

Earthquake Preparedness Handbook

TIPS DURING AN EARTHQUAKE

If you are indoors when you feel an earthquake, duck under, or next to, a desk or sturdy table. Stay away from windows, bookcases, file cabinets, heavy mirrors, hanging plants, and other heavy objects that could fall. Watch out for falling plaster and ceiling tiles. Stay undercover until the shaking stops and hold onto your cover. If it moves, move with it.

Here are some additional tips for specific locations:

- If you're **OUTDOORS**, move to a clear area away from trees, signs, buildings, electrical wires and poles.
- If you're **DRIVING**, pull over to the side of the road and stop. Avoid overpasses, power lines, and other hazards. Stay inside the vehicle until the shaking is over.
- If you're in a **CROWDED STORE OR OTHER PUBLIC PLACE**, do not rush for exits. Move away from display shelves containing objects that could fall.
- If you're in a **WHEELCHAIR**, stay in it. Move to cover, if possible, lock your wheels, and protect your head with your arms.
- If you're in the **KITCHEN**, move away from the refrigerator, stove, and overhead cupboards. (Take time **NOW** to anchor appliances, and install security latches on cupboard doors to reduce hazards.)
- If you're in a **STADIUM OR THEATER**, stay in your seat and protect your head with your arms. Do not try to leave until the shaking is over then leave in a calm, orderly manner. Avoid rushing toward exits.
- If you're on a **SIDEWALK NEAR BUILDINGS**, duck into a doorway to protect yourself from falling bricks, glass, plaster, and other debris.
- If you are in a **HIGH-RISE BUILDING**, and not near a desk or table, move against an interior wall and protect your head with your arms. Do not use the elevators. Do not be surprised if the alarm or sprinkler systems come on. Stay indoors. Glass windows can dislodge during the quake and sail for hundreds of feet.

AFTER THE EARTHQUAKE QUICK-CHECK LIST

Be prepared for aftershocks, and plan where you will take cover when they occur.

Check for injuries. Give first aid, as necessary.

Remain calm and reassure others.

Have a flashlight at the ready.

Avoid broken glass. (a pair of slippers next to your bed is a good idea).

Check for fire. Take appropriate actions and precautions.

Check gas, water and electric lines. If damaged, shut off service. If gas is leaking, don't use matches, flashlights, appliances or electric switches. Open windows, leave building and report to gas company.

Replace all telephone receivers and use for emergency calls only.

Tune to the emergency broadcast station on radio or television. Listen for emergency bulletins.

Stay out of damaged buildings.

FAMILY AND HOME PLANNING

INDIVIDUAL & FAMILY READINESS

- Create a Family Earthquake Plan
- Know the safe spot in each room, (under sturdy tables, desks, or against inside walls).
- Know the danger spots, (windows, mirrors, hanging objects, fireplaces and tall furniture).
- Conduct practice drills. Physically place yourself and your children in safe locations.
- Learn first aid and CPR (cardiopulmonary resuscitation) from your local Red Cross or other community organization.
- Decide where your family will reunite, if separated.
- Keep a list of emergency phone numbers.
- Choose an out-of-state friend or relative whom family members can call after the quake to report your condition.
- Develop a portable/auto survival kit for work and travel

HOME PREPAREDNESS

- Learn how to shut off gas, water, and electricity in case the lines are damaged.
- Check chimneys, roofs and wall foundations for stability. Note: If your home was built before 1935, make sure your house is bolted to its foundation. If your home is on a raised foundation, make sure the cripple walls have been made into shear walls. Call a licensed contractor if you have any questions.
- Secure Heavy Furnishings
- Secure water heater and appliances that could move enough to rupture utility lines.
- Keep breakable and heavy objects on lower shelves. Put latches on cabinet doors to keep them closed during shaking.
- Keep flammable or hazardous liquids such as paints, pest sprays or cleaning products in cabinets or secured on lower shelves.
- Maintain emergency food, water, medicine, first aid kit, tools and clothing.

COMMUNITY PREPAREDNESS

- Suggest that local organizations (of which you are a member) undertake a specific preparedness program or acquire special training to be of assistance in the event of a damaging earthquake.
- Participate in neighborhood earthquake preparedness programs.
- Attend training for neighborhood residents in preparedness, first aid, fire suppression, damage assessment and search & rescue.
- Develop self-help networks between families and neighborhood through a skills and resources bank, which includes a listing of tools, equipment, materials and neighborhood members who have special skills and resources to share.
- Identify neighbors who have special needs or will require special assistance.
- Have neighbors agree to hang a white flag (bedsheet) out after the quake if everyone and everything is OK.

HOME AND OFFICE FIRST AID KITS

First aid kits are vital following any emergency. They can also come in very handy on a day to day basis when someone is injured. To be useful, a first aid kit must be accessible and ready. Store the kit in a location that will be accessible following the turmoil of an earthquake.

Do not forget your cars! You also need a well-stocked first aid kit for each vehicle.

Supplies need to be rotated and kept fresh, especially in vehicles where heat can shorten the life of your first aid supplies. We recommend checking and updating all of your first

aid supplies twice a year. A good time is when you change your clocks for daylight savings time. This is also the time to check your smoke detector batteries.

MEDICATIONS

- Antibiotic ointment
- Medications for all family members
- Aspirin and/or pain relief medication
- Diarrhea medication
- Eye drops
- Cold/Cough medicine
- Benadryl
- Insect spray
- Ear and nose drops
- Hydrogen Peroxide
- Skin disinfectant spray
- Extra prescription medication
- Old pair of prescription eyeglasses for spare

MEDICAL MATERIALS

- Band-aids
- Medical latex gloves
- Surgical mask
- Instant cold packs
- Instant heat packs
- Ace bandages
- Butterfly bandages
- Gauze pads
- Cotton swabs
- Adhesive tape
- 2" & 4" wide sterile bandage rolls
- Triangular bandage for sling, etc. (37" x 37" x 52")
- Tongue depressors (pop-sickle sticks)
- Splint material
- Spray bottle with 10% bleach solution for disinfecting objects.

