** Earthquakes occur without any warning and may be so violent that you cannot run or crawl; you therefore will most likely be knocked to the ground where you happen to be. So it is best to drop before the earthquake drops you, and find nearby shelter or use your arms and hands to protect your head and neck. "Drop, Cover, and Hold On" gives you the best overall chance of quickly protecting yourself during an earthquake... even during quakes that cause furniture to move about rooms, and even in buildings that might ultimately collapse.

**The greatest danger is from falling and flying objects:** Studies of injuries and deaths caused by earthquakes over the last several decades show that you are much more likely to be injured by falling or flying objects (TVs, lamps, glass, bookcases, etc.) than to die in a collapsed building. "Drop, Cover, and Hold On"



(as described above) will protect you from most of these injuries.

If there is no furniture nearby, you can still reduce the chance of injury from falling objects by getting down next to an interior wall and covering your head and neck with your arms (exterior walls are more likely to collapse and have windows that may break). If you are in bed, the best thing to do is to stay there and cover your head with a pillow. Studies of injuries in earthquakes show that people who moved from their beds would not have been injured if they had remained in bed.

You can also reduce your chance of injury or damage to your belongings by securing them in the first place. Secure top heavy furniture to walls with flexible straps. Use earthquake putty or Velcro fasteners for objects on tables, shelves, or other furniture. Install safety latches on cabinets to keep them closed. Instructions for how to "secure your space" are at [www.daretoprepare.org](http://www.daretoprepare.org).

**Building collapse is less of a danger:** While images of collapsed structures in earthquakes around the world are frightening and get the most attention from the media, most buildings do not collapse at all, and few completely collapse. In earthquake prone areas of the U.S. and in many other countries, strict building codes have worked to greatly reduce the potential of structure collapse. However, there is the possibility of structural failure in certain building types, especially unreinforced masonry (brick buildings), and in certain structures constructed before the latest building codes. Rescue professionals are trained to understand how these structures collapse in order to identify potential locations of survivors within "survivable void spaces."

The main goal of "Drop, Cover, and Hold On" is to protect you from falling and flying debris and other nonstructural hazards, **and** to increase the chance of your ending up in a Survivable Void Space if the building actually collapses. The space under a sturdy table or desk is likely to remain even if the building collapses- pictures from around the world show tables and desks standing with rubble all around them, and even holding up floors that have collapsed. Experienced rescuers agree that successfully predicting other safe locations in advance is nearly impossible, as where these voids will be depends on the direction of the shaking and many other factors. (See "triangle of life" noted later in this information.)

The **ONLY** exception to the "Drop, Cover and Hold On" rule is if you are in a country with unengineered construction, and if you are on the ground floor of an unreinforced mud-brick (adobe) building, with a heavy ceiling. In that case, you should try to move quickly outside to an open space. This cannot be recommended as a substitute for building earthquake-resistant structures in the first place!

## **WHAT RESCUERS AND EXPERTS \*DO NOT RECOMMEND\* YOU DO DURING AN EARTHQUAKE**

Based on years of research about how people are injured or killed during earthquakes, and the experiences of U.S. and international search and rescue teams, these three actions are **not** recommended to protect yourself during earthquakes:

**DO NOT run outside or to other rooms during shaking:** The area near the exterior walls of a building is the most dangerous place to be. Windows, facades and architectural details are often the first parts of the building to collapse. To stay away from this danger zone, stay inside if you are inside and outside if you are outside. Also, shaking can be so strong that you will not be able to move far without falling down, and objects may fall or be thrown at you that you do not expect. Injuries can be avoided if you drop to the ground before the earthquake drops you.

**DO NOT stand in a doorway:** An enduring earthquake image of California is a collapsed adobe home with the door frame as the only standing part. From this came our belief that a doorway is the safest place to be during an earthquake. True- if you live in an old, unreinforced adobe house or some older wood frame houses. In modern houses, doorways are no stronger than any other part of the house, and the doorway does not protect you from the most likely source of injury- falling or flying objects. You also may not be able to brace yourself in the door during strong shaking. You are safer under a table.

