



A PRACTICAL GUIDE TO EARTHQUAKE PREPAREDNESS

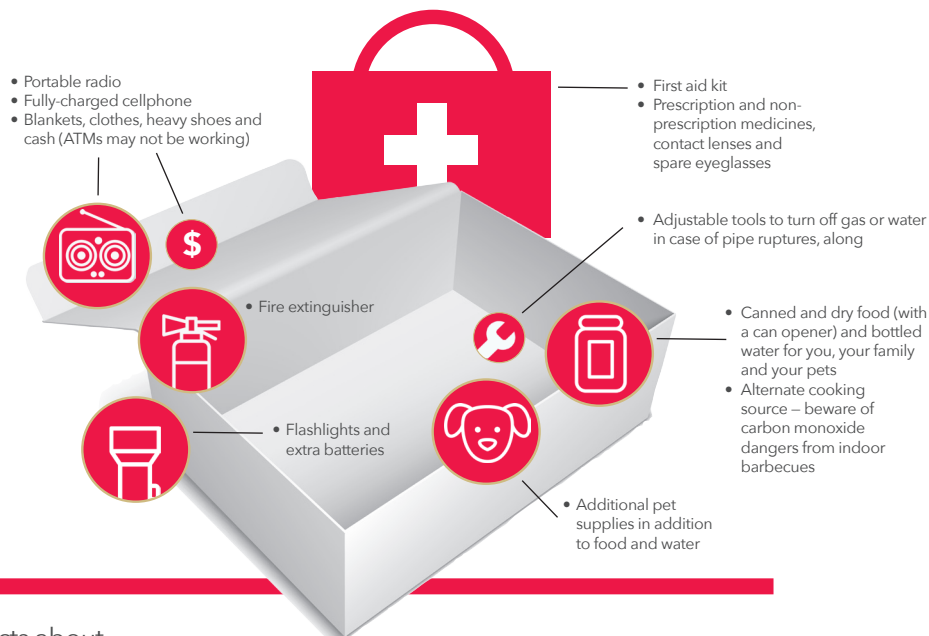
True or false? Serious earthquakes of a magnitude 7.0 or higher are becoming more frequent. That's false. The good news is that earthquake activity has remained constant, and it has actually decreased somewhat.

The bad news is that when a 7.1 magnitude shaker struck a populated area as it did on September 21, 2017, at least 295 people died beneath the rubble of collapsed buildings. So, the frequency of earthquakes is small comfort to victims caught up in the chaos, destruction, and trauma during and after the quake.

Another true or false: There's nothing you can do about earthquakes, so worrying about them is a waste of effort. Again, false. According to California's Department of Conservation: "It's true that earthquakes can't be stopped, but you can be prepared."

You can take steps to be prepared, to survive and to recover. This guide covers what individuals can do before, during and after a serious earthquake. It is a compendium of the best advice published by a variety of sources, including the California Geological Survey, USGS, the Arkansas Center for Earthquake Education and Technology, the Southern California Earthquake Center, the American Red Cross and others.

WHAT TO DO BEFORE THE EARTHQUAKE STRIKES



Remember two important facts about predicting earthquakes:

1. **There is no earthquake time, season or weather.** Earthquakes have occurred during all hours, not just mornings. Since earthquakes originate miles underground, they can happen any time in any weather. Plus, earthquakes do not occur only on fault lines. The 1886 7.3 magnitude quake that shook Charleston, South Carolina, over 250 miles from the nearest fault, is a case in point.
2. **Dogs, cats and farm animals are not reliable early warning of an impending earthquake.** Don't rely on dogs to begin howling or cringing in apprehension during the hours preceding a tremor. Yes, there have been documented cases of strange animal behavior prior to earthquakes, but researchers have not been able to reproduce the conditions. So, the connection is anecdotal, and studies have, so far, been inconclusive.

When the quake strikes without warning, have a plan in place:

ON THE JOB

- Has your employer published plans and protocols for earthquakes and other emergencies? If so, read and practice them and be ready. If not, ask your employer about measures that should be in place to protect the lives and safety of employees.

AT HOME

- Know the safe spots in the home so that every person knows exactly where to go quickly. Map safe exit routes and practice them. Decide beforehand where the family will reunite if separated during the earthquake. Practice "drop, cover and hold-on" drills with the family. Agree on evacuation routes.
- Secure home hazards.
- Living in a high-probability earthquake zone should also prompt extra precautions, for example:
- Secure the water heater, major appliances and tall, heavy furniture to prevent toppling.
- Store hazardous or flammable liquids, heavy objects and breakables in low areas in the home.
- Have an emergency supply and tools cache.
- Don't rely on normal government and public utilities services. Plan on a power and utilities outage after an earthquake. Also, cellphone towers could be disabled, and 911 emergency services will be either overloaded or inaccessible.
- Assemble an earthquake survival kit (see above)

Remember: Standard homeowner's insurance doesn't cover damage from earthquakes. Visit <http://www.earthquakeauthority.com> for more information.

