

Electrical Safety



Welcome to our annual course on Electrical Safety for healthcare professionals. This course provides an overview of common electrical hazards in the workplace and practical ways that you can protect yourself, your patients, and your colleagues from injury.

☰ **Introduction**

☰ **Spot the Danger: Common Electrical Hazards**

☰ **When Hazards Hurt: How Injuries Happen**

☰ **Stay Safe: Inspect, Use With Care, Report**

☰ **Wrap-up**

Introduction



Trinity Health depends on electricity every day to keep our ministries running smoothly. By understanding the risks and using electrical equipment safely, we live out our Core Value of Safety: We embrace a culture that prevents harm and nurtures a healing, safe environment for all.

Course Overview

In this course, you'll learn how to identify electrical hazards and use equipment safely to protect yourself, your patients, and your colleagues from injury.

Key topics covered in this course include:

- **Spot the Danger: Common Electrical Hazards**
 - Frayed, damaged, or misplaced electrical cords

- Daisy chaining
- Wet floors near electrical equipment
- Blocked electrical panels

- **When Hazards Hurt: How Injuries Happen**

- Electric shock
- Electrocutation

- **Stay Safe: Inspect, Use with Care, Report**

- Check cords, plugs, outlets, and equipment for damage or wear
- Avoid daisy chaining and limit use of extension cords and power strips
- Maintain dry surroundings
- Follow your Ministry's process for reporting electrical hazards and follow lockout/tagout procedures
- Leave repairs and testing to the electricians and other trained staff



Spot the Danger: Common Electrical Hazards

Electrical safety is not just for electricians. In fact, it is in the non-electrical occupations where risks are more often overlooked. These hidden dangers lead to many injuries and deaths each year, even in jobs not seen as high-risk. This lesson explains risks and common hazards associated with electricity.

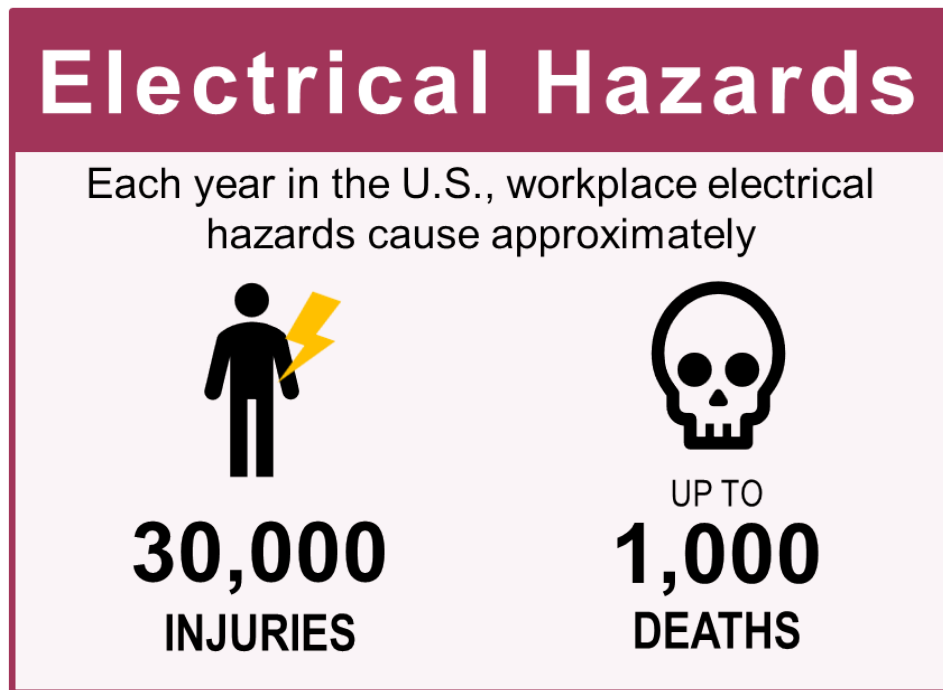
- 1 Understand the risk behind routine use of electricity.
- 2 Identify common electrical hazards in the workplace.

Let's get started.

1

Understand the risk behind routine use of electricity.

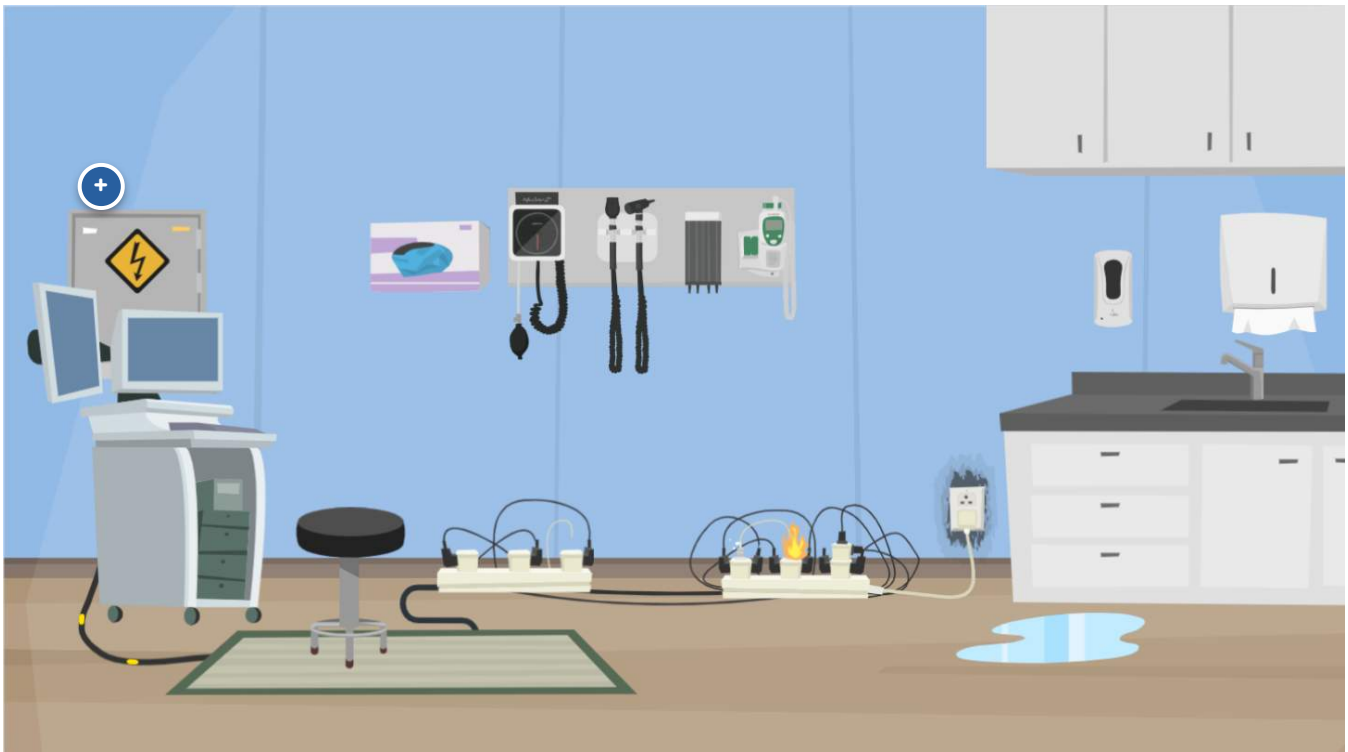
We rely on electricity every day, which makes it easy to forget how dangerous it can be. Each year in the United States, electrical hazards in the workplace - including in health care settings - cause many injuries and fatalities.



Source: National Center for Biotechnology Information, Library of Medicine. Electrical Injuries. January 20, 2025.

In our ministries, electrical hazards are serious concerns. It is our responsibility to watch for electrical hazards that can cause shocks, burns, fires, or worse.

