

# EARTHQUAKE HOME SAFETY GUIDE

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*For More Information, call 206-233-5076*



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## Cabinet Safety

When the ground shakes during an earthquake, cabinet doors can open, causing the contents to fall out and potentially break. Glass jars and dishes can break and cause injuries and damage. Here are a few techniques to help you secure your cabinets.

### Secure Kitchen Cabinets

To prevent cabinet doors from flying open, install one of the following types of latches:

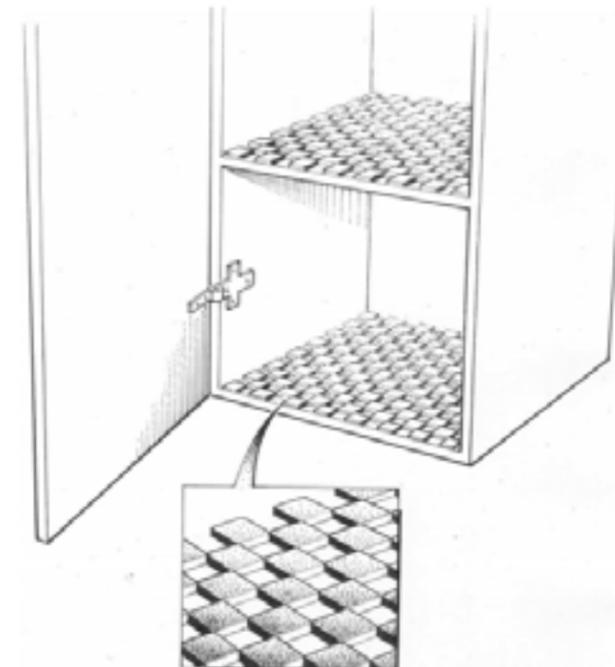
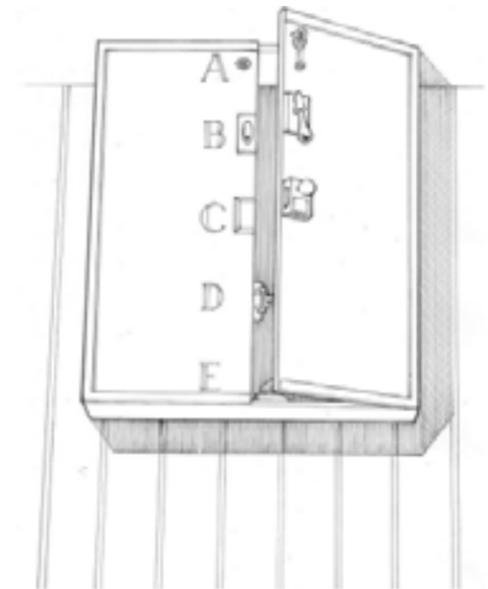
A – Hook and Eye

B – Standard Latch—mounts on the front of door; you do not have to close every time

C – Standard Latch—mounts on front of door & automatically closes

D – Push Latches

E – Child Proof



### Secure Cabinet Contents

The contents of cabinets may shift and break during an earthquake. To help prevent this movement, line your cabinets with rubberized shelf mats.

This material is typically sold in rolls or pre-cut squares at hardware and variety stores.

## Garage & Storage Safety

The ground movement of an earthquake can cause chemical products you have stored in your garage, under the sink or in the closet to spill and potentially mix. These materials can cause injury or be silent killers.

### Before a Disaster

- Secure all chemicals so that they cannot fall, break or mix.
- Identify poisons, toxins and solvents in breakable containers on open shelves.
- Move heavy objects to lower shelves.
- Secure open shelves with nylon webbing.  
**Do not use bungee cords.** They could become dislodged and cause serious injuries.
- Store paint, gasoline and other flammable liquids away from natural gas water heaters.
- Separate chemicals according to manufacturers' suggestions to prevent harmful interactions if containers break. (Ex. household bleach & ammonia create a deadly chlorine gas)
- Know what steps to take if chemicals are spilled.
- Dispose of hazardous materials that are no longer used.



### After a Disaster - Safety with chemicals

- Assume spilled chemicals are toxic.
- Do not immediately approach spilled chemicals.
- Close off the room where a spill has occurred.
- Mark the outside of the room with the problem.
- Alert your neighborhood response team or first responders at scene.