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WHAT TO DO DURING THE EARTHQUAKE

IF INDOORS:

The safest place to stand during an earthquake is NOT under a doorway. Unless the building is an unreinforced adobe home, the doorway of a modern structure is no stronger than the rest of the building.

Trying to take cover in a doorway during an earthquake poses two risks: 1) being struck by a wildly swinging door; and 2) being trampled by panicking people fleeing to the outside. The best advice is to stay inside, seek cover under a sturdy table, and hang on to it.

If indoors, take cover. **The best choice is to stay indoors and seek shelter under a desk or table** and stay away from doorways. Otherwise, stand against an interior wall and remain clear of outer walls, glass, appliances or fireplaces.

Another method is to **assume the fetal position** and lie next to a piece of furniture that can create a buffer space as roofs and walls collapse.

If in a crowded public place, avoid the panic reaction of heading for the exit. Just stay low and cover your head and neck with your hands and arms. For obvious reasons, never use the building elevator during an earthquake.



If the earthquake is mild, the building will likely remain intact. The danger is from shifting or falling objects within, and protection measures should be about shielding and cover.

If trapped beneath the rubble, stay calm.

Easier said than done, but remaining calm is the key to survival. Remember that rescuers have the experience, tools and fervent desire to save lives following an earthquake. People have survived for many days trapped beneath collapsed buildings. Ben Sherwood, founder and CEO of the SurvivorsClub.org, writes: "In a natural disaster, typical healthy humans can last around one week if they're well-nourished and hydrated and aren't seriously injured. Survival up to two weeks is possible if conditions are favorable."

(Source: "Buried Alive: How Long Can You Live Without Food or Water," on the Huffington Post website.)

IF OUTDOORS:

Get into the open. Follow these precautions if caught out in the open during an earthquake:

- Observe the surroundings and remain in place unless the location is unsafe. Do not run or drive away, as this only increases the risk of injury.
- Move away from buildings, power lines or anything likely to fall. Beware of holes in the street or open spaces. Victims typically fall into large holes that suddenly appear anywhere on roads or open spaces.
- When safe to do so, find shelter on a hill or open area out of the way of overhead hazards.

IF IN A CAR:

If driving, move the car away from traffic and **pull over away from bridges or overpasses, trees, light posts, and power lines.** Beware of road hazards upon resuming driving. Stay in the car. If the quake occurs while in a concrete-covered parking garage, leave the vehicle and duck and cover to the side so that the car can be a buffer to the falling concrete.

Special considerations for mountain and seaside residents: Mountain community residents must be alert for landslides or high road damage. Seaside residents need to get inland in case of tsunamis.

WHAT TO DO AFTER THE EARTHQUAKE

Do not move until the shaking stops. If at work, take the protective measures prescribed in your employer's emergency response plan. Evacuate when it is safe to do so. Tune in to the emergency radio channel for important public safety announcements and instructions. Aftershocks generally follow large quakes and can cause additional damage.

CHECK THE HOME FOR GAS, ELECTRICAL AND PLUMBING DAMAGE.

A gas smell is an indication of a leak. Shut off the main gas valve. Check for electrical wiring damage, and, if present, secure the power at the control box. Look for sewage and water line breaks, and do not use tap water until repaired.

INSPECT THE HOME AND LOOK FOR ADDED FALLING OBJECT HAZARDS.

Inspect the home for serious structural damage, such as a cracked foundation or compromised roof. Home chimneys, for example, can collapse with a mild shove after earthquake damage. Also, be careful of falling objects when opening cupboards or closets.

DON'T CLOG UP THE RECOVERY EFFORT.

If the phone service is working, it is likely being overloaded and interfering with communications required for the authorities' recovery effort. Stay off the line, except in an emergency. Also, unless absolutely necessary, do not drive. Rescuers need a clear path to victims. If it is necessary to leave the home, leave a message informing family and friends of the new location.



ASSESS DAMAGE.



LOOK FOR HAZARDS.



STAY OFFLINE.

SUMMARY

Could California drop into the Pacific Ocean after a large earthquake?

Don't small earthquakes keep bigger ones from happening?

The answers are "no" and "not really." But these two questions illustrate the extremes of pessimism and unrealistic optimism when it comes to planning for earthquakes.

Between those extremes are what everyone can do to keep their families, coworkers and themselves ready to react to an earthquake. Living along a fault line requires a mindset of not "if," but "when" the next earthquake strikes.