

TYSL - LIGHTNING SAFETY

The Threat:

Lightning is the #2 storm killer in the U.S., killing more than hurricanes or tornadoes on average. Only floods kill more. But the real story of lightning isn't the deaths, it's the injuries. Only about 10% of those struck are killed; 90% survive. But of the survivors, many suffer life-long severe injury and disability. These injuries are primarily neurological, with a wide range of symptoms, and are sometimes difficult to diagnose. Lightning also causes about \$5 billion of economic loss each year in the U.S.

The Solution:

Public education is the key! The vast majority of lightning casualties can be easily, quickly, and cheaply avoided, if the proper rules are followed. People need increased awareness of the lightning hazard and knowledge of lightning safety.

Lightning Safety:

Lightning safety involves several easy steps that anyone can do. While lightning safety can be inconvenient, consider how inconvenient the alternative of not following these simple rules could be! Adults are ALWAYS responsible for the safety of children under their care; this includes lightning safety. Remember:

No Place Outside is Safe During Thunderstorms!

Even though no lightning safety guidelines will give 100% guaranteed total safety, the following steps will help you avoid the vast majority of lightning casualties.

- **Step 1:** If you are planning to be outside, watch the weather forecast beforehand. Know your local weather patterns. Plan around the weather to avoid the lightning hazard.
- **Step 2:** If you are going to be outside anyway, stay near proper shelter and use the '**30-30 Rule**' to know when to seek proper shelter.

"30-30 Rule":

When you see lightning, count the time until you hear thunder. If this time is 30 seconds or less, seek proper shelter. If you can't see the lightning, just hearing the thunder is a good back-up rule. Wait 30 minutes or more after hearing the last thunder before leaving shelter.

- **Step 3:** Also keep your eyes on the skies for clues that thunderstorms may be developing: increasing, thickening, and darkening clouds, especially with deep vertical extent; increasing rain, and increasing wind. If the developing storm is nearby, seek shelter even before the first lightning flash.

Seek proper shelter when required. Don't hesitate, seek shelter immediately. The lightning casualty stories are replete with events where people were about to make it to shelter when they were struck. If they'd just started a minute earlier, they'd have been safe.

Proper Shelter:

The best shelter commonly available against lightning is a large fully enclosed substantially constructed building, e.g. your typical house, school, library, or other public building. Substantially constructed means it has wiring and plumbing in the walls.

Once inside, stay away from any conducting path to the outside. Stay off the corded telephone. Stay away from electrical appliances, lighting, and electric sockets. Stay away from plumbing. Don't watch lightning from windows or doorways. Inner rooms are generally better.

If you can't get to a substantial building, a vehicle with a solid metal roof and metal sides is a reasonable second choice. As with a building, avoid contact with conducting paths going outside: close the windows, lean away from the door, put your hands in your lap, don't touch the steering wheel, ignition, gear shifter, or radio. Convertibles, cars with fiberglass or plastic shells, and open framed vehicles don't count as lightning shelters.

MYTH:

Cars are safe because the rubber tires insulate them from the ground.

TRUTH:

Cars are safe because of their metal shell.

- **Step 4:** If you can't get to proper lightning shelter, at least avoid the most dangerous locations and activities.
 - Avoid higher elevations.
 - Avoid wide-open areas, including sports fields and beaches.
 - Avoid tall isolated objects like trees, poles, and light posts.
 - Avoid water-related activities: boating, swimming (includes indoor pools), and fishing.
 - Avoid golfing.
 - Avoid open vehicles like open farm tractors, open construction vehicles, riding lawnmowers, and golf carts (even with roofs).
 - Avoid unprotected open buildings like picnic pavilions, rain shelters, and bus stops.
 - Avoid metal fences and metal bleachers.

DO NOT GO UNDER TREES TO KEEP DRY DURING THUNDERSTORMS!

- **Step 5:** The Lightning Crouch: Use this only as a last, desperate measure!!
 - If you've made several bad decisions and are outside far away from proper shelter when lightning threatens, proceed to the safest location. Get off the higher elevations, get out of the open fields, get away from tall isolated objects, and get away from water.
 - If lightning is imminent, it will sometimes give a very few seconds of warning. Sometimes your hair will stand-up on end, or your skin will tingle, or light metal objects will vibrate, or you'll hear a crackling or "kee-kee" sound. If this happens and you're in a group, spread out so there are several body lengths between each person. If one person is struck, the others may not be hit and can give first aid. Once you've spread out, use the lightning crouch; put your feet together, squat down, tuck your head, and cover your ears. When the immediate threat of lightning has passed, continue heading to the safest spot possible.
 - Remember, this is a desperate last resort; you are much safer if you follow the previous steps and not gotten into this high-risk situation.
- **Step 6:** Lightning First Aid:
 - First call 911
 - All deaths from lightning are from cardiac arrest and stopped breathing at the time of the strike. CPR and mouth-to-mouth-resuscitation are the recommended first aid, respectively.
 - If you are still in an active thunderstorm and at continuing risk to yourself, consider moving the victim and yourself to a safer location.

MYTH:

Lightning victims are electrified. If you touch them, you'll be electrocuted.

TRUTH:

It is perfectly safe to touch a lightning victim to give them first aid.