

Take Step

1

For a Safe Life!

Istanbul Seismic Risk Mitigation and
Emergency Preparedness Project
ISMEP

First 72 Hours for Disabled People in an Earthquake



“Disaster Preparedness Training Materials for Community” which are financed in the framework of 4784-TU numbered contract of loan from World Bank and conducted by Istanbul Special Provincial Administration Istanbul Project Coordination Unit (IPCU) within the A component of “Istanbul Seismic Risk Mitigation and Emergency Preparedness Project” (ISMEP) are prepared by Beyaz Gemi Training and Consulting.

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Dear residents of Istanbul,

Istanbul is a city, which is under the threat of earthquakes and many other disaster risks. In many parts of the world, precautions are taken and some preparation plans are carried out against these kinds of risks. In Turkey, there are studies, which aim at the protection of public buildings, particularly schools and hospitals, and historical monuments and there are retrofitting studies for the whole infrastructure system, especially for transportation and communication, with the participation of the professionals in our country by evaluating the studies made in developed countries.

Physical retrofitting studies have the aim of eliminating the physical threats by earthquakes. But the case of earthquake preparedness is not limited with these activities. What's more important is to change our way of life in such a way to be ready for earthquakes and to be more sensitive for our surrounding.

In order to be ready for earthquakes firstly at individual and then at the national level, we should know about earthquakes, we should develop ourselves by having safe life awareness at our home, in our offices and surrounding, we should get training and above all we should become conscious about what we can do before a possible earthquake strike.

Therefore, we have prepared these awareness raising and training materials to reach you by the means of ISMEP (Istanbul Seismic Risk Mitigation and Emergency Preparedness Project), which is conducted by Istanbul Governorship Provincial Disaster and Emergency Directorate and Istanbul Governorship Special Provincial Administration Istanbul Project Coordination Unit. The documents, which are prepared with the help of specialists from civil and private sectors, are given the last shape after the controls of experts and relevant departments.

Fifteen different training titles have been defined for our editions, which require the preparation of different documents with different themes and appropriate contents for them have been developed to reach all our citizens living in Istanbul and to ensure the institutional preparedness in every sense. We wholeheartedly believe that these training materials which are thought to be appreciated by each institution and individual would meet an important need. Before anything else, to know that our dear citizens would benefit from these activities that would help earthquake preparedness, gratifies us and enlivens our studies.

In Istanbul, where the future is strengthened by us, we share happiness of looking to the future with confidence.

Best regards,
Muammer Güler
Governor of Istanbul

Within the context of Enhancing Emergency Preparedness Capacity, which is the A component of Istanbul Seismic Risk Mitigation and Emergency Preparedness Project, multiple cooperation has a significant role in Community Disaster Preparedness Training Materials shaping within the framework of best practice and achieving objectives.

Within the framework of this project, which is a product of long and intensive study, and emerged in the light of profound knowledge and experiences of a good deal of people and institutions, we thank all public corporations and institutions who do not withhold their contributions from us;

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Istanbul Chamber of Commerce

Istanbul Chamber of Industry

Turkish Red Crescent Society Training Department

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Istanbul Anatolian Side Neighbourhood Disaster Volunteers Association

Search and Rescue Association (AKUT)

Istanbul Union of Chamber of Merchants and Craftsmen

Radio Amateurs Association

Confederation of Turkish Chamber of Merchants and Craftsmen Union

Confederation of Turkish Labor Unions

Social Service Employees Association

Turkish Psychological Association

The Psychiatric Association of Turkey

Turkish Federation for the Physically Disabled

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INTRODUCTION

In the survey by “Turkish Statistical Institute (TÜİK) and The Prime Ministry Administration for Disabled People (ÖZİDA)” it is stated that in Turkey, there are almost 8,5 million disabled citizens including those with chronic diseases. According to this research, disabled people consist of 12.29% of the general population. When they are considered with their families, 30 million people are affected by the disability phenomenon.

Therefore not only disabled people should have information about disaster preparedness but also their families, relatives, friends and the staff in the corporations from which they get service.

It would not be possible to get the necessary aid at the first 72 hours, called as “golden hours”, during a disaster. Avoiding this process with the minimum loss depends on being prepared.

The preparations for an earthquake may be seen as difficult at first but we can make them a part of our life with constant practices. Just like in every case, in the disaster preparedness of disabled people the first step is very important. We should prepare ourselves in order not to say “if’s” after a disaster. It is possible to reduce the damage by a disaster when we start with single steps.



Considering all of these realities in this training program there is the general information for the whole disabled groups and the basic concepts specially prepared for each disabled group as well.

In Turkey an earthquake is a part of our daily life and Istanbul is closely acquainted with a serious earthquake risk. In metropolitans, like Istanbul, not only the earthquake itself but also the risks such as fires or explosions that would break out after an earthquake have the possibility to influence the whole life. Unfortunately, it is not possible to prevent a hazard like an earthquake which causes natural disasters and to reset the risks the disaster might bring about. But the damage by earthquake can be reduced. During an earthquake there would be loss of life and property and it is very normal to be afraid of earthquakes.

But it is possible to reduce the loss and fear by paying attention to these:

- To learn what is an earthquake
- To know how to take precautions before an earthquake
- To apply the taken precautions

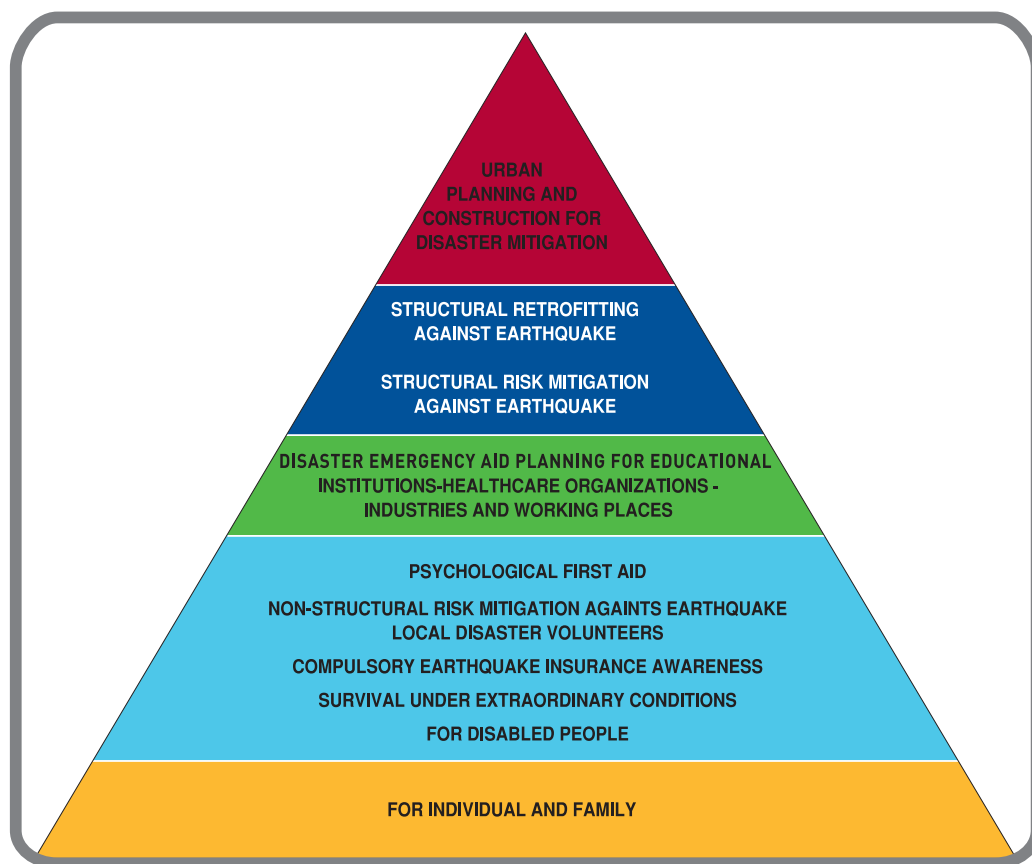


Figure1. Necessary trainings to be taken respectively for disaster preparedness from individuals to experts.

As it is known during the first few seconds of all the disasters everybody is on his/her own. During those seconds only our knowledge and preparedness may save us. In everywhere in the world it is not possible for the medical, fire or search and rescue teams to reach all the individuals at the same time. So each individual has to be prepared for the first 72 hours (the golden hours) after a disaster.

First 72 hours in an earthquake for disabled people training program is a kind of summary of the subjects in the second level of Disaster Preparedness Training Pyramid. That is why it is recommended to complete the trainings related to the subjects in the second level of the training pyramid after completing this training. It should not be forgotten that this trainings are not only to get information. For a safe life we must change our behaviours and habits in daily life.

BASIC INFORMATION AND CONCEPTS

In disaster preparedness the most encountered concepts are **hazard**, **risk**, **vulnerability** and **capacity**. At first we briefly define these terms:

Hazard, Risk and Disaster

- **Hazard** is a physical condition caused by nature, technology or human which may occur in a certain span of time and geography and create negative effect on people, physical structures, environment and community (Figure 2a).
- **Risk** is the probability of a hazard to turn into a disaster and the expected negative results, losses caused by it depending on physical, social, economic, cultural and political reasons (Figure 2b).
- **Vulnerability** is the lack of necessary characteristics and sources (capacity) of the individuals, societies, institutions or countries in terms of hazard exposure, coping with it and mitigating the effects of it (Figure 2c).
- **Capacity** is the qualities and the sources of individuals, societies, corporations or countries on estimating the effects of a hazard, coping with them and protecting, providing and improving with minimum or no loss (Figure 2d).

Figure 2. (a) A broken bottle in the beach is just a hazard as long as the beach is empty.

(b) If there is a person walking on the beach in bare feet, a broken bottle is a risk for him/her.

(c) The person who walks on the beach might get harm when he/she steps on a broken bottle as a result of his/her walking in bare feet.

(d) The person who wears slippers has the capacity of getting no harm from broken bottle by considering the possibility of danger on the beach.

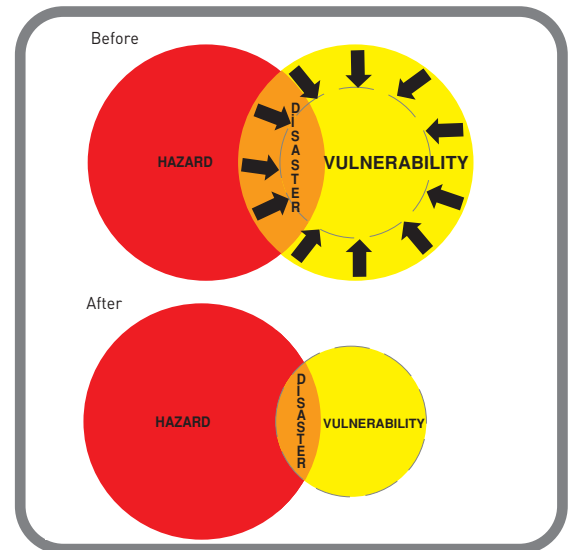
What creates the risk is the cluster of hazard and vulnerability elements. On the other hand capacity is the opposite of vulnerability; as the capacity strengthens, vulnerability, therefore probability of a hazard to turn into a risk reduces. To sum up, what reduces or increases the disaster risk is the disaster vulnerability degree of a community. When the disaster vulnerability degree is decreased by hazard mitigation exercises, the disaster that we are exposed to would be minimized as well.



Figure 2. Basic Concepts.

For a hazard to turn into a disaster it is supposed to give huge harm to life, natural surrounding, property and business continuity. For this reason, according to the definition of United Nations, disasters are the situations which the local facilities are insufficient to cope with the negative effects of a hazard on life, property, surrounding, economy and cultural values. Natural events like earthquake, flood, landslide, and thunderstorm are named as natural disasters when they cause big losses of life and property in regional and governmental level or when international aid is required.

Emergencies are the bad effects of a minor hazard on life, property and surrounding which could be overcome with the local possibilities. For example a house fire which can be extinguished by a local fire is characterized as an emergency situation.