**ALWAYS REMEMBER TO KEEP A COPY OF THE RED CROSS FIRST
AID MANUAL WITH YOUR EARTHQUAKE SUPPLIES**

EARTHQUAKE SUPPLIES AND EQUIPMENT CHECKLIST

When organizing supplies for an earthquake, remember that you need to get to them after an earthquake has turned your house into mess. Store supplies in an easy to find location that has a minimal chance of being buried under falling objects. If you are short on space, a large trash can makes an excellent storage container. If you live in an apartment, the container can be hidden under a decorative tablecloth. Earthquakes can happen at any time. Are you prepared right now? Have you rotated your food supplies in the last six months? If not, make time on your calendar. Do it now!

- Work Gloves
 - Ax / Maul (min. 6 lb.)
 - Shovel (flat head and pointed)
 - Broom
 - Hammer and Nails
 - Screwdrivers
 - Crowbar or Claw Tool (36" or longer)
 - Plastic Sheeting Rolls (4 mil. 10' X 25')
 - Plastic Garbage Bags (heavy duty, 30 gal. or larger)
 - Small and Large Plastic Bags
 - Coils of Rope 1/4", 1/2", 3/4" (25' - 50')
 - Coil of Wire
 - Tent (family or tube type)
 - Tarp (PVC or canvas, minimum two, 8' X 10')
 - Sleeping Bags, Blanket, or Space Blanket
 - Cheese Cloth (to strain particles from water)
 - CASH MONEY (small denominations & coin)
 - Dry Food
 - Water
 - Clothing
 - Walking Shoes and Socks Local Road Map
 - Fire Extinguisher (We recommend a dry chemical type with a minimum size rating of **2A -IOBC**, with an earthquake restraining strap, a hose type nozzle, and a metal head.)
 - Compass
 - Flashlight w/batteries, or chemical Light Sticks Matches, in waterproof container
 - Small Radio (battery powered portable)
 - Entertainment Pack - Family Photos, Notebooks, Literature, and games
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SANITATION SUPPLIES

- Plastic Bags - heavy duty garbage can size and smaller zip-lock types
- Powdered Chlorine Lime - (proper storage is required, it is an oxidizer and it is corrosive)
- Portable Camp Toilet with chemicals
- Toilet paper
- Handi-wipes, Wet-N-Drys, etc., for water free cleanup
- Toilet Supplies - towelettes, shampoo, toothpaste, deodorant, sanitary napkins, etc.
- Insect, fly, mosquito and ant sprays

FAMILY EARTHQUAKE PLAN

KNOW YOUR ENVIRONMENT

SAFEST PLACE IN THE HOME: During an earthquake, stay away from heavy furniture, appliances, large panes of glass, shelves holding heavy objects, and masonry veneer (such as the fireplace). These items tend to fall or break and can injure you. Usually, a hallway is one of the safest places if it is not crowded with objects. Kitchens and garages tend to be the most dangerous. Also, know the safest place in each room. It will be difficult to move from one place to another during a severe earthquake.

EXITS AND ALTERNATIVE EXITS: Always know all the possible ways to exit your house and work place in emergency situations. Try to discover exits that would only be available to you in an emergency.

LOCATION OF SHUTOFF VALVES: Know the location of the shutoff valves for water, gas, and electricity. Learn how to operate the valves. If you are not sure, contact your utility company.

MAKE SPECIAL PROVISIONS

ELDERLY, DISABLED, OR PERSONS UNDER MEDICATION: These people may have difficulty moving around after an earthquake. Plan to have someone help them to evacuate if necessary. Also, they may need special foods or medication. Be sure to store several days' supply of these special provisions.

PERSONS WHO DON'T SPEAK ENGLISH: People who cannot speak English often rely on their family or friends for information. If they are separated during an earthquake, they may need help. Prepare emergency information cards, written in English, indicating identification, address, and special needs.

PETS: After an earthquake, you should be concerned with your own safety before taking care of your pets. Storing extra food and water for pets is always a good idea. Keep them in a secure place at home after an earthquake. If you are evacuated, they will not be allowed at the emergency shelter.

KNOW YOUR COMMUNITY

POLICE AND FIRE: Know the locations of the nearest police station. Be aware that local fire stations will probably be empty and locked up for days after a major earthquake.

After a damaging earthquake, emergency shelters and temporary medical centers will be set up in your community. Contact your local and state Office of Emergency Services to find out the plans for your area.

COMMUNITY PLANS: Know your neighbors and their skills. You may be able to help each other after an earthquake. Also know where to go to help your community after a disaster. It may be days before outside emergency assistance arrives. It is important to help each other.

PLAN TO MEET

PLAN TO REUNITE: Make a plan on where and how to unite family members. 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. Remember, don't use the phone immediately after an earthquake, and make local calls only for emergencies.

PLAN RESPONSIBILITIES: There will be many things to take care of after an earthquake. Make a plan with your family, friends, and neighbors assigning specific responsibilities to each person. Remember that it may be difficult to get around after an earthquake, so each person's tasks should be related to where they may be.

DEVELOP A MESSAGE DROP: You need to identify a secure location outside your home where family members can leave messages for each other. This way, if you're separated and unable to remain in your home, your family will know where to go to find you. You don't want to publicize that you are not at home. That is why this location should be secure and discrete. i.e. under a paving stone, inside a tin can, in the back yard, etc.

SAFE DRINKING WATER

WATER IS THE MOST IMPORTANT ITEM TO STORE

Loss of safe drinking water can be deadly. Most people, with few exceptions, will start feeling the effects if they do without water for more than 36 hours. Dehydration occurs much quicker than starvation. Our bodies can tolerate the loss of food much better. With an ample water supply, starvation is delayed many days, even weeks.

The city water supply is vulnerable to the effects of a large earthquake. Contaminants can get into the drinking water supply through ruptures in the pipes, the mixing up of supply sediments, the adulteration of filtering system, etc. Do not take our water for granted. Plan ahead and store a sufficient supply for your family.

HOW MUCH SHOULD I STORE?

A good rule of thumb is: ONE GALLON PER PERSON PER DAY FOR 7 DAYS (MINIMUM). A three week supply of water is ideal.

WATER SOURCES

Bottled water from the store - one and two gallon sealed containers. NOTE: The one and 2 gallon containers that you purchase in your local store are not designed for long term storage and will begin to leak after about six months.

- One and five gallon sealable containers - From camping or survival stores. Be sure to sanitize container and treat the water that you are storing. Old bleach bottles clearly marked, make good containers for water storage.
- Five gallon sealed containers from private water companies - Water companies claim their containers are good forever if still factory sealed. Store all plastic water containers on a wooden pallet or shelf. Keep water containers in a location where container failure will not destroy your other supplies. Keep all water and supplies in a cool dark place.
- DO NOT STORE ANY PLASTIC WATER CONTAINER DIRECTLY ON CONCRETE. The concrete will leech chemicals into the water, contaminating it. Concrete will also degrade the plastic bottle causing failure.

PURIFYING YOUR TAP WATER

Any water that you make up yourself needs to be treated. If left untreated over time, it becomes contaminated with bacteria and algae.

- EIGHT DROPS OF PURE UNSCENTED LIQUID BLEACH PER GALLON OF WATER WILL REDUCE THE CONTAMINANTS IN THE WATER.

- ADD THE BLEACH WHEN YOU FIRST STORE THE WATER AWAY.
- NOTE: ROTATE YOUR WATER EVERY SIX MONTHS (this includes the one and two gallon sealed bottles purchased at the store, and the supply you made up from tap water with bleach added.)

Another source of water is the hot water heater. Every water heater has a drain valve near the bottom.

GETTING THE WATER OUT OF YOUR WATER HEATER

- Use extreme caution. Let the water cool.
- Turn off the cold water supply to the tank
- Turn off the gas or electric heater for the tank
- Open the drain valve at the bottom
- REMEMBER: Some sediment at the bottom of the tank may at first make water flowing out look murky. Continue to drain water until it becomes clear.

OTHER SOURCES OF WATER IN YOUR HOME

- **Toilet Water Storage Tank:** NOTE: Use the water from the storage tank - NOT THE TOILET BOWL (Don't drink the water if you use coloring or chemicals in it)
- **Melted Ice Cubes** are a source of water. Packed Can Goods (even syrups are mostly water)
- **Water Trapped in Home Piping:** Water can sometimes be removed by locating and shutting off the main water valve. Open the valve at the highest point of your property, then when you open the valve at the lowest point, gravity will force the water from the pipes.

IF THE PURITY OF YOUR WATER SOURCE IS QUESTIONABLE, USE THE FOLLOWING METHODS TO MAKE THE WATER SAFE TO DRINK

BEST: Add liquid chlorine bleach to the water. Eight drops per gallon of water. Double this dose if the water is cloudy.

GOOD: Add 2% tincture of iodine to the water. Twelve drops per gallon of water. Double this dose if the water is cloudy.

ACCEPTABLE: boil the water vigorously for ten minutes.

Do not forget to clean and sanitize your food containers before using them. Wash with soap and warm water, then fill with a 10% bleach solution. After five minutes empty the bleach solution and let dry.

Water that is dirty should first be strained through a coffee filter, cheese cloth or a paper towel to remove suspended matter.

PORTABLE AUTO SURVIVAL KIT

OK! You have prepared your home. What about when you are away from home? In your car or at work!

Southern Californians spend a great deal of time in their vehicles. Our sprawling megalopolis necessitates the use of vehicles for even the simplest of errands. We also need to prepare ourselves while we are away from home. A portable survival kit kept in the car (and another kept in our office) will give us the ability to get along until we are able to return home.

HERE IS A LIST OF ITEMS WHICH SHOULD BE KEPT IN YOUR CAR'S MOBILE SURVIVAL KIT:

- Nylon Carrying Bag or Day Pack
- Bottled Water
- Non-perishable Food
- Can Opener
- Transistor Radio and Extra Batteries
- Flashlight and Extra Batteries
- First Aid Kit
- Gloves
- Essential Medication
- Blanket, Sleeping Bags, Space Blanket
- Sealable Plastic Bags
- Pre-moistened Towelettes
- Small Tool Kit
- Matches and Lighter
- Walking Shoes and extra Socks
- Change of Clothes
- Jacket
- Cash (small denominations and coins)

PERSONAL SURVIVAL KIT AT WORK

Your work place kit should be small and portable. Place it into a small day pack. You should be able to carry your supplies with you if your business is closed and you need to evacuate to another location. It should include:

- Dry Food - candy bars, dried fruits, jerky, cookies, crackers, etc.
- Drinks - water or orange juice
- Tennis Shoes / Walking Shoes for office workers
- First Aid Kit
- Routine Medications - aspirin, tylenol, cold tablets, etc.

- Extra Prescription Medications
- Flashlight with extra batteries
- Chemical Light Sticks
- Matches
- Small Battery Powered Radio, extra batteries
- Small and Large Plastic Bags
- Toiletries / Personal Hygiene Items
- Entertainment Pack - Family Photos, Notebooks, Reading Material and Games

REMEMBER: You could be stranded for up to 72 hours! Make sure that you have enough supplies to meet your needs.

USE THE CORRECT FIRE EXTINGUISHER

Following a major earthquake, fire suppression and rescue resources will be completely overwhelmed. The correct use of a fire extinguisher in the early stages of a hostile fire could prevent a total loss. This is true for any fire, not just those caused by earthquakes.

Virtually all fires are small at first and might easily be contained if the correct type of extinguisher is readily available and properly used. Fire extinguishers are the first line of defense against unfriendly fires, and should be installed in all homes and businesses. Selecting the correct extinguisher is important, both to insure suitability for the expected type of fire and to reduce damage to valuables from extinguishing agents. Using the wrong type of extinguisher can needlessly ruin your expensive computer, which gets blasted with over spray from a small fire in your office.

SELECTING A FIRE EXTINGUISHER:

Extinguishers are classified according to the type of fire for which they are suitable. The four basic classes are A, B, C and D.

- **Class A:** Ordinary combustibles such as wood, paper, cloth and most plastics.
- **Class B:** Flammable liquids and gases such as gasoline, oils, paint, lacquers and greases.
- **Class C:** Energized electrical equipment where non conductivity of the extinguishing agent is important.
- **Class D:** Combustible metals such as magnesium or titanium, (highly specialized, will not be covered here).

Extinguishers also have a numerical rating which serves as a guide to the amount of fire the extinguisher will handle. The minimum rating for a Class A extinguisher on light hazards is 2A. For Class B or C hazards, a rating of 10 is the minimum size recommended. Extinguishers which can handle several types of fires have combined ratings such as 2A:10BC.

EXTINGUISHING AGENTS:

There are five common groups of extinguishing agents. Choose one which will handle the correct class of fire while keeping damage at a minimum.

- **Dry Chemical, Standard Type:** Useful on Class B and C fires. Leaves a mildly corrosive residue which must be cleaned up immediately to prevent damage to electrical equipment. Best uses are automotive, grease fires and flammable liquids.
- **Dry Chemical, Multipurpose Type:** Useful for Class A, B and C fires. Versatile and effective on most common types of fires. Highly corrosive and leaves a sticky residue. Not for use around delicate electrical appliances or computers.
- **Halogenated Agents:** Useful on Class A, B and C fires (depending on agent used). Check labels. Expensive, but very versatile and clean. Leaves no residue. Mildly toxic. Excellent for delicate computers and electrical equipment. Also good for flammable liquids and automotive use. This is one of the best all around choices for offices, however, environmental restrictions and rising costs limit availability.
- **Carbon Dioxide:** Useful on Class B and C fires. Very clean, no residue. Short range, (must be applied close to fire).
- **Water Based Agent:** Use on Class A fires only. Inexpensive to refill and maintain.

These are the most common extinguishers in use. Base your selection on the size and classification needed, plus compatibility with what you are trying to protect. It is also necessary to familiarize yourself with the location, use and limitations of your fire extinguishers. Extinguishers which are required by the Fire Code must be serviced each year.

If an extinguisher is used, you still need to call the Fire Department and evacuate the area. Don't put yourself in a dangerous situation. Even if you do put out the fire, call us anyway. We will check to make sure that the fire is completely out. A small fire which appears to be out may actually be burning unseen inside a wall. It can travel up to the attic and turn into a blazing inferno with surprising speed. If you put out a fire following an earthquake, remain outside the structure until fire resources are available to check that the fire is completely out.

FOR FIRE EXTINGUISHER OPERATION, REMEMBER:

PULL THE PIN

AIM AT THE BASE OF THE FIRE

SSQUEEZE THE HANDLE

SWEEP THE FIRE

EARTHQUAKE EMERGENCY LIGHTING

A common problem after an earthquake is finding your flashlight. Be sure all family members have a flashlight near their bed. An extremely valuable light source is the automatic power failure light. They cost \$10 - \$20 and plug into a wall socket. If the power fails, they automatically turn on.

Carefully consider your family needs and do not lay short in the lighting department. Emergency lighting is critical for rescue and evacuation at night.

DO NOT use matches or candles if there is any possibility of a gas leak, especially right after the quake.

The following is a list of acceptable emergency light sources:

- Flashlights for all family members
- Battery operated lanterns for the home
- Extra batteries, (remember to rotate them every six months.)
- Automatic power failure lamps. The type left plugged into the wall.
- Chemical light sticks
- Gas/propane Lanterns (plus matches, mantles and fuel.)

Portable Electric Generator (plus fuel): If you purchase one that runs on regular automotive gasoline, you can use the gasoline from your car's tank to run your generator. A syphon hose should be stored with the generator. Purchase a generator with sufficient power for your needs. A 200 watt light bulb will light a camp well enough to read by. Creating hot or cold requires large amounts of electricity. Appliances require a high wattage generator.

EMERGENCY FOOD SUPPLIES AND COOKING

Food is as important as water for post quake survival. Psychologists tell us people who have experienced a severe emotional trauma may give up on life and can even die from the depression which follows.

Psychologically, a normal and healthy diet can lessen the emotional trauma of a disaster; therefore, we recommend that people store supplies for a disaster that are as close as possible to their normal fare. The food must be of a type that stores well. The minimum time that food should be able to last without refrigeration is six months.

In the brief space here, it is difficult to give the information necessary to put together an emergency food storage program. The needs and tastes of individuals vary greatly. If you are smaller or larger than average person you may want to adjust what you store as compared with what is suggested. The information here is to give the person who wants to store emergency food supplies some ideas. **IT IS NOT INTENDED AS A**

SHOPPING LIST OF THINGS TO BUY. In each of the categories there is more food listed than should be needed. Think about the tastes and needs of your family.

