

### HOW TO AVOID BEING STRUCK BY LIGHTNING

Lightning causes more casualties annually in the U.S. than any other storm-related phenomenon except floods. No place is completely safe from lightning. However, some places are more dangerous than others.

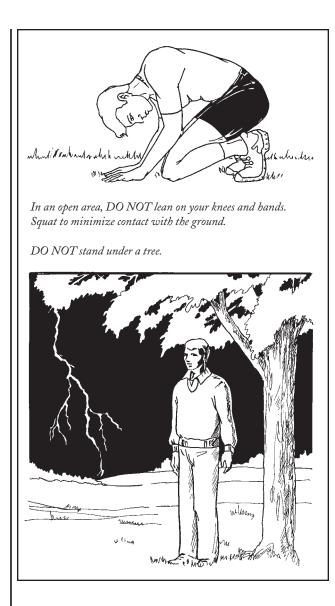
# **1** Loud or frequent thunder indicates that lightning activity is approaching.

If you can see lightning and/or hear thunder, you are at risk. High winds, rainfall, and cloud cover often act as precursors to actual cloud-to-ground strikes. Thunderstorms generally move west to east and occur late in the day or in early evening when humidity is highest.

2 When you see lightning, count the number of seconds until thunder is heard and then divide by five. This will indicate how far the storm is from you in miles. (Sound travels at 1,100 feet per second.)

**3** If the time delay between seeing the flash (lightning) and hearing the boom (thunder) is fewer than thirty seconds, seek a safer location immediately.

• Avoid high places, open fields, and ridges above the timberline. If in an open area, do not lie flat kneel with your hands on the ground and your head low. If you are on a technical climb, sit on a rock



or on nonmetallic equipment. Tie a rope around your ankle; this will anchor you if a strike occurs and you are knocked off balance.

- Avoid isolated trees, unprotected gazebos, and rain or picnic shelters, as well as shallow depressions in the earth—current traveling through the ground may use you to bridge the depression.
- Avoid baseball dugouts, communications towers, flagpoles, light poles, metal and wood bleachers, and metal fences. If you are camping, avoid your tent if it is in an open area or under a large tree.
- Avoid golf carts and convertibles.
- Avoid bodies of water: oceans, lakes, swimming pools, and rivers.

### 4 Wait for the storm to pass.

The lightning threat generally diminishes with time after the last sound of thunder, but may persist for more than 30 minutes. When thunderstorms are in the area but not overhead, the lightning threat can exist even when it is sunny, not raining, or when clear sky is visible.

### Be Aware

- Large enclosed buildings tend to be much safer than smaller or open structures. The risk for lightning injury depends on whether the structure incorporates lightning protection, the construction materials used, and the size of the structure.
- Fully enclosed metal vehicles such as cars, trucks, buses, vans, and fully enclosed farm vehicles with

the windows rolled up provide good shelter from lightning. Avoid contact with metal or conducting surfaces outside or inside the vehicle.

- When inside, avoid contact with conductive surfaces with exposure to the outside, including the shower, sink, plumbing fixtures, and metal door and window frames.
- Avoid outlets, electrical cords, and wired electrical devices, including telephones, computers, and televisions (particularly cable TVs).

# How to Treat Someone Struck by Lightning

1

## Call 911 to report the strike and give directions to emergency personnel.

With immediate medical treatment, victims can survive an encounter with lightning. If multiple people have been struck, treat the apparently "dead" first. People who are unconscious but still breathing will probably recover on their own.

## 2 Move to a safer location to avoid getting struck yourself.

It is unusual for victims who survive a lightning strike to have major fractures that would cause paralysis or major bleeding complications unless they have suffered a fall or been thrown a distance. Do not be afraid to move the victim rapidly if necessary; individuals struck by lightning do not carry a charge and it is safe to touch them to give medical treatment. In cold and wet environments, put a protective layer between the victim and the ground to decrease the chance of hypothermia, which can further complicate resuscitation. Check for burns, especially around jewelry and watches.

#### 4 If the victim is not breathing, start mouth-tomouth resuscitation.

Give one breath every five seconds. If moving the victim, give a few quick breaths prior to moving.

#### **5** Determine if the victim has a pulse.

Check the pulse at the carotid artery (side of the neck) or femoral artery (groin) for at least twenty to thirty seconds.

6 If no pulse is detected, start cardiac compressions.

- 7 If the pulse returns, continue ventilation with rescue breathing as needed for as long as practical in a wilderness situation.
- 8 If a pulse does not return after twenty to thirty minutes of good effort, stop resuscitation efforts. In wilderness areas far from medical care, prolonged basic CPR is of little use—the victim is unlikely to recover if they do not respond within the first few minutes.