

By Stephanie Stephens

how safe would you be?

What your family needs to know if disaster strikes



Teresa Palazzo, 38, and children Nicole, 7, and Michael, 13, are grateful for the tornado safety precautions they took in advance.

WHEN TERESA PALAZZO OF ARLINGTON, Texas, attended a safety fair at her children's school, she hoped she'd never have to use the information she learned there. New to Texas and faced with the start of tornado season in a town at the southern end of Tornado Alley, Teresa queried Anita Foster of the local American Red Cross chapter about proper precautions.

When she left the fair, Teresa silently promised that her family would practice what to do if faced with the real thing.

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They designated the hallway linen closet as a safe place, stocking it with flashlights, cell phones and extra batteries. Ten days later, on March 28, 2000, she and her children, Nicole, 2, and Michael, 8, were caught at home as an F3 tornado approached. As it came nearer and nearer, Michael urged them to take cover. He and Nicole huddled in the closet with Teresa just outside, covered with a mattress. “My son kept saying, ‘Just hold on, Mommy, please hold on. It’ll be over soon.’ I was too terrified to look,” she says. When she finally did, she saw her roof was gone and some of her rooms were reduced to rubble.

Be Prepared

The venerable Scouts’ motto takes on renewed importance when we’re faced with natural threats to our safety and security. No region of the United States is immune to them all. Every year, floods cause the most deaths of all the natural disasters, with tornadoes and lightning tying for second place.

In such situations, timing is everything. Events like earthquakes and flash floods strike without warning, and tornadoes strike in minutes, though wildfires and hurricanes have

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► **Special Report** Continued from page 196

a longer time span for preparation. You can ensure your family's safety by creating a sound plan, including a premade emergency supply kit (see below) and list of disaster-specific actions. Most disasters have common traits, and you won't need a separate kit for earthquakes and tornadoes, but your response to various events will be different, says Renita Hosler, American Red Cross manager of response communication in Washington, D.C. "Ask yourself hard questions now, then take preventive action," she says. "If something happens tomorrow, what will we do? Who will we call?"

You'll find information on specific disasters below, but there are precautionary measures that apply to them all. Prepare for different scenarios. For instance, you may find yourself confined to your home or forced to evacuate it. Each situation requires a separate plan. If confined, you'll want to move to an interior area with the fewest number of doors or windows. Listen to a battery-operated radio for updates.

If you must leave, where will you go? Pick two places in advance for family to meet, like right outside your home or outside the neighborhood if you can't return home. Ask an out-of-state relative to serve as a contact should you become separated. Make a plan for your pets—many public shelters don't permit them. Remember all the details, such as keeping a full gas tank in your car.

Use government sources, such as the Centers for Dis-

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ease Control and Prevention (www.cdc.gov) and the Federal Emergency Management Agency (www.fema.org), as well as the American Red Cross (www.redcross.org), to inform your decisions. Local government offices can provide information specific to your city. It's important to make sure that your whole family is knowledgeable about your prep plans as well as basic information such as when to turn off the gas or electricity, when to call 911, and which radio stations offer emergency news.

"If your three-year-old hears a smoke alarm, it doesn't mean anything to him unless you've explained it," says Michael D. Brown, undersecretary of homeland security for emergency preparedness and response and director of FEMA. He suggests making a visit to the local fire department. "Firefighters will even put on protective gear to demonstrate what happens, because during a fire a child who sees a dressed firefighter might think he's a monster, not someone who's there to save him," Brown says.

basic safety supply kit

● First aid kit and essential medications

● Cash and credit cards

● Canned food and nonelectric can opener

● At least three gallons of water per person (one gallon per person for three days)

● Protective clothing (sturdy shoes), rainwear, bedding or sleeping bags

● Battery-powered radio, flashlight and extra batteries

● Special items for infants, elderly or disabled family members

● Supplies, carriers and food for pets (also, identify a location that accepts them if a shelter won't)

Take action

We tapped the American Red Cross and the Centers for Disease Control and Prevention for advice about managing the disasters you're most likely to encounter.

Hurricanes

A hurricane is a tropical storm with winds reaching speeds of 74 miles per hour or more. The calm eye can be 20 to 30 miles wide, but a storm may extend outward several hundred miles. Toward the end of last summer, four sequential ones in Florida illustrated the havoc these storms can wreak. Together, Charley, Frances, Ivan and Jeanne damaged more than one of every five Florida homes, costing billions of dollars in federal aid and private insurance.

Atlantic and Gulf coasts from Texas to Maine are most vulnerable, but a storm can extend over land for hundreds of miles. Hurricanes can spawn secondary disasters including tornadoes, floods and landslides. A *watch* means a storm may arrive; a *warning* means get ready—a hurricane is expected, usually within 24 hours. **What to do:** Hurricane season is officially June 1 to November 30. Know safe routes from coastal areas to places further inland or out of the path of the storm. Protect your windows with shutters or have prefitted plywood prepared for quick coverage. Make sure trees don't lean against your house and trim dead branches. During a watch, bring in outdoor objects like lawn furniture. If a warning is issued and you haven't evacuated, stay inside, away from windows. If you leave, beware upon your return of insects and animals driven to higher

Special Report

Continued from page 198

ground. It's critical to check for gas leaks and damage to power and water lines.

Floods, Flash Floods

Floods are the most common natural disaster after fire, and can occur in all 50 states. Investigate insurance for your property (many mortgage lenders require it along with homeowners' unless you obtain specific certification). Swiftly moving water can knock down people, while flash floods can tear out trees and destroy buildings. Walls of water can reach heights of several feet, accompanied by deadly debris. **What to do:** If it's been raining steadily, be alert. A *watch* means a flood is possible; a *warning* means it is already occurring or will soon. During a watch, move valuables to higher floors. Follow the news—if told to evacuate, do so right away, moving to higher ground. If your car stalls in rapidly rising water, abandon it and climb to higher ground. Cars can be swept away in just two inches of water.