**DO NOT get in the "triangle of life":** In recent years, an e-mail has been circulating which describes an alternative to the long-established "Drop, Cover, and Hold On" advice. The so-called "triangle of life" and some of the other actions recommended in the e-mail are potentially life threatening, and the credibility of the source of these recommendations has been broadly questioned (see links at left).

Please help! If you have received an email about the "triangle of life" please respond to its sender by directing them to this page:

[www.earthquakecountry.info/dropcoverholdon/](http://www.earthquakecountry.info/dropcoverholdon/)

Ask them to send this link to everyone they sent the "triangle" email, and to the person who sent it to them.  
Thank you!

The "triangle of life" advice (always get next to a table rather than underneath it) is based on several WRONG assumptions:

- buildings always collapse in earthquakes (*wrong- especially in developed nations, and flat "pancake" collapse is rare anywhere*);
- when buildings collapse they always crush all furniture inside (*wrong- people DO survive under furniture or other shelters*);
- people can always anticipate how their building might collapse and anticipate the location of survivable void spaces (*wrong- the direction of shaking and unique structural aspects of the building make this nearly impossible*) ; and
- During strong shaking people can move to a desired location (*wrong- strong shaking can make moving very difficult and dangerous*).

Some other recommendations in the "triangle of life" e-mail are also based on wrong assumptions and very hazardous. For example, the recommendation to get out of your car during an earthquake and lay down next to it assumes that there is always an elevated freeway above you that will fall and crush your car. Of course there are very few elevated freeways, and lying next to your car is very dangerous because the car can move and crush you, and other drivers may not see you on the ground! **A compilation of rebuttals from many organizations to these alternative recommendations, as well as news articles about the controversy, is listed at left.**

# During an Earthquake

"Drop, Cover, and Hold On" is the appropriate action to reduce injury and death during earthquakes. *Methods like standing in a doorway, running outside, and "triangle of life" method are considered dangerous and are not recommended*



Be aware that some earthquakes are actually foreshocks and a larger earthquake might occur.

**If you're indoors, stay there.** Minimize your movements to a few steps to a nearby safe place, stay there until the shaking has stopped and you are sure exiting is safe.

- **DROP** to the ground; take **COVER** by getting under a sturdy table or other piece of furniture or stand against an interior wall; and **HOLD ON** until the shaking stops. If there isn't a table or desk near you, cover your face and head with your arms and crouch in an inside corner of the building.
- Stay away from glass, windows, outside doors and walls, and anything that could fall, such as lighting fixtures or furniture. The kitchen is a particularly dangerous spot.
- Stay in bed if you are there when the earthquake strikes. 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.** Research has shown that most injuries occur when people inside buildings attempt to move to a different location inside the building or try to leave.

- Be aware that the electricity may go out or the sprinkler systems or fire alarms may turn on.
- DO NOT use the elevator.

**If you're outside,** get into the open. Stay clear of buildings, power lines or anything else that could fall on you. . The greatest danger exists directly outside buildings, at exits and alongside exterior walls. Many of the 120 fatalities from the 1933 Long Beach earthquake occurred when people ran outside of buildings only to be killed by falling debris from collapsing walls. Ground movement during an earthquake is seldom the direct cause of death or injury. Most earthquake-related casualties result from collapsing walls, flying glass, and falling objects.

**If you're driving**, stop as quickly and safely as possible. Move your car to the shoulder or curb, away from utility poles, overhead wires, and under- or overpasses. Stay in the car and set the parking brake. Turn on the radio for emergency broadcast information. A car may jiggle violently on its springs, but it is a good place to stay until the shaking stops. If a power line falls on the car, stay inside until a trained person removes the wire.

When you drive on, watch for hazards created by the earthquake, such as breaks in the pavement, downed utility poles and wires, rising water levels, fallen overpasses and collapsed bridges.

**If you're in a mountainous area**, beware of the potential for landslides. Likewise, if you're near the ocean, be aware that tsunamis are associated with large earthquakes. Get to high ground.

**If you're in a crowded public place**, avoid panicking and do not rush for the exit. Stay low and cover your head and neck with your hands and arms.

