

## **Safety Tip of the Month: How to Protect Yourself in the Event of a Natural Disaster**

Disasters come in many shapes and sizes. Most are related to weather. Some are predictable – like a hurricane. Some, like an earthquake, surprise us. It's good for all of us to know about the different kinds of disasters so we can be prepared. Although disasters themselves aren't fun, learning about them is!

### **Flooding**

Flooding happens during heavy rains, when rivers overflow, when ocean waves come onshore, when snow melts too fast or when dams or levees break. Flooding may be only a few inches of water or it may cover a house to the rooftop. Floods that happen very quickly are called flash floods. Flooding is the most common of all natural hazards. It can happen in each US State and territory.

#### **Important terms to know:**

- **Flood Watch or Flash Flood Watch** – This means flooding may happen soon. Stay tuned to the radio or television news for more information. If you hear a flash flood warning, talk to an adult immediately!
- **Flood Warning** – You may be asked to leave the area. A flood may be happening or will be very soon. Tell an adult if you hear a flood warning. If you have to leave the area, remember to bring your Disaster Supply Kit and make arrangements for your pets.
- **Flash Flood Warning** – A flash flood is happening. Get to high ground right away. Tell an adult!

#### **Safety Precautions You and Your Family Should Consider:**

- Stay away from floodwater. It may be contaminated (contain dangerous substances).
- Do not walk through moving water. It can knock you off your feet. If you must walk through water, walk where the water is not moving. Use a stick to test the ground in front of you.
- Stay away from power lines that are on the ground. You could be electrocuted.
- If you are scared, share your fears with an adult. Floods can be scary, but remember: The water ALWAYS goes away!

### **Hurricanes**

Hurricanes are severe tropical storms that form in the southern Atlantic Ocean, Caribbean Sea, Gulf of Mexico and in the eastern Pacific Ocean. Hurricanes gather heat and energy through contact with warm ocean waters. Evaporation from the sea water increases their power.

Hurricanes rotate in a counter-clockwise direction around an "eye." Hurricanes have winds at least 74 miles per hour. When they come onto land, the heavy rain, strong winds and heavy waves can damage buildings, trees and cars. The heavy waves are called a storm surge. Storm surges are very dangerous and a major reason why you **MUST** stay away from the ocean during a hurricane warning or hurricane.

### **Safety Precautions You and Your Family Should Consider:**

- Listen to the radio or television for weather updates and stay in touch with your neighbors about evacuation orders.
- Help mom and dad assemble your disaster supplies kit: Store extra water now! Check to make sure you have enough food.
- Storm shutters are the best protection for windows. If your house does not have them, help an adult board up windows with 5/8" marine plywood. Tape **DOES NOT** prevent windows from breaking!
- Bring in outside furniture. An adult should remove roof antennas, if they can do so safely.
- Help an adult shut off your utilities – water, electricity and gas.
- If you don't need to evacuate, be sure to **STAY INDOORS** during a hurricane. You could be hit by flying objects. Don't be fooled if there is a pause in the wind. It could be the eye of the storm, and the winds will come again.
- Avoid using the phone except for an emergency so the phone lines can stay open for others.
- Hurricanes can be very scary. If you are scared, be sure to talk to someone about it.

### **Tornadoes**

Tornadoes are nature's most violent storms. **Tornadoes must always be taken seriously. Tornadoes can be very dangerous -- sometimes even deadly.** They come from powerful thunderstorms and appear as rotating, funnel-shaped clouds. Tornado winds can reach 300 miles per hour. They cause damage when they touch down on the ground. They can damage an area one mile wide and 50 miles long. Every state is at some risk, but states in "Tornado Alley" have the highest risk. Tornadoes can form any time of the year, but the season runs from March to August. The ability to predict tornadoes is limited. Usually a community will have at least a few minutes warning. The most important thing to do is **TAKE SHELTER** when a tornado is nearby.

