

RISK INSIGHTS

EARTHQUAKES

Earthquakes are unpredictable and can occur at any time of the year. Earthquakes violently and abruptly shake the ground due to tectonic plates moving along a fault line in the earth's crust. Earthquakes can cause soil liquefaction, landslides, fissures, avalanches and tsunamis. Earthquakes vary in duration, magnitude and intensity.

Every year, there are approximately 5000 minor and major earthquakes recorded in Canada. The province of British Columbia experiences the most major earthquakes as it is located along the Pacific Ocean where lies some of the most active faults in the world. In Ontario and Québec, the two river valleys of the St. Lawrence River and the Ottawa River frequently have earthquakes.

As the ground shakes, buildings, vehicles, roads and bridges can experience structural damage and destruction. People and animals are endangered by entrapment or crushing as structures and items around them move and collapse. Seismic events can disrupt crucial services, such as water supply, electricity, gas, and telephone and internet services. Post-earthquake fires can spread quickly and devastate large areas due to broken gas pipes and fuel lines. Emergency responders often become overwhelmed and fire protection systems may be inoperative due to broken mains and sprinkler lines.

Ensure everyone in your organization is trained on what to do before, during and after an earthquake.

What to expect during an earthquake

Before an earthquake happens, it's important to understand what to expect. Minor earthquakes can last a few seconds and pose little to no danger. Power may turn off briefly and items may shift around the building. Perhaps you'll feel the ground quiver.

On the contrary, major earthquakes can last several minutes. The intense movement can make you feel dizzy and disoriented. The ground shakes and moves violently, and you may experience a rolling motion as if you're on a boat.

If you're on a high-rise building, you may sense the structure swaying. You may hear loud banging as structures, furniture and objects fall or move around with extreme force. Windows can break, and ceiling panels can fall. You'll likely lose power and communication services. These emergencies often activate fire alarms and sprinkler systems.

HOW TO PREPARE *BEFORE* AN EARTHQUAKE?

- Include the following in your business continuity and disaster planning:
 - Ensure employees know where and how to continue working, if possible, in a safe alternate location or from home.
 - Train employees on key shutoffs, such as turning off the water, electricity and gas. Ensure there are clear "on" and "off" labels for each utility. Ruptured water lines can pollute and contaminate your water supply. The leading causes of a fire or explosion after an earthquake are from defected electrical wiring and gas leaks.
- Gather and maintain emergency kits that are readily accessible. Develop a comprehensive inventory list for your specific business and location. Below are examples of some important items to include in your emergency kits:
 - Emergency contact list
 - First-aid kit
 - Battery powered flashlight
 - Generators, backup batteries and power banks
 - Candle and matches
 - Water bottles
 - Non-perishable food, such as canned foods and energy bars
 - Manual can opener
 - Portable weather radio

- Protect your existing property against earthquakes to minimize potential damage:
 - Consult a structural or seismic engineer about seismic retrofits for your building.
 - Inspect and repair loose or damaged building components.
 - Remove trees and branches that can fall on your roof or nearby power lines.
 - Consider installing seismic gas shut-offs valve to stop incoming natural gas from flowing into the property. This will decrease the chances of a fire or explosion.
- Use seismic strapping to secure building fixtures, such as gas-fired equipment and water heaters to masonry or wall studs.
- Identify other loose objects that can move around with great force, such as securing furniture, appliances and electronics to the wall or floor using anchors and fasteners.
- Install safety latches on drawers and cupboards to stop contents from falling out.
- Store heavy items on lower shelves or on the ground.
- Take the time to understand your insurance coverage and what's covered by your policy should you experience any property damages or disruptions to your operations.
- For more information regarding business continuity and disaster planning, speak with your risk consultant to receive the following resources:
 - Risk Insight - Business Continuity Planning Guide
 - Risk Insight - Disaster Planning

WHAT TO DO **DURING** AN EARTHQUAKE?

Indoors

- Remain indoors.
- Drop, cover and hold on: Drop under heavy and solid furniture, such as a desk or table. Cover your head and torso from being hit by moving items. Hold on to the structure you are under so that you stay covered until the shaking ends.
- If you are unable to go underneath a strong structure, or you are in a hallway, crouch or flatten yourself against an interior wall. Protect your head and neck.
- Avoid facing or situating yourself near exterior walls, windows, doorways, shelves with heavy objects, light fixtures and items hung on walls.
- Do not enter and use an elevator during an earthquake! If you are already in an elevator when the earthquake starts, press the button for the nearest floor and exit as soon as you can.

Outdoors

- In crowded areas, keep moving until you find a safe place to take cover as you may get trampled by panicked crowds.
- Find an open area away from buildings that may collapse. Remember that exterior walls are extremely dangerous.
- Keep away at minimum of 10 metres from downed power lines.
- If you are along a coastline, move inland or towards higher ground.

HOW TO RECOVER **AFTER** AN EARTHQUAKE?

- Be aware that there may be aftershocks, which are smaller earthquakes that occur after a large earthquake.
- Help others who need assistance. Call emergency services if you cannot reach them safely.
- Assess your surroundings and get ready to move if there are unstable structures or objects that can still fall or hit you.
- Look out for mobile alerts and listen on a weather radio for instructions from authorities.
- Place a "HELP" sign against windows if you require emergency services.
- Access the **emergency kits** you prepared for essential supplies, such as a flashlight to help you see, water bottles to replenish you, the first aid kit to treat injuries and more.
- Use extreme caution if you smell leaking gas, see hazardous material spills, flooding and more. Evacuate dangerous and unsafe situations.
- Keep utilities turned off, and unplug electronics and lights to prevent a fire from igniting from damages.
- Put on protective clothing and shoes, if available, to avoid injuries from broken glass or sharp debris.
- Take photos and document structural damages to your buildings and vehicles, as this may help with investigations or claims needed.

Earthquakes are unpredictable natural events that can cause tremendous property damage, business interruption and personal injury. However, by taking appropriate measures before, during and after an earthquake, you can reduce the severity of these effects.

For more information on making your business safer, contact our Risk Services team at **1.833.692.4111** or visit us at **www.northbridgeinsurance.ca**.