

I.3: EARTHQUAKES

An earthquake is a sudden, rapid shaking of the earth caused by the breaking and shifting of rock beneath the earth's surface. Earthquakes strike suddenly, without warning, and they can occur at any time of the year, day or night.

Did you know?

Doorways are no stronger than any other part of a structure so don't rely on them for protection! During an earthquake, get under a sturdy piece of furniture and hold on. It will help shelter you from falling objects that could injure you during an earthquake.

PREPARE:

- Become aware of fire evacuation and earthquake safety plans for all of the buildings you occupy regularly.
- Pick safe places in each room of your home, workplace and/or school. A safe place could be under a piece of furniture or against an interior wall away from windows, bookcases or tall furniture that could fall on you.
- Practice "drop, cover and hold on" in each safe place. If you do not have sturdy furniture to hold on to, sit on the floor next to an interior wall and cover your head and neck with your arms.
- Keep a flashlight and sturdy shoes by each person's bed in case the earthquake strikes in the middle of the night.
- Make sure your home is securely anchored to its foundation.
- Bolt and brace water heaters and gas appliances to wall studs.
- Bolt bookcases, china cabinets and other tall furniture to wall studs.
- Hang heavy items, such as pictures and mirrors, away from beds, couches and anywhere people sleep or sit.
- Brace overhead light fixtures.
- Install strong latches or bolts on cabinets. Large or heavy items should be closest to the floor.
- Learn how to shut off the gas valves in your home and keep a wrench handy for that purpose.
- Learn about your area's seismic building standards and land use codes before you begin new construction.
- Keep and maintain an [emergency supplies kit](#) in an easy-to-access location.

RESPOND DURING:

If You Are Inside When the Shaking Starts...

- Drop, cover and hold on. Move as little as possible.



- If you are in bed, stay there, curl up and hold on. Protect your head with a pillow.
- Stay away from windows to avoid being injured by shattered glass.
- Stay indoors until the shaking stops and you are sure it is safe to exit. When it is, use stairs rather than the elevator in case there are aftershocks, power outages or other damage.
- Be aware that fire alarms and sprinkler systems frequently go off in buildings during an earthquake, even if there is no fire.

If You Are Outside When the Shaking Starts...

- Find a clear spot (away from buildings, power lines, trees, streetlights) and drop to the ground. Stay there until the shaking stops.
- If you are in a vehicle, pull over to a clear location and stop. Avoid power lines if possible. Stay inside with your seatbelt fastened until the shaking stops. Then, drive carefully, avoiding bridges and ramps that may have been damaged.
- If a power line falls on your vehicle, do not get out. Wait for assistance.

RECOVER AFTER:

- After an earthquake, the disaster may continue. Expect and prepare for potential aftershocks, landslides or even a tsunami. **Tsunamis** are often generated by earthquakes.
- Each time you feel an aftershock, drop, cover and hold on. Aftershocks frequently occur minutes, days, weeks and even months following an earthquake.
- Check yourself for injuries and get First Aid, if necessary, before helping injured or trapped persons.
- Put on long pants, a long-sleeved shirt, sturdy shoes and work gloves to protect against injury from broken objects.
- Look quickly for damage in and around your home and get everyone out if your home is unsafe.
- Listen to a portable, battery-operated or hand-crank radio for updated emergency information and instructions.
- Check the telephones in your home or workplace to see if you can get a dial tone. Make brief calls to report life-threatening emergencies.
- Look for and extinguish small fires. Fire is the most common hazard after an earthquake.
- Clean up spilled medications, bleach, gasoline or other flammable liquids immediately.
- Open closet and cabinet doors carefully as contents may have shifted.
- Help people who require special assistance, such as infants, children and the elderly or disabled.
- Watch out for fallen power lines or broken gas lines and stay out of damaged areas.
- Keep animals under your direct control.
- Stay out of damaged buildings.
- If you were away from home, return only when authorities say it is safe to do so. Use

extreme caution and examine walls, floors, doors, staircases and windows to check for damage.

- Be careful when driving after an earthquake and anticipate traffic light outages.

I.4: TSUNAMIS

Tsunamis are a series of large ocean waves generated by major [earthquakes](#) beneath the ocean floor or major [landslides](#) into the ocean. When the waves enter shallow water, they may rise to several feet or, in rare cases, tens of feet, striking the coast with devastating force. People on the beach or in low coastal areas need to be aware that a tsunami could arrive within minutes after a severe earthquake. The tsunami danger period can continue for many hours after a major earthquake. A tsunami can occur during any season of the year and at any time, day or night.

Be aware of the signs of a tsunami:

- A strong earthquake lasting 20 seconds or more near the coast.
- A noticeable rapid rise or fall in coastal waters.

PREPARE:

- Find out if your home, school, workplace or other frequently visited locations are in tsunami hazard areas.
- Know the height of your street above sea level and the distance of your street from the coast or other high-risk waters. Evacuation orders may be based on these numbers.
- Plan evacuation routes from your home, school, workplace and other places you could be where tsunamis present a risk. If possible, pick areas 100 feet (30 meters) above sea level or go as far as 2 miles (3 kilometers) inland, away from the coastline. If you cannot get this high or far, go as high or far as you can. Every foot inland or upward may make a difference. You should be able to reach your safe location on foot within 15 minutes.
- Find out what the school evacuation plan is. Find out if the plan requires you to pick your children up from school or from another location. Telephone lines during a tsunami watch or warning may be overloaded, and routes to and from schools may be jammed.
- Practice your evacuation routes. Familiarity may save your life. Be able to follow your escape route at night and during inclement weather. Practicing your tsunami survival plan makes the appropriate response more of a reaction, requiring less thinking during an actual emergency.
- If you are a tourist, familiarize yourself with local tsunami evacuation protocols. You may be able to safely evacuate to the third floor and higher in reinforced concrete hotel structures.

RESPOND DURING:

If you are in a coastal area and feel an earthquake that lasts 20 seconds or longer: