

Your Guide to **Electrical Safety**

THE ADVENTURES OF **SURGE** PROTECTOR

HEY PARENTS!
REMEMBER TO PICK UP
MY ELECTRICAL SAFETY
COLOURING BOOK FROM YOUR
LOCAL HYDRO PROVIDER.





Tragically, curiosity kills more than just the cat. More than half of all electrical injuries involve children under the age of 10. Protect your children from the dangers of electricity.

Electricity. It could ground you...for life.

AN INTRODUCTION

Electricity is an important part of our daily lives. It's everywhere.

It lights our homes, cooks our food, powers our tools, and runs our televisions, radios and computers.

Unfortunately, too many people are injured or killed every year because they used electricity in an unsafe manner or simply disregarded the basic rules of electrical safety. The vast majority of electric shocks are preventable. In fact, human error is the cause of at least 80 percent of all electrocution deaths in Ontario.

Electricity is safe if you treat it with respect and not become careless about how you use it.

Your local utility has produced this booklet to provide the information you need so that your family can practice electrical safety every day. It's particularly important that we all take the time to teach young children about the dangers of electricity because more than half of all the electrical injuries in Ontario involve children less than 10 years of age.

If you have any questions, this booklet includes information on how to contact your local utility.

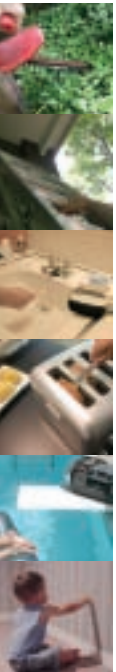
Please remember:

**Electricity. It could
ground you...for life.**

APPLIANCES AND TOOLS - SOME HELPFUL TIPS



- Check to make sure the appliance or tool has the approval seal of a recognized testing laboratory such as CSA or UL.
- If you feel a tingling sensation when you touch an electrical appliance or a tool, or if there's a burning smell, remove the fuse or throw the breaker, and have the appliance or tool checked by a certified repairperson.
- Always unplug electrical appliances before you clean them.
- Never put a metal object in live parts of appliances or outlets, such as using a knife to free a piece of bread stuck in the toaster.
- Always unplug an appliance that overheats and have it checked by a qualified repairperson.
- Keep the cords for appliances safely away from ledges because children and pets can pull them down.
- Make sure your tools are properly grounded or double insulated. The grounded tool must have an approved three-wire cord with a three-prong plug.
- Never use electrical tools in wet conditions or damp locations.
- Don't tie the power cords for your electrical tools in tight knots because they can cause short circuits and shocks.
- Never run cords for appliances or tools under rugs or furniture.
- Never leave a space heater unattended or leave children or pets alone in a room with a space heater.
- Use surge protectors for computers, printers and your entertainment systems such as televisions and DVD players.





SOME FACTS ABOUT ELECTRICITY

HERE'S THE BOTTOM LINE

If electricity flows through a human body, it can kill. And it doesn't take much electricity to burn or cause death. In fact, it takes less than the one amp of electricity required to make a 100-watt light bulb glow.

- Electricity always seeks the easiest and the shortest path to the ground. So if you touch an electrical wire, you become part of the electrical circuit resulting in an instant flow of electricity to the ground.
- As you already suspect, electricity travels fast...approximately 300,000 km per second (186,000 miles per second).
- You've probably heard the saying "conducting electricity", which basically means allowing the flow of electricity. All humans, metals, water and even non-metallic surfaces, like trees, can conduct electricity, and in large amounts. By the way, your body is 70% water, so you are an excellent "conductor" of electricity.
- The sap in trees makes them excellent conductors of electricity.
- When birds land on power lines, they don't get electrocuted because they don't represent a path to ground for the electricity.
- You can get electrocuted without even touching a wire. Electricity can arc or "jump" across the insulating space between a power line and a "conductor" like you, or your ladder. The higher the voltage, the more likely an arc can occur.
- If you had an electrical fire and decided to try and put it out with water, because electricity travels at close to the speed of light, it will travel up the steam of water as if that water was standing still.
- The fuses in your home prevent fires caused by overloaded circuits, but they do not protect you against shock.
- High voltage contact burns can cause serious damage to internal tissue while leaving only a very small injury on the surface of the skin.



EXTENSION CORDS, POWER BARS & OUTLET EXPANDERS...FRIEND OR FOE?



THE BATHROOM

Be very careful after you take a shower or a bath because your bathroom is full of moisture making it an electrical shock hazard when you use an electrical appliance like a hair dryer or an electric shaver. Think before you act. All outlets in your bathroom should have ground fault circuit interrupters (GFCI).

It's common sense, but many people forget that electricity and water are a deadly combination. When you are wet, never touch electric cords, switches or appliances.

DO IT YOURSELF?

You decide to do some wiring in your home and you're going to do it yourself. Stop and think about it. Do you really know what you are doing? Why take a chance? Have a qualified electrician look at your electrical requirements and make arrangements for an electrical inspection. The law requires that all electrical work be inspected and approved by the Electrical Safety Authority.

FUSES AND BREAKERS

If your electrical panel uses fuses, always replace the fuse with the one that is the correct amperage. If you substitute with a higher amp fuse, it's a fire hazard.

If you blow a fuse or throw a breaker, make sure that any appliances on that circuit are turned off or unplugged before you change the fuse or reset the breaker. If you have fuses that blow on a regular basis or circuit breakers that trip frequently, it's a sign that you have a potential electrical overload problem that should be investigated.

How many extension cords, power bars and outlet expanders do you have in use at home or at work? They sure come in handy when you don't have enough outlets to plug everything into, or when the outlets are too far away to plug in a floor lamp or your computer equipment.