### **Important terms to know:**

- **Tornado Watch** – Tornadoes are possible. Stay tuned to the radio or television news.
- **Tornado Warning** – A tornado has been sighted. Take shelter immediately!

### **Safety Precautions You and Your Family Should Consider:**

- Listen to a radio or watch television for weather updates. If a tornado is coming you **MUST** seek shelter. An underground shelter is best, such as a basement or storm shelter. If you don't have a basement, find an inside room or hallway or closet on the first floor **AWAY FROM WINDOWS**.
- If you are at school during a tornado, listen and do what your teacher says.
- If you are outside and cannot get inside, lie flat in a ditch or ravine. Lie face down and cover your head with your hands.
- If you are in a car, take shelter in a nearby building.
- After a tornado, watch for broken glass and power lines that are downed. If you see people who are injured, don't move them unless they are in immediate danger. Call for help right away!
- Tornadoes can be very scary. If you are scared, be sure to talk to someone about it.

### **Thunderstorms**

While thunder won't hurt you, lightning will! So it's important to pay attention when you hear thunder. Thunderstorms happen in every state and every thunderstorm has lightning. Lightning can strike people and buildings and is very dangerous.

Thunderstorms affect small areas when compared with hurricanes and winter storms. The typical thunderstorm is 15 miles in diameter and lasts an average of 30 minutes. Nearly 1,800 thunderstorms are happening at any moment around the world. That's 16 million a year!

Despite their small size, all thunderstorms are dangerous. Every thunderstorm produces lightning, which kills more people each year than tornadoes. Heavy rain from thunderstorms can lead to flash flooding. Strong winds, hail and tornadoes are also dangers associated with some thunderstorms. You can estimate how many miles away a storm is by counting the number of seconds between the flash of lightning and the clap of thunder. Divide the number of seconds by five to get the distance in miles. The lightning is seen before the thunder is heard because light travels faster than sound. (Of course, get safe shelter first, before you take the time to count the seconds!)

### **Thunderstorms need three things:**

- Moisture to form clouds and rain.
- Unstable Air - relatively warm air that can rise rapidly.
- Lift - Fronts, sea breezes and mountains are capable of lifting air to help form thunderstorms.

Thunderstorms are most likely to occur in the spring and summer months and during the afternoon and evening hours but they can occur year-round and at all hours of the day or night. Along the Gulf Coast and across the southeastern and western states, most thunderstorms occur during the afternoon. Thunderstorms often occur in the late

afternoon and at night in the Plains states. Thunder and lightning can sometimes even come with snowstorm! During the blizzard of March 1993, lightning resulted in power outages near Washington, DC.

### **Things to Know:**

- When a storm is coming, look for darkening skies, flashes of light or increasing wind. Listen for the sound of thunder. If you can hear thunder, you are close enough to the storm to be struck by lightning. Go to safe shelter immediately! Find shelter in a building or car. Keep car windows closed and avoid convertibles.
- Telephone lines and metal pipes can conduct electricity. Unplug appliances and avoid using the telephone or any electrical appliances. (Leaving electrical lights on, however, does not increase the chances of your home being struck by lightning.)
- Don't take a bath or shower.
- Turn off the air conditioner. Power surges from lightning can overload the compressor and damage the air conditioner!
- Draw blinds and shades over windows. If windows break due to objects being blown by the wind of a storm, then the shades will prevent glass from shattering into your home.

### **If you are caught outside during a thunderstorm, you must act immediately:**

- If you are in the woods, take shelter under the shorter trees.
- If you are boating or swimming, get to land and find shelter right away!
- If you can, go to a low-lying, open place away from trees, poles or metal objects. Make sure the place you pick is not subject to flooding.
- Become a very small target! Squat low to the ground. Place your hands on your knees with your head between them. Make yourself the smallest target possible.
- Do not lie flat on the ground – this will make you a larger target!