ROTATING SUPPLIES

Rotating supplies every **SIX MONTHS** is the key; not because everything will go bad in six months, but because you need to make rotating supplies part of your normal habits. The easiest way to remember to rotate is to change your supplies every time you change your clocks for "daylight savings time". Remember, when you **ROTATE YOUR CLOCKS**, you **ROTATE YOUR SUPPLIES**. (Also remember that this is the time to change your smoke detector batteries.)

The easier it is for you to think about doing it, the more apt you are to do it continuously. When you rotate your supplies, don't throw them out, put them in the pantry and use them. Nothing has to go to waste.

REMEMBER: Your supplies rotation should include but is not limited to, batteries, food, water, medications (prescribed and over the counter). Don't forget to check and shake that fire extinguisher while your at it.

SAMPLE FOOD ITEMS

You need to stockpile at least **SEVEN DAYS WORTH OF SUPPLIES PER PERSON PLUS PETS**. These supplies should be non-perishables with long shelf lives. They should also be stored in a cool, dry and dark place. Heat and moisture speed the spoilage of food.

The following is a list of a few sample items. This is by no means the complete list of foods to stock. You should keep items that you and your family will eat. Try and select items that you use daily in your home. If your kids won't eat canned tuna before the earthquake they certainly will not eat it after. Try to plan as if you're going on a camping vacation for seven days, because this is essentially what you will be doing.

Remember to consume what you have in your refrigerator first, then your freezer, then your stored goods.

BEVERAGES

- Milk - Dehydrated or Evaporated
- Soda
- Coffee, teas, instant cocoa - remember, drinks with caffeine in them will move water through your body faster, so you might consider storing 1/2 again as much water.
- Powdered Beverages as desired - Don't forget these will require extra stored water to make.

- Fruit, tomato and vegetable juices
- Sport drinks, such as Gatorade

Grain Products

- Multi-packages of individual serving breakfast cereal
- Instant HOT cereal in the paper packages
- Pancake mix - get the type that requires water only
- Bread - store in freezer
- Pasta
- Flour
- Corn meal
- Soda Crackers
- Rice

Protein Sources

- Canned Meat: bacon, spam, sausages, meat spreads, chile con carne, beef stew.
- Canned Poultry: chicken, turkey
- Canned Fish: tuna, salmon, sardines
- Cheeses: hard wax wrapped cheese lasts longer
- Dried Eggs

FRUITS AND VEGETABLES

- Canned berries
- Canned pears, peaches, apricots, plums
- Canned citrus fruits
- Canned vegetables
- Dry peas
- Instant mashed potatoes
- Dry packaged beans

STAPLES

- Salt
- Sugar
- Cooking oil
- Shortening
- Baking Soda
- Honey

SEASONINGS AND SPICES

Include seasonings appropriate for the meals you choose to store. Spicy foods increase the consumption of fluids.

SNACKS AND OTHER FOODS

- Nuts
- Peanut Butter
- Hard Candy
- Dried Fruit
- Jerky
- Dry Soup Mix
- Canned Soup

COOKING AFTER THE EARTHQUAKE

Cold food for three or more days is unappealing. You need to eat as normally as possible both for your physical as well as your mental health. Basically, you'll be on a camp-out for three or more days. Have the following available:

- Camp Stove (Have plenty of Propane or White Gas)
- Backpacking Stove
- FIREPLACE should not be used after an earthquake, until it has had a video inspection by a chimney specialist. Unseen damage may cause an attic fire or allow carbon monoxide into dwelling.
- Barbecue (Charcoal and Starter Fluid)
- Sterno (type) Stove
- Cooking Utensils
 - Pots
 - Pans
 - Cups & Glasses
 - Forks, Knives and Spoons
- MANUAL CAN OPENER. To open all your cans of stored food.

SHUTTING OFF UTILITIES

There is no cost involved in teaching everyone in your home about how and when to turn off the gas, electricity, and water after an earthquake. This can be as simple as clearly marking where the shut-off valves are, and posting instructions close by. Below are some common examples of shut-off valves. Even if you have something different, (like a propane tank), the shut-off will be similar. If you cannot find the shut-off valves or you do not understand the valve system, call your local utility company or tank provider. Remember, consider shutting off utilities if you can smell gas, or see damage to, from, or near the utility lines.

BEFORE AN EARTHQUAKE

- **TEST YOUR GAS VALVE:** Locate and identify your gas meter and main shut-off valve with those persons you believe could and should know how to shut off the gas if necessary.
- Use the illustrations of gas meters and main shut-off valves below to help you identify yours.
- Using a 12" adjustable, or other appropriate wrench, turn the main valve 1/8 of a turn only to the right or left, (this movement may be difficult at first).
- **CAUTION:** Be careful not to turn the main valve **MORE** than 1/8 of a turn to the right or left, (if you do, your pilot lights will very likely go out, and will require trained personnel to relight).
- After you have moved that valve to ensure that it works, **KEEP THE WRENCH AT THE METER**, and use plastic "zip ties" or straps to secure it to your meter.
- If you use an adjustable wrench be sure to store it sized to your valve. This way if it rusts or corrodes it will still fit. Before you secure it, apply oil or grease to the moving parts of the wrench. It will help keep it functional and ready for use.

IF THE MAIN VALVE WILL NOT TURN 1/8 TURN, THEN CALL THE GAS COMPANY, AND THEY WILL COME OUT AND FIX OR REPLACE IT.