**Impaired mobility** - If you cannot drop to the ground, try to sit or remain seated so you are not knocked down. If you are in a wheelchair lock your wheels. Protect your head and neck with a large book, a pillow, or your arms. The goal is to prevent injuries from falling down or from objects that might fall or be thrown at you.

**High-rise buildings** - Drop, cover, and hold on. Move away from windows and outside walls. Stay in the building. The electricity may go out, and the sprinkler systems may come on. DO NOT use the elevators.

If you are trapped stay calm. Try to get someone's attention by tapping hard on metal parts of the structure. That may increase your chances of being rescued.

**Crowded indoor public places** - Drop, cover, and hold on. Do not rush for the doorways. Others will have the same idea. Move away from display shelves containing objects that may fall. If you can, take cover and grab something to shield your head and face from falling debris and glass.

**Stadium or theater** - Stay at your seat and protect your head and neck with your arms, or any way possible. Do not leave until the shaking is over. Then walk out carefully watching for anything that could fall in the aftershocks.

**Near the shore** - Drop, cover and hold on until the shaking stops. Estimate how long the shaking lasts. If severe shaking lasts 20 seconds or more, immediately evacuate to high ground as a tsunami might have been generated by the earthquake. Move inland 3 kilometers (2 miles) or to land that is at least 30 meters (100 feet) above sea level immediately. Don't wait for officials to issue a warning. Walk quickly, rather than drive, to avoid traffic, debris and other hazards.

**Below a dam** - Dams can fail during a major earthquake. Catastrophic failure is unlikely, but if you live downstream from a dam, you should know flood-zone information and have an evacuation plan.

#### **If trapped under debris**

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

# After an Earthquake

**Expect aftershocks** - Remember that aftershocks, sometimes large enough to cause damage in their own right, generally follow large quakes. These secondary shockwaves are usually less violent than the main quake but can be strong enough to do additional damage to weakened structures and can occur in the first hours, days, weeks, or even months after the quake.

**Stay away from damaged areas** - Stay away unless your assistance has been specifically requested by police, fire, or relief organizations. Return home only when authorities say it is safe.

**Be aware of possible tsunamis if you live in coastal areas** - These are also known as seismic sea waves (mistakenly called "tidal waves"). When local authorities issue a tsunami warning, assume that a series of dangerous waves is on the way. Stay away from the beach.

**Help injured or trapped persons** - Remember to help your neighbors who may require special assistance such as infants, the elderly, and people with disabilities. Give first aid where appropriate. Do not move seriously injured persons unless they are in immediate danger of further injury. Call for help.

- Look for and extinguish small fires. Fire is the most common hazard after an earthquake.
- Listen to a battery-operated radio or television for the latest emergency information.
- Use the telephone only for emergency calls.
- Go to a designated public shelter if your home had been damaged and is no longer safe. Text SHELTER + your ZIP code to 43362 (4FEMA) to find the nearest shelter in your area (example: shelter 12345).
- Be careful when driving after an earthquake and anticipate traffic light outages.
- After it is determined that it's safe to return, your safety should be your primary priority as you begin clean up and recovery.
- Open cabinets cautiously. Beware of objects that can fall off shelves.
- Find out how to keep food safe during and after an emergency by visiting:  
<http://www.foodsafety.gov/keep/emergency/index.html>
- Put on long pants, a long-sleeved shirt, sturdy shoes and work gloves to protect against injury from broken objects.
- Inspect the entire length of chimneys for damage. Unnoticed damage could lead to a fire.

**Clean up spilled medicines, bleaches, gasoline or other flammable liquids immediately** - Leave the area if you smell gas or fumes from other chemicals.

**Inspect utilities.**

**Check for gas leaks** - If you smell gas or hear blowing or hissing noise, open a window and quickly leave the building. Turn off the gas at the outside main valve if you can and call the gas company from a neighbor's home. If you turn off the gas for any reason, it must be turned back on by a professional.