All hazards and risks may not be totally eliminated but they can be mitigated. The disaster management uses the risk management that cope with mitigation and preparation activities, as well. The second part of disaster management is crisis management. In crisis management, response and recovery exercises related to disaster or emergent situations are done (Figure 3).

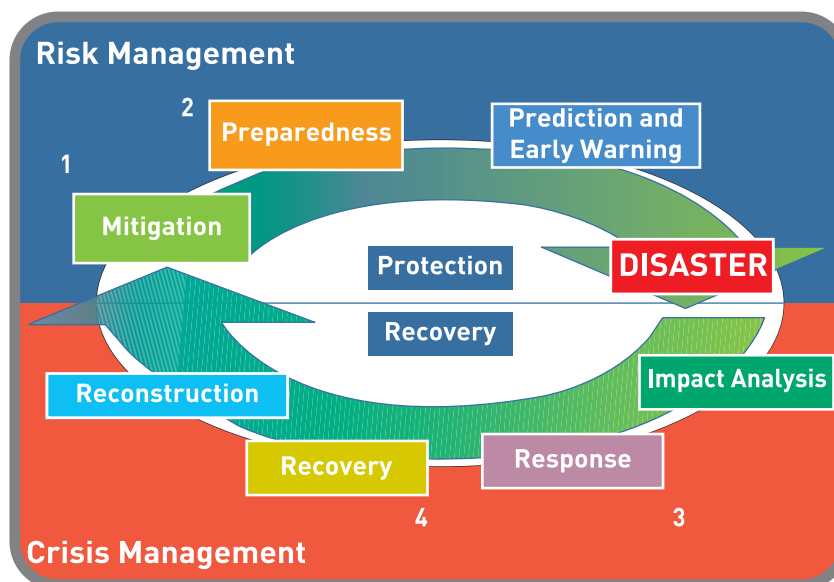


Figure 3. Schematic illustrations of main and intermediate stages of integrated disaster management system.

Internal Structure of the Earth

4,5 million years ago the Earth became an internally layered (as in Figure 4) by getting cold ever since it occurred. This layered structure has different characteristics. These layers are named as “the crust”, “the mantle” and “the core”.

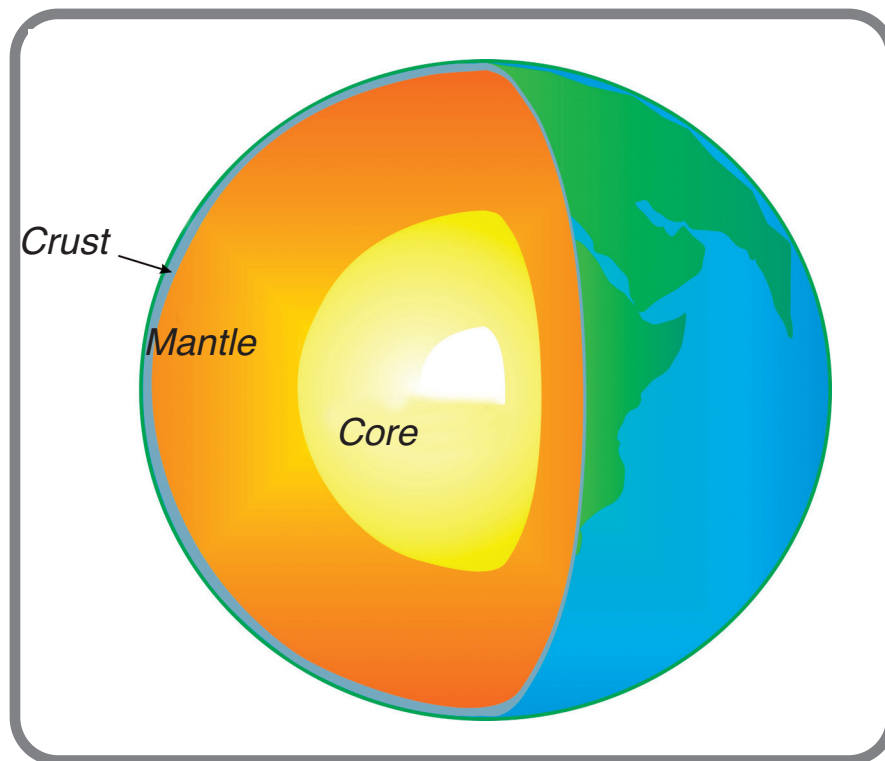


Figure 4. The main layers of the Earth's inner structure.

The inner structure of the Earth which is called “the core”, is the Earth's magnetic source and is divided into two layers, the inner and the outer core. The inner core is solid whereas the outer core is fluid.

Above the core there is “the mantle” which consists of partially molten rocks (magma) and shows plastic behaviour. Convection currents occur in the mantle as a result of temperature differences. Convection currents may be resembled to the boiling of a dense soup. Convection current activity stretch the top layer of the Earth, the crust, and break into crustal parts. These parts are called “plates”. The most recent situations of plates and their borders controlled by relative motion are illustrated in Figure 5.

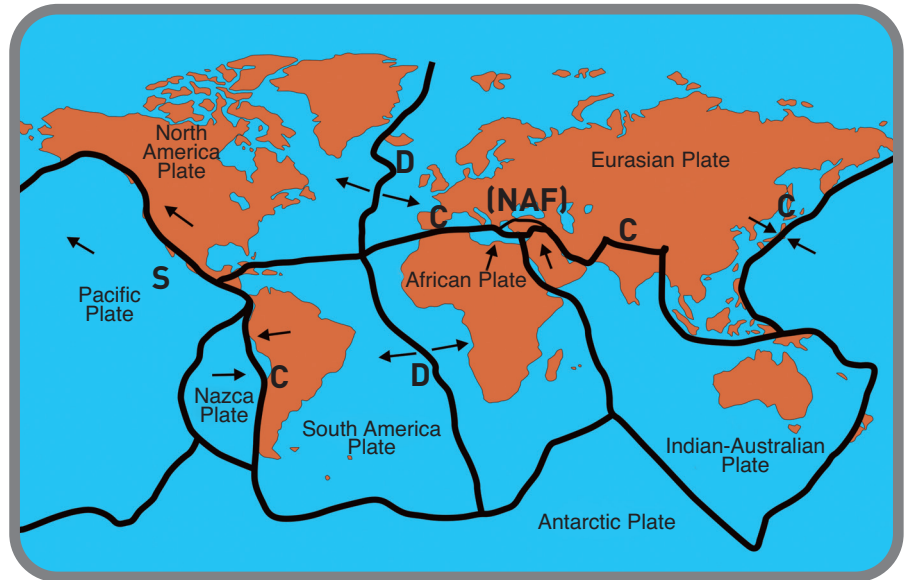


Figure 5. The main plates form on the earth's crust and their movements.

The movements of the crustal plates, cause to major geological events on Earth. Earthquakes occur on these large fractions known as fault zones (like North Anatolian Fault Zone). The movements of plates are in three different types; Diverging (D), Converging (C), and Shearing (S). The most devastating volcanic activities occur on Converging Plate boundaries (Figure 5).

Faults

The Earth's crust moves along weakness zones or plate boundary are called as faults, where the rocks can not resist the force of the earth movements. The earthquakes may occur as a result of relative movements of the blocks respect to one another (Figure 6).

The faults are generally named according to their sense of tectonic plate motion. Those which happen after shearing movements at shearing plate boundary (S) are called "strike-slip fault". We can mention the right or the left movements of two separate blocks formed by a fault (like North Anatolian Fault Zone) and these are the examples of right/left strike -slip faults. The faults that happen after vertical movements are named as "normal or reverse fault". In many faults both the horizontal and the vertical movements can be found. For example, normal fault along diverging plate (D), reverse fault along converging plate boundary (C).

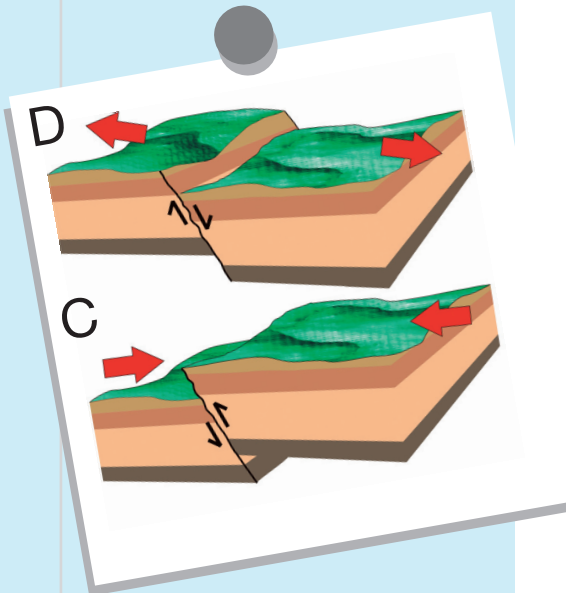


Figure 6. The schematic illustration of normal and reverse faults.

Earthquakes

Earthquakes are known as a trembling or a shake as a result of the movement of the crust. Although the Earth's crust seems to be inactive it constantly moves, rises, descends, folds, bends and breaks; this creates an over-stress on the rocks. The energy that accumulates during large time periods suddenly discharges along the weakest zones. These fractures are named as "fault" (Figure 7). The seismic waves caused by the released energy and deform (change) the rocks they pass through and shake the Earth. This activity is called as earthquake.

An earthquake can be called as a quake or a seismic activity as well. It happens in a short time and can be sensed in a large area. Still it can yet not be known where or when an earthquake is going to happen so the exact date and time can not be predicted.

Generally an earthquake is felt like small quakes. You notice that the lamps hanging on the wall are rolling and the objects on shelves are moving. Sometimes you can hear a roaring sound or feel strong shaking. An earthquake emerges with a quake that comes with a rattle and roaring sound beneath the Earth and continues for a very short time. Usually, after a big earthquake small earthquakes called aftershocks may occur.

Aftershocks would continue approximately two or three months after the main shock. But as the days pass the aftershocks become rare, and both their magnitudes and effects reduce. Some buildings which are damaged but not totally demolished during the main shock might collapse during the aftershocks.

Different scales are used to define earthquakes. Magnitude is the measure of the released energy in the source of the earthquake. The magnitude, which is generally described with Richter scale, is defined according to the energy level that releases during an earthquake.

Generally the earthquakes with 4, 0 magnitude or below in Richter scale do not cause much loss, but the ones with 5, 0 magnitude and above would result in damages. Every year nearly 3, 5 million earthquakes happen on the world. And only 1 million of them are recorded. The numbers of the

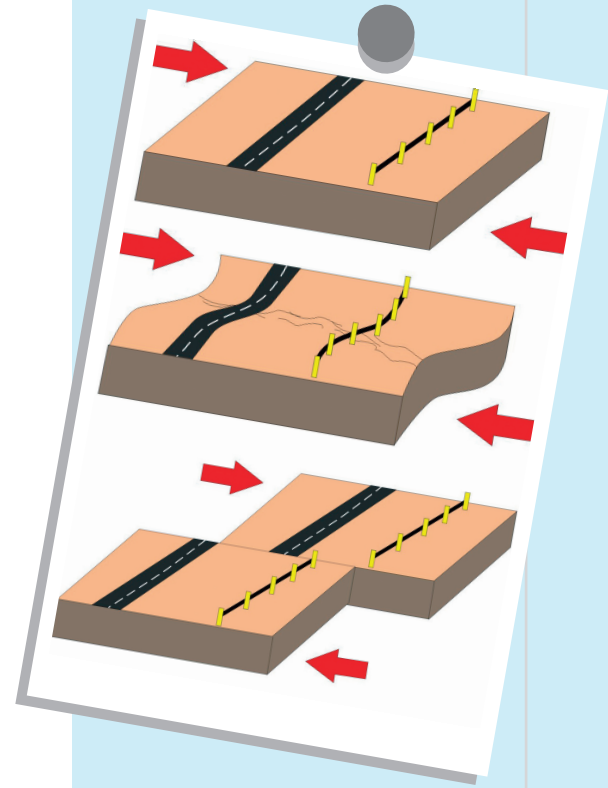


Figure 7. The earthquake's formation of faults by breaking the crust.

earthquakes which can be felt by people are only 50-60 thousand. For instance, there are approximately one or two earthquakes with 8,0 magnitude or above every year but there are more than 100 thousand micro earthquakes with 3,0 magnitude or below.

