

summer

ELECTRICAL SAFETY



FACTS AND STATISTICS

- ◆ As many as 100 people are killed each year by lightning, usually more than hurricanes and tornados combined.
- ◆ Approximately 500 people are injured by lightning every year. Many lightning injuries carry long-term, debilitating symptoms.
- ◆ Lightning causes more than 26,000 fires annually and property damage over \$5 billion annually. The majority of losses are in the commercial and industrial sectors, according to information from the Lightning Protection Institute.
- ◆ Floods are the deadliest natural disaster, responsible for an average of 100 deaths each year and \$2 billion in property damage. Floods are also a cause of electrical hazards, such as energized water due to submerged electrical lines or receptacles, and water-damaged electrical equipment.
- ◆ Large appliances, such as air conditioners, are responsible for almost 20 percent of consumer product electrocutions each year.



www.electrical-safety.org

OVERVIEW

Electrical safety awareness can help keep summer outdoor activities from becoming disasters. To avoid electrical hazards during warm weather, make sure you understand safety procedures during lightning storms, tornados, hurricanes, and when around water.

Top electrical hazards during the summer are often related to storms. Lightning strikes, power outages and electrical hazards in the aftermath of storms are often the causes of deaths and injuries during summer months.

Hot weather brings increased use of air conditioners. Contact with electric current from air conditioners accounts for a significant number of electrocutions and electrical injuries annually. Remembering to “test before you touch” can avoid deaths, injuries and economic losses due to electrical hazards.

WATER AND ELECTRICITY DON'T MIX

The Electrical Safety Foundation International (ESFI) warns of dangers that are present when water comes in contact with electricity. To reduce electrical hazards, ESFI offers the following safety advice:

- ◆ Summer is the season for swimming and boating. Awareness of electrical hazards around water can prevent deaths and injuries. Sailboats often have masts of 30 feet or more, which are dangerous when they come into contact with overhead power lines. Staying at least 10 feet away from overhead power lines can help prevent lethal electrical hazards.
- ◆ Use outlet covers on outdoor receptacles near swimming pools. Keep cords and electrical devices away from pools. Never handle electrical items when you are wet.
- ◆ Use a ground fault circuit interrupter (GFCI) to help prevent electrocutions and electrical shock injuries. Portable GFCIs require no tools to install and are available at prices ranging from \$12 to \$30.
- ◆ Electrical devices such as circuit breakers, fuses, GFCIs, receptacles, plugs and switches can malfunction when water and silt get inside. Replace those that have been submerged.
- ◆ Do not allow power cord connections to become wet.
- ◆ Outdoors, dangers such as power lines in contact with water can pose electrical hazards.
- ◆ Indoors, submerged outlets or electrical cords may be energizing the water, a potential lethal trap.
- ◆ Before flipping a switch or plugging in an appliance, have an electrician check the house wiring and appliance to make sure it is safe to use.
- ◆ When using a wet-dry vacuum cleaner or a pressure washer, be sure to follow the manufacturer's instructions to avoid electric shock.

ESFI REMINDS CONSUMERS OF ELECTRICAL SAFETY PRECAUTIONS DURING STORMS

The Electrical Safety Foundation International (ESFI) warns consumers to beware of the dangers hurricanes and floods cause when water comes in contact with electricity. ESFI offers this safety advice:

Flooded Areas — Take care when stepping into a flooded area, and be aware that submerged outlets or electrical cords may energize the water, posing a potential lethal trap.

Wet Electrical Equipment — Do not use electrical appliances that have been wet. Water can damage the motors in electrical appliances, such as furnaces, freezers, refrigerators, washing machines, and dryers. Electrical parts can become grounded and pose an electric shock hazard or overheat and cause a fire.

A qualified service repair dealer should recondition electrical equipment that has been wet. Certain equipment will require complete replacement, while a trained professional can recondition other devices.

Portable Generators — Take special care with portable electric generators, which can provide a good source of power, but if improperly installed or operated, can become deadly.