GAS SHUT OFF

Locate main gas shut-off (usually outside the house) at the gas meter. The valve is usually on a pipe coming out of the ground, going into the gas meter. Turn the valve crosswise to the pipe (see the large example on the "Utilities" page under "Before the Earthquake." All the pilot lights in and around your home (stove, furnace, clothes dryer, swimming pool/spa heater, water heater, etc.) will go out when you turn the valve off. You will need to have the gas company, or another qualified individual, relight every pilot when the gas is turned back on. **Forgetting to relight all the pilot lights could result in a dangerous gas buildup in your home.**

Remember, if you don't smell gas or have severe damage to your home, you should not have to shut the gas off. It's your decision. Automatic gas shut off valves are an excellent way to ensure that your gas is shut off in case of a major earthquake. With an automatic shut off valve, your gas will be off even if you aren't home at the time. Contact your local gas company for more information and installation.

Clear the area around the main gas shutoff valve for quick and easy access in case of an emergency.

A wrench (or a specialty tool), for turning off the gas, should be attached to a pipe next to the shut-off valve or in another easily accessible location. You may want to paint the shut-off valve with white or fluorescent paint so that it can be located easily in an emergency.

If you are concerned about your ability to turn off the main gas shut-off valve or unsure if it is in proper working order (indication of rust, etc.), or do not know how to relight your pilot lights, contact your local gas company. They can send a service representative to your house to show you the proper procedure and check the valve and pilot lights to be sure they operate properly.

ELECTRICAL SHUT-OFF

Locate the main electrical shut-off.

Your house may be equipped with fuses or circuit breakers. If your house has fuses, you will find a knife switch handle or pullout fuse that should be marked "**MAIN.**" If your house has circuit breakers, you may need to open the metal door of the breaker box to reveal the circuit breakers (never remove the metal cover). The main circuit breaker should be clearly marked showing on and off positions. Turn off all the small breakers first, then turn off the "main". If you have any subpanels adjacent to the main fuse or breaker panel, or in other parts of the house, in an emergency be safe and shut them off too. Shorts can sometimes develop to cause a circuit to bypass the breaker or fuse.

Note: All responsible family members should be shown how to turn off utilities in case of an emergency. They need to know what the utilities look like in both on and off positions.

WATER SHUT OFF

Locate the main water service pipe into your house (probably in the front at the basement level). You will see a gate valve on the pipe. If you know you have leaks after an earthquake, you can shut off all water in your house with this valve. You may wish to paint the valve so it is easy to find in an emergency.

You can shut off all water to your property by finding the water meter box (usually at the street or sidewalk). Open the cover with a long screwdriver or specialty tool. If this box is inaccessible or you cannot find it, call your local water department. Be sure to identify this box and the water valve inside before the need to use them arises.

Inside the water meter box, you will see a valve that is similar to the valve on your gas meter. Turn it just the same as your gas valve.

AFTER THE EARTHQUAKE

TURN OFF YOUR GAS METER AT THE SHUT OFF VALVE:

- If you smell, hear, or even suspect gas is escaping in your damaged or undamaged building(s).

- If your gas water heater or any other gas appliance has been knocked over and/or pulled free from its wall connection.
- If your building has suffered extensive damage, such as large cracks in the walls or in the concrete slab floors, etc. AND you suspect the gas lines may have been damaged.
- **WARNING . . .** If you smell gas don't turn on or off any switches. Don't use any open flame to check for leaks. Don't turn on any battery operated flashlights, unless they are safety rated waterproof lights. Chemical light sticks are a safe source of light in the event of a gas leak.
- **WARNING . . .** It is very dangerous, and therefore not recommended that you go searching for gas leaks inside any damaged building.
- **BE AWARE:** After an earthquake, aftershocks will continue to occur, possibly causing additional damage (or even first damage) to your building(s).
- **REMEMBER:** Do not turn the gas valve back on after an earthquake, unless a qualified person has checked extensively for gas leaks.

REMEMBER: A qualified person or gas company employee will have to relight all the pilot lights.

SECURING HEAVY FURNISHINGS

Experts tell us that we should not to run outside our buildings during an earthquake. This is because we are not as likely to see total structural failure as in other countries. Our wood frame homes generally do very well in earthquakes. Strict building codes reduce the risk of structural failure in our modern (post 1933) masonry buildings. Our greatest risk of injury during an earthquake is from nonstructural hazards. Falling decorative pieces, fixtures, and heavy furniture account for a large percentage of the injuries.

Nonstructural hazard mitigation is one of the least expensive ways to decrease the incidence of injury. Here are a few of the identified hazards and some suggested solutions.

WINDOW AND MIRROR GLASS:

Sharp shards may fall or be thrown across a room. Consider safety glass, wire glass or solar/safety film. The solar/safety film has the advantage of improving the insulating factor of the window. The energy saving may pay for the cost of the film. There are cost free protective measures that you can use if the glass where you are is not the safety type. You can pull down and close shutters or draw drapes. Even blinds that are pulled down, but not closed, offer some additional protection from flying glass. For existing windows near beds, the best solution is to install solar/safety film.

HEAVY FURNITURE:

Furniture will move and fall during many types of disasters, especially tall, top heavy items. Secure the furniture to the wall. Use braided metal cable, chain, or angle brackets to secure all furniture to a wall anchor. Most often, a wall anchor is an appropriately sized eye screw. Be sure you screw wall anchors into a **stud** (A stud is the vertical 2" x 4" wood post that supports your wall; they are normally spaced at 16" intervals.) Use of an inexpensive electronic stud finder makes the job much easier with less damage to your walls. Screws should always be used, never nails.

GAS APPLIANCES:

Your stove, water heater, furnace, clothes dryer, etc. may run on natural gas or propane. Unsecured gas appliances may crush someone or rupture their gas feed line during a quake. If these objects move or topple, the resulting gas leak may destroy your home, a home which would otherwise have survived with only minor damage. Secure all gas appliances to a wall stud, and use flexible gas line. The flexible gas line should be longer than necessary to allow for some movement. The appliance should be secured top and bottom to prevent tipping, rolling and sliding. Use heavy plumber's tape or braided cable to secure your water heater to the studs in the wall.