The earthquake intensity is also defined by observing its effect on people, constructions, surrounding and crust. According to the "intensity scales", prepared at the end of long-time observations of earthquakes' effect on animate and inanimate beings, there are mainly 12 intensity values and they are illustrated with Roman number. For instance, the magnitude of Marmara Earthquake, in 17 August 1999, is defined with 7,4 magnitude and its intensity in the most demolished parts is defined as X (10).

Earthquakes sometimes may cause fires, chemical fallouts and trigger secondary natural hazards such as avalanches, landslides, rock falls, floods and mud flows. Therefore an earthquake preparedness should be considered in terms of all secondary risks.

Seismic Waves

The released energy during the earthquake propagates away in the form of vibrations called seismic waves which resemble water waves. The body waves are divided in two, P waves and S waves (Figure 8).

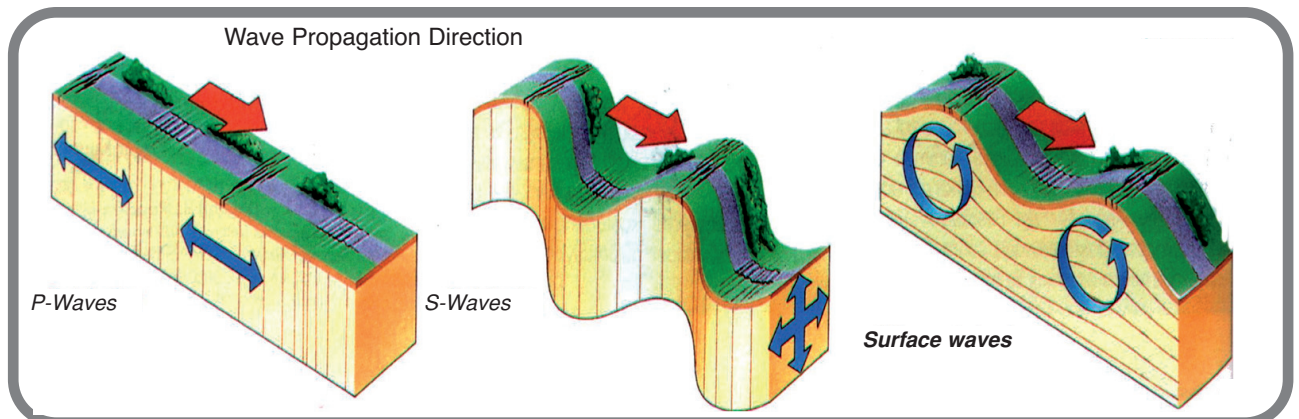


Figure 8. The schematic illustration of seismic waves.

Primary (P) waves are compression/expansion waves and cause rock particles to swing back and forth like spiral springs. P waves are the fastest seismic waves so they are the first seen waves on seismograph. Vibration movements are the same as the direction of wave propagation.

Slower S waves are the waves which are secondary seen on seismographs and their vibration movements are perpendicular to the direction of wave propagation. S waves cannot travel easily through liquids, for instance, they are either absorbed or disappear when they travel through the earth's molten parts. Surface waves travel slower than Body waves but their amplitudes are bigger. These are called as "Love" or "Rayleigh" waves. Those Surface waves and S waves cause destructions in buildings.

We can schematically illustrate what we have learned so far (Figure 9).

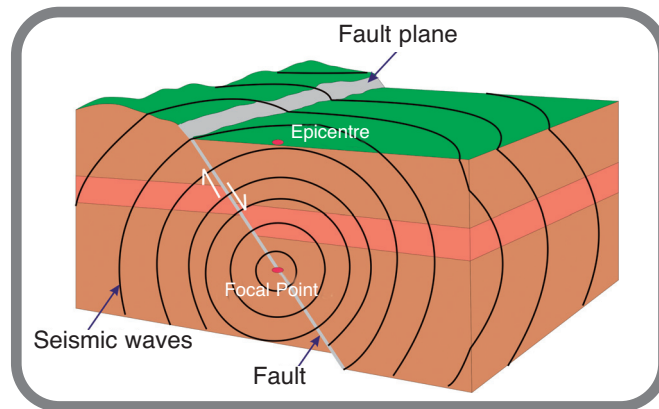


Figure 9. Schematic illustration of the Basic Earthquake Parameters.

Tsunami

Tsunami means “harbor waves” in Japanese. Today it is used for the waves which occur during natural events on the ocean and sea floor like landslides, earthquakes, and volcanic eruptions. It would be seen as high tide or sea wave at the seas smaller than oceans.

The difference between the wave which occurs after tsunami and the other sea waves is that the destructive energy as a result of water droplets’ driftage. Since tsunami does not proceed as a high water wall it would not be felt at deep seas. Once the tsunami waves approach the shore they lose speed but the distance between the waves shortens and overlapping waves might become a disaster for people by building up a high water wall.

At first tsunami is a single wave when it occurs but in a short time by transforming into three or five waves travels outward in all directions. The first and the last of these waves are very weak but the other waves travel with energy which make its effects violently felt on the shore. For this reason after earthquakes in a short time slow but abnormal change of water level on the shores foreshadows the first wave. This change might be foreshadowing of the later very strong waves.

As it could be understood from previous tsunamis in our country, after a great earthquake which may cause a large wave in Marmara Sea there is still a risk even if it is weak but it is obvious that a probable tsunami is not as big as the ones in Pacific Ocean. Nevertheless after Istanbul earthquake in 1894, waves went beyond the city walls on the shore (due to landslide under the sea) and it can be seen in records. In 1630 B.C Santorini volcanic eruption caused a tsunami in Aegean Sea.



Earthquake in Turkey

In Turkey, there are 3 different earthquake fault zone systems located in one of the most active and important fault zones in the world (earthquakes cause intensive damages in three regions (North - Northeast, West Anatolia regions and East - Southeast Anatolia). The length of North Anatolia Fault Zone (NAFZ) is 1200 km; its width changes between 100 meters and 10 km (Figure 10). This strike slip fault which has been active since approximately 5 million years as an old plate boundary causes intermediate depth (10-20 km) earthquakes. In West Anatolia, the Aegean Fault system which includes normal faults causes less intense shallow earthquakes.



Figure 10. The Map of main active faults in Turkey.

In order to define earthquake activity according to the location of active faults and probable hazard risk, earthquake zones are determined. Earthquake zones are determined considering the probable acceleration value as a result of probable earthquakes in these zones. The zones are given numbers according to their risk potentials. The most risky location is named as first-degree seismic zone. As the degree rises the seismic risk reduces.

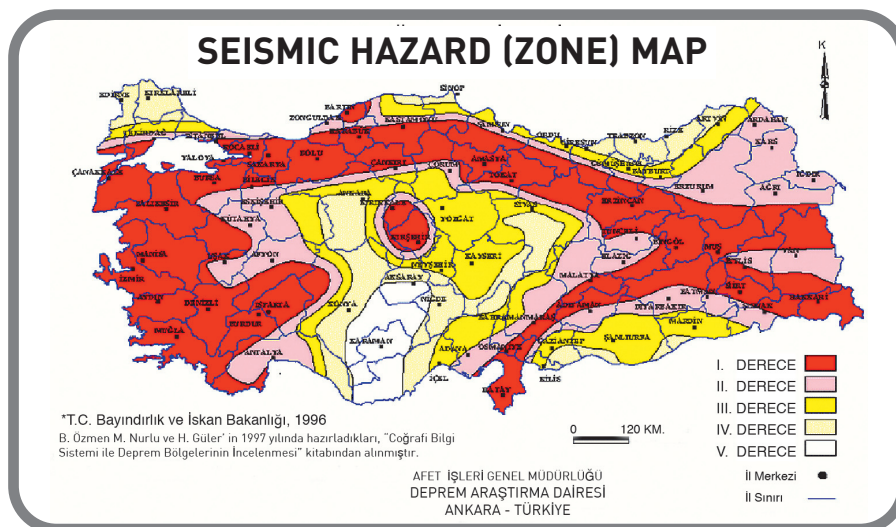


Figure 11. Turkey Seismic Hazard Map according to five different seismic zones.

Earthquake Prevention

In the aftermath of 1999 Marmara Earthquake, the issues dealing with the results of an earthquake and reducing the damage by an earthquake are often mentioned. Not having a proper urban planning, the dangerousness of the foundation and the buildings, the nonstructural risks in and out the buildings, the techniques of response during and after an earthquake and the deficiencies within the awareness of overall disaster preparedness become current issues. In addition to this disaster preparedness activities should include additional preparations for disabled people who are in a more disadvantageous position during an earthquake.

Disasters would influence our whole life more or less due to their intensities. The disaster mitigation is possible with disaster preparedness and awareness of individuals and communities.

Disaster preparedness period needs collaboration among the individual, the family and all the relevant civil and private corporations and it needs them to take responsibility. Disaster awareness and preparedness must be a part of the individual's safe life culture. The safe life is to live by avoiding from the hazards and to have the necessary knowledge and preparedness. So all the basic concepts should be learned and taught about the possible earthquakes and fires, strong winds, heavy rains, floods, thunderstorms and landslides, heat waves and forest fires.

Disaster preparedness is not only the duty of institutions and civil societies, but it is a process that each member of community should learn and practice for his/her own safety.

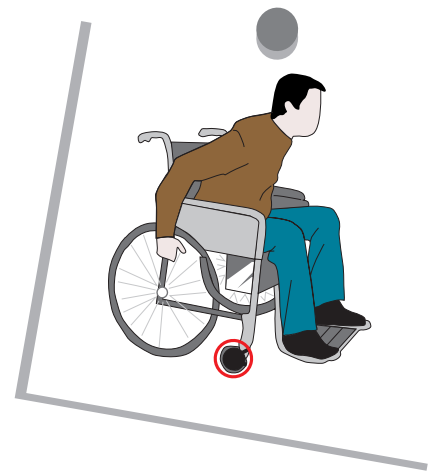
For earthquake preparedness disabled people and their families should have a more cautious life style. And this is possible with some little steps. The possible steps include all the subjects which are defined under the title of "Things to Do Before an Earthquake" as a part of this book.

Within this scope these and similar subjects below are mentioned:

- Organizing a support group (network).
- Preparing an emergency kit and considering it as a part of your life.
- Reducing structural and nonstructural risks.
- Taking necessary precautions for fire risks, etc.
- Having first aid knowledge.
- Doing drills.

For instance, it should be a habitual precaution for visually disabled people to have their walking sticks close to them or for physically disabled people to fasten their wheel chairs to prevent the sliding of the wheels.

Organizing our support group and emergency plan or to learn how to turn off gas, water and electric wiring might be given as another example to have a safe life style in our daily life within this scope.



THINGS TO DO BEFORE AN EARTHQUAKE

In order to reduce the potential hazards for a disabled person during and after an earthquake some preparations are required. These preparations are common for the whole disabled groups whereas some of them might change according to different disabled groups. In order to complete all these preparations their communities should be a part of these activities as well.

The preparations before an earthquake for the whole disabled groups would be planned ahead as it follows:

- Support person or groups (Support network)
- Emergency files
- Emergency kit
- Structural risks
- Nonstructural risks
- Fire risks
- First aid during a disaster
- Local Disaster Volunteers
- Drills

Support Network

Support network consists of people from whom a disabled person would get help during or after an earthquake. The possible people for this group are stated below:

- Family/relative/friend
- Neighbours
- Headman/officials
- Local Disaster Volunteers
- The officers in the places where we live, work or go to school

For a disabled person this support network should be developed with his/her own close acquaintances. A hearing impaired person needs additional support to make him/her realized and a visually disabled person needs extra support to realize the differences on his/her familiar way or in his/her familiar place. To evacuate a bed-bound person it would be necessary to be prepared and trained beforehand.

A disabled person and his/her family should make an emergency plan with the people in support group. And this plan should not only concern their dwellings but the school or the work place as well.



