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Lightning Safety

How to protect yourself this summer

Lightning is the most dangerous and frequently encountered weather hazard that most physically active people face each year. According to the latest research, there are approximately 25 million cloud-to-ground lightning strikes in the United States each year resulting in nearly 100 deaths and an additional 500 injuries. While it appears that the number of overall deaths from lightning strikes is decreasing, trends show that the number of injuries continues to rise. And lightning casualties during sports and recreational activities have risen alarmingly in recent decades.

Most of the incidents occur between May and September, and nearly four fifths occur between 10:00 AM and 7:00 PM. Lightning strike casualties occur most often on Sunday and Saturday, respectively, which coincides with the time more people are physically active outdoors.

How to protect yourself

Always check the weather conditions before you head outside. The heat of summer is prime for lightning, and you should be aware of any storms in your area or conditions that are right for the development of thunderstorms. If you are outside you should plan ahead and prepare a lightning safety plan. Know where your nearest shelter is and how long it will take you to get there.

If thunderstorms develop, use the "**Flash to Bang**" method. By counting the seconds between the flash of lightning and the bang of the thunder you can estimate the distance between you and the lightning strike. The flash-to-bang method is based on the fact that light travels faster than sound, which travels at a speed of approximately 1 mile every 5 seconds. It is recommended that you seek shelter if the time between the lightning flash and the rumble of thunder is 30 seconds or less (6 miles). Once inside shelter, you should not resume activities until 30 minutes after the last audible thunder. This is known as the 30/30 Lightning Rule.

Keep in mind that although a relatively rare occurrence, lightning has been reported to strike up to 10 miles or more from where it is raining, so these guidelines are just that, guidelines. Blue sky in the local area or a lack of rainfall do not guarantee your safety from lightning strikes. Lightning can strike far from where it is raining, even when the clouds begin to clear and show evidence of blue sky. This situation is often referred to as a '[bolt out of the blue.](#)'

Lightning Safety Recommendations

- **Check the forecast and watch the sky**
Before heading out, check your local forecast. While outside look for

Related Resources

- [Environmental Issues](#)
- [Links About Lightning](#)

From Other Guides

- [Lightning Is Serious Risk](#)

Elsewhere on the Web

- [Lightning Strikes: How to Lower Your Risk](#)
- [National Lightning Safety Institute](#)
- [The Weather Channel: Lightning Safety](#)
- [Lightning Protection Institute](#)
- [NOAA Lightning Statistics](#)

darkening skies, flashes of lightning, or increasing wind, which may be signs of an approaching thunderstorm.

- **Use the 30/30 Lightning Rule above**
Count seconds between 'flash' and 'bang' and seek shelter when the time is less than 30 seconds. Do not resume activity until 30 minutes after the last audible thunder.
- **Know the lightning-safe position**
When lightning threatens and you can not reach suitable shelter you should assume the lightning-safe position: crouch on the ground with your weight on the balls of the feet, keep your feet together, and your head lowered and ears covered. Other experts recommend that you place your hands on your forehead and your elbows on your knees to create a path for lightning to travel to the ground through your extremities rather than through your core (heart). You should also assume the lightning-safe position if you feel your hair stand on end, your skin tingle, or you hear crackling noises. There are no easy answers when you are caught in a lightning storm, however you should never lie flat on the ground.
- **Find a safe shelter**
Sturdy buildings are the safest place to be. Avoid sheds, picnic shelters, baseball dugouts, and bleachers. If no sturdy building is nearby, a hard-top vehicle with windows closed will offer some protection. The steel frame of the vehicle provides some protection if you are not touching metal.
- **Avoid**
isolated trees or other tall objects. Never take shelter under a tree. Also avoid bodies of water, sheds, fences, convertibles, tractors, bikes and motorcycles. Avoid leaning against vehicles, and get off and away from bicycles and motorcycles.
- **In a wooded area**
seek shelter under a thick growth of relatively small trees.
- **Don't wait for rain to seek shelter**
Many people take shelter from the rain, but most people struck by lightning are not in the rain. Go quickly inside a completely enclosed building, not a carport, open garage or covered patio. If no enclosed building is convenient, get inside a hard-topped all-metal vehicle.
- **Get out of the water**
Water is a great conductor of electricity. stay 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. Swimming, wading, snorkling and scuba diving are NOT safe. Lightning can strike the water and travel some distance beneath and away from its point of contact. Don't stand in puddles of water, even if wearing rubber boots.
- **Avoid any metal objects**
Drop metal backpacks, stay away from clothes lines, fences, exposed sheds and electrically conductive elevated objects. Don't hold on to metal items such as golf clubs, fishing rods, tennis rackets or tools.
- **Do NOT stay in a group**
Stay several yards away from other people. Don't share a bleacher bench or huddle in a group.

Lightning Safety in the Mountains

According to the Colorado Lightning Resource Center, "It is a hard fact that there is NO safe place in the high country to be during a lightning activity. There is nothing you can do to guarantee safety if you are caught hiking in the mountains during a

lightning storm." Their advice is to try to plan hikes and climbs early and get off mountain peaks by 11:00 am. If you are caught in an approaching storm, quickly get below treeline and get into a grove of small trees.

In the mountains there are accounts of people being injured and killed while hiding in caves, under rocks, in tents and under trees. Putting a rubber mat under you to avoid being struck by lightning is an old wives tale. The only thing one can do if caught in the open while hiking in the high country is to get in the lightning-safe position and wait the storm out.

First Aid for Lightning Strikes

- **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 in two places.**
The injured person has received an electric shock and may be burned, both where they were struck and where the electricity left their body. 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 and can not shock other people.

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