REFRIGERATORS:

Refrigerators are extremely heavy, and most of them are on wheels. Because of their weight they may crush someone if they move and tip. Secure refrigerators, top and bottom, to ensure they remain in place and upright during any earth movement. Use plumber's tape (perforated metal strapping). Screw one end into a wall stud and fasten the other securely to a structural component of the refrigerator. Do not secure the tape to the coils in the rear of the box. These are made of lightweight material and will not support the weight of the unit.

HANGING PICTURES, MIRRORS, CLOCKS, ETC.

Anything simply hanging on a wall will come flying off in a large shake. Use an appropriately sized eye bolt and a hollow wall anchor for lighter items. Larger items will require an eye screw that is screwed into a wall stud.

DECORATIVE ITEMS

Unsecured objects will fall during a shock. Run a wire, monofilament fishing line, or guardrail across the shelf front. (The line/rail should be placed 1/3 the height of the shelf, from the bottom.) Objects can be secured in place with velcro, two-sided tape, or porcelain glue. Place large or heavy objects on the bottom shelf. Heavy items can be secured with industrial strength velcro.

CUPBOARD ITEMS

Cupboards will open and spill their contents during a quake. Put heavy items on bottom shelves and use positive latches to prevent doors from opening.

FLAMMABLE LIQUIDS

Spilled flammable liquids may cause fire and destroy a home that would have survived undamaged. Store all flammable liquids outside, in their original/proper containers, away from structures and vehicles. If you must store flammable liquids in your home, store them in the garage, keep them in a locking cabinet with locking doors, and always store them on the lowest shelf. See "Hazardous Materials" section.

BEDS LOCATED NEAR WINDOWS

All beds need to be "safe areas," where you can ride out an earthquake without injury. Falling window glass is a serious hazard. If a bed must be located under a window, have safety film installed. The cost is approximately \$ 2.00 per square foot. The film will hold broken glass together so it will not rain down on your bed when shattered by a major earthquake. Window tinting companies can be found in the yellow pages.

NON-STRUCTURAL HAZARD MITIGATION FOR BUSINESSES

Good employees are your most valuable asset. Protect them with a safe working environment.

EQUIPMENT AND FURNISHINGS Strap rows of multiple file cabinets, mainframes, book cases, etc., together. High racks should be secured together on top and to the floor on the bottom.

- Secure desktop computers, typewriters.
- Keep computer CPUs on the floor next to their work stations.
- Secure cabinet doors with positive latches.
- Store hazardous materials correctly and educate all your employees about them.
- Secure freestanding, moveable partitions.
- A good rule of thumb is to secure anything above desktop level.

OVERHEAD

Seen and unseen objects overhead and above suspended ceilings may pose hazards to workers below. Secure all objects that are above desktop level.

- Check for diagonal bracing wires suspended in ceilings.
- Ensure proper restraint of "stem" light fixtures and fluorescent light panels.
- Securely attach decorative ceiling panels, spotlights, speakers, air conditioning units, etc.
- Check above suspended ceilings for poorly attached ducts, cables, etc.

ELECTRICAL EQUIPMENT

Shock hazards exist if unsecured electrical equipment breaks its connection or exposes energized lines. Unsecured equipment may short out the power in your office building.

- Secure any electrically powered equipment
- Have back-up power generator for emergency lighting and to protect computer against data loss. Insure that generators, their fuel tanks, battery packs, and fuel lines are properly secured.
- Secure emergency lighting.
- Secure telecommunication equipment, switches, and control boxes.

PLANT EQUIPMENT

Loss of plant equipment may prevent you from continuing your business after a quake. Secure water heaters, furnaces, boilers, fans, pumps, heating, ventilating, air conditioning equipment, and the ducting or pipes that go with them.

HAZARDOUS MATERIALS

Unsecured or improperly stored hazardous chemicals may force your business out of an otherwise undamaged building.

- Secure large containers of production chemicals or cleaning supplies.
- Ensure that all toxic items are in the correct container and properly labeled.
- Ensure that all employees know what to do in case of a spill.
- Keep all large containers or vats of toxic, hot, or hazardous items covered to prevent surging in an earthquake.

EMPLOYEES

- Establish an education and awareness program for work and home. Encourage family involvement.
- Encourage employees to be prepared at home and at work.
- Give each employee specific instruction regarding hazards, safety warnings, emergency plans and supplies.

NEIGHBORING BUSINESS

Find out what your neighbors do. Their enterprise may put your business in jeopardy. You may need to plan for problems related to their potential problems.

SECURING YOUR HOT WATER HEATER

In order to prevent movement of your water heater during an earthquake, you need to secure it to the floor and the wall studs behind it. Movement by the water heater can cause gas or water lines to break, destroying a home that otherwise might have survived the earthquake. Also, ensure that your gas lines to your appliances are of current flexible designs.

MARK THE WALL: Using a felt tip marker, mark the water heater six inches down from the top and four inches above the thermostat control valve. Transfer these marks to the wall behind the water heater.

LOCATE THE STUDS: Locate and mark the studs in the wall behind the water heater, mark studs for 24 inches wider than the water heater. Inexpensive electronic stud finders are available at your local hardware store. Studs are placed 16" apart from center to center.

START SECURING THE TOP STRIP OF PLUMBER'S TAPE: Start at the top of the tank. Identify the furthest stud that you are using and drill a 3/16" pilot hole into it. Use a 5/16" x 2 1/2" lag bolt, with a washer, to secure one end of a strip of plumber's tape to the wall. (Use the metal plumber's tape, do not use the new plastic plumber's tape.)

SECURE THE PLUMBER'S TAPE TO AT LEAST TWO STUDS ON EACH SIDE OF THE TANK: Run the plumber's tape to the next stud and repeat the procedure.

