

Be Aware: Protection During Lightning Storms

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Lightning is a random and unpredictable event. Lightning strikes may generate electrical current levels that exceed 400 kA, temperatures that reach 50,000°F and hit at speeds approaching one-third the speed of light. Globally, some 2,000 ongoing thunderstorms cause about 100 lightning strikes to earth each second. Lightning causes more than 26,000 fires annually in the United States with damage to property in excess of \$5 to 6 billion, according to the National Lightning Safety Institute.

Thunderstorms and lightning are most likely to develop on hot, humid days. Lightning is a frequent weather hazard impacting outdoor recreation and farm-work situations. If lightning is seen or heard, take protective action immediately. Being prepared can reduce the risk of the lightning hazard and raise safety levels.

Lightning Safety for Outdoor Workers

If you can see lightning or hear thunder, activate your safety plan. Resume activities only when lightning and thunder have not been observed for 30 minutes.

Advance planning is the single most important means to lightning safety. The following steps may help avoid injury. Designate a responsible person to monitor weather conditions. An inexpensive portable weather radio will provide regular weather condition updates. An emergency procedure should include: suspending activities, moving people to safety, monitoring conditions, then resuming activities. Identify safe locations beforehand. These include fully enclosed metal vehicles with windows up or

substantial and permanent buildings. Unsafe areas include small structures, including huts and rain shelters, and nearby metallic objects like fences, gates, instrumentation, electrical equipment, wires and power poles. Also avoid trees, water, open fields, and using the (hard wired) telephone and headsets.

If outdoors, avoid water, high ground, and open spaces, get off farm machinery, get out of the water if you are swimming or boating, and avoid all metal objects including electric wires, fences, motors, power tools, clotheslines, metal pipes, rails, etc. Unsafe places include underneath canopies, small picnic or rain shelters, or near trees. However, standing under a group of trees, shorter than others in the area, is better than being in the open.

Put down any object that might conduct electricity, such as a rake, hoe, or shovel. Seek low ground, preferably a ditch or gully. If you are outside with no protection, get to a low spot. Make your body low to the ground, but do not lie flat on the earth. Learn the Lightning Safety Crouch. If hopelessly isolated from shelter during close-in lightning, adopt a low crouching position with feet together and hands on ears. If lightning is striking nearby when you are outside, you should assume the Lightning Safety Crouch.

Avoid proximity (minimum of 15 feet) to other people. If there is a group of people, spread out. If someone feels his or her hair stand on end, it may mean lightning is about to strike. Stay calm and keep low. This will help reduce your chances of being struck by lightning.

If indoors, avoid water, stay away from doors and windows, do not use the telephone, and take off

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headsets. Postpone baths, showers, and doing dishes until the storm passes. Turn off, unplug, and stay away from appliances, computers, power tools, and TV sets. Lightning may strike exterior electric and phone lines, inducing shocks to inside equipment. Computers should be surge protected. Suspend activities for 30 minutes after the last observed lightning or thunder.

Lightning-caused Hazards

Do not touch fallen wires. Report them to police or local utility immediately. If an appliance or tool catches fire, try to unplug it or turn off the current at the fuse box. Do not pour water on the fire. Use a Class C fire extinguisher, or throw baking soda on the fire. Before it gets out of control, call the local fire department and get everyone outside.

First Aid for Lightning Victims

People who have been struck by lightning do not carry an electrical charge and are safe to handle. Apply first aid immediately, if you are qualified to do so. Call 911, or send for help immediately.

Besides burns, lightning can also cause nervous

system damage, broken bones, and loss of hearing or eyesight. Victims may experience confusion and memory loss. First aid for lightning victims needs to be carried out immediately. After the lightning strikes, get to the victim as quickly as possible. Check breathing and pulse, if the victim is unconscious. If the victim has a pulse, but is not breathing, begin mouth-to-mouth resuscitation. If there is no pulse, begin cardiopulmonary resuscitation (CPR). Check for other injuries, such as possible fractures. Do not move a suspected spinal-injury victim. Cover the electrical burn with a dry, sterile dressing, but do not cool the burn. There may be more than one burn area, one where the current entered the body and another where it left. Keep the victim from getting chilled until help arrives. If a person struck by lightning appears only stunned or otherwise unhurt, medical attention may still be needed. Check for burns, especially at fingers and toes, and areas next to buckles and jewelry. Make sure all lightning victims have a medical examination, even if they do not seem to need it.

Two helpful Web sites are <http://lightningsafety.com/nlsi>, which is the site for the National Lightning Safety Institute, and www.cdc.gov/nasd/, the National Ag Safety Database.

