

# Preparedness for Earthquakes

—Prior countermeasures are indispensable—

Major factor of fatalities by earthquakes is crushing. To prevent being killed by an earthquake, let's consider the arrangement of furnishings and take measures to prevent them toppling down.

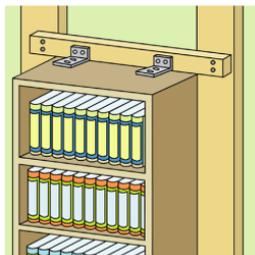
## Ensure safe space at home

- Try to place as many furnishings as possible in a room you use in lower frequency, if there is one.
- If not, consider arranging furniture to ensure safe space.

## Ensure doorway and escape routes clear

- Do not place topple-prone furniture along escape routes toward doorway.
- Objects around entrance could block doorway in time of emergency.

## Prevent drawers, and bookshelves from toppling or sliding



- Use L-brackets or chains to secure furniture to the wall.
- Tension rods, which is placed between ceiling and a piece of furniture, should be placed in the back, close to the wall.

## Prevent TVs from falling over



- Place TVs on low furniture. They can be thrown down by large-scale earthquakes.
- When using anti-quake sheet, make sure its withstand load and service life are appropriate.

## Prevent stove fire



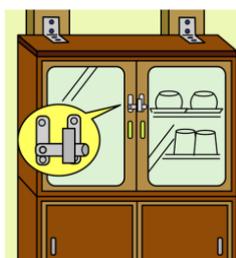
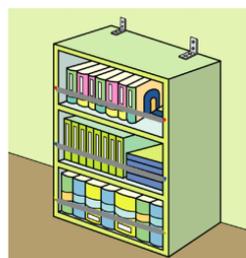
- Ensure stoves have an anti-quake automatic extinguishing system.
- Place stoves in a safe space to protect yourself. Sliding or toppling stoves can hurt you.

## Pay attention to sleeping space and furnishing arrangement

- Do not sleep where furnishings can topple down in the case of earthquakes while asleep.
- Keep a flashlight at the bedside. You might have to react in the dark.



## Prevent objects from falling out from cupboards or bookshelves



- Use ropes or elastic bands to prevent objects from flying out.
- Install safety latches on doors of cupboards to prevent dishes from falling out.

## Protect against flying glass

- Apply transparent anti-shattering film firmly by following its instruction.
- When using sticky tape, apply also to sashes. Otherwise, the glass will fall down in lump.



## Prevent lighting fixtures from falling down

- Install chains and anchorage in multiple positions to secure lighting fixtures.
- Secure fluorescent lighting tube by applying heat-resistant tape at its both ends.

# Evacuation from Tsunamis

— Move immediately to high ground if an earthquake hits —

## When in Danger of Tsunamis

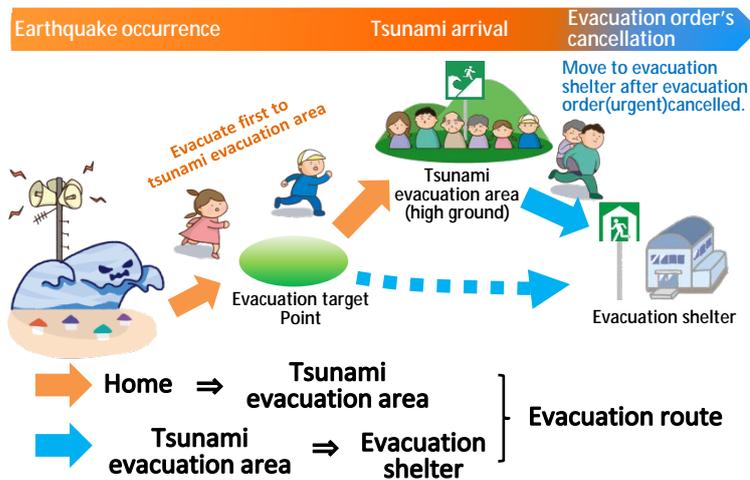
### ■ Evacuate first if an earthquake hits!

If you feel a strong earthquake ( seismic intensity of around 4 or more ) , or weak but long and slow shake, immediately move away from coast and evacuate to evacuation area (high ground) etc.

### ■ Tsunamis hit repeatedly!

Tsunami waves are expected to hit repeatedly. Stay at tsunami evacuation area until tsunami warnings and advisories are cleared.