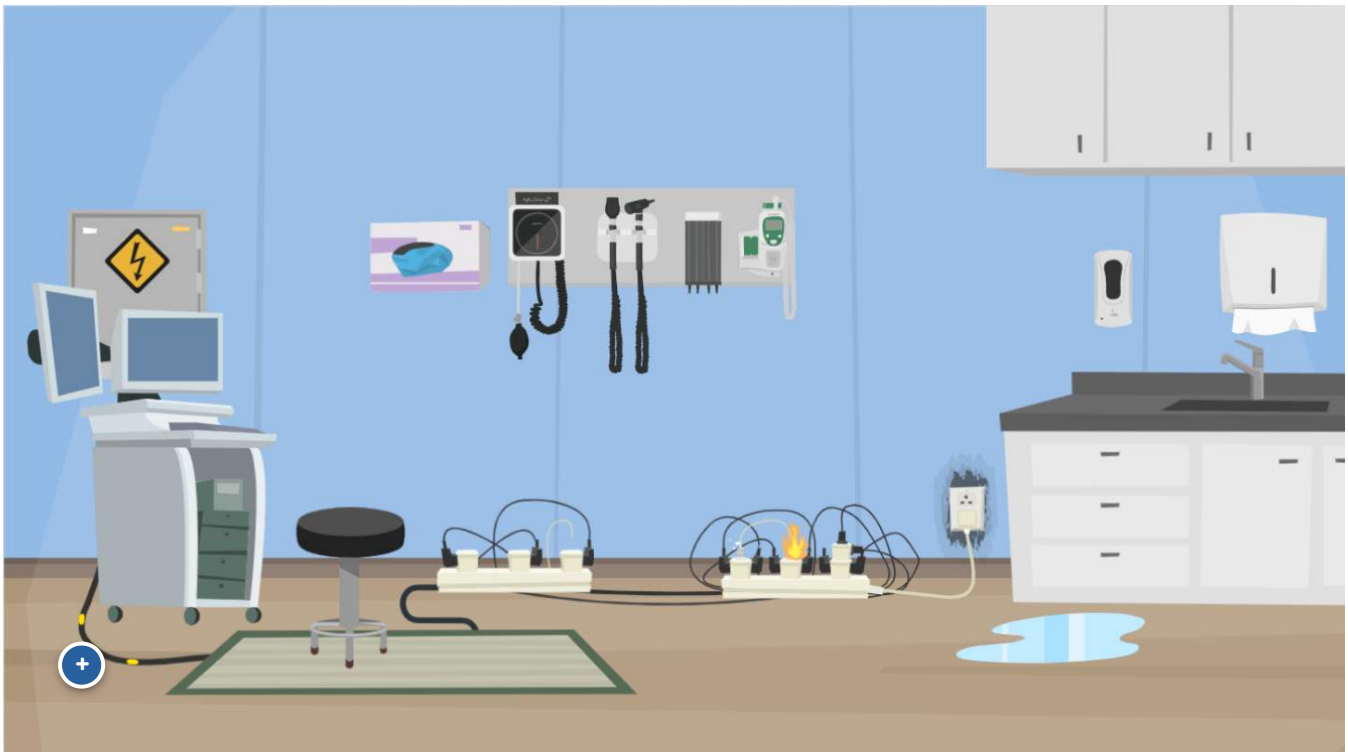




Blocked electrical panels and outlets

Electrical panels are the central hub that distributes electricity throughout a building. Blocking a panel or an outlet can:

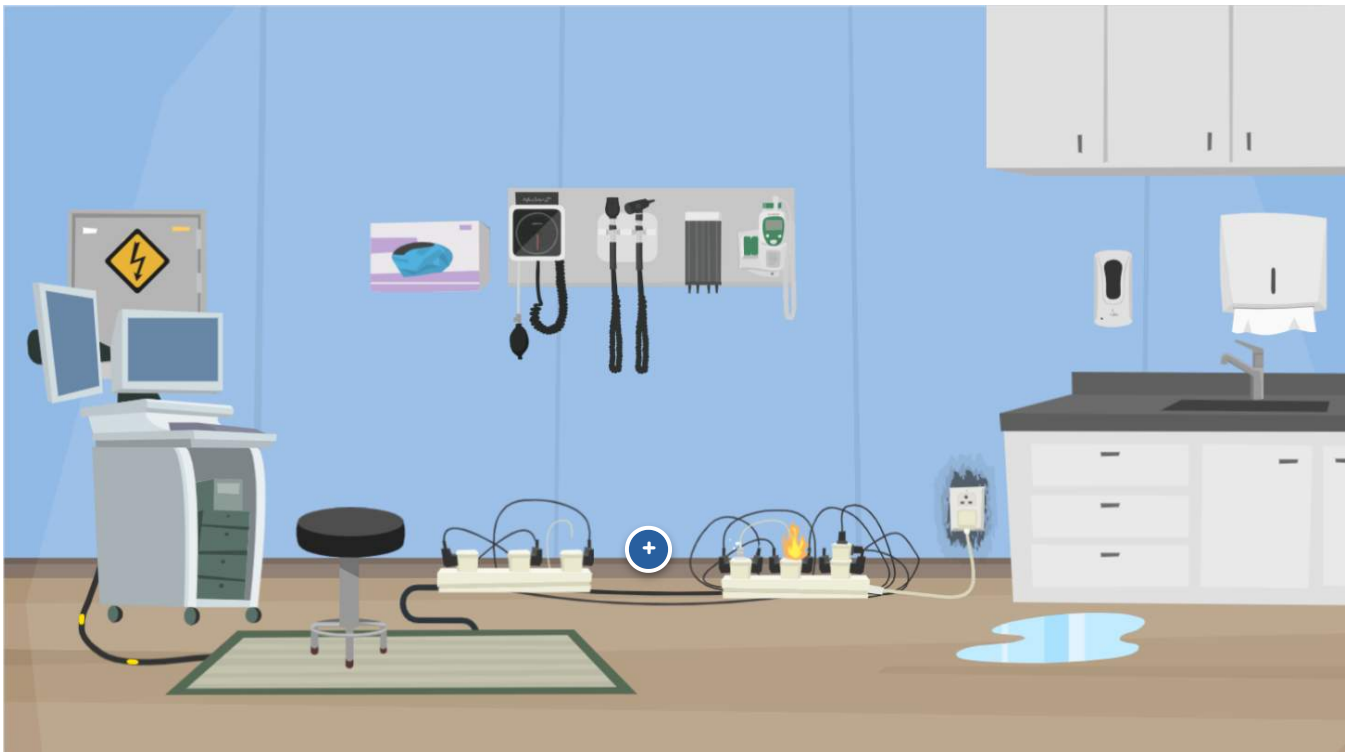
- Prevent technicians from safely and efficiently performing essential tasks such as maintenance, inspections, testing, and repairs
- Prevent urgent unplugs or shutoffs in emergencies



Frayed or damaged power cord

Cords showing external defects should be replaced. Watch for:

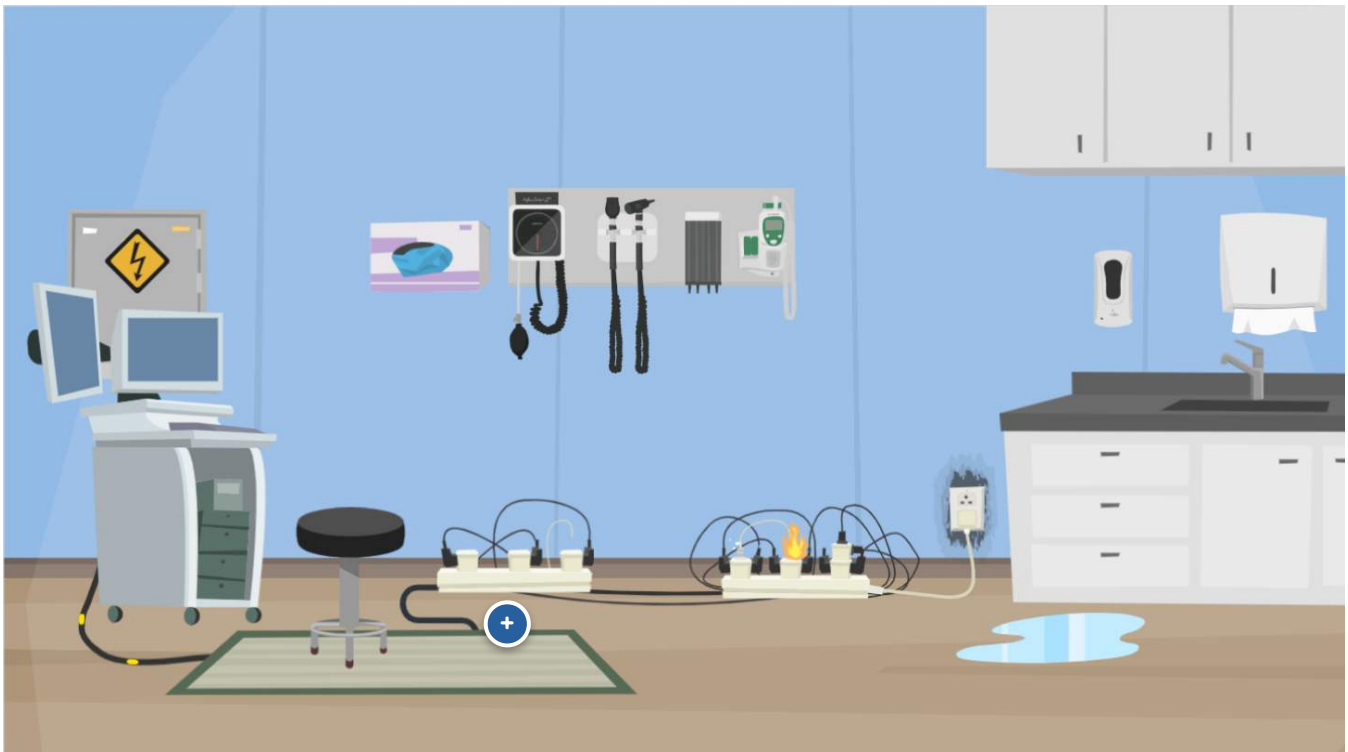
- Fraying
- Exposed wires
- Cuts or abrasions
- Damage to the outer jacket or insulation
- Bent, loose, deformed, or missing plug pins