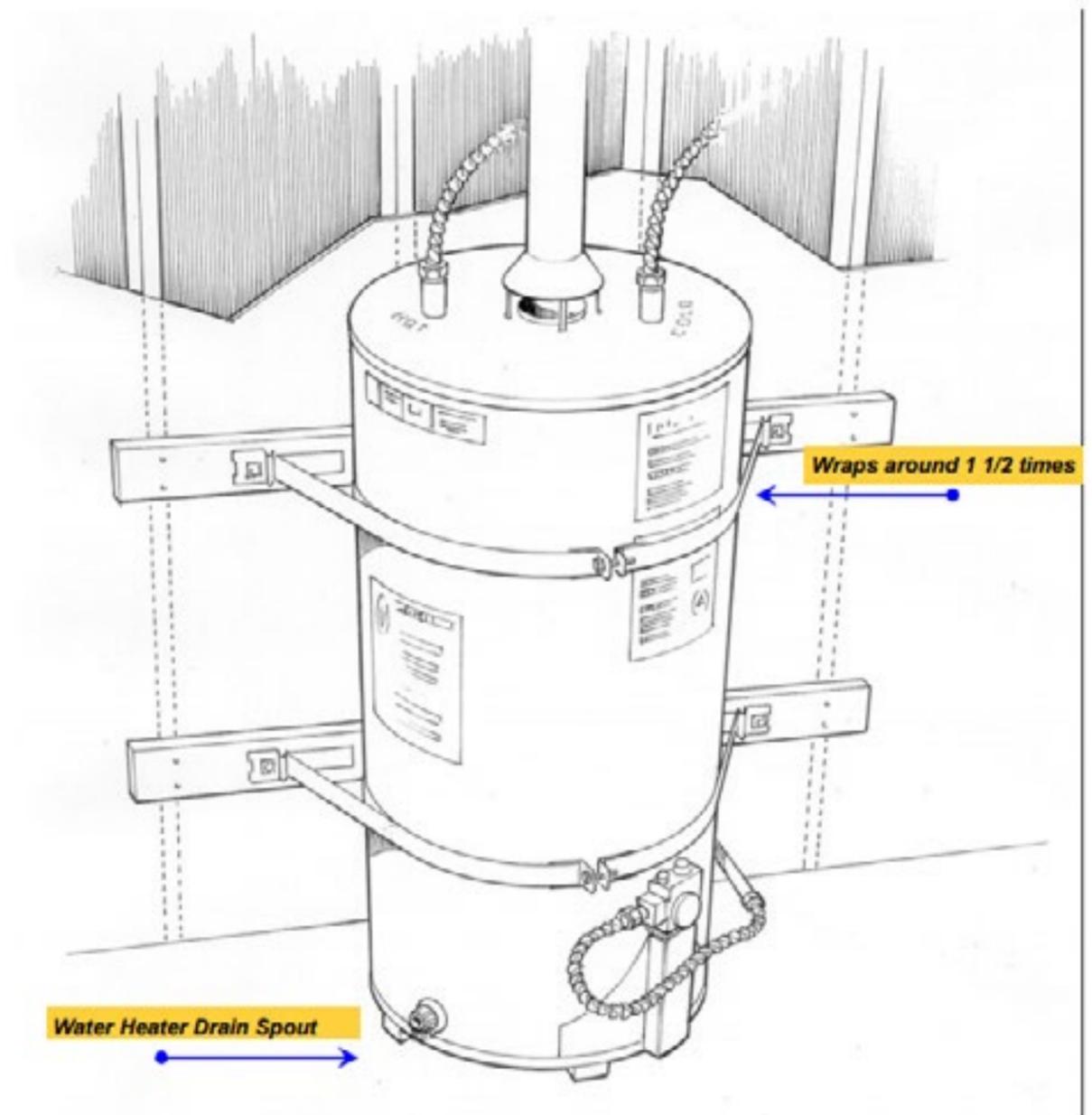
### How hazardous materials enter the body:

Inhalation (breathing) - the most common way  
 Absorption - through eyes or skin  
 Ingestion - swallowing  
 Injection - something that punctures the skin

### Indicators a spill has happened:

Strong odor  
 Bubbling liquid  
 Vapors

## Securing Your Water Heater



**Water heaters are an excellent supply of emergency water. Make sure the electricity or natural gas is shut off before opening the drain. The water can be accessed from the drain spout at the bottom of the tank. This is made easier by connecting a garden hose to the drain spout. Open a faucet somewhere in the house to allow the water to drain easier.**

## Securing Your Water Heater

### Protected source of water – or a puddle

Fresh water after a disaster may be as close as your water heater – provided, of course, that it remains standing upright. A typical water heater holds 30 to 50 gallons of water.

However, this supply of water is extremely vulnerable to the ground undulation (swells and rolls) and ground acceleration of earthquakes, causing them to tip over.

You can protect this valuable resource by securing your water heater to the wall studs.