~principle of tsunami evacuation~



### ■ Too late to evacuate if you wait for information!

It may be too late if you wait for information through TV or radio. Remember to evacuate first to tsunami evacuation area (high ground) etc., then gather information.



### ■ Protect yourself first!

Do not return home to take out valuables or go to see your boat. Protect yourself first unless you will be hit by tsunami.

### ■ Evacuate on foot in principle!

Evacuation by vehicles brings on traffic congestion which leads to evacuation failure. So, evacuate on foot in principle.



### ■ Cooperate with neighbors!

Be supportive of the elderly, those with disabilities, and others in need, so that every member of the community can evacuate.

## Category of Tsunami Warning/Advisory

Three categories of tsunami forecasts are; major tsunami warning, tsunami warning, and tsunami advisory. In every forecast, estimated tsunami height, in meters, and estimated arrival time at the coast is attached.

Following the issuance of major tsunami warnings etc., Miyako City will issue evacuation order (urgent) as shown in the below table.

Category	Announced tsunami height		Coverage of evacuation order (urgent) area by Miyako City
	Announcement in numbers (range of estimated tsunami height)	Announcement in large-scale earthquakes	
Major tsunami warning	Over 10 m (10m < estimated height)	Huge	Area within 5 meters in elevation from inundated area by Great East Japan Earthquake tsunami
	10 m (5m < estimated height 10m)		
	5 m (3m < estimated height 5m)		
Tsunami warning	3 m (1m < estimated height 3m)	High	
Tsunami advisory	1 m (0.2m < estimated height 1m)	(no notation)	Seaside area from levees or seawalls

It takes time to determine the exact scale of earthquakes with a magnitude of 8 or more. In such cases, Japan Meteorological Agency (JMA) issues an initial warning based on the predefined maximum magnitude to avoid underestimation. When such values are used, estimated maximum tsunami heights are expressed in qualitative terms such as "Huge" and "High" in initial warnings to express the extraordinary situation.

# Flooding

— Principles on evacuation from flooding—

## Evacuate before inundate!

It is difficult to evacuate in inundation. Since flooding can be predicted, evacuate ahead of time if flooding risk becomes high.

Cooperate with those around you to evacuate people who need special care, including the elderly, those with sick, and children.

## Watch your steps not to fall down!

When you evacuate in flooding, walk carefully while feeling your way with a searching stick etc. not to fall into a dip, gutter, or a manhole.

Wear comfortable shoes such as sneakers. Do not wear boots.

Boots are easily coming off once they get water inside.

## It is dangerous to evacuate in flowing water!

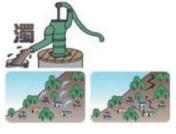
Walking in flowing water is difficult even for adults if water depth is 50 cm or over. In such cases, it is safer to move to high ground and wait for rescue.



# Sediment Disasters

— Do you know 3 types of sediment disasters and their signs?—

There are a few types of sediment disasters as shown below. For each category, there are signs of impending disasters. Although signs are not always observed, if you notice any unusual condition, immediately move to a safe place with people around you.

Types		Signs of impending disasters
Mudslide	 <p>Deposited soil and stones flushing along valleys or slopes with water by heavy rain or continuous rain.</p>	<ul style="list-style-type: none"> <li>• River water becoming muddy and containing driftwood.</li> <li>• River water level becoming lower despite continuous rainfall.</li> <li>• Sounds of rumbling from the mountain.</li> </ul>
Landslip	 <p>Sudden collapse of soil and stones from cliffs filled with water.</p>	<ul style="list-style-type: none"> <li>• Small stones falling down from cliffs.</li> <li>• Water welling up on cliffs.</li> <li>• cracks on cliffs.</li> </ul> 
Landslide	 <p>Sudden movement of a mass of earth, induced by ground water deposited in slippery layer</p>	<ul style="list-style-type: none"> <li>• Water in wells and streams becoming cloudy or muddy.</li> <li>• Cracks in the earth.</li> <li>• Water spurting from cliffs and slopes.</li> </ul> 

\* Source: NPO Sediment Disaster Prevention Publicity Center (SPC)

## ● What if too Late to Evacuate?

### Evacuate to 2<sup>nd</sup> floor, as the next best measure.

In principle, evacuation in advance to a safe place is the best ( **Horizontal Evacuation** ). But, if it is too late for a safe evacuation, consider temporary evacuation to the 2<sup>nd</sup> or upper floor ( **Vertical Evacuation** ).



To evacuate from sediment disasters, move to 2<sup>nd</sup> or upper floor, and to the opposite side from mountain.