However, they can be a very serious electrical hazard if not used properly.

One of the most important electrical safety steps you can take is stop and think about how many extension cords, power bars and outlet expanders you're using, and how many things are plugged into them, both inside and outside your home. Let's face it, common sense will tell you whether or not you have created an electrical hazard.

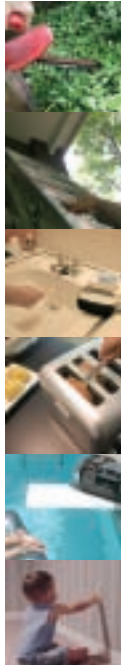
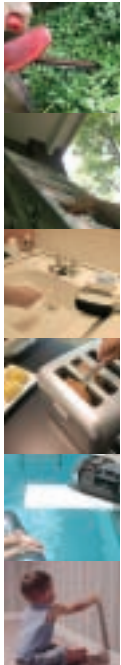
What to keep in mind:

Never remove the 3rd prong on an extension cord (the round one) no matter how desperate you are to plug something in. That 3rd prong is a grounding wire and is there to provide a ground path to help prevent or minimize shocks. Instead of breaking the 3rd prong off to fit an older electrical outlet, you should replace the outlet.

Never use an extension cord in place of permanent wiring. They are designed for temporary use only. This includes both inside and outside your home. For example, don't use an extension cord to run power to the pump on your swimming pool.

Never nail an extension cord to walls or floors because you could puncture the protective insulation, and never put extension cords under carpets, behind radiators or under heavy furniture.

Do not wind extension cords tightly around any object because they are not designed for that. The stress could cause the wires inside to expose themselves.






YOUR LADDER... A POTENTIALLY DEADLY TOOL

Aluminum ladders, both the step and extension type, are handy tools for both inside and outside your home. They are lightweight, easy to handle and strong.

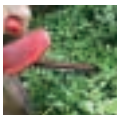
Tragically, the aluminum ladder is also the number one tool involved in electrocution, both at home and on the job.

What to keep in mind before you use your ladder:

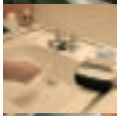


Metal is an excellent conductor of electricity, so metal ladders are a serious hazard around overhead power lines. In fact, extreme caution is advised no matter what your ladder is made of because even wood ladders have some metal parts. All ladders can conduct electricity if they are dirty or wet.

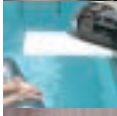
Before you even think about using a ladder, take a very careful look around for potential electrical hazards, such as overhead service wires to your home. You should always be at least 3 metres away from a power line. Consider what could happen if your ladder slips.



If there's a power line running through a tree on your property and trimming is required, don't take any chances...call your local utility.



Even if you think you are far enough away from an overhead power line to safely work on a tree, remember that the moisture in the tree acts as a conductor. If you moved a limb enough to come in contact with the line, electricity now has a path to ground through the tree, your pruning tool and you.



Here's the best way to stay safe: If you are working around your property, whether it be trimming trees, painting the house or installing a satellite dish, if you can't avoid a power line, don't do the work. Seek expert help.



INSIDE YOUR HOME

SIGNS, SIGNS, EVERYWHERE ARE SIGNS

There are a number of danger signs that signal you have a problem that could cause an electrical shock, including flickering lights, feeling a tingle when you touch an electrical appliance, a sizzling sound at wall switches or outlets, a burning smell coming from an appliance or wiring, or a discolouration of wall outlets.

An unusually warm or hot electrical outlet may be a sign of unsafe wiring conditions. Unplug any cords to these outlets and have the wiring checked.

OUTLETS

Avoid those "octopus outlets". Let's face it, you know that clusters of wires and plugs mean your electrical system can't cope with your energy needs and you need to rewire and add circuits. Multiple power cords plugged into a single outlet are both an electrical shock and a fire hazard.

Young children in your home? Install safety plugs in all unused outlets.

Doing some wallpapering? Be careful when trimming the new wallpaper around uncovered electrical switches and outlets.





OUTSIDE YOUR HOME

DO IT YOURSELF?

Thinking about installing your own satellite dish or antenna? Get a professional to do it. If not, make sure you get someone to help you. Look around very carefully to make sure your dish or antenna will be installed well away from power lines.

Installing a swimming pool or a hot tub? Get a certified electrician to install the wiring for the filter pump and any lighting you require. Make sure all outdoor circuits have ground fault circuit interrupters (GFCI).

Always "Call Before You Dig". Many power lines are underground, so if you are landscaping, fencing or doing major excavations, call your local utility before you dig. Better to be safe than sorry.

CAN'T SEE THE POWER LINES FOR THE TREES

When you're planning to trim a tree, clean out the rain gutters or paint your home, always remember to look up for overhead power lines before you set up the ladder.

Plant trees well away from power lines. If you have a tree that has grown into power lines, call your local utility for assistance and never attempt to prune trees around power lines by yourself.

Never climb electrical utility poles or towers.

EXTENSION CORDS AND ELECTRICAL TOOLS

How old are your outdoor extension cords? Check them very carefully for frayed, cracked insulation and frayed, worn plugs.

Using an electric lawn mower, trimmer, or hedge clippers? Do you have the power cord safely out of the way before you hit the "on" switch?

Don't work with power tools during an electrical storm.

KEEP AWAY

Stay away from pad mount transformers, the green metal boxes containing the above frayed ground portion of an underground electrical installation. If you see a pad mount transformer that looks damaged or appears to have been tampered with, contact your local utility.