### **Outdoor Lightning Safety Tips:**

1. The very first thing to do is to make a lightning safety plan with your parents and follow it.
2. Before going on a long hike be sure to check the weather forecast for the day.
3. When hiking: Assign one person to look for big puffy clouds that might be coming your way or growing. Have another person be in charge of spotting possible shelters all along the way in case you need them on the way back. A third person should watch and listen for lightning and thunder. (See "Flash to Bang" below) another person should be in charge of deciding when it is time to go back.
4. If you are caught in a thunderstorm, try to find a low place to stay in until the storm is over.
5. If you cannot find a shelter, get in to the "lightning safety position": Squat down near the ground with your heels touching and put your hands over your ears.

6. Do not go under a tree for shelter because, if you do, the lightning could hit the tree and travel under the ground or "splash" from the tree and hit you.
7. If you are playing outside and get caught in a thunderstorm, seek shelter in a nearby building or enclosed car (with the windows rolled up).
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#### **Indoor Lightning Safety Tips:**

1. During a thunderstorm, stay away from anything that is metal (yes, even the refrigerator) because lightning can come into the house through wires and pipes.
2. When there is a thunderstorm outside do not stand near the windows.
3. Don't take a shower or bath when there is a thunderstorm.
4. Never use the phone during a thunderstorm and if the phone rings, don't answer it. Lightning could hit the phone line, travel through the line and zap you through the phone. Some people have died that way. Portable phones aren't connected to wires, but lightning could still cause a loud "pop" that could hurt your ear.
5. A metal Franklin stove/fireplace with a metal chimney could also provide a path for lightning to enter your house.

#### **Things to watch out for:**

- If you are outside and you can hear thunder then the storm is close enough to be dangerous.
- If you and a friend are outside someplace, and you see your friend's hair start to stand up, you are in danger! You could also feel prickles on your skin. The reason that you are in danger is that a lightning charge is building up somewhere very close by. Lightning may strike any second and you could be hit by lightning and be badly injured or killed.

#### **What to do if someone is hit by lightning:**

1. It is not dangerous to touch someone who has just been hit by lightning.
2. If someone is hit by lightning and there is still thunder take the person to a nearby shelter (a building or car).
3. Once the person is in a safe place, send for help.
4. If the person is not breathing, CPR must be done immediately.

#### **What are safe shelters, and what are not safe shelters?**

- Buildings or cars (not convertibles and be sure that the windows are closed) are the safest place to be during a thunderstorm. If there is not a building or car near you, a ditch, ravine or a deep cavern might be safer than being out in the open.
- Standing under a tree is not a safe place to be in a thunderstorm. It may keep the rain off you but if lightning hits the tree, it might kill you.
- You may have heard that if you can't find a shelter, you should lie down flat on your stomach. Well, doing that is not safe at all! If lightning hits someplace near

you and travels through the ground, it could enter your whole body and electrocute you. Instead, get into the "lightning safety" position.

### **What to do if you are on a sport team:**

If you are on a sport team and there is a thunderstorm during a game, what should you do? Should you tell your coach or the person in charge that the team should get off the field? If the coach says it is just a little rain and not to worry about it, should you leave anyway and take shelter? This is a serious question. You could get kicked off the team if you leave, but your life is more important than the game. In 1999, a whole soccer team was killed by lightning in Africa, and a whole football team was injured by lightning in Colorado. Discuss this question with your parents and with your coach and team *before* the season begins.

### **"Flash to Bang"**

"Flash to bang" is a way to measure how far away the lightning strike is. The sound of thunder can travel one mile in five seconds. So if you see the lightning strike and hear the thunder ten seconds later, you know the lightning is two miles away. Scientists say that if you are less than six miles away, you are in the high danger zone. Scientists know that lightning can strike several miles away from a storm cloud.

