

## Electrical Safety Awareness

### *The shocking truth about working with electricity*

Northwestern employees could be at risk for electrical hazards, and the acronym “BE Safe” is an easy way to remember potential dangers – **B**urns, **E**lectrocution, **S**hock, **A**rc flash, **F**ire, and **E**xplosions. Below are some examples of common electrical hazards that can lead to burns, shock, and electrocution.

- **Overloading:** Cords, power strips, and electrical receptacles are all rated to handle specific amounts of electricity. When connecting multiple extension cords into power strips or power strips into each other, also known as daisy chaining, fire or explosions may occur. Also, extension cords and power strips should never be used in lieu of permanent wiring because they are not rated for long-term use.
- **Improper grounding:** Grounding is a means to protect people from shock or electrocution. Devices such as ground fault circuit interrupters (GFCIs) are built into cords and outlets to protect us from these hazards. GFCIs monitor the amount of current flowing between the ungrounded (hot) to the grounded (neutral) conductor of a circuit. If there is an imbalance in the current, the GFCI will react to quickly trip or shut off the circuit. For example, let’s say you are working outside in the rain, with an electric drill. There is a path from

the hot wire inside the drill through your body to the ground. If the electricity flows from hot to ground and then through you, it could be fatal. The GFCI will detect that the current is not flowing from hot to neutral, trip the circuit, and cut off electricity.

- **Working on live equipment:** Because of the potential for arc flash, electrocution, and shock only qualified persons, such as electricians, are authorized to work on live electrical equipment at Northwestern.

Qualified persons receive an advanced level of training to safely perform live electrical work. All other individuals should seek assistance from a qualified electrician and avoid working on live electrical equipment.

### ⚡ Electrical Safety Tips ⚡

- **Preparation is key:** Inspect tools, cords, and electrical fittings prior to use in order to ensure they are in good condition. Look for things such as missing grounding plugs, damaged cords, and hot outlets. If you notice a frayed cord or missing grounding prong be sure to mark the cord and take it out of service immediately.
- **Follow guidelines:** Do not run cords through doorways, windows, or walls, be aware of surroundings that could potentially damage electrical equipment and understand capacity load ratings for receptacles.
- **Stay vigilant:** Heed warning signs such as frequently tripping circuit breakers and GFCIs, warm receptacles, or melted cords. These symptoms can be signs of faulty wiring.
- **Avoid shortcuts:** Remember, working on live equipment should be avoided at all times. If it is possible to disconnect power to equipment before work begins, do it. What takes a few extra minutes to do can save you or your coworker’s life.
- **Do your part:** Complete *Electrical Safety Awareness* training at [learn.northwestern.edu](http://learn.northwestern.edu).



Roger Sroka, Electrician, inspecting a fuse box.

### Tips for Success When Talking to Your Team

- **Preparation is Key:** Inspect tools, cords and ensure employees are trained on how to safely work with electricity.
- **Stay Positive:** Encourage employees to ask questions and speak up if they are asked to work on equipment that they are not qualified to work on.
- **Share a Story, Ask for a Story:** Have you ever been burned, shocked, witnessed an arc flash, etc.? Encourage others to share past stories or experiences.

## Safety at Home – May is Electrical Safety Awareness Month

- **Did you know?** According to the U.S. Consumer Product Safety Commission, each year about 4,000 people find themselves in the emergency room resulting from accidents involving electrical outlets. About 1/3 of these patients are children. Outlet caps are a great idea to keep children safe from electricity at home.
- **Did you know?** According to the U.S. Fire Administration, there are 28,600 electrical fires per year. Most common causes are faulty outlets/appliances, light fixtures, extension cords, space heaters, and bad wiring. Some common warning signs to look for are:
  - If a circuit breaker trips immediately after resetting, that is a good indicator of a severe electrical problem. Fire is likely to occur if warning signs like this are ignored. Be sure to get in touch with an electrical contractor to assess the situation and make necessary repairs.
  - Plugging space heaters or appliances (i.e. toasters, refrigerators) into extension cords increases the risk for electrical fires or overloads. This is because they are not capable of handling the electrical load. Always plug space heaters and appliances directly into wall outlets.

## For Additional Information

Please contact [Gwen Butler](mailto:Gwen.Butler@northwestern.edu), Director of Environmental Health and Safety, at 847.491.4936 with any questions. Risk Management Services can be reached at 847.491.5610 or [risk@northwestern.edu](mailto:risk@northwestern.edu).