**Look for electrical system damage** - If you see sparks or broken or frayed wires, or if you smell hot insulation, turn off the electricity at the main fuse box or circuit breaker. **STOP** - If you have to step in water to get to the fuse box or circuit breaker, call JTC Estates first for advice or to set up an emergency visit.

**Check for sewage and water lines damage** - If you suspect sewage lines are damaged, avoid using the toilets and call a plumber. If water pipes are damaged, contact the water company and avoid using water from the tap. You can obtain safe water by melting ice cubes.

Be aware that items may fall out of cupboards or closets when the door is opened, and also that chimneys can be weakened and fall with a touch. Check for cracks and damage to the roof and foundation of your home.

Listen to the radio for important information and instructions.

If you leave home, leave a message telling friends and family your location.

### **Personal Safety**

Expect aftershocks. Each time you feel one, **DROP, COVER, AND HOLD ON!**

Check yourself for injuries. Protect yourself by wearing long pants, a long-sleeved shirt, sturdy shoes and work gloves.

# Basic Preparations

**When preparing for an earthquake, plan on having enough supplies to get you and your family through at least the first 72 hours (14 DAYS OF SUPPLIES ARE SUGGESTED). After a major earthquake, there's a good chance that traditional emergency response teams will be too busy to take care of you and your family. You need to prepare your home and family.**

Stock up on at least a ten+day supply (LAFD suggests 2 weeks of supplies) of food, water, clothes, medical supplies and other necessary equipment for everyone in your family. Make sure everyone knows where to find them.

Decide where and when to reunite your family should you be apart when an earthquake happens.

Choose a person outside the immediate area to contact if family members are separated. Long distance phone service will probably be restored sooner than local service. Do not use the phone immediately after an earthquake.

Know the policies of the school or daycare center your children attend. Make plans to have someone pick them up if you are unable to get to them.

If you have a family member who does not speak English, prepare an emergency card written in English indicating that person's identification, address and any special needs such as medication or allergies. Tell that person to keep the card with him/her at all times.

**Conduct Earthquake Duck, Cover & Hold drills every six months with your family.**

Know the safest place in each room because it will be difficult to move from one room to another during a quake. Under sturdy furniture such as a heavy desk or table / against an inside wall / Away from where glass could shatter around windows, mirrors, pictures, or where heavy bookcases or other heavy furniture could fall over.

Locate the shutoff valves for water, gas and electricity. Learn how to shut off the valves before a quake. If you have any questions, call JTC Estates @ (714) 637-9534.

Make copies of vital records and keep them in a safe deposit box off site. Make sure your originals are stored safely.

Before a quake occurs, call your local Red Cross chapter and Office of Emergency Services to find out about their plans for emergency shelters and temporary medical centers in case of such a disaster.

Establish all the possible ways to exit your house. Keep those areas clear.

Know the locations of the nearest fire and police stations.

Take photos and/or videos of your valuables. Make copies and keep them at the house and off site as a back up.

Include your babysitters and other household help in your plans.

Keep an extra pair of eyeglasses and house and car keys on hand.

Keep extra cash and change. If electricity is out, you will not be able to use an ATM.

**General Tips** Stay away from heavy furniture, appliances, large glass panes, shelves holding objects, and large decorative masonry, brick or plaster such as fireplaces.

Keep your hallways clear. It is usually one of the safest places to be during an earthquake. Many are certain that standing in a doorway during the shaking is a good idea. **That's false**, unless you live in an un-reinforced adobe structure; otherwise, you're more likely to be hurt by the door swinging wildly in a doorway or trampled by people trying to hurry outside if you're in a public place.

Discuss earthquake insurance with your agent. Depending on your financial situation and the value of your home, it may be worthwhile.

## Preparing Your Children

**Children need to be prepared for an earthquake as much as adults, if not more.**

*For infants and toddlers, special emphasis should be placed on making their environment as safe as possible*

Cribs should be placed away from windows and tall, unsecured bookcases and shelves that could slide or topple.

A minimum of a 72-hour supply of extra water, formula, bottles, food, juices, clothing, disposable diapers, baby wipes and prescribed medications should be stored where it is most likely to be accessible after an earthquake. Also keep an extra diaper bag with these items in your car.

