

# Electrical Safety

Electricity is an essential part of our lives. However, it has the potential to cause great harm. Electrical systems will function almost indefinitely if properly installed and not overloaded or physically abused. Electrical fires in our homes claim the lives of 485 Americans each year and injure 2,305 more. Some of these fires are caused by electrical system failures and appliance defects, but many more are caused by the misuse and poor maintenance of electrical appliances, incorrectly installed wiring, and overloaded circuits and extension cords.

- Never use anything but the proper fuse to protect a circuit.
- Find and correct overloaded circuits.
- Never place extension cords under rugs.
- Outlets near water should be GFI-type outlets.
- Don't allow trees near power lines to be climbed.
- Keep ladders, kites, equipment and anything else away from overhead power lines.

## Electrical Panels

Electricity enters the home through a control panel and a main switch where one can shut off all the power in an emergency. These panels are usually in the basement. Control panels use either fuses or circuit breakers. Install the correct fuses for the panel. Never use a greater numbered fuse or a metallic item such as a penny. If fuses are used and there is a stoppage in power, look for the broken metal strip in the top of a blown fuse. Replace the fuse with a new one marked with the correct amperage. Reset circuit breakers from off to on. Be sure to check why the fuse or circuit blew. Possible causes are frayed wires, overloaded outlets or defective appliances. Never overload a circuit with high wattage appliances. Check the wattage on appliance labels. If there is frayed insulation or a broken wire, a dangerous short circuit may result and cause a fire. If power stoppages continue or if a frayed or broken wire is found, contact an electrician.

## Outlets and Extension Cords

Make sure all electrical outlets are three-hole, grounded outlets. If there is water in the area, there should be a GFI or Ground Fault Interrupter outlet. All outdoor outlets should be GFIs. There should be ample electrical capacity to run equipment without tripping circuit breakers or blowing fuses. Minimize extension cord use. Never place them under rugs. Use extension cords sparingly and check them periodically. Use the proper electrical cord for the job, and put safety plugs in unused outlets.

## Electrical Appliances

Appliances need to be treated with respect and care. They need room to breathe. Avoid enclosing them in a cabinet without proper openings and do not store papers around them. Level appliances so they do not tip. Washers and dryers should be checked often. Their movement can put undue stress on electrical connections. If any appliance or device gives off a tingling shock, turn it off, unplug it and have a qualified person correct the problem. Shocks can be fatal. Never insert metal objects into appliances without unplugging them. Check appliances periodically to spot worn or cracked insulation, loose terminals, corroded wires, defective parts and any other components that might not work correctly. Replace these appliances or have them repaired by a person qualified to do so.

## Electrical Heating Equipment

Portable electrical heating equipment may be used in the home as a supplement to the home heating system. Caution must be taken when using these heating supplements. Keep them away from

combustibles and make sure they cannot be tipped over. Keep electrical heating equipment in good working condition. Do not use them in bathrooms because of the risk of contact with water and electrocution. Many people use electric blankets in their homes. They will work well if they are kept in good condition. Look for cracks or breaks in the wiring, plugs and connectors. Look for charred spots on both sides. Many things can cause electric blankets to overheat. They include other bedding placed on top of them, pets sleeping on top of them, and putting things on top of the blanket when it is in use. Folding the blankets can also bend the coils and cause overheating.

## **Children**

Electricity is important to the workings of the home, but can be dangerous, especially to children. Electrical safety needs to be taught to children early on. Safety plugs should be inserted in unused outlets when toddlers are in the home. Make sure all outlets in the home have face plates. Teach children not to put things into electrical outlets and not to chew on electrical cords. Keep electrical wiring boxes locked. Do not allow children to come in contact with power lines outside. Never allow them to climb trees near power lines, utility poles or high tension towers.

## **Electricity and Water**

A body can act like a lightning rod and carry the current to the ground. People are good conductors of electricity, particularly when standing in water or on a damp floor. A body can act like a lightning rod and carry the current to the ground. Never use any electric appliance in the tub or shower. Never touch an electric cord or appliance with wet hands. Do not use electrical appliances in damp areas or while standing on damp floors. In areas where water is present, use outlets with "ground fault interrupters" or GFIs. Shocks can be fatal.

## **Animal Hazards**

Mice and other rodents can chew on electrical wires and damage them. If rodents are suspected or known to be in the home, be aware of the damage they may cause and take measures to get rid of them.

## **Outside Hazards**

There are several electrical hazards outside the home. Be aware of overhead and underground power lines. People have been electrocuted when an object they are moving has come in contact with the overhead power lines. Keep ladders, antennas, kites and poles away from power lines leading to the house and other buildings. Do not plant trees, shrubs, or bushes under power lines or near underground power lines. Never build a swimming pool or other structure under the power line leading to your house. Before digging, learn the location of underground power lines.

Do not climb power poles or transmission towers. Never let anyone shoot or throw stones at insulators. If you have an animal trapped in a tree or on the roof near electric lines, phone your utility company. Do not take a chance of electrocuting yourself. Be aware of weather conditions when installing and working with electrical appliances. Never use electrical power tools or appliances with rain overhead or water underfoot. Use only outdoor lights, fixtures and extension cords. Plug into outlets with a ground fault interrupter. Downed power lines are extremely dangerous. If you see a downed power line, call the electric company, and warn others away. If a power line hits your car while you are in it, stay inside unless the car catches fire. If the car catches fire, jump clear without touching metal and the ground at the same time.

## **SAFETY PRECAUTIONS**

- Routinely check your electrical appliances and wiring.
- Frayed wires can cause fires. Replace all worn, old or damaged appliance cords immediately.

- Use electrical extension cords wisely and don't overload them.
- Keep electrical appliances away from wet floors and counters; pay special care to electrical appliances in the bathroom and kitchen.
- Don't allow children to play with or around electrical appliances like space heaters, irons and hair dryers.
- Keep clothes, curtains and other potentially combustible items at least three feet from all heaters.
- If an appliance has a three-prong plug, use it only in a three-slot outlet. Never force it to fit into a two-slot outlet or extension cord.
- Never overload extension cords or wall sockets. Immediately shut off, then professionally replace, light switches that are hot to the touch and lights that flicker. Use safety closures to "child-proof" electrical outlets.
- Check your electrical tools regularly for signs of wear. If the cords are frayed or cracked, replace them. Replace any tool if it causes even small electrical shocks, overheats, shorts out or gives off smoke or sparks.