Especially in an earthquake that might happen when a disabled person is in his/her usual place (home, school, work, etc.) the people who would help him/her should be decided and the arrangements for how to help him/her should be settled beforehand. This support network should be adapted to special circumstances in case the disabled person is a child.

First of all a kind of communication chain should be developed in the light of the arrangements made with the people in support network. If required, sharing of the copies of important papers or keys between the network people would be added to the plan according to the special condition of a disabled person.

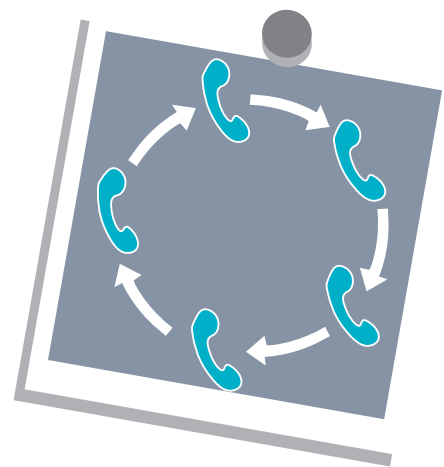
The evacuation way of a disabled person is another important point that should be shared with the people in the support network. A plan should be made and if it is necessary it should be drilled with the support network people.

All the families should have a Family Disaster Preparedness Plan whether there is a disabled member of the family or not. Thoughts like “Nothing happens around us. If it does nothing happens to me” should be avoided and the preparations should not be delayed.

Family Disaster Plan

Disasters would be frightening and they would happen in any time and anywhere. We may have to leave our homes or the relevant corporations would not be able to answer our needs after a disaster besides that we may not have time to think during an earthquake. So the disaster preparedness and the adjustment of the taken precautions are very important for the families. For instance, family members would be in different places during an earthquake so the communication between them would not be possible at first. Long distance calls can be easier so a person out of the city should be chosen and each member of the family should call and inform this person about his/her current situation.

Apart from the emergency papers and emergency kits families should have a **Family Disaster Plan** which includes at least the first three days called as golden hours during a disaster. We may start planning and disaster preparedness by following the steps on the table below. While following these steps the attendance of the whole family members should be provided.



Done?	Things to do for Family Disaster Preparedness and Disaster Plan:	The date action completed
	We defined hazards which can cause emergency and disaster in our surrounding	
	We defined the safest places in each room and in the house by doing "Hazard Hunt".	
	We checked our building and belongings. We made a plan to mitigate the structural and nonstructural risks.	
	We determined two exit ways from each room and the building-if possible-by drawing a skecth.	
	We learned the places of valves like natural gas, electricity and water and how to turn them off	
	We learned how and when to call emergency phone numbers (112,155,156,110)	
	We have chosen two relatives in and out of the city and learned their phone numbers. In case any separation during the disaster each family member knows to call these two people at first.	
	We determined two gathering places one is near and the other is far from the house to meet family members if we are not together at the moment of the disaster.	
	We bought flashlight, smoke detector and fire extinguisher for our house.	
	We bought first aid kit. We planned to take and repeat disaster preparedness, fire extinguishing and first aid trainings.	
	We've learned how to be informed from the emergency situations and where to stay from our municipality.	
	We learned local evacuation routes in our street from our headman.	
	We learned how to help to babies, old and disabled ones.	
	We've talked how to cooperate with our neighbours during a disaster.	
	We planned how to supply our water, food and toilet needs for three days after the disaster. We keep our disaster kit in a place that we can easily reach and carry.	
	We learned not to use things which might cause a fire like match, etc. when we are not sure of gas leakage after a disaster or emergency.	
	We put water, whistle, hand lamp, shoes, protective gloves near our beds.	

When you finish practicing these steps about Family Disaster Preparation Plan on the list below with your family, put a cross to the “**Done**” box and write the **date action completed** to the final column.

When you have finished with this tableau, fill in the family emergency card that is given as a sample below and copy them for the each family member and always carry with you.

FRONT

EMERGENCY INFORMATION CARD

Name-Surname :

Blood group :

Date of birth :

TR identity number :

Address :

Emergency person for the card owner

Name-Surname :

Phone number :

For more information www.guvenliyasam.org

BACK

EMERGENCY INFORMATION CARD

Chronic disease if any :

Medicines taken :

Surgical operation if any :

Any organ donation? :

Family meeting point during a disaster :

Other information :

Please always carry this card with you.

Families and support groups can add or remove the subjects on the table above according to the different disabled groups. For instance, for those who have the risk of spreading or picking up viruses because of his/her chronic disease a note like "No emergency action without gloves in case of bleeding" can be added. Another common way is carrying informative identity bracelet on neck or wrist. This method is especially useful for disabled people who have an expressing disability. There should not be only the identity data but also some private information like the phone numbers of emergency people and the information about health (medicine and poison, etc.) and disability status on these identity bracelet.

DISASTER PLAN OF FAMILY

The person to call out of the city
 Name _____
 City _____
 (Home number) _____
 (Work Number) _____

The person to call in the city
 Name _____
 (Home number) _____
 (Work number) _____

Relative
 Name _____
 City _____
 (Home number) _____
 (Work number) _____

Work numbers of the family
 Father _____ Mother _____
 Other _____

Emergency phone numbers
 In an emergency call 155 or 112 or call these numbers in your city:
 Police _____
 Fire department _____
 Hospital _____

Meeting places
 1. At home _____
 2. Next to home _____
 3. Away from home (if you can not return to home) _____

Address _____
 Phone _____
 The first route _____

FAMILY DISASTER PREPAREDNESS WORK PLAN AND CHECK LIST ✓✓✓

<input type="checkbox"/> We have defined the insecure places at home (for instance; window fronts, sides of big, heavy, rollable and flammable objects)	<input type="checkbox"/> We have learned not to use any matches or lighters that might cause a fire until it is certain that there is no gas leak after a disaster.
<input type="checkbox"/> We have put our torches and slippers next to our beds.	<input type="checkbox"/> We have learned that we should use our phones only for emergencies and radios and TVs to get information.
<input type="checkbox"/> We have learned the places of electric, water and gas valves and how to turn off them.	<input type="checkbox"/> We have completed this plan in and we have decided to go over our plan in every six months
<input type="checkbox"/> We have bought a fire extinguisher device for our home and learned how to use it. We have a smoke detector at home and we have been changing its batteries two times in a year.	
<input type="checkbox"/> We have planned to take or repeat a first aid course.	112 Emergency (Ambulance)
<input type="checkbox"/> We have prepared our first aid kit.	110 Fire brigade
<input type="checkbox"/> We have prepared our disaster kit. The places and the preparation date of disaster kit:	155 Police
<input type="checkbox"/> We have defined the evacuation ways from the building and marked them on the sketch.	177 Forest Fire
<input type="checkbox"/> We have finished "Hazard Hunt" at home.	156 Gendarmerie
<input type="checkbox"/> We have fastened the rollable furniture.	184 Health Consultation
<input type="checkbox"/> We have defined the secure places of our house.	114 Poison Consultation
<input type="checkbox"/> We have decided how to meet again.	187 Natural Gas
	158 Coast guard

Plan and get ready!
 Fill in this Family Disaster Plan with your family.
 Put one of its copies into your bag and the bags of each family member.
 And also, hang one of the copies to a visible place at your home.

Emergency Files

One of the preparations before an earthquake for a disabled person is to prepare his/her important personal files. These files can be exemplified as:

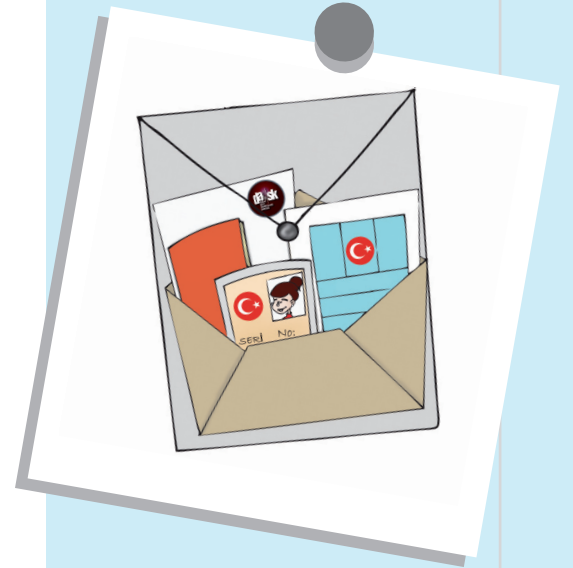
- Identity card, family records, documents of house, car, and bank, social insurance and medical documents, etc. and copies for similar documents.
- The copies of the documents that contain the information about the disability status of a disabled person (The detailed information about the medicines and equipments used should be included.).
- The copy of disabled identification card from the Prime Ministry Administration for Disabled People.
- A document which contains the contact addresses of support people and disabled person's doctor.
- If disabled person is using a kit, a written document which shows how to use that kit or device and if necessary the contact information of the supplier.

The list of these documents would vary from person to person and can change according to the disability status of a person. The documents should be prepared according to the worst scenario and for a disabled person the possibility of losing everything during and after an earthquake should be taken into account and the documents should be prepared according to this fact. The emergency files should be prepared in case disabled person is a child, an old person or mentally disabled. Copies of these documents should be shared with the people in support network. Documents should be kept in a water proof bag.

Emergency Kit

An emergency kit with disaster supplies which helps to survive after an earthquake should be prepared for a disabled person. Other than different personal needs the materials listed below might be added to the emergency kit:

- **Emergency files:** the prepared documents should be put in emergency kit in a water-proof bag.

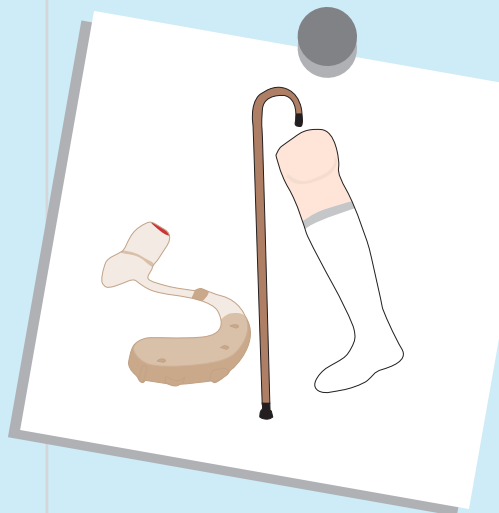




- **A written instruction for those who are going to help disabled person:** A written note should be put in the kit. This note should give the necessary information about how to help a disabled person and how to use medicines or personal devices in the kit.

- **If he/she takes medicine:** If a disabled person is taking specific medicines minimum one backup for them should be put in the kit. While determining the amount of medicine in the kit how difficult or easy it is to find medicines during an earthquake and the possibilities of surviving in difficult conditions after an earthquake should be taken into account. In addition to this for possible disasters like flu, cold, etc. extra medicines should be added to the kit as well. The expiration dates of these medicines should be checked all the time.

(For more information on survival in difficult conditions after an earthquake you can use “**Survival Under Extraordinary Conditions**” Training Book.)



- **The kits or devices (if any):** Specific devices that a disabled person uses should be considered as well. If the mentioned devices are not small enough to put in kit then they should be kept in a safe place close to the emergency kit.

For hearing impaired people extra hearing aid and batteries, for physically disabled people extra clothes or heaters, for visually disabled people walking stick or similar kits would be thought. It should not be forgotten that the personal needs of a disabled person (prosthesis, wheel chair, etc.) might not be among the first aid supplies that would reach after an earthquake.

- **Food and drink:** Certain amount of food and drink should be kept in the kit. Food and drink supplies reach faster to disaster-victims as oppose to other kind of materials. But if there are still specific food and drink supplies that can not be easily obtained by a disabled person herself/himself these should be put in the emergency kit, as well. Essential food supplies for a diabetic person in case he/she might have low blood sugar and extra foods for those who eat liquid pap can be given as an example.



- **A functional and handy flash light:** If the disability status of a disabled person is available, a flash light should be put in the emergency kit. Hearing impaired, physically and visually disabled people would use the flash light in their kits during the evacuation.

