



LIGHTNING

Safety Tips



All thunderstorms produce lightning and are dangerous. Lightning kills more people in this country each year than tornadoes.

Lightning is the result of the building and discharge of electrical energy. When the buildup becomes strong enough, lightning appears as a "bolt." This flash of light usually occurs within the clouds or between the clouds and the ground. The air in a lightning strike is heated to 50,000 degrees Fahrenheit. It is this rapid heating of the air that produces the shock wave that results in thunder.

Outdoors is the most dangerous place to be during a severe thunderstorm.

- Be aware. Listen to NOAA Weather Radio or your local TV and radio station for the latest severe thunderstorm watches and warnings.
- Severe thunderstorms are those storms with winds in excess of 58 mph or hail larger than 3/4 inches in diameter. When conditions are favorable for severe weather to develop, a severe thunderstorm watch is issued by the National Weather Service.
- If severe thunderstorms and lightning are forecast, plan an alternate activity or know where you can take cover quickly.

SEEK SAFE SHELTER

A house or other substantial building offers the best protection from lightning. For a shelter to provide protection, it must contain a mechanism for conducting the electrical current from the point of contact to the ground. These mechanisms may be on the outside of the structure, contained within the walls of the structure, or a combination of both. On the outside, lightning can travel along the outer shell of the building or may follow metal gutters and downspouts to the ground. Inside a structure, lightning can follow conductors such as the electrical wiring, plumbing, and telephone lines to the ground.

AVOID UNSAFE SHELTERS

Unless specifically designed to be lightning safe, small structures do little, if anything, to protect occupants from lightning. Many small open shelters on athletic fields, golf courses, parks, roadside picnic areas, schoolyards and elsewhere are designed to protect people from rain and sun, but not lightning. A shelter that does not contain plumbing or wiring

throughout, or some other mechanism for grounding from the roof to ground is not safe and should be avoided during thunderstorms.

IF YOU ARE OUTDOORS

- Keep an eye on the sky. Look for darkening skies, flashes of lightning, or increasing wind, which may be signs of an approaching thunderstorm.
- Listen for the sound of thunder. Even when the sky looks blue and clear, be cautious. Lightning can travel sideways for up to 10 miles. If you can hear thunder, go to a safe shelter immediately.
- When lightning is seen or thunder is heard, or when dark clouds are observed, postpone activities promptly. Don't wait for rain. Lightning often strikes as far as 10 miles away from any rainfall. Go quickly inside a completely enclosed building. If no enclosed building is convenient, get inside a hard-topped all-metal vehicle.
- The principle lightning safety guide is the 30-30 rule. The first 30 represents 30 seconds. If the time between when you see the flash and hear the thunder is 30 seconds or less, the lightning is close enough to hit you. If you haven't already, seek shelter immediately. The second 30 stands for 30 minutes. After the last flash of lightning, wait 30 minutes before leaving your shelter.
- If you see or hear a thunderstorm coming or your hair stands on end, immediately stop your activity, suspend your game or practice, and instruct everyone to go inside a sturdy building or car.
- Be the lowest point. Lightning hits the tallest object. In the mountains if you are above treeline, you ARE the highest object around. Quickly get below treeline and get into a grove of small trees. Don't be the second tallest object during a lightning storm! Crouch down if you are in an exposed area.
- If you can't get to a shelter, stay away from trees. If there is no shelter, crouch in the open, keeping twice as far away from a tree as it is tall.
- Avoid leaning against vehicles. Get off bicycles and motorcycles.
- Get out of the water ... off the beach and out of small boats or canoes. If caught in a boat, crouch down in the center of the boat away from metal hardware. Avoid standing in puddles of water, even if wearing rubber boots.
- Avoid metal! Drop metal backpacks and stay away from clothes lines, fences, and exposed sheds. Don't hold on to metal items such as golf clubs, fishing rods, tennis rackets or tools. Large metal objects can conduct lightning. Small metal objects can cause burns.
- Move away from a group of people. Stay several yards away from other people. Don't share a bleacher bench or huddle in a group.

IF YOU ARE INDOORS

- Avoid contact with corded phones. Phone use is the leading cause of indoor lightning injuries in the United States. Lightning can travel long distances in both phone and electrical wires, particularly in rural areas.
- Stay away from windows and doors and stay off porches as these can provide the path for a direct strike to enter a home.
- Avoid contact with electrical equipment or cords. If you plan to unplug any electronic equipment, do so well before the storm arrives.
- Avoid contact with plumbing. Do not wash your hands, do not take a shower, do not wash dishes, and do not do laundry.

- Do not lie on the concrete floor of a garage as it likely contains a wire mesh. In general, basements are a safe place to go during thunderstorms. However, avoid contact with concrete walls which may contain metal reinforcing bars.
- Bring your pets indoors before the storm. Dog houses are not lightning-safe. Dogs that are chained to trees or chained to wire runners can easily fall victim to a lightning strike.

FIRST AID

If someone is struck by lightning:

- First, call for help. Call 9-1-1 or your local ambulance service. Get medical attention as quickly as possible.
- Give first aid. If the victim has stopped breathing, begin rescue breathing. If the heart has stopped beating, a trained person should give CPR. If the person has a pulse and is breathing, address any other injuries.
- Check for burns. The injured person has received an electric shock and may be burned. Being struck by lightning can also cause nervous system damage, broken bones, and loss of hearing or eyesight. People struck by lightning carry no electrical charge that can shock other people. You can examine them without risk.