Store strollers, wagons, blankets and cribs with appropriate wheels to evacuate infants, if necessary.

Install bumper pads in cribs or bassinets to protect babies during the shaking.

Install latches on all cupboards (not just those young children can reach) so that nothing can fall on your baby during a quake.

## **Preschool and School-age Children**

*By age three or so, children can understand what an earthquake is and how to get ready for one. Take the time to explain what causes earthquakes in terms they'll understand. Include your children in family discussions and planning for earthquake safety. Conduct drills and review safety procedures every six months*

Show children the safest places to be in each room when an earthquake hits. Also show them all possible exits from each room.

Use sturdy tables to teach children to Duck, Cover & Hold.

Teach children what to do wherever they are during an earthquake (at school, in a tall building, outdoors).

Make sure children's emergency cards at school are up-to-date.

Although children should not turn off any utility valves, it's important that they know what gas smells like. Advise children to tell an adult if they smell gas after an earthquake.

## **Tips for Elderly**

### **Before an Earthquake**

Eliminate hazards. Make it as easy as possible to quickly get under a sturdy table or desk for protection.

Anchor special equipment such as telephones and life support systems. Fasten tanks of gas, such as oxygen, to the wall.

Keep a list of medications, allergies, special equipment, names and numbers of doctors, pharmacists and family members. Make sure you have this list with you at all times.

Keep an extra pair of eyeglasses and medication with emergency supplies.

Keep walking aids near you at all times.

Have extra walking aids in different rooms of the house.

Put a security light in each room. These lights plug into any outlet and light up automatically if there is a loss of electricity. They continue operating automatically for four to six hours, and they can be turned off by hand in an emergency.

Make sure you have a whistle to signal for help.

Keep extra batteries for hearing aids with your emergency supplies. Remember to replace them annually.

Keep extra emergency supplies at your bedside.

Find two people you trust who will check on you after an earthquake.

Tell them your special needs. Show them how to operate any equipment you use. Show them where your emergency supplies are kept. Give them a spare key.

## **During and After an Earthquake**

If you are in bed or sitting down, do not get up.

If you are standing, duck and cover or sit down. You could be thrown to the floor if you are standing.

Prepare to be self-sufficient for at least three days.

Turn on your portable radio for instructions and news reports. For your own safety, cooperate fully with public safety officials and instructions.

Prepare for aftershocks.

If you evacuate, leave a message at your home telling family members and others where you can be found.

## **Tips for Pet Owners**

If you are like millions of animal owners nationwide, your pets are important members of your household. The likelihood that you and your animals will survive an emergency such as a fire or flood, tornado or terrorist attack depends largely on emergency planning done today. Some of the things you can do to prepare for the unexpected, such as assembling an animal emergency supply kit and developing a pet care buddy system, are the same for any emergency. Whether you decide to stay put in an emergency or evacuate to a safer location, you will need to make plans in advance for your pets. Keep in mind that what's best for you is typically what's best for your animals.

If you must evacuate, take your pets with you if possible. However, if you are going to a public shelter, it is important to understand that animals may not be allowed inside. Plan in advance for shelter alternatives that will work for both you and your pets.

Make a back-up emergency plan in case you can't care for your animals yourself. Develop a buddy system with neighbors, friends and relatives to make sure that someone is available to care for or

evacuate your pets if you are unable to do so. Be prepared to improvise and use what you have on hand to make it on your own for at least three days, maybe longer.

Preparing for Your Pets Makes Sense. Get Ready Now.

**When preparing your home for an earthquake, don't forget to include your pets on the list. They will depend on you even more after an earthquake to take care of them and their needs.**

## **Before an Earthquake**

Store enough dog food and water to last at least 72 hours, preferably for two weeks. Prepare a shelter or evacuation kit for your pet, including an unbreakable dish, veterinarian records, a restraint (leash or pet carrier) and medication with instructions.

Keep your pet's ID tag up-to-date.

Make sure nothing can fall on your pet.

Arrange for a neighbor to take care of your pet if you are not able to get home after an earthquake.