- **Other:** Many other supplies can be added to the kit according to the disability status of a person. These are:

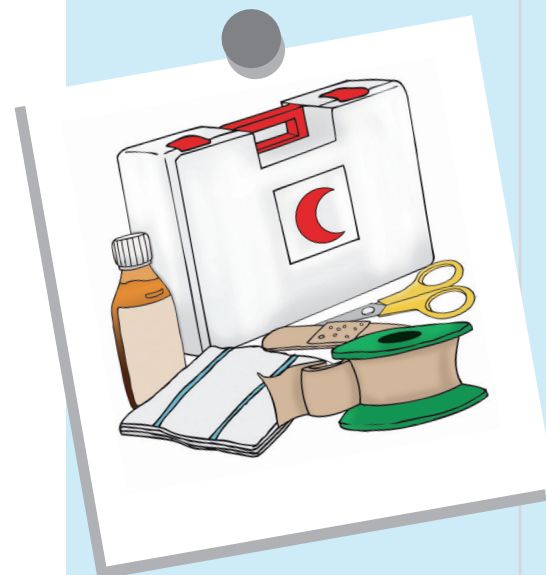
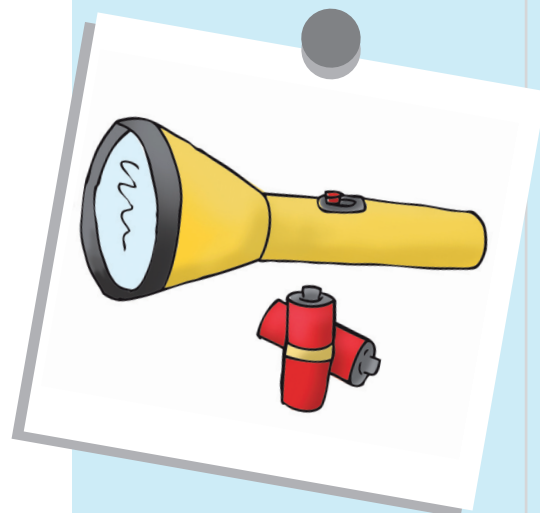
- Radio and batteries
- Audible sign devices like whistles, etc.
- A mobile phone with its SIM card and battery
- Hygiene supplies
- First aid supplies
- Cash
- Blanket
- Current photos of family members

This list would be expanded by specific additions according to the personal conditions and needs. In this preparation the worst scenario should be considered, also. For instance physically disabled people would have protective gloves or similar protective objects for broken glass pieces on their evacuation way in case they might find the way themselves. Those who use motorized wheelchairs should consider providing extra accumulator or tubes against possible harm to the wheels.

Those who are dependent on life-support units (respirator, dialyzer, etc.) should take additional precautions with his/her doctor's advice and should share these precautions with the people in support network.

Everybody at least the people in the support network should know the place of the emergency kit. This kit should be prepared more than one according to circumstance and should be kept in the usual places of disabled person, for instance one of them at home, and the other one at work. If disabled person is a child then special preparations should be done with school management in case an earthquake happens when he/she is at school (More detailed information about this topic is available in Disaster Emergency Aid Planning Guide for Educational Institutions.).

And while the emergency kit is being prepared, the weight of the kit which can be carried by everyone should be considered as well.



Structural Risks

Post disasters proved that a great majority of the houses we dwell in, the working places and public buildings are substandard in terms of foundation safety and building quality in other words they are not safe.

Being prepared and educated for an earthquake has a vital importance. But still dwelling in safe buildings is important for everyone but especially more important for disabled people.

We should urgently reconsider our houses, the buildings we are in, the floors and exit-evacuation ways. For instance, an orthopedically disabled person or his/her relatives should evaluate the house, school or working place and demand the necessary arrangements from the relevant managers and if there are long term problems he/she try to change them.

Structural risks can be divided in two:

1. Risks as a result of damaged nonstructural bearing components: Collapsing, falling and rolling of partition walls, removing of plasters, breaking of glasses, etc.
2. Risks as a result of damaged structural bearing components: If the earthquake safety level of structural bearing components of a construction (column, girder, partition, groundwork, and floor) is higher then the risk of loss of life and property is lower or vice versa. In case of such risks the capacity of the damage would be high, as well. Moreover the capacity of the damage may lead to the destruction of the construction.

In order to mitigate the loss of life and property during the possible earthquakes, the buildings with less earthquake safety should be retrofitted and rebuilt.

The safest way of mitigating the risks that an earthquake may cause on constructions is to dwell in the buildings which are designed according to proper groundwork and protected later on.

It should be careful about whether the buildings are earthquake-resilient or not. This rule is not only valid for the buildings where disabled people live but also for other buildings. The subjects below should be carefully handled within this scope:

- The occupancy permit of the building should be checked from the municipality.
- In case there are baker's, auto gallery or similar working places under the house the building project should be checked from the municipality to see whether there is any unauthorized improper structural change to enlarge the place or not.
- Especially the changes that might endanger the building safety should be checked (especially the changes on columns and girders).
- In case of any suspicious or necessary situation some help can be taken from professional associations related to TMMOB (Association of Turkish Architects and Engineers), the control operation has to be paid but life safety of the individual and his/her family are more important than the cost of this work.
- Householders should make the Compulsory Earthquake Insurance (CEI) for their places and should renew it ever year. CEI which is a kind of cost-efficient insurance guerdons material damage after an earthquake. In addition to CEI some other insurance programs that can provide security of life and property might be useful.



(For more information on structural risks you can use Structural Risk Mitigation Against Earthquake Training Book)

(For more information on construction and planning you can use Urban Planning and Construction for Disaster Mitigation Training Guides)

(For more information on Compulsory Earthquake Insurance you can use Compulsory Earthquake Insurance Awareness Training Book)



Non-structural Risks

In our living spaces, homes, schools or working places, we are faced with many other risks which are not directly related to the bearing system of the building. For instance, in Marmara Earthquakes many people are become disabled or died because of the furniture or glass works which are not fastened to the walls, and the rolling or falling of the structural components like ceiling floors and radiators.

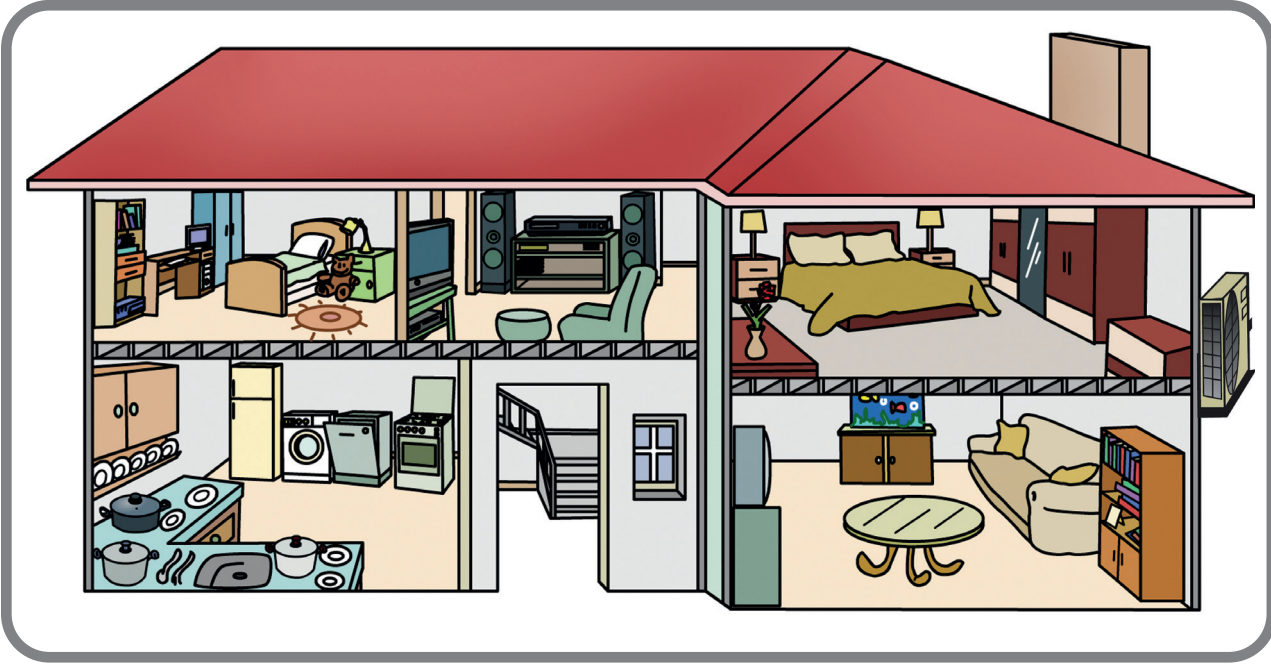


In our country minimum 50% of injuries and 3% of deaths in an earthquake happen as a result of non-structural factors in other words the risks due to the misuse of objects. In order to prevent the falling of the objects and injure us during an earthquake we can properly fasten them to the wall, ceiling or floor, we can fix or relocate them.

There are simple precautions for everyone for disaster preparedness and mitigation. The precautions for the objects at home not only help us for life safety but also protect us from difficult situations due to material loss. We can mention our proverb “What hurts the purse, hurts the soul” here. Although there is more information on nonstructural risks in Non-structural Risk Mitigation Against Earthquake Training Book some basic notes are added here:



- In order to prevent the explosion risk of the glass during earthquake, beds should be removed away from the windows, and the windows should be covered with film or thick curtains
- Big and heavy furniture (cabinets, shelves, bookcases, washing machine, briefcases in the working places, etc.) should be fastened to the wall and/or floor. A lath, etc. should be installed in front of the shelves and heavy objects should be placed to the lower shelves.
- Objects like heavy frames hanging on the wall should be removed away from the bedside and hanged to another wall with hook suspension anchors.
- The mirrors on the wall should be fastened to the wall with hook suspension anchors.
- Chandeliers and lamps should be fixed to the ceiling with locked hanging systems.
- Closets like kitchen cabinets with some breakable items in them should be fixed with locks or door latches. The unclosed shelf doors should be fastened in a closeable way.
- TVs should be fixed on the tables and the tables should be fastened to the walls in a safe way by taking into account the direct injury and fire risks by these devices.
- Heaters like stoves, radiators, water heaters and boilers should be fastened to the wall or floor.
- Anti-skid materials should be put under computers, other similar devices and under the shelves in the kitchen.
- Toxic and combustible items should be carefully kept in order to prevent them from breaking and mixing up.



You can provide the equipments for fastening the objects in the buildings from big construction markets.

The objects which have the falling risk out of the house should be checked and the necessary precautions should be taken. Apart from our buildings in all other living spaces the possibility of falling of tiles, bricks, flower pots, air conditioners, signboards, chimneys and glasses should be known and on such an occasion authorities should be informed. It should be careful about not to put flower pots in front of the windows and to set up the devices like signboards and air conditioners properly so that they would not fall during an earthquake.

Especially the objects on the evacuation roads at homes, work places or schools should be fastened and if fastening them is not possible then they should be relocated and the evacuation road should be all cleared of these risks. For instance, a cabinet should be relocated in case it would block the hall if it falls. While making the necessary changes the disability status of a disabled person should be taken into account, as well.

For those who use life support systems, fastening of these systems are especially important. For instance, while fastening an oxygen bottle it should be kept away from the objects that might cause a chemical interaction and fire.

Fire Risks

Fires are common hazards in our daily life. There is a high possibility of a fire breakout after an earthquake. It is enough to remember TÜPRAŞ RAFINERY fire after 99 Marmara Earthquake and the Kobe Earthquake in Japan. Many people have lost their lives because of the fires after the earthquake.



There are simple fire safety precautions that can be applied by everyone at their homes:

- Using smoke detector.
- Keeping fire extinguishers at home, schools or working places.
- Not to plug in too many electric appliance to a single socket.
- Not to leave the devices which might cause a fire on like gas or water boiler.

For detailed information you can use First 72 Hours for The Individual and a Family in an Earthquake Training Book.