Tornadoes

These violent windstorms, characterized by a twisting, funnel-shaped cloud, can

form in any state, but are more frequent in the Midwest, Southeast and Southwest. Damage results from wind speeds as high as 300 miles per hour and wind-blown debris. The season is usually March through August, but tornadoes can occur year-round. They are most common in the afternoon or evening, near the edge of a thunderstorm. They touch down quickly and can remain for several minutes. A *watch* means that conditions favor development; a *warning* indicates a sighting. **What to do:** If inside, go to the basement. If you can't, go to an inner hallway or small room without windows, like a bathroom or closet, as the Palazzos correctly did. Steer clear of windows and corners. If you can't get indoors, lie flat in a ditch. If in your car, never try to outdrive a tornado.

Lightning

In the United States there are an estimated 25 million cloud-to-ground lightning flashes each year, killing directly or indirectly more than 60 people on average. Lightning has the potential to cause the most damage through starting forest fires, especially in the West, though storms occur most often in central and southern states. **What to do:** Beware

The 2004 Tsunami Disaster

The Indian Ocean tsunami of December 26, 2004, was the most devastating in recorded history. (See "How one family saved 50 lives," page 155.) Scientists at the United States Geological Survey estimate that it released the energy of 23,000 Hiroshima-caliber atomic bombs, killing nearly 300,000 and leaving hundreds of thousands homeless and vulnerable to disease and famine.

A tsunami is a series of waves caused by an underwater disturbance like an earthquake, landslide or volcanic eruption. No matter the cause, a tsunami can move hundreds of miles per hour in the open ocean and hit land with successive waves, raising the water level 100 feet or more. If you see one approaching, know that the first wave in a series could reach the beach in minutes, before there is time even to issue a warning. Low-lying areas less than 25 feet above sea level and within a mile of the shoreline are at greatest risk. Drowning is the

most common cause of death, but flooding, contamination of drinking water, and fires also pose later dangers.

Could something like this happen here? Consider history. Scientists' records show that 28 tsunamis having hit our West Coast since 1812. The most famous Atlantic tsunami occurred in 1755 due to a Portuguese earthquake. During the 20th century, 221 people were killed by tsunamis reaching Hawaii. A 1964 earthquake in the Gulf of Alaska caused one that killed 123 people.

Who's keeping tabs on tsunamis? There is a Tsunami Warning System comprised of 26 member states and countries along the Pacific. "Ocean surface and bottom buoys send signals to satellites, which are then evaluated by scientists," says Carolyn Bell of the USGS. "Member countries are notified. Then they must have a system to inform the public, and then they must do something. It's difficult

dark, threatening clouds and distant lightning or thunder. The National Weather Service will issue a *severe watch* when conditions support lightning, and a *warning* if a storm has been sighted. If inside when lightning strikes, don't handle electrical equipment, especially televisions or phones. Avoid

bathrooms, faucets or sinks, which transmit electricity. Outside? Enter a building or car. If you can't, locate open space and squat low to the ground, hands on knees—don't lie flat. Avoid tall structures, such as trees, and natural "lightning rods" like golf clubs and bodies of water. If driving, pull over and stay in the car, emergency flashers on.

Earthquakes

An earthquake is a sudden, rapid shaking of the earth that can trigger landslides, fires and huge ocean waves, like the tsunami disaster in southern Asia. All states are vulnerable, but Alaska and California have the most.

What to do: If you live in an earthquake-prone area, reduce potential damage permanently by fastening

because this doesn't happen every day." Bell cites research showing that, unfortunately, it takes about two years following such a disaster for people to forget about the possibility of a recurrence. Various government organizations are currently working to improve and upgrade a tsunami warning system for our country "that will expand beyond the Pacific Ocean system to include the Caribbean and Atlantic, and will feature an extensive public education program," says Bell.

But until then, rely on your own common sense. If you feel a coastal earthquake, go inland to the highest ground you find and listen to the radio. If the ocean recedes noticeably (a major warning sign), move as fast as you can. A series of waves may hit, so don't be tempted back after just one. A small wave may strike one beach while a huge wave can pound another nearby, and rivers may rise significantly.

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shelves to wall studs. Stow objects that could be hazards in low, closed cabinets. Hang heavy items away from where people sit or sleep and brace overhead light fixtures. During a quake, get cover under heavy furniture and hold on. Stay away from walls of buildings since most casualties result from collapsing walls, flying glass and falling objects. If outside, move away from buildings, streetlights and utility wires and crouch low to the ground. In a car, stop driving and stay inside. Assess bridges or ramps for their stability when you proceed.

Fire

It may surprise you that more people die in home fires than from all natural hazards combined. Frequently occurring between midnight and morning, fires are the disaster families are most likely to face. About 84 percent are unintentional, caused by poor wiring or careless behavior. Suffocation is the leading cause of death. **What to do:** Install smoke alarms and frequently check the batteries. Identify two escape routes and practice them (try it blindfolded and staying low to the ground). If your house is multistoried, learn to use a collapsible ladder. Don't store combustibles in dangerous locations, such as near a furnace, and check electrical wiring. Remember the phrase "stop, drop and roll" from elementary school? If clothes catch fire, it still applies. Make getting your family out top priority—wait to call 911 from outside. When escaping, feel doors with the back of your hand; if warm, use another exit. Close doors in each room as you leave. Try to use stairs, but if you can't, open a window to escape or while awaiting rescue.

No matter what the disaster, act now to ensure a safe recovery. There's never been a better time to prepare. You'll have yourself to thank. **FC**