



5-minute safety talk

Don't get Shocked

Grounding is extremely important when working with electrical equipment, cables, and conductors. It prevents electricity from coming into contact with you and making you part of an electrical circuit.

Electrical shock occurs when a person becomes part of a circuit and the current flows through the body. The severity of this type of injury is gauged by three factors:

- The amount of current passing through the victim's body
- The route the current takes through the body
- The length of exposure to the electrical current

The longer the current flows through the body, the more severe the injury and the greater the potential for death. Injuries caused by electrical shock include:

- Severe pain
- Difficulty breathing
- Burns (first, second, and third degree)
- Loss of muscle control
- Internal bleeding
- Nerve, muscle, and tissue damage
- Cardiac arrest
- Secondary injuries such as broken bones if the victim falls

Prevention is the best policy

Different environments present different hazards. Consider whether the area is:

- Wet or dry
- Indoors or outdoors
- Well or poorly lit

Also consider the state of your equipment:

- How old is your equipment?
- How reliable is the grounding structure?

- What is the operating voltage?
- What internal safety devices are available?

Additional recommendations:

- Never take short cuts when working with electricity.
- The circuit should be properly grounded. Don't assume circuits have been properly de-energized. Test with a volt meter, voltage detector, etc. before you begin working.
- Use personal protective equipment such as rubber gloves and boots, flame-resistant clothing, hard hat, and eye protection. If the electrical device has been posted as Arc-Flash strength, make sure your equipment meets the minimum rating required.
- Keep yourself and your work area dry and clean; sweat makes your skin more conductive.
- Use insulated tools. Do not use damaged insulated tools.
- Follow all manufacturers' instructions on equipment.
- Use ladders made from nonconductive materials.
- Avoid using extension cords. If you must use them, make sure the ground prong is intact.
- Monitor your tools for wear and damage. Replace when necessary.
- Don't wear metal jewelry or jackets with exposed metal zippers.
- Clean your tools regularly, as dirt also conducts electricity.
- Follow proper lockout/tagout measures.
- Have an emergency response plan in place.

If an electrical shock incident occurs, know how to respond.

- Designate someone to call for help.
- Use a wooden or plastic, nonconductive item to remove the victim from contact with the shock source. Do not touch the victim – you could become part of the circuit yourself.
- If possible, turn off the source of the current.
- Determine if the victim is breathing and check for a pulse. Begin CPR if necessary and if you are properly trained.
- Keep the victim lying down.
- Do not move the victim unless you need to get to a safe zone. A spinal or head injury could be made worse if the victim is moved.
- Keep the victim calm and warm until help arrives.
- Have the victim immediately checked by a medical professional.

Provide the medical professional with as much detail about the incident as possible.

- Did the victim fall? How far?
- Was CPR performed? For how long?
- Was there a fire?
- Was anything inhaled by the victim? What?
- How long was the victim being shocked?
- What voltages were being used?
- Was the victim wearing any PPE?

The full extent of the damage may not occur for hours, days, or even months after the event. While the external physical damage may appear minor, the internal damage may be much more severe. Proper and continuous monitoring of the injury should be done by medical professionals.

Visit [nsc.org/members](https://www.nsc.org/members) for more safety tips