Things to do during a fire can be summarized as follows:

- If you see the fire or the smoke or notice the burning smell immediately yell "Fire!" If you are hearing impaired or have speaking disability than warn the people around you by blowing a whistle.
- First your personal safety is important so move away from the fire scene.
- If the smoke or the burning smell is coming from another room, touch the door with the back of your hand if it is hot do not open the door because that might cause the spread of fire.
- Call the fire station (110).
- Try to be calm when you are making a fire call. Say the address (envelope address) in a calm and comprehensible way, give your name, surname and phone number correctly. If you know whether there is any person alive trapped in the fire place tell them to the officers.
- When you are evacuating the building calm down, do not cause any confusion and panic.
- Go to the emergency meeting places determined before and wait there.
- If your evacuation from the building is not possible then do not hide under beds or in cabinets but show yourself from the window to the people outside the building.
- In order not to be suffocated from the smoke try to proceed by crouching down. If it is possible breathe by covering your mouth and nose with a wet handkerchief or a piece of rag.



If possible, it is necessary to extinguish the fire in the beginning or to leave the fire scene safely. The most important thing during a fire is to maintain life safety. Nobody should be let to put his/her life in danger.

In case of fire risks some disabled groups should definitely learn how to use a fire extinguisher and how to act in a smoked-filled closed area as much as their disability status permits. If the status of a disabled person is available for improving and learning these skills, it is most appropriate for them to be ready for the fire risks.

First Aid During Disaster

First aid is a drugless practice which is applied with the available resources to the person whose life is in danger after an unexpected accident or a disease until the medical staff arrives.

The aim of first aid is to prevent the patient's or injured person's condition getting worse and to help him/her recover.

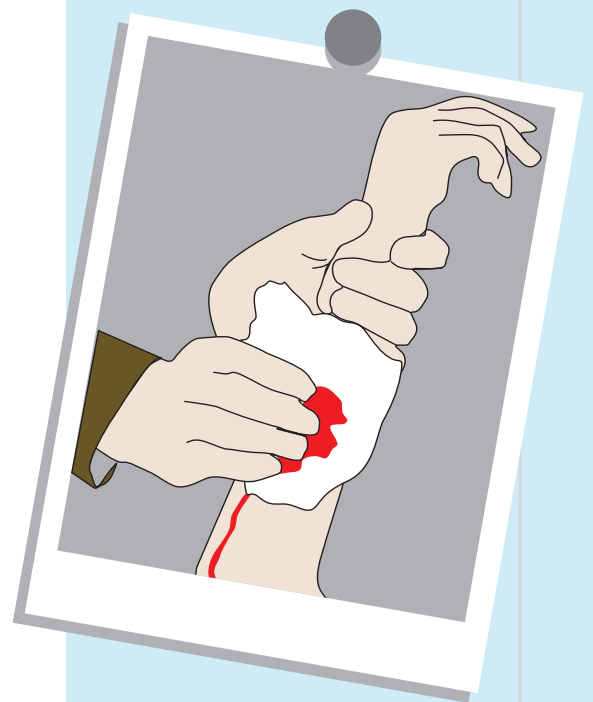
There is always a risk of an accident to happen. The people close to us are the ones who would help and apply first aid in case an accident or event happens. In order to apply first aid you should have training on this subject.

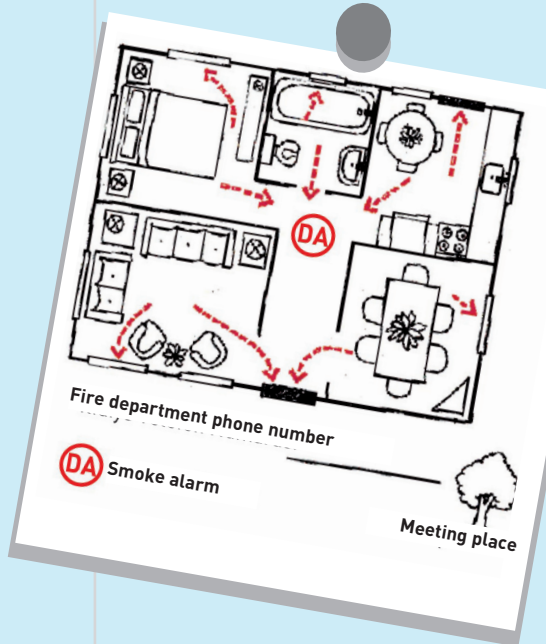
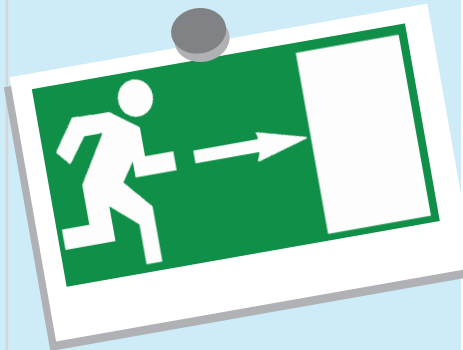
First aid training is not only necessary for disabled person himself/herself and/or his/her family and the people in support network in times of disasters but every time. In order to be useful for ourselves or our relatives in required conditions we should have first aid training.

(For detailed information on first aid training you can use Disaster Preparedness for Local Disaster Volunteers Training Book)

The proper treatments in first aid applications are summarized here:

Protection: If there are risk factors like fire, gas leak or high speed vehicles in the accident place first we should provide our and the patient/injured person's life security. In the event of an explosion or fire, the patient/injured should be moved away from the scene of the event and if it is not possible injured person should not be moved from his/her place.





The first step to be able to evacuate the buildings when it is required is to prepare an evacuation plan.

Informing: After providing the safety of ourselves and the patient we should call the emergency service (112).

Emergency numbers should not be called unnecessarily. In this way the people who really need first aid can reach the relevant officials when they call this number.

Rescue: It includes all the first aid practices applied to the injured people in the scene of event or accident. If there are more than one patient or injured person to decide which one is of first priority is very important. In this case a quick and right evaluation and the proper first aid application would help to save the life of patient or the injured person.

Drill

Disabled people should drill according to different scenarios. In these scenarios the situations whether the support network people would be with disabled person or not should be taken into account. Drills should include both the things should be done during an earthquake and the evacuation after an earthquake and should be practiced in the usual places (home, school, work place, etc.) of disabled person. Practicing them in different periods of time, for instance both in daytime and at night might be useful.

A disabled person should exercise how to direct the people who are going to help him/her in case the people in support network are not close to him/her. These people should be informed about the subjects below and should be directed in the correct way if the disability status allows it.

- How to evacuate himself/herself with brief instructions.
- How to save himself/herself if he/she is injured or trapped somewhere.
- To know what he/she would need if the emergency kit or the supplies are not with him/her.

For evacuation preparations first of all an exit plan should be developed. This plan should be done with the people in support network and the structure of the building should be taken into account during an earthquake. Emergency exists should be determined with their alternatives. While preparing an evacuation plan the possibilities that a disabled per-

son would be alone or with the support group in an earthquake should be considered as well.

During the planning process the meeting places of a disabled person and his/her family should be planned with their alternatives. Therefore a meeting place which is close to the usual places such as home, school or workplace should be chosen. Where and how to meet in different places for family members except from those places should be planned as well.

If disabled person is a child then the plans and drills should be made about the deliverance of the child from the school. And training disabled children about how to act during an earthquake has a vital importance.

Local Disaster Volunteers (LDV)

It is known that the first response after a disaster is from the people or the volunteers close to the region before the officials' arrival. If this response is consciously done it increases the survival rate and enables the rescue teams to reach the area and to response it and also reduces the problems (fire, chemical fallout, etc.) that are caused by the disaster.

Still those who want to help after a disaster would cause additional problems with their unconscious actions. In the cases where there are loss of life and property and bad effects on social life the will of humanitarian aid would not be enough but every unconscious action might lead to loss of life or injuries. The most important condition of emergency actions is to be organized, conscious and educated people for those who would apply emergency response.

In emergency actions there is the need of organized groups like the Local Disaster Volunteers (LDV) which has the features below:

- Informed about the disaster risks and the mitigation ways of these risks, have high disaster awareness and consciousness.
- Equipped with essential information and necessary equipments.



- LDVs that consist of the citizens who are capable of practising emergency actions within the first hours after a disaster should be organized in common groups that have connections beforehand.

These groups might include people like neighbours, apartment occupants, local craftsmen, colleagues, civil defence officials, families of response teams, scouts, etc.

Disabled person and his/her family should be informed about LDVs and should have their support.

- If there are Local Disaster Volunteers around you immediately become acquainted with them. Especially you should contact with LDVs close to your usual places, home, school and workplace.
- Inform LDVs about yourself. In order to get LDVs' help after a disaster first of all they should be informed about your existence and situation.
- Take part in the drills organized by LDVs and be a part of their emergency response plan.
- Inform LDVs about the disabled people in your family.
- Get help from LDVs about disaster preparedness, planning, evacuation and similar subjects.
- Include LDVs in your evacuation and drill plans.

LDVs are the volunteers who are trained and equipped with certain information and skills in order to help people in a disaster. We can consider LDVs as an important part of our support group.

(For more information on LDVs you can use Disaster Preparedness for Local Disaster Volunteers Training Book)

THINGS TO DO DURING AN EARTHQUAKE

It is important to know what to do during an earthquake in order to protect ourselves. It is known that getting panic and rushing to the stairs or balconies cause loss of life even in small earthquakes.

When the earthquake starts we need to act properly to protect ourselves in our place without being petrified or rushing around.

Fear and Panic

Earthquakes might be frightful but the fact that it may end in a short time should not be forgotten. We should not forget the number of the people who jumped out of their houses and badly injured or even killed after short and non damaging earthquakes in the past. Getting panic would just increase the damage by an earthquake.

They are mainly the non-structural risks which cause deaths and injuries in the damaged or non damaged buildings or the constructions which are not totally destroyed. In order to avoid such kind of risks Drop-Cover-Hold drill might be useful.

Drop-Cover-Hold

“Drop-Cover-Hold” drill is applied when there is an earthquake, air crash, landslide, bomb explosion or risk, thunderbolt, hurricane. For instance when the ground starts to shake or when there is a bomb explosion everybody should do this drill. The aim of this drill is to minimize target to get the less damage. Minimizing the target is minimizing our actions and staying as safe as possible in order not to be a clear target for the objects that might fall and injure us.

If you are indoors during an earthquake do not stand up and avoid doing the things listed below:

- Do not run around or rush out.
- Do not go out to the balcony.
- Do not use the elevators or the stairs.
- Do not jump out of the windows or the balconies.



Especially stay away from these points if you have not fastened them:

- Windows
- Doors
- Glass walls
- Bookcases
- Lamps
- Frames
- Flowers or flower pots hanging on the walls
- Shelves
- Cabinets
- Chemicals
- The working cookers or ovens
- High furnitures
- Loose structural components (chimney, suspended ceiling, radiators, etc.)

Then DROP and get under a sturdy object or go next to it take COVER facing back the windows and protect your head and nape against the objects that might fall. HOLD to the object to be able to move with it until the shake is over. Put your face on your arm that you are holding the object with and try to protect your face and eyes from the flying objects around you.

If you are in the kitchen and the cooker is on you should do these:

- When you feel the shaking turn off the cooker/oven/gas valve.
- And then do the Drop-Cover-Hold.

REMEMBER: During an emergency or disaster minimize the target by taking the most suitable Drop-Cover-Hold position and stay in the same position until there is no danger.

You can look at the table for the most suitable Drop-Cover-Hold positions according to your place during an earthquake.

To protect yourself during an earthquake

If indoors

- Calm down!
- Stay facing back the windows, if there is any
- Take your Drop-Cover-Hold position under or a near a sturdy desk or a table, if there isn't any desk or table under a wall away from the glass walls and the objects that might break, roll or fall.
- Do not use the elevators or stairs



If outdoors

- Stay away from buildings, trees, pillars, signboards, electric wires that might fall or roll on you.
- Drop-Cover-Hold on



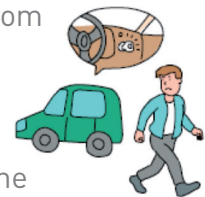
If a passenger in a moving vehicle

- Stay in your seat until the vehicle stops safely
- Tell the driver to stop the vehicle on the right of the road in a safe way ,away from a bridge, energy transmission lines, and traffic lights
- Take your Drop-Cover-Hold position where you stop.
- When the shaking stops check yourself and the people around you for possible injuries. Go to the meeting places that you have decided in the family disaster plan in previous pages quickly but without getting into panic.