### **Earthquakes:**

Earthquakes are the shaking, rolling or sudden shock of the earth's surface. Earthquakes happen along "fault lines" in the earth's crust. Earthquakes can be felt over large areas although they usually last less than one minute. Earthquakes cannot be predicted – although scientists are working on it!

Most of the time, you will notice an earthquake by the gentle shaking of the ground. You may notice hanging plants swaying or objects wobbling on shelves. Sometimes you may hear a low rumbling noise or feel a sharp jolt. A survivor of the 1906 earthquake in San Francisco said the sensation was like riding a bicycle down a long flight of stairs.

The intensity of an earthquake can be measured. One measurement is called the Richter scale. Earthquakes below 4.0 on the Richter scale usually do not cause damage, and earthquakes below 2.0 usually can't be felt. Earthquakes over 5.0 on the scale can cause damage. A magnitude 6.0 earthquake is considered strong and a magnitude 7.0 is a major earthquake. The Northridge Earthquake, which hit Southern California in 1994, was magnitude 6.7.

### **Safety Precautions You and Your Family Should Consider:**

- The most important thing to remember during an earthquake is to DROP and COVER. Drop and cover means to DROP to the floor and get under something for COVER.

- If you are indoors during an earthquake, keep calm and take cover under a heavy table or desk. Stay away from glass, windows or anything that could fall, like a bookcase.
- If you are outdoors, move away from buildings, street lights and utility wires. If you are in a crowded public place, do NOT rush for the doors. Everyone will be doing that. Instead, take cover under something heavy and stay away from things that could fall on you. Stay calm. Do not get in an elevator during an earthquake!
- After an earthquake, be prepared for after shocks. After shocks are follow-up earthquakes that are usually smaller than the first one. They are dangerous because they can cause things that are weakened in the first earthquake to fall down.
- If you are home and you smell gas or hear a hissing or blowing sound, open a window and get out of the building right away. It may mean that a gas line in your house has been broken. Tell your parent(s) or another adult.
- Make sure you are wearing shoes after an earthquake. There may be broken glass on the ground and inside your home.
- If you are scared, share your fears with an adult. Earthquakes can be scary, but remember, they only last a few seconds.

### **Wildfires:**

Wildfires are a danger for people who live in forest, prairies or wooded areas. These fires are sometimes started by lightning or by accident. They can move very fast and burn many acres. Remember: If there is a wildfire near you and your family is told to evacuate – go right away! And remember to bring your pets with you!

### **Winter Storms:**

In many areas of the country, the winter months bring heavy snowfall and very cold temperatures. Heavy snow can block roads and cause power lines to fall down. The cold temperatures can be dangerous if you are not dressed correctly.

### **Important terms:**

- **Freezing rain** – Rain that freezes when it hits the ground, creating a coating of ice on roads and walkways.
- **Sleet** – Rain that turns to ice pellets before reaching the ground. Sleet also causes roads to freeze and become slippery.
- **Winter Weather Advisory** – This means cold, ice and snow are expected.
- **Winter Storm Watch** – This means that severe weather such as heavy snow or ice is possible in the next day or two.
- **Winter Storm Warning** – Severe winter conditions have begun or will begin very soon.
- **Blizzard Warning** – Heavy snow and strong winds will produce a blinding snow, near zero visibility, deep drifts and life-threatening wind chill factors.
- **Frost/Freeze Warning** – Below freezing temperatures are expected.

**Be prepared for winter storms by having:**

1. A battery-powered radio with extra batteries.
2. Extra food that doesn't need cooking (like canned food).
3. Rock salt to melt ice, and sand to improve traction.
4. Flashlights and battery-powered lamps (if the electricity goes off).
5. Wood for your fireplace (if you have one).
6. If you go out in very cold weather, dress in several layers of clothing. Mittens are warmer than gloves, and you should wear a hat and cover your mouth with a scarf to protect your lungs from the cold air. Watch for frostbite. (Frostbite happens when your skin is exposed in very cold temperatures or you are not dressed warm enough. You will have a loss of feeling – usually a finger or toe or the tip of your nose – and it may turn white or pale. If this happens get help right away!)