Daisy chaining

Daisy chaining means connecting extension cords or power strips together. This can:

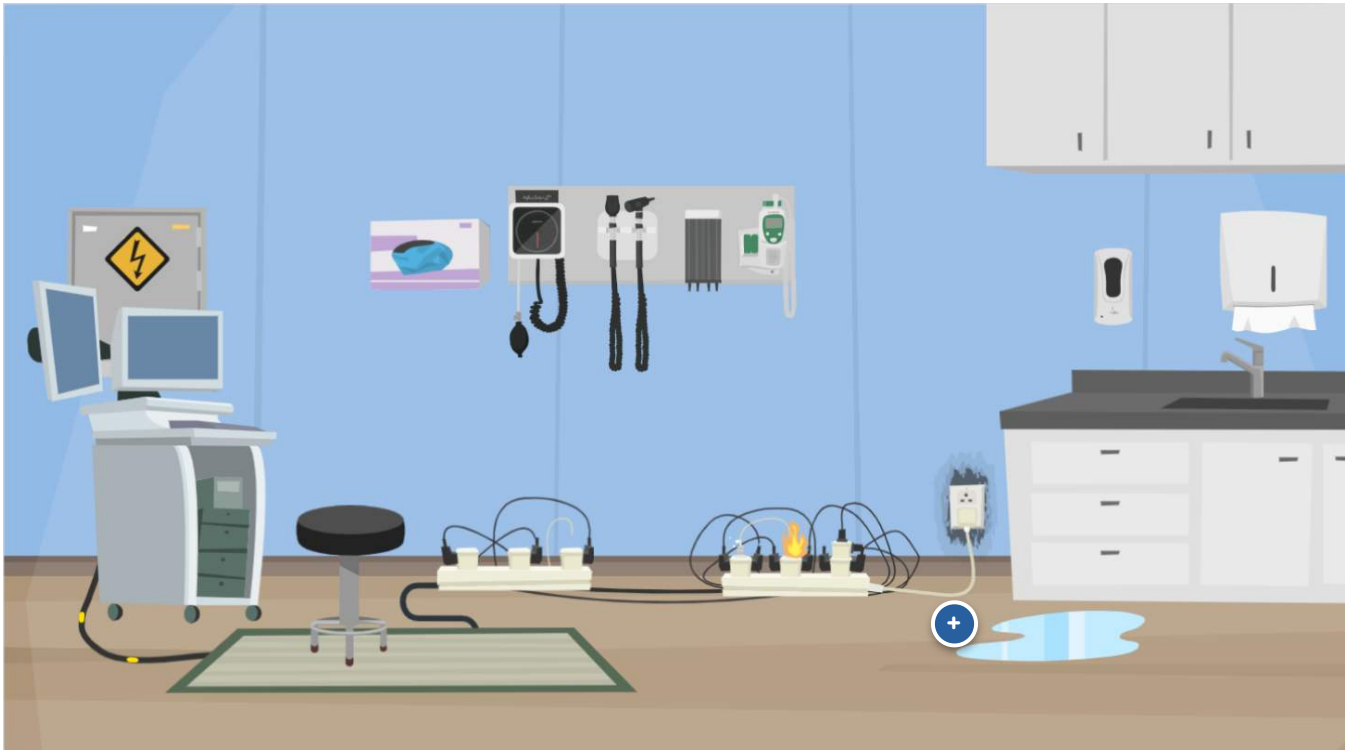
- Create a fire hazard
- Overload circuits (the path electricity follows)
- Bypass built-in safety features of power strips or surge protectors
- Create trip hazards
- Violate manufacturer guidelines



