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Basic Information About Earthquakes

Earthquakes are sudden and violent shaking of the ground caused by movements along fault lines in the Earth's crust. They can vary greatly in magnitude, from minor tremors that are barely felt to major quakes that can cause widespread damage and loss of life. Here's a comprehensive guide to understanding earthquakes and how to prepare for them:

Understanding Earthquakes

1. Causes of Earthquakes:
 - Tectonic Plate Movements: The Earth's crust is divided into several large and small plates that are constantly moving. Earthquakes often occur when these plates collide, pull apart, or slide past each other.
 - Volcanic Activity: Earthquakes can also be triggered by volcanic activity as magma moves through the Earth's crust.
 - Human Activities: Activities such as mining, reservoir-induced seismicity (due to the filling of large reservoirs), and hydraulic fracturing (fracking) can also induce earthquakes.
2. Magnitude and Intensity:
 - Magnitude: Measures the energy released at the earthquake's source (e.g., Richter scale, moment magnitude scale).
 - Intensity: Measures the effects of an earthquake at specific locations (e.g., Modified Mercalli Intensity scale).
3. Aftershocks:
 - Smaller tremors that follow the main earthquake, which can continue for days or even weeks.

Earthquake Preparation

1. Create a Safety Plan:
 - Departmental Plan: Discuss and practice what to do before, during, and after an earthquake. Identify safe spots in your facility, like under a sturdy desk or against an interior wall away from windows.
 - Meeting Points: Designate safe meeting locations outside your building in case you need to evacuate.



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2. Build an Emergency Kit:

- **Basic Supplies:** Include water, non-perishable food, a flashlight, batteries, and a first-aid kit.
- **Important Documents:** Store copies of important documents like IDs, insurance policies in a waterproof container.

3. Secure Your Home:

- **Furniture:** Secure heavy furniture, supplies, and other items that could fall or cause injury during a quake.
- **Structural Integrity:** Ensure your facility meets local building codes, which are designed to make structures more earthquake-resistant.

4. During an Earthquake:

- **Drop, Cover, and Hold On:** Drop to your hands and knees, cover your head and neck (or your entire body if possible), and hold on until the shaking stops.
- **Stay Indoors:** If indoors, stay inside. Do not run outside as you may be injured by falling debris.
- **If Outside:** Move away from buildings, streetlights, and utility wires. Drop to the ground and protect your head and neck.

5. After an Earthquake:

- **Check for Injuries:** Provide first aid as necessary and seek medical attention for serious injuries.
- **Inspect Your Facility:** Look for hazards like gas leaks, damaged electrical wiring, or structural damage. Evacuate if you suspect your building is unsafe.
- **Listen to Authorities:** Follow the instructions of local authorities regarding safety and evacuation.

6. Community and Building Safety:

- **Community Plans:** Be aware of your community's emergency response plans and resources.
- **Building Codes:** Ensure that local buildings and infrastructure adhere to updated seismic codes and standards.

By understanding these aspects and preparing in advance, you can significantly reduce the risks associated with earthquakes and ensure better safety for yourself and your staff.