If a driver in a moving vehicle

- When you feel the earthquake pull off and park the car away from the energy transmission lines, bridges and viaducts and turn off the engine. Do not cross the emergency lane.
- Do not leave your vehicle until the earthquake stops. Turn on your radio to get information.
- While you are leaving your car just be sure that you closed the windows. And leave the key on the car without locking the doors.
- Use neither your car nor somebody else's car for evacuation or transportation.



If trapped under debris

- Do not light a match, etc.
- Do not move around and kick up dust
- Cover your mouth with a handkerchief or your hand
- Later on, tap on pipes or walls in order to be located.
- You can use a whistle or a torch if one is available.
- Do not shout aimlessly, because you might inhale dangerous amount of dust and loose your voice.



Drop-Cover-Hold Drill

It is scientifically proven fact that with their Drop-Cover-Hold drill people have double chances of moving without getting into panic. Therefore to know how to protect ourselves is very important whether we are at home, school or workplace. If we drill what to do during an earthquake with our family, class or friends our reflex automatically may lead us to the right actions.

(For more information you can use First 72 Hours for The Individual and a Family in an Earthquake Training Book)

The moment of an earthquake is very difficult for disabled people just like everybody else. For this reason it is important for a disabled person to know how to act and to know how the people around them might help him/her during an earthquake. These should be considered for different disabled groups.

Physically Disabled

A physically disabled person should prepare a plan whether he/she can protect himself/herself and he/she should drill it at least mentally. If this person is alone during an earthquake then he/she should try to protect himself/herself according to the plan prepared beforehand. He/she should take a position according to the physical conditions of the place and his/her disability status. In this case the most important thing is not to get into a panic. The appropriate actions can be summarized as follows:

- If you are on a wheel chair do not throw yourself to the ground.
- Active the wheel brake and hold. Try to protect your head.
- If you are sitting then keep your place and try to protect your head if possible.
- If you are standing then sit or support your body not to fall and protect your head.
- Keep the special kits like prosthesis close to you at night.

If this person is using a life support unit and can not move he/she would need the help of the people around. In order to reduce the hazard during an earthquake for a person in this situation life support units should be fastened beforehand.



Mentally Disabled

Mentally disabled people can protect themselves or not based on their disability status. Those who can protect themselves should minimize target and take their Drop-Cover-Hold position when the shaking starts.

Exercising frequently with easy instructions is important to learn and understand this behaviour.

Those who cannot protect themselves or might have the possibility of involuntarily staying active or inactive in their places would need the help of the people around them during earthquake. For earthquake mitigation these people need to have a plan prepared beforehand. People in this group should have an identity bracelet that is mentioned before on their arms or necks.

Visually Disabled

A visually disabled person should ask for help if he/she is in an unfamiliar place and does not have a companion with him/her. This person would be able to protect his/her body by minimizing target and at the same time he/she would be able to protect himself/herself against the possible risks around with the help of his/her companion or the person who is going to help him/her. Whether he/she has a companion or not the hearing skill of a disabled person is his/her most powerful weapon during an earthquake. Because although he/she can not see the objects that can fall and collapse or can injure him/her in other ways he/she can hear the voices of the objects which foreshadow a hazard.

If the disabled person is a child then he/she would be in need of more help from the people around. In case he/she at school during an earthquake he/she should take his/her Drop-Cover-Hold position to protect himself/herself. In addition to this he/she should obey the instructions of the teachers or other officials.

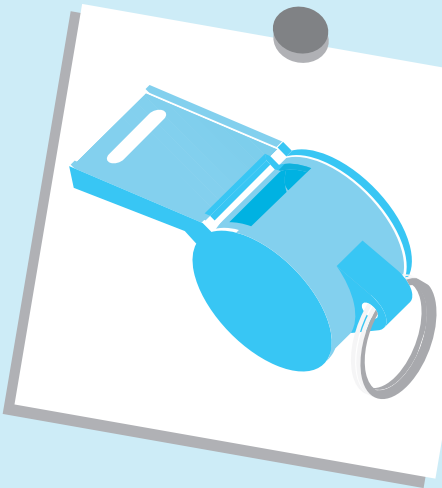
Regardless of their age and disability status it is important for a disabled person not to get into a panic. That's why; he/she should drill how to act in which conditions during an earthquake and emergency.





Hearing Impaired

A hearing impaired person should minimize target and take his/her Drop-Cover-Hold position during an earthquake. Unlike other people the most important subject that hearing impaired people should be careful about is while minimizing target and protecting their bodies they should be alarmed to the outside hazards with their eyes. The objects that might fall on them and the non-structural components are the biggest problem for these people. If the hearing impaired person is a child and is in school during an earthquake he/she should obey the instructions of the teachers and other officials.



Carrying a whistle or a similar device or keeping one close to him/her might be useful for a hearing impaired person to make the others aware of his/her existence and locate him/her.

Placing an illuminated sign which can be seen outside the house might be useful as a warning for the existence of a disabled person at home during a disaster.

THINGS TO DO AFTER AN EARTHQUAKE

Evacuation

Disabled people need to be evacuated from the buildings after the shaking stops. If a disabled person would not be able to evacuate the building on his/her own then the evacuation process should be done with the help of other people. The process would change for to the different disabled groups.

If you need to evacuate your house after an earthquake beware of these:

- Take your emergency kit with you.
- Contact with your support group.
- Act according to the announcements of the officials from loud speakers, radios or similar communication vehicles (Governorship of Istanbul Disaster Radio 103.0 MHz).
- Wear protective clothes and sturdy shoes.
- Take your personal belongings like medicines or identity cards with you.
- Lock the doors of your house.
- Use the evacuation roads decided by the officials.

It is safe to stay in if there is not any structural damage in the building after an earthquake.

If you have time during the evacuation process, do these:

- Turn off the electricity, water and gas.
- Inform the people you know about where you are going.
- Take precautions for your pets.
- Do not enter the building until you get the no risk announcement.

The subjects below should be paid attention according to the different disabled groups during the evacuation process:

Physically Disabled

should be careful whether there is anything that might cause a risk for them on their evacuation way or not. If it is required the alternative ways which are determined beforehand might be used. If the person is able to carry, the emergency kit should be taken as well.





If this person is not able to evacuate the building on his/her own then he/she might need help. The evacuation of a disabled person might be done in different techniques according to the disability status of a person, the conditions of the people who are going to help, and the size of the damage of a construction. An evacuation plan should be developed by taking into consideration the whole possibilities. For instance, a physically disabled person on a wheelchair might need to be evacuated without his/her wheelchair. Also, it should not be forgotten that people in life support units would need these units during the evacuation process. And not to carry the people who have respiratory distress with the fireman's carry technique which is seemingly an easier technique is one of the subjects that should be paid attention.

Mentally Disabled

The evacuation of mentally disabled people mainly depends on other people. Therefore, help of the support group is highly important for this group. Mentally disabled people would not be able to protect themselves and/or would get into a great panic during an earthquake and this might cause some problems during the evacuation process. Some evacuation drills should be done beforehand by considering all these possibilities. Volunteers who are going to help these people should take care of themselves during the evacuation as well.

If disabled person is a child and at school the help of the teachers and other officials might be needed for evacuation during an earthquake. If the students are evacuating the building hand in hand then mentally disabled students should be placed in different parts of this chain.

Visually Disabled

A visually disabled person might be alone or with other people in or out of the building. The evacuation techniques might be different according to the situation of the person during an earthquake. We should be aware of all of these different situations and act according to the predetermined evacuation plans for each different situation.

If a disabled person is in a building and with other visually disabled people (for instance at school), evacuation might be possible by developing a chain. In this technique the most experienced ones and/or those whose eyesight is better than the others are placed front, middle and back of the row and all disabled people take each other by hand. In this system placing those who can not see anything inner parts of the group would be better.

It should not be forgotten that the sense of hearing of visually disabled people is very developed. Therefore verbal instructions of a person during the evacuation process would be a good application. In order to prevent panic these verbal instructions should come from a single source rather than different sources.

It is better for a visually disabled person to remain in the same place if he/she is in an open area in an unfamiliar place. It would be difficult for him/her to go to another place. On such an occasion he/she might ask for help from the people in support group or from the closest professional response teams and the public bodies (police, headman, municipality and military forces, etc.).

Hearing Impaired

In many cases hearing impaired people might evacuate on their own. On such an occasion they should be careful about the objects that might cause a hazard for them. If the hearing impaired person is a child and at school in an earthquake then the instructions of the teachers and other officials should be obeyed during the evacuation.

A disabled person might need some support and help during the first few hours after the evacuation. This support and help would be from the people in support network, other disabled groups or local and volunteer response corporations.

If a disabled person is a member of an association for disabled people, etc. they should be contact with. This would be important to solve the possible problems of a disabled person after an earthquake.





Some disabled people might need a translator or a specific kit to get in touch with other people. Some help might be asked for this and similar cases from crisis management counter if it is possible. If it is not then the conditions of these people should be transmitted to the officials. Social Services and Child Protection Agency is one of the institutions which is ready to help. The people who provide rescue and medical services after an earthquake should always taken into account the conditions of disabled people during this process.



MY EMERGENCY INFORMATION CARD

My name : _____
My surname : _____
My address : _____
My blood group : _____
My usual medicines (if any) : _____
Medicines I am allergic to (if any) : _____
The operations I had (if any) : _____

Phones to call when I need emergency

Home phone : _____
Work phone : _____
School phone : _____
First degree relative name-surname / phone / mobile phone : _____
Second degree relative name-surname / phone / mobile phone : _____

Emergency Phone Numbers:

112 Emergency (Ambulance)	110 Fire Brigade	155 Police
177 Forest Fire	156 Gendarmerie	184 Health Consultation
114 Poison Consultation	187 Natural Gas	158 Coast Guard

Learn these emergency phone numbers and NEVER call them unnecessarily. REMEMBER that if you keep these phones busy people who are really in need of help would be helpless.

FREQUENTLY ASKED QUESTIONS

How many earthquakes happen in a year?

There are nearly 3.5 million earthquakes on earth each year. Only 1 million of them are recordable. The number of the earthquakes that are felt is only 50-60 thousand. There happen 800 earthquakes with medium magnitude (5.0-5.9) and cause less destruction. There are almost 120 large earthquakes (6.0-6.9) which cause more destruction every year. There are approximately 18 potentially destructive (7.0-7.9) earthquakes in a year and there is a disastrous earthquake (8.0-8.9) in every 10-20 years.

Are the earthquakes predictable?

The time and the magnitude of an earthquake is impossible to know like a weather forecast.

Where is the North Anatolian fault line?

It lies like an belt in east- west direction between Karliova in the east and Mureffe-Sarkoy in the west.

Which one is the biggest earthquake that is recorded on Turkey?

The biggest one that is recorded in the instrumental period is Erzincan Earthquake which has happened in 26 December, 1939. In this earthquake which happened at night approximately 33.000 people have died.

Which one is the biggest earthquake that is recorded on earth?

The biggest one that is recorded in Chile, in 22 May 1960 (9.5 magnitude).

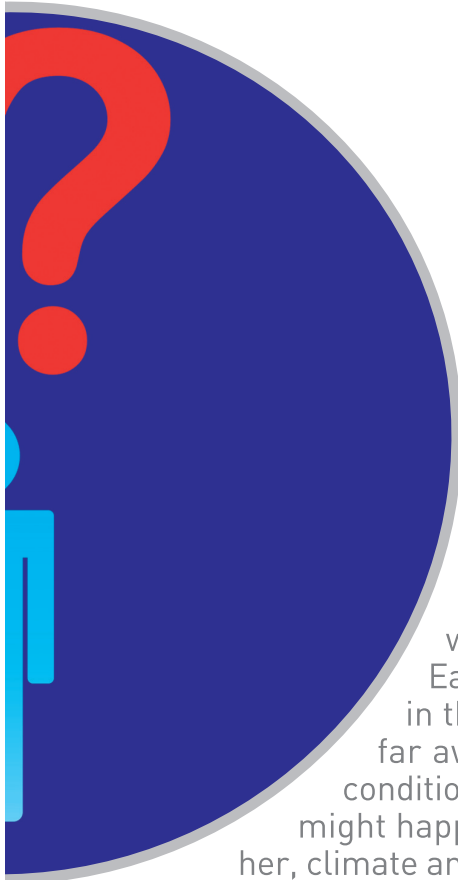
Which continent has the least earthquake?