Power cord under rug

Running cords under rugs can:

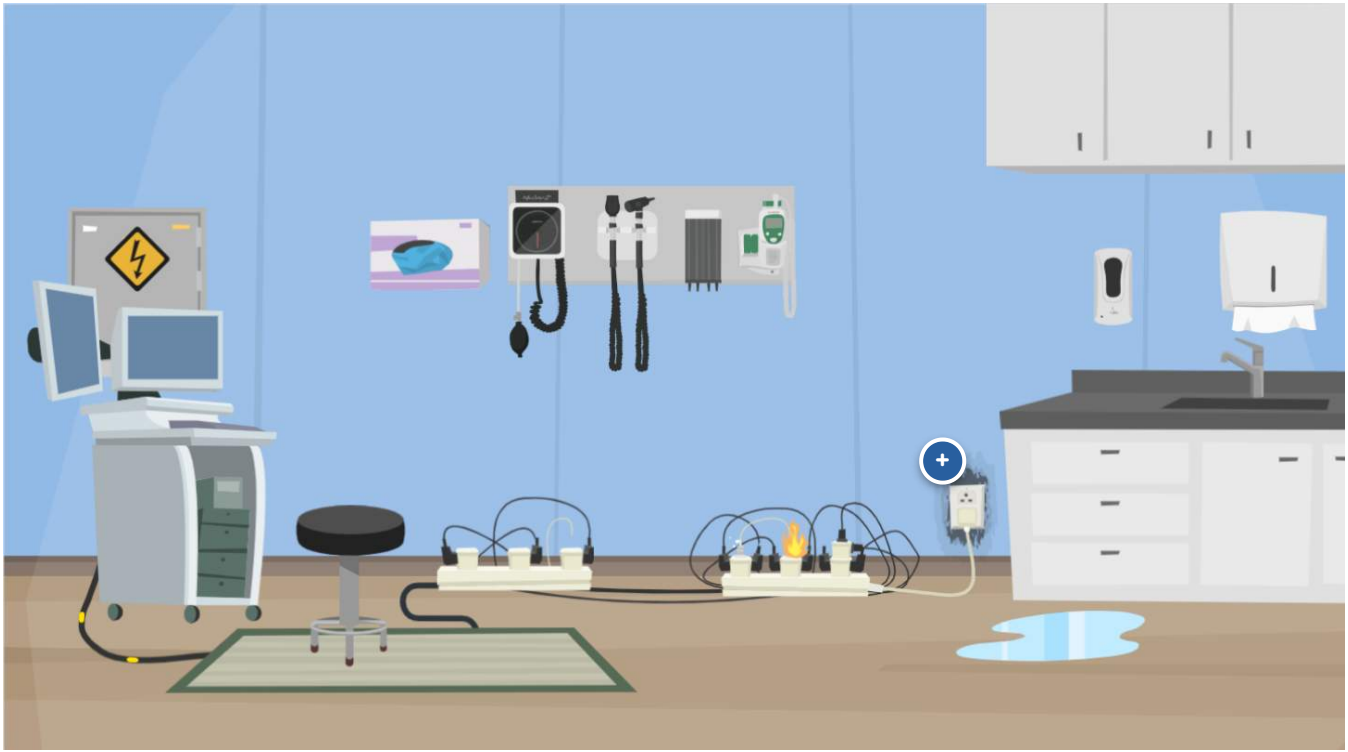
- Cause wear to the cord's insulation
- Trap heat, increasing fire risk
- Hide damage, making it harder to inspect
- Create trip hazards



Wet floor near electrical equipment

Some electrical equipment is made for wet environments, but when it is not, the dangers include:

- Risk of electric shock
- Fire hazard
- Equipment damage



Damaged wall outlet

Damage to a wall outlet could include:

- Broken or missing faceplates
- Burn marks, odors, or discoloration (indicating overheating)
- Loose or exposed wires
- Outlets that spark or feel hot to the touch.

All of these electrical hazards pose a threat to the safety of anyone who comes into contact with them, ranging from minor burns to life-threatening injuries.





Knowledge Check