**The Importance of Having a Disaster Supply Kit**

Every family should have a Disaster Supply Kit in their home. The kit will help you and your family during a disaster. In a hurricane or earthquake, for example, you might be without electricity and the water supply may be polluted. In a heavy winter storm or flood, you may not be able to leave your house for a few days. In times like this, you will need to rely on yourself. Your disaster supply kit will make it easier. Remember: Your family will probably never need to use your disaster supply kit, but it's always better to be prepared.

**Disaster Supply Kit Contents:**

1. Storing water is one of the most important things you can do. In an emergency, pipes may be broken or the water contaminated. (Contaminated means it is not safe to drink.) Store water in plastic containers. Plastic soft drink bottles are good! Don't use milk cartons or glass bottles. You should have a three-day supply of water. You will need at least two quarts of water for each person in your house for each day. You will also need two quarts per person per day for cooking and hygiene (like brushing your teeth). That means you will need four quarts for each person -- which is one whole gallon! And don't forget extra water for your pets! You need to multiply one gallon times the number of people in your house and then multiply that number by three to get the total gallons you'll need. Stored water needs to be treated to make sure it will be safe to drink when you need it. You can do this by adding four drops of bleach per quart of water. Have an adult do this for you. The liquid bleach should have 5.25 percent sodium hypochlorite and NO SOAP! Seal all bottles tightly so they don't leak.
2. You will need a three-day supply of non-perishable food. Non-perishable means food that can stay good for a long time without needing to be in the refrigerator. It is also good if the food doesn't need to be cooked. Here are some suggestions: ready-to-eat canned meats, fruits and vegetables; canned juice, milk and soup; sugar, salt

and pepper; high-energy foods like peanut butter, jelly, crackers, granola bars and trail mix; vitamins; fun foods like cookies, hard candy, lollipops, instant coffee and tea; special food for babies or older people. The food should be kept dry and cool. Cookies, crackers and other items should be put in plastic bags.

3. Everyone in your house should have a complete change of clothes and a pair of sturdy shoes or boots stored in the disaster kit. You should also have rain gear, thermal underwear and blankets or sleeping bags.

### **First Aid**

Ask your mom, dad or another adult for help in locating or creating your first aid kit. These are the things your first aid kit should have:

- Sterile adhesive bandages of different sizes
- Sterile gauze pads
- Hypoallergenic adhesive tape
- Triangular bandages
- Scissors
- Tweezers
- Sewing needle
- Moistened towelettes
- Antiseptic
- Thermometer
- Petroleum jelly
- Safety pins
- Soap
- Latex gloves
- Sunscreen
- Aspirin or other pain reliever
- Anti-diarrhea medicine
- Antacid
- Syrup of Ipecac
- Laxative
- Activated charcoal

### **Kids Activity Survival Kit**

You may have to leave your house during a disaster and may sleep somewhere else for a while. It's smart to put together your own Kid's Activity Survival Kit so you will have things to do and share with other kids. These can all be stored in a backpack or duffel bag. Just make sure you can carry it easily. Some suggested items for your Activity Survival Kit:

- A few of your favorite books.

- Crayons, pencils or marking pens and plenty of paper.
- Scissors and glue.
- Two favorite toys such as a doll or action figure.
- One or two board games.
- A deck of cards.
- A puzzle (One with lots of pieces is good – it takes a long time to do!)
- Small people figures and play vehicles that you can use to play out what is happening during your disaster – such as ambulance, fire truck, helicopter, dump truck, police car, small boats.
- Favorite stuffed animal or puppet.
- Favorite blanket or pillow.
- Pictures of the family and pet.
- A "keep safe" box with a few treasures that make you feel special.

*Information courtesy of FEMA*