## **During an Earthquake**

Do not try to hold onto your pet during the shaking. Animals will instinctively protect themselves and hide where they're safe. Watch animals closely. Leash dogs and place them in a fenced yard. **If you get in their way, even the nicest pets can turn on you.**

Be patient with your pets after a quake. They get stressed just like people and need time to readjust. They may disappear for some time, but they generally show up again when things have calmed down.

If you have outdoor pets, you should keep them indoors until the aftershocks have subsided and they have calmed down.

If you can't find your pet or must leave it at home after a quake, leave fresh water in non-spill containers such as bathtubs and sinks. Leave plenty of low-fat dry food, which deteriorates more slowly and is less tasty so pets won't try to eat it all at once. Leave a note indicating that you have a pet, where you will be and the date.

If you must evacuate your home, leave your pet secured in a safe place. Pets will not be allowed at shelters. Be sure to leave plenty of clean water and food. If possible, visit your pet daily until you can return home.

# UNDERSTAND & PRACTICE THE RIGHT THING TO DO...

## IT COULD SAVE YOUR LIFE

More information can be found at [www.earthquakecountry.info/roots/step5.html](http://www.earthquakecountry.info/roots/step5.html).



## Organizing Your Neighborhood

**After an earthquake or other disaster, emergency response agencies could be overburdened and might not be able to get to your neighborhood immediately. You and your neighbors or coworkers may need to take the initial emergency response actions and take care of others for at least 72 hours.**

**Past earthquakes have thrust many untrained people into positions of providing first aid and rescuing people. You need to be prepared! If a response team has not been organized in your neighborhood or workplace, form one now. Joining and forming a community response team can greatly improve your chances of surviving an earthquake and can improve the self-sufficiency of your neighborhood.**

## Suggested Training

Learn simple firefighting techniques.

Learn basic search-and-rescue skills.

Learn to assess yourself, your family and co-workers for injuries.

Learn to assess your home and workplace for hazards or damage.

Learn to assess your community for hazards, needs and available resources.

*Contact your local police and fire departments, city/ county Office of Emergency Services, American Red Cross chapter or community college to arrange for speakers and training workshops. Response teams should arrange to participate in annual earthquake exercises sponsored by local government and businesses.*

## Definitions

One of the most frightening and destructive phenomena of nature is a severe earthquake and it's terrible after effects. An earthquake is a sudden movement of the earth, caused by the abrupt release of strain that has accumulated over a long time. For hundreds of millions of years, the forces of plate tectonics have shaped the earth, as the huge plates that form the earth's surface slowly move over, under, and past each other. Sometimes, the movement is gradual. At other times, the plates are locked together, unable to release the accumulating energy. When the accumulated energy grows strong enough, the plates break free. If the earthquake occurs in a populated area, it may cause many deaths and injuries and extensive property damage.

Know the Terms - Familiarize yourself with these terms to help identify an earthquake hazard:

**Earthquake** - A sudden slipping or movement of a portion of the earth's crust, accompanied and followed by a series of vibrations.

**Aftershock** - An earthquake of similar or lesser intensity that follows the main earthquake.

**Fault** - The fracture across which displacement has occurred during an earthquake. The slippage may range from less than an inch to more than 10 yards in a severe earthquake.

**Epicenter** - The place on the earth's surface directly above the point on the fault where the earthquake rupture began. Once fault slippage begins, it expands along the fault during the earthquake and can extend hundreds of miles before stopping.

**Seismic Waves** - Vibrations that travel outward from the earthquake fault at speeds of several miles per second. Although fault slippage directly under a structure can cause considerable damage, the vibrations of seismic waves cause most of the destruction during earthquakes.

**Magnitude** - The amount of energy released during an earthquake, which is computed from the amplitude of the seismic waves. A magnitude of 7.0 on the Richter scale indicates an extremely strong earthquake. Each whole number on the scale represents an increase of about 30 times more energy released than the previous whole number represents. Therefore, an earthquake measuring 6.0 is about 30 times more powerful than one measuring 5.0.

I hope you have found this information helpful. Please let me know if there is anything else we can help you with in preparing your home and family.

Latest revision: March 2014