It is Antarctic.

Do the earthquakes generally happen at night?

There is no certain time for an earthquake; it might happen day or night.





Is there something called “earthquake weather”?

There is no relation between the earthquakes and weather conditions. Earthquakes happen in the depths of earth far away from weather conditions. An earthquake might happen in every weather, climate and season. There is no need to worry about an earthquake by looking at the changing weather.

Is there an increase in the number of the earthquakes?

We are able to define the unfelt earthquakes with instruments called Seismograph. The places recorded earthquakes are called “observatories”(Kandilli Seismic Observatory). When we compare to the past years we are informed about more earthquakes now. Especially we are informed about the current news on the earthquakes that happen in the world after 1999 Marmara Earthquake. For this reason it is not proper to say “More earthquakes happen nowadays compared to the past.

Can we prevent earthquakes?

No, earthquakes are unbound and irresistible events. But we can mitigate the damage caused by them.

May some unidentifiable lights on the sky be a sign of an earthquake?

No. There are some earth origin lights which can be seen in the atmosphere but can not be identified. These beams of light would be seen on the world when there is no earthquake.

Is it possible when seven planets like Mercury, Venus, Mars, Jupiter, Saturn, Moon and Sun form a single line the big gravity force of these planets on earth might cause an earthquake by triggering off the faults?

Such kind of sequences happened before and will be in the future. There are no records which prove that the sequence of the planets has caused a disaster on earth in the past. Moreover it is often explained by the astronomers that this situation is not a subject of fear. There would be no difference if all the planets and stars form a single line and apply a gravity force on earth because they would not be able to apply the gravity force that the sun and the moon is applying on their own.

Are there air crashes after earthquakes or are there major earthquakes after air crashes?

Earthquakes and air crashes are uncommon events. It does not mean that there is a relation between them when one of them happens earlier or later. Just like to expect an air crash after an earthquake, it is possible to expect a kind of relationship between the events before and after an earthquake. But, such forced relationships established between the events which are observed in nature and predictions are nothing other than illogical prejudices and emotional obsessions.

Are the long and thin clouds a sign of an earthquake?

The nondurable, black and thin clouds are called as earthquake clouds. Still there is no earthquake prediction made by looking at the meteorological satellite images in these days. Since the "earthquake cloud" is in black colour it would not reflect the sun light. So there would be no clear detection from the meteorological satellite images which are taken in visible light. Finally, there are wrong/missing and conflicting information in the predictions which are made by looking the " earthquake clouds" in meteorological satellite images.



GLOSSARY

Emergency: the bad effects of a small hazard, which can be handled with local facilities, on life, property and environment. For instance, a house fire which can be extinguished by local fire department would be described as an “emergency”.

Disaster: the situations which the local facilities are not enough in coping with the bad effects of a hazard on life, property, environment, economy and cultural values. Natural events like earthquakes, floods, thunderbolts which require nationwide or international support and cause great loss of life and property are named as natural disasters.

Heavy damage: occurring of big fractures on the walls and the falling of the chimneys.

Active fault: the fault which was active at least for once and caused an earthquake for the past 10.000 years.

Flame: the visible part of burning.

Alluvial: the unbalanced sediments as a result of the materials like clay, silt, sand and gravel which are gathered in certain regions.

Main shock: the earthquake which happens between a foreshock and an aftershock and which is more destructive than the others.

Aftershock: the earthquakes which happen after the main shock and have less magnitude than the main one.

Concrete reinforced: a construction material which is made up of concrete and steel reinforcement materials together.

Mudflow: the downward mass movement of waterlogged soil and rock materials as a result of heavy rain from the mountain slopes and valleys in arid and semi-arid areas.

Earthquake hazard: it includes everything about an earthquake that might be dangerous for human life.

Earthquake: the trembling and shakings that happen on earth with the movements of the earth’s crust.

Seismicity: the distribution of the sequences and the magnitudes of earthquakes in a certain area.

Natural disaster: the disasters which are caused by some natural events like earthquakes, floods, avalanches and landslides, etc.

Infill wall: the components which are made up of hollow bricks in order to separate various places. They are not a part of the supporting system but have an important effect on the earthquake response of a construction.

Reinforcement: the steel constituent which helps the carrying process with concrete reinforcement in concrete components.

Energy: different energy types which can be turned into different forms but still

remain the same amount of total energy; the skill of doing.

Epicentre: the closest spot to the focal point on earth. This spot is also the place where an earthquake is felt strongest.

Stirrup: a horizontal reinforcement which is placed in gaps to prevent the disintegration of the concrete in concrete components by horizontally encompassing it.

Fault: the the breaks and moves that happen where the plates/weakness that form the crust.

Over ruin: the total destruction of the constructions.

Observation: measuring the physical activities like earthquakes, temperature, pressure or winds which happen on or above the surface of the Earth.

Light damage: cracking of plasters and removing of little plaster parts.

Balk: rectangular concrete components which are both produced in horizontal and vertical forms to enable the supporting walls act together in masonry buildings and to prevent weakness as a result of the spaces opened in the walls.

Landslide: movement of soil and/or rocks by sliding on a plane surface.

Hypothermia: reducing of the body temperature in a way that the normal muscle and brain functions would be damaged.

Hypocenter: the spot within earth where fault breaks and the energy of an earthquake occurs. Actually the focal point is not a point but a line/surface still it is accepted as a point in the applications.

Geophysics: it is the science which examines the physical properties and activities of earth.

Geology: the science which examines the structure and materials, historical development and the processes that shape the earth's crust.

Piled foundation: it is the type of foundation that is applied with the piles with high bearing capacity and extends to the stratum when there are tall building heights and very bad ground conditions.

Short column: the case in which some columns are shorter than the others in reinforced concrete buildings as a result of both architectural and structural applications and there is the effect of more force.





Girder: horizontal bearings produced in rectangular forms that combine the vertical bearings to each other in reinforced concrete buildings.

Column: vertical supporting components which have the similar size of plans in reinforced concrete buildings.

Corrosion: the loss of the characteristics of concrete components by rusting as a result of moisture and water.

Cure: the curing process of the removed plaster in order to regain its stability.

Magnitude: the amount of the energy that comes off during an earthquake. It is determined out from the records of the devices which record the earthquakes. Each earthquake has only one magnitude and it does not change according to the distance or other properties as in intensity.

Epicentre: the closest place to the focal point where an earthquake is felt strongest.

Focal depth: the shortest distance between the point where the energy of an earthquake comes off and the earth.

Focal point: the place where an earthquake happens under the ground.

Moderate damage: happening of little cracks on the walls, falling of big plaster pieces, slipping of bricks, little cracks on the chimneys and falling down of some parts of chimneys.

Foreshock: small shakings after the main shock. An earthquake is named as a foreshock on the condition that a larger earthquake happens in this area.

P-wave: it is the first wave that directly comes from the epicentre and arrives to the earthquake area in large earthquakes.

Partition: vertical bearing components whose ratio is seven in plan size in reinforced concrete buildings.

Raft foundation: the foundation type which is applied with a certain thickness when the constructions are higher and the ground conditions are not good enough.

Richter scale: the magnitude scale of the earth. It is the numerical scale of the energy released after an earthquake. Richter scales are used in order to measure the real size of earthquakes. This is called as "earthquake magnitude". The magnitude corresponds to an increase

of 30 times the amount of energy in each numbers. So there is 30 times energy difference between the earthquakes with 6.0 magnitudes and 7.0 magnitudes.

Risk: negative results caused by hazard. These results affect directly or indirectly life, houses, working places and their activities. Risks cannot be eliminated totally but it can be reduced. It is expressed as $\text{Risk} = \text{Hazard} \times \text{Vulnerability}$

S-wave: second wave that comes after P wave during an earthquake. It is a seismic wave that shake earth surface up and down as vertical to direction movement.

Liquefaction: due to effect of an earthquake, complete loss off the bearing capacity as a result of increasing space water pressure and acting as a liquid of water logged, fine grained sand and silty layers.

Seismic gap: one part of fault that has caused an earthquake in the past but seismically inactive now.

Seismograph: it is a device that detects and records seismic waves. An inactive stable mass is detected as the other part moves during an earthquake in most of seismographs. Some seismographs detect vertical movements as some detect horizontal ones. Marks of waves

are drawn on a mobile paper band with a vibratory pen. Arrival time is calculated between P and S waves. Time on a "seismograph" gives the distance between station and epicentre.

Seismography: the branch of science which examines how the earthquakes happen, how the seismic waves are transmitted in the earth, measuring devices and methods, evaluation of the records and other subjects related to earthquakes.

Seismology: the subdiscipline of geology which examines the formation of earthquakes, transmission of seismic waves, measuring and other subjects related to earthquakes.

Intensity scale: the scale that evaluates the intensity of an earthquake. In other words, intensity scales measure the reactions of animate and inanimate beings that are affected by an earthquake. When an earthquake occurs its effect on the area can be described by its severity. And the intensity of this earthquake is measured according to the intensity degree that the earthquake belongs based on the observations.





Intensity: it is the size of effect of an earthquake that occurs in any depth and felt on the earth. It depends on effects on physical structures and people. It based on observational data and standard scale prepared beforehand.

Evacuation: especially leaving and getting out away from area under threat.

Bearing component: a vertical or horizontal component that carries the vertical and horizontal forces that are effective on a construction.

Bearing system: the system as a combination of supporting components with the aim of carrying the external loads safely in a construction.

Hazard: events like earthquakes, floods, hurricanes, landslides, fires, explosions which might cause loss of life and property and restricts our daily lives.

Foundation: the bearing system that supports the building and enables the external loads to be passed to the foundation safely.

Triage: a coding and selection process of prioritizing patients and injured based on the severity of their condition in a phenomenon zone by healthcare organizations.

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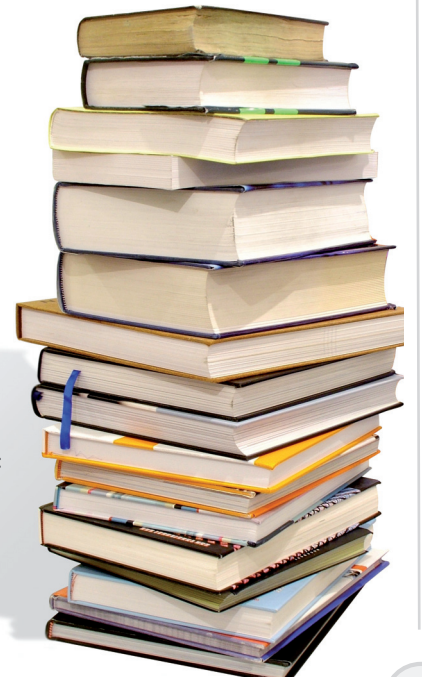
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<http://www.nobodyleftbehind2.org>

<http://www.prepare.gov>

<http://www.adaag.org>



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- Structural Retrofitting Against Earthquake
- Structural Risk Mitigation Against Earthquake
- Disaster Emergency Aid Planning Guide for Educational Institutions
- Disaster Emergency Aid Planning Guide for Healthcare Organizations
- First 72 Hours for The Individual and a Family in an Earthquake
- First 72 Hours for Disabled People in an Earthquake
- Disaster Emergency Aid Planning Guide for Industries and Working Places
- Survival Under Extraordinary Conditions
- Psychological First Aid in Disasters
- Disaster Preparedness for Local Disaster Volunteers
- Compulsory Earthquake Insurance Awareness
- Urban Planning and Construction for Disaster Mitigation
 - For Local Decision Makers
 - For Technical Staff
 - For Community Representatives



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A series of horizontal dashed lines spanning the width of the page, providing a guide for writing.

Take Step
1
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