Do not connect generators directly to household wiring. Power from generators can backfeed along power lines and electrocute anyone coming in contact with them, including lineworkers making repairs. A qualified, licensed electrician should install your generator to ensure that it meets local electrical codes. Other tips include:

- ◆ Make sure your generator is properly grounded.
- ◆ Keep the generator dry.
- ◆ Plug appliances directly into the generator.
- ◆ Make sure extension cords used with generators are rated for the load, and are free of cuts, worn insulation, and have three-pronged plugs.
- ◆ Do not overload the generator.
- ◆ Do not operate the generator in enclosed or partially enclosed spaces. Generators can produce high levels of carbon monoxide very quickly, which can be deadly.
- ◆ Use a ground fault circuit interrupter (GFCI) to help prevent electrocutions and electrical shock injuries. Portable GFCIs require no tools to install and are available at prices ranging from \$12 to \$30.

Downed Power Lines — These can carry an electric current strong enough to cause serious injury or possibly death. The following tips can help you stay safe around downed lines:

- ◆ If you see a downed power line, move away from the line and anything touching it.

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- ◆ The proper way to move away from the line is to shuffle away with small steps, keeping your feet together and on the ground at all times. This will minimize the potential for a strong electric shock. Electricity wants to move from a high voltage zone to a low voltage zone—and it could do that through your body.
- ◆ If you see someone who is in direct or indirect contact with the downed line, do not touch the person. You could become the next victim. Call 911 instead.
- ◆ Do not attempt to move a downed power line or anything in contact with the line by using another object such as a broom or stick. Even non-conductive materials like wood or cloth, if slightly wet, can conduct electricity and then electrocute you.
- ◆ Be careful not to put your feet near water where a downed power line is located.
- ◆ Do not drive over downed lines.
- ◆ If you are in your car and it is in contact with the downed line, stay in your car. Honk your horn for help and tell others to stay away from your vehicle.
- ◆ If you must leave your car because it's on fire, jump out of the vehicle with both feet together and avoid contact with the live car and the ground at the same time. This way you avoid being the path of electricity from the car to the earth. Shuffle away from the car.

ESFI WARNS OF LIGHTNING HAZARDS

The Electrical Safety Foundation International (ESFI) urges increased awareness of lightning hazards. Data from the National Weather Service shows that lightning strikes are fatal in approximately 10 percent of strike victims. Another 70 percent of survivors suffer serious long-term effects.

Outdoors is the most dangerous place to be during a lightning storm. Because lightning can travel sideways for up to 10 miles, blue skies are not a sign of safety. If you hear thunder, take cover.

For protection in homes and buildings, consider installing a lightning protection system to intercept lightning strikes and guide the current harmlessly to the ground.

ESFI recommends following these guidelines to stay safe during electrical storms:

- ◆ If possible, go indoors.
- ◆ Once indoors, stay away from windows and doors.
- ◆ Do not use corded telephones except for emergencies.
- ◆ Unplug electronic equipment before the storm arrives and avoid contact with electrical equipment or cords during storms.
- ◆ Avoid contact with plumbing, including sinks, baths and faucets.
- ◆ If outdoors, go to a low point. Lightning hits the tallest object. Get down if you are in an exposed area.
- ◆ Stay away from trees.
- ◆ Avoid metal. Don't hold metal items, including bats, golf clubs, fishing rods, tennis rackets or tools. Avoid metal sheds, clotheslines, poles and fences.
- ◆ If you feel a tingling sensation or your hair stands on end, lightning may be about to strike. Crouch down and cover your ears.
- ◆ Stay away from water. This includes pools, lakes, puddles and anything damp, such as wet poles or grass.
- ◆ Don't stand close to other people. Spread out.
- ◆ Don't forget pets during thunderstorms. Doghouses are not lightning-safe. Dogs that are chained can easily fall victim to a lightning strike.

Victims of lightning strikes should be given CPR if necessary, and seek medical attention.

TEST BEFORE YOU TOUCH

Electrical hazards are the sixth leading cause of workplace fatalities. Contact with large appliances, such as air conditioners, contributes to nearly 20 percent of consumer product electrocutions.

Whether at home or in the work place, there are a number of safety precautions that can reduce the chance of deaths, injuries and economic losses due to electrical hazards.

- ◆ Use ground fault circuit interrupters (GFCIs) to help prevent electrocutions.
- ◆ Understand your electrical system—know which fuse or circuit breaker controls each switch, light and outlet.
- ◆ Make sure circuits are turned off before starting work, and take measures to make sure they are not turned back on while working.
- ◆ Use a circuit tester. Make sure it is working by testing it before and after you use it to test the circuit.
- ◆ Always test before you touch.