### Changes to strapping recommendations

Experts have modified the recommended procedure for strapping water heaters because many tanks burst through their strapping in both the 1989 Loma Prieta (San Francisco) and the 1994 Northridge (Los Angeles) earthquakes. Experts recommend these two important changes:

1. Secure both the top and the bottom, rather than just the top or just the middle, of the hot water tank.
2. Use heavy-gauge metal strapping rather than plumber's tape. Many water heaters in both the 1989 and the 1994 earthquakes burst through the plumber's tape that was intended to keep them secure. Plumber's tape has been found to be too brittle to be effective

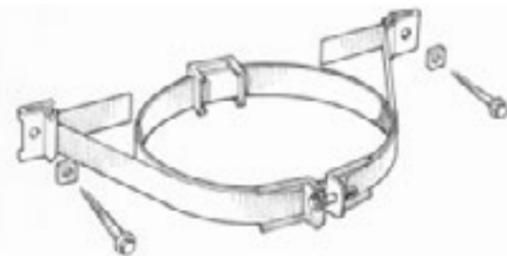
Do NOT use this. This is plumber's tape.



Use heavy-gauge strapping instead

### When securing your hot water tank:

- There should be very little space between the water heater and the wall. If there is more than 1 or 2 inches, attach a wooden block to the wall studs with long lag screws. The purpose is to prevent the heater from tipping backwards.
- Wrap the heavy-gauge metal strapping 1 1/2 times around the tank. Start by placing the strapping at the back of the tank. Bring it to the front and then take it back to the wall
- Secure this strapping to the wall studs or the wood block using several 1/4" x 3" or longer lag screws with oversized washers. If you are securing it directly into concrete, use 1/4" expansion bolts in place of the screws.
- Replace all copper and metal piping with flexible natural gas and water line connectors.



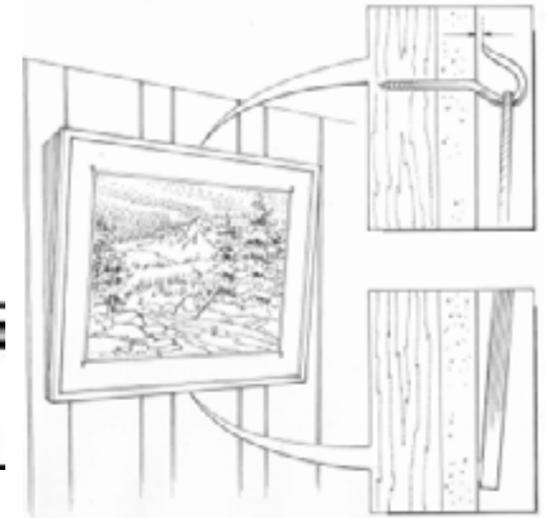
Commercially available kits like this one come complete with the strapping, lag screws, washers, spacers, and tension bolts. These kits can be purchased at many local hardware stores.

## Securing Wall Hangings

### Secure Framed Pictures

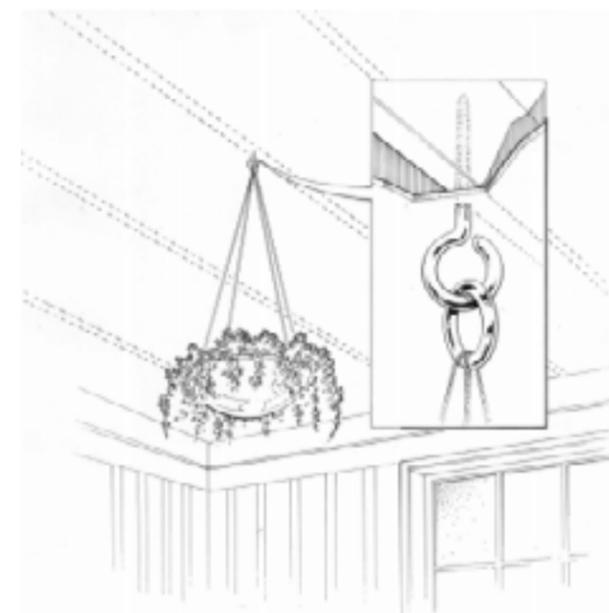
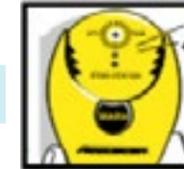
The ground movement during an earthquake can easily knock heavy pictures and frames off the wall. This can be especially dangerous if these unsecured items are located close to your bed, favorite chair or sofa.

Broken framing, glass and mirrors often causes cut feet, a common injury during major earthquakes. Securing pictures helps prevent this injury.



### Securing Artwork, Pictures & Mirrors

- Use a stud finder to find closest wall stud.
- Screw a hook into the stud so that there is barely enough room to slide the framing wire between the wall and the hook. This will help reduce the movement of the frame during an earthquake.
- If the artwork or mirror is large and/or heavy, you may want to consider securing it to two wall studs.
- Secure the bottom corners of these items with Quake-Hold type products to keep them from banging against the wall.



### Secure Hanging Objects

Carefully check the location of all hanging plants and other objects. If they are too close to windows or mirrors, consider moving them.

- Find the ceiling stud by using the stud finder.
- Screw the hook into the ceiling stud.
- Hang the object from this hook.
- Close the opening in the hook with a pair of pliers to prevent the object from falling off the hook in an earthquake.