



5 Minute Safety Talk

Electrical Safety

Electrical Safety: The Dangerous Effects and How to Avoid Them

No matter what industry you work in, it's highly likely you run into potential electrical hazards on a regular basis. But do you know how to address electrical hazards to avoid potential shock? The effects can be deadly. Below you can see that different levels of electrical current, or milliamps, in the human body cause different reactions:

- **1-2 milliamps:** Threshold of sensation
- **3-8 mA:** Mild to painful shock
- **10-15 mA:** Cannot release hand grip
- **20-60 mA:** Severe shock and breathing difficulties
- **70-200 mA:** Risk of death from heart failure
- **400-900 mA:** Burns at exit, entry points
- **> 1 amp:** Major burns

FACTORS THAT CONTRIBUTE TO ELECTRICAL SHOCK:

- If you are working around water, or you are perspiring
- Whether or not electrical outlets are properly grounded
- The path the electrical shock takes through the body
- How long you are exposed to electrical shock
- The size, age and condition of victim
- Whether or not electrical personal protective equipment is being worn
- Whether you are aware of, and following, the safe operating procedure for your equipment
- If the equipment you are working with is poorly maintained
- Other factors to consider: metal conductors, poor lighting, lack of training



COMMON DO'S AND DON'TS OF ELECTRICAL SAFETY

Knowing how to properly use electrical equipment will help you avoid unwanted shock and injury.

- Plug power equipment into wall outlets with their power switches in the "off" position
- Unplug electrical equipment by grasping the plug and pulling – don't pull or jerk the cord to unplug the equipment
- Don't drape power cords over hot pipes, radiators or sharp objects
- Check outlets for missing or damaged parts, and avoid plugging equipment into defective outlets
- Check for frayed, cracked or exposed wiring on equipment cords
- Don't use extension cords in office areas – limit extension cord use to maintenance personnel



Proud Member

- Don't use "cheater plugs" – extension cords with junction box receptacle ends – or other jury-rigged equipment
- Don't use electrical equipment or appliances that are not properly grounded
- Always look for UL (Underwriters Laboratory) on the label of electrical equipment
- Know the location of electrical circuit breaker panels that control equipment and lighting in your area and be able to identify circuits and equipment disconnects on those panels
- Don't store any materials within three feet of any electrical panel or electrical equipment, permanently or temporarily
- Unplug and attach a "Danger - Do No Operate" tag or equivalent on any electrical equipment causing sparks

- Placing electrical cords under furniture or attaching them to walls with nails or staples
- Outlets that are not properly covered with faceplates
- Outlets in bathrooms or kitchens (near water) that do not have a ground fault circuit interrupter

In addition to having electrical safety knowledge, it's also important to be trained in first aid measures. You should know how to identify the different types of shock and when to seek medical attention. What might not seem like a big shock can have major effects on your internal organs. When in doubt, check it out. Remember! Don't touch an electrical shock victim because it might make you another victim – isolate power first.

Electricity is a part of our lives and helpful in so many ways. We just need to know how to work with it safely.

ELECTRICAL SAFETY AT HOME

Bring your electrical safety knowledge home as well. Potential home electrical hazards include:

- Dimming lights, circuit breaker trips or blown fuses
- Overloading electrical outlets with multiple power strips
- Using light bulbs with a higher wattage for the lighting fixture's maximum allowed wattage
- Using old or worn electrical cords

References

Supervisors' Safety Development Program, module 15, National Safety Council, 1121 Spring Lake Drive, Itasca, IL 60143.

Visit nsc.org/members for more safety tips



members get more[®]

Proud Member