TAKE 5 TO SURVIVE

City of McMinnville

# KILLER ON THE LOOSE!

## How to reduce the risk of injuries and damage caused by earthquakes

*Most injuries during an earthquake are caused by falling objects.*

*In the U.S.A., over 90% of earthquake damage is to building contents.*

***Non-structural mitigation can save lives and prevent damage.***

**Nonstructural:** Building contents and components that are not part of the physical structure - in other words everything except the columns, floors, beams, load-bearing walls, etc. Typical examples of nonstructural elements of a building are: suspended ceilings, light fixtures, windows, doors, furniture, kitchen cabinets, computers, appliances, TVs, stereos, display cabinets, bookshelves, interior or exterior ornamentation, heating and air conditioning equipment, electrical systems, etc.

**Mitigation**: Actions carried out before, during, and after an emergency or disaster which are intended to reduce or eliminate the degree of risk or vulnerability to hazards present in the area.

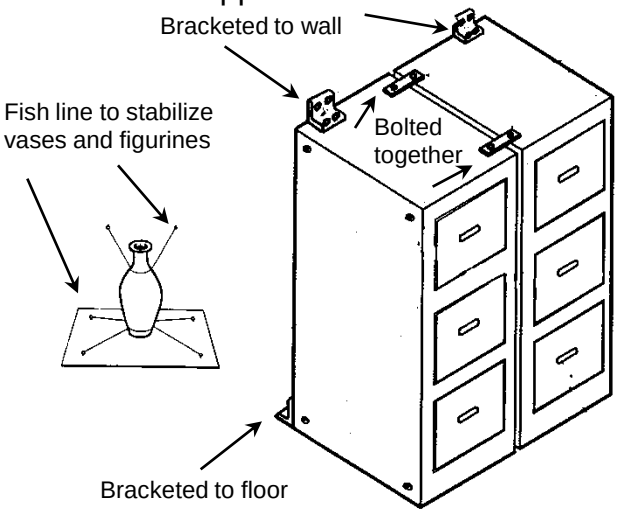
**STEP 1. Identify the Hazards:** The first step in reducing the risk of nonstructural damage is to do a hazard assessment. To do this, you need to determine what nonstructural risks are present in your home or workplace and assess what threat those risks pose.

**At home:**

- ☐ Are there heavy and/or tall items in your home that may move or fall over during an earthquake?
  - If these items moved or fell, would they block exit routes out of a room or out of your house?
  - Can these items be secured to structural support (i.e., wall studs)?
- ☐ Are hanging plants and light fixtures secured to prevent them from swinging free, breaking against walls or furniture, or breaking windows?
- ☐ Are gas appliances securely fastened in place (e.g., water heater and clothes dryer) so they won't pull the gas line connections apart?
- ☐ Are wall-mounted objects (clocks, pictures, mirrors, etc.) secured against falling?
- ☐ Are items on shelves and in display cabinets secured to prevent them from falling out?
- ☐ Is your house securely fastened to its foundation?

**At work:**

- ☐ Are items on shelves and in cabinets secured to prevent them from falling out?
- ☐ Are there items that no longer serve a useful function that can be removed?
- ☐ Are there incompatible chemicals stored together that should be moved to prevent mixing if the containers break?
- ☐ Are free-standing file cabinets, bookcases, and other tall pieces of furniture secured to structural support?

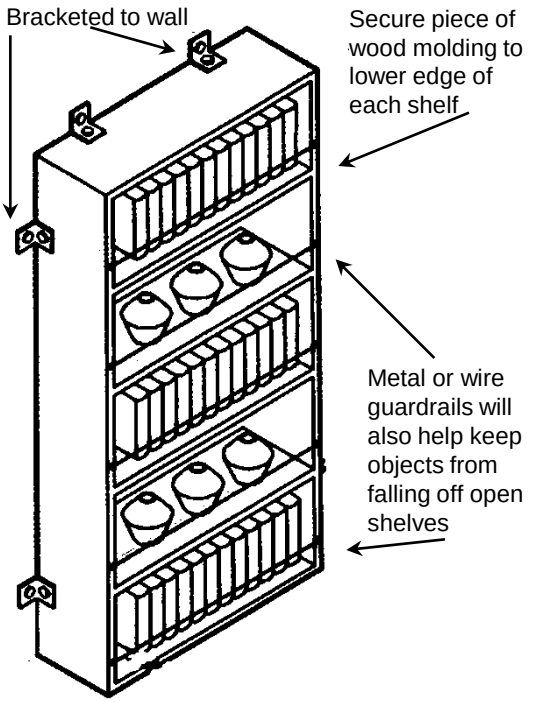


## **STEP 2.** Once you've identified the hazards**... Make your plan.**

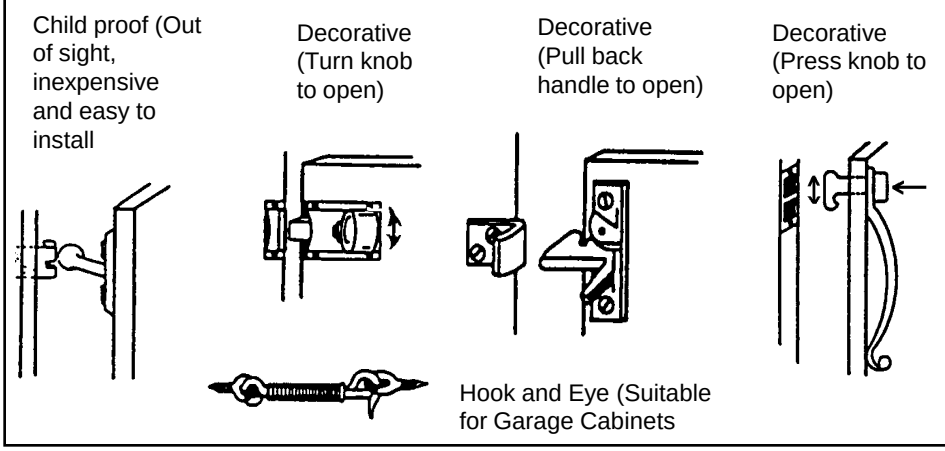
- Identify which mitigation activities will reduce the risks of damage and injury the most.
- Determine which activities can be accomplished at little or no cost (i.e., securing bookcases to walls, closed hooks for pictures and mirrors)
- Determine the best method for correcting larger problems (retrofit, remodel, or incremental upgrades).
- In the future consider purchasing only items that are considered "seismic-resistant." For example, file cabinets with strong latches on the drawers and wall or floor attachments.
- Routinely check any protective measures you have already taken to see that they are still effective.

### Mitigation Activities:

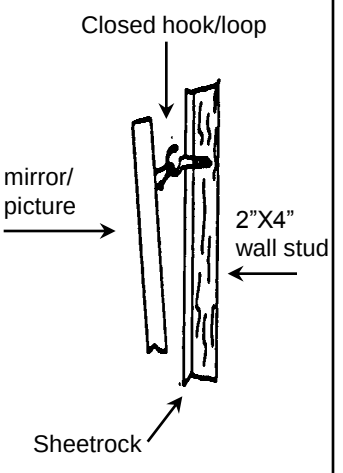
☐Bolt heavy, tall, upright furniture to wall studs
☐Lock or remove rollers on beds, furniture, and appliances
☐Secure hanging plants and light fixtures with one or more guy wires to prevent swinging into walls or windows and breaking
☐Locate beds away from windows and heavy wall-mounted objects
☐Secure kitchen and bathroom cabinets with "positive" (self-closing) latches
☐Secure items on shelves with quake mats, Velcro™, earthquake putty, low shelf barrier, or other restraining devices
☐Store heavy and/or breakable items on lower shelves
☐Strap water heater and all gas appliances to wall studs
☐Use flexible gas connections on gas appliances
☐Check chimney for loose bricks and repair as needed
☐Check foundation for cracks and repair as needed
☐Bolt home to foundation to prevent shifting during an earthquake
☐Secure mirrors and pictures to the wall or hang them with heavy wire, looped through eye screws or tongue-in-groove hangers
☐For additional information on nonstructural mitigation activities contact your local Emergency Management Office




**Types of positive catching latches for cabinets**




**Mirrors and Pictures**




**City of McMinnville Emergency Management (503)435-5809**

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