WRAP THE TAPE SO THAT IT COMPLETELY ENCIRCLES THE TANK: Wrap the plumber's tape around the tank. Start in the back and wrap the tape across the back, around to the front and then across the back again. This way the tape will form a loop.

FINISH SECURING THE PLUMBER'S TAPE TO AT LEAST 2 MORE STUDS: Repeat the procedure for securing the tape to the wall stud. Be sure to keep the tape tight with no slack.

REPEAT THE ENTIRE PROCEDURE FOR THE LOWER TANK STRAP: Repeat the entire procedure again at the bottom of the tank.

PLACE A NONFLAMMABLE SPACER BEHIND THE TANK: This will prevent movement toward the wall. Secure the spacer to the wall studs.

FINISH BY SECURING THE LEGS OF THE WATER HEATER TO THE FLOOR: Angle brackets to secure the legs of the water heater to the floor of the water heater to the floor of the water heater location.

HELPING CHILDREN COPE

Children may be especially upset and exhibit exaggerated emotions following the disaster. These reactions are normal and usually will not last long.

LISTED BELOW ARE SOME PROBLEMS YOU MAY SEE IN YOUR CHILDREN:

- Excessive fear of darkness, separation, or being alone
- Clinging to parents, fear of strangers
- Worry
- Increase in immature behaviors
- Not wanting to go to school
- Changes in eating/sleeping behaviors
- Increase in aggressive behavior or shyness
- Bed-wetting or thumb-sucking
- Persistent nightmares
- Headaches or other physical complaints

SOME THINGS THAT WILL HELP YOUR CHILD ARE:

- Talk with your child about his/her feelings about the disaster. Share your feelings too.
- Talk about what happened, give your child information he/she can understand.
- Reassure your child that you are safe and together. You may need to repeat this reassurance often.
- Hold and touch your child often.
- Spend extra time with your child at bedtime.
- Allow your child to mourn or grieve over the lost toy, a lost blanket, or a lost home.
- If you feel your child is having problems at school, talk to his/her teacher so you can work together to help your child.

Please reread this in the coming months. Usually a child's emotional response to a disaster will not last long. But some problems may be present or recur many months afterward. Your community mental health center is staffed by counselors skilled in talking with people experiencing disaster-related problems.

ADULT COPING WITH DISASTERS

Having just experienced the shock and pain of a disaster, you will be very busy for the next few days or weeks. Caring for your immediate needs, perhaps finding a new place to stay, planning for clean up and repairs, and filing claim forms may occupy the majority of your time. As the immediate shock wears off, you will start to rebuild and put your life back together. There are some normal reactions we may all experience as a result of a disaster. Generally, these feelings don't last long, but it is common to feel let down and resentful many months after the event. Some feelings or responses may not appear until weeks or even months after the disaster.

Some common responses are:

- Irritability/Anger
- Sadness
- Fatigue
- Headaches or Nausea
- Loss of Appetite
- Hyperactivity
- Inability to Sleep
- Lack of Concentration
- Nightmares
- Increase in Alcohol or Drug Consumption

Many victims of disaster will have at least one of these responses. Acknowledging your feelings and stress is the first step in feeling better. Other helpful things to do include the following:

- Talk about your disaster experiences. Sharing your feelings rather than holding them in will help you feel better about what happened.
- Take time off from cares, worries, and home repairs. Take time for recreation, relaxation or a favorite hobby. Getting away from home for a day or a few hours with close friends can help.
- Pay attention to your health, good diet, and adequate sleep. Relaxation exercises may help if you have difficulty sleeping.
- Prepare for possible future emergencies to lessen feelings of helplessness and bring peace of mind.
- Rebuild personal relationships in addition to repairing other aspects of your life. Couples should make time to be alone together, both to talk and have fun.

If stress, anxiety, depression, or physical problems continue, you may wish to contact the post-disaster services provided by the local mental health center.

Reread this periodically over the next few weeks and months. Being aware of your feelings and sharing them with others is an important part of recovery and feeling normal again soon.

EMERGENCY COMMUNICATIONS

After a major disaster, most of our normal methods of communication will be interrupted. Telephones will be out, the mail won't be delivered (you may not have a home to deliver it to), or you may be isolated at work and unable to travel to your family.

TELEPHONE COMMUNICATIONS

Immediately after an earthquake, your phones will probably will not work. This could be because of damage to switching centers, local phone lines, and trunk lines. It could be that power to operate the phone system itself is unavailable.

The number one cause of phone failures is too many phones off the hook at one time. A number will be off the hook because they were knocked over in the shock, but a larger number will be because everyone is trying to call friends and family. This overload can damage the phone companies switching system. To prevent this damage, whole sections will shut down automatically when a certain percentage of phones are off the hook.

It's normal, after trouble, to want to check on your family, or let family know you're OK. But, we need to limit our calls if we want the system to work at all. The solution to this problem is to have out-of-state contact for all your family members. This way all your relatives and friends will not be tying up the phone lines trying to get you, and you them. Long distance lines do not go down from too many calls or phones falling off the hook. Another advantage is that if an earthquake shuts down the long distance lines, these lines will be one of the first lines returned to service. You will be able to reach someone out of state before you could reach someone next door.

We also recommend that you find a pay phone to make your calls. These lines might well be put in service before residential phone lines. The load on phone lines is less very late at night or early in the morning. The combination of a pay phone, calling long distance, and early morning calling is your best chance for communicating with your family.

When you reach your out-of-state contact **KEEP IT SHORT**, and quick. The phone system may go out again at any time. Give your condition and the condition of the family members you know about. Get information on members who are not with you. Tell them you'll call them to chat in a few days. Then say good-by, and hang up.

These should be carried by all family members and friends. The use of Out-of-State Contacts has worked well in previous earthquakes.
