



Goal

This program will aid in teaching individuals the protective measures to take when lightning is present.

Objective

This program is designed to make individuals aware of the dangers of lightning and teach them the steps they can take to protect themselves.

Background

Lightning causes more deaths in the United States than hurricanes or tornadoes. In fact, lightning is the number two storm-related killer, surpassed only by flooding. Lightning also causes about \$5 billion in U.S. economic losses annually.

Only about 10 percent of those struck by lightning are killed. Of the 90 percent who survive a lightning strike, the majority suffer life-long severe injury. Those injuries are primarily neurological, with a wide range of symptoms, and are difficult to diagnose.

But the real tragedy of lightning's devastation is that protecting yourself is easy, although the simple safety precautions are sometimes inconvenient. It requires diligence and continual reinforcement and encouragement. Lightning safety is a multi-step process, with each step providing a decreasing level of protection – plan around the weather, and have a lightning safety plan.

30-30 Rule

If you are planning to be outside, watch the weather forecast and know your local weather patterns. Plan around the weather to avoid the lightning hazard. If you are outside when a storm approaches, stay near proper shelter and use the '30-30 Rule' to know when to seek proper shelter. When you see lightning, count the time until you hear thunder. If you count 30 seconds or less, seek proper shelter. If you can't see the lightning, wait 30 minutes or more after last hearing thunder before you leave shelter.

Shelter from Lightning

The best shelter commonly available against lightning is a large fully enclosed, substantially constructed building, e.g., your typical house. 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 safer.

If you can't get to a house, a vehicle with a solid metal roof and metal sides is a reasonable second choice. As with a house, avoid contact with conducting paths going outside: close the windows, lean away from the door, put your hands in your lap, and 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.

Places to Avoid

If you can't get to proper lightning shelter, at least avoid the most dangerous locations and activities. Those are:

- Higher elevations
- Wide-open areas including sports fields
- Tall isolated objects like trees, poles, and light posts
- Water-related activities: boating, swimming (includes indoor pools), and fishing.
- Golfing

- Wide-open vehicles like farm tractors, open construction vehicles, riding lawnmowers, golf carts (even with roofs), etc.
- Unprotected open buildings like picnic pavilions, rain shelters, and bus stops.
- Metal fences and metal bleachers.

Last Resort Safety Measures

If you've made several bad decisions and are outside far away from proper shelter and lightning threatens, proceed to the safest location. 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 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. Minimize ground contact. Don't lay down. 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 having followed the previous steps and not put yourself into this high-risk situation.

All deaths from lightning result from cardiac arrest or respiratory failure. The recommended first aid treatment for cardiac arrest is CPR and for respiratory failure mouth-to-mouth resuscitation.

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.

Review Questions

1. When counting time until you hear thunder, seek shelter if the count is _____ seconds or less.
 - a. 45
 - b. 15
 - c. 30
 - d. 60
2. It is not safe to talk on a corded telephone when lightning is present.
 - a. True
 - b. False

3. When lightning is present, avoid all of the following except:
 - a. Water related activities
 - b. Metal fences and bleachers
 - c. Substantially constructed buildings
 - d. Trees
4. All deaths from lightning result from cardiac arrest or _____.
 - a. Shock
 - b. Burns
 - c. Trauma
 - d. Respiratory failure
5. The lightning crouch is the last resort as protection is you are caught outdoors when lightning is present.
 - a. True
 - b. False

Answer Key

1. c
2. a
3. c
4. d
5. a

Reference: Lightning Kills, Play it Safe, National Oceanic and Atmospheric Administration (NOAA), 2001 (<http://www.lightningsafety.noaa.gov/>)

Resources

The Texas Department of Insurance, Division of Workers' Compensation (TDI/DWC) Resource Center offers a workers' health and safety video tape library. Call (512) 804-4620 for more information or visit our web site at www.tdi.state.tx.us/wc/indexwc.html

Disclaimer: Information contained in this training program is considered accurate at time of publication.

Safety Violations Hotline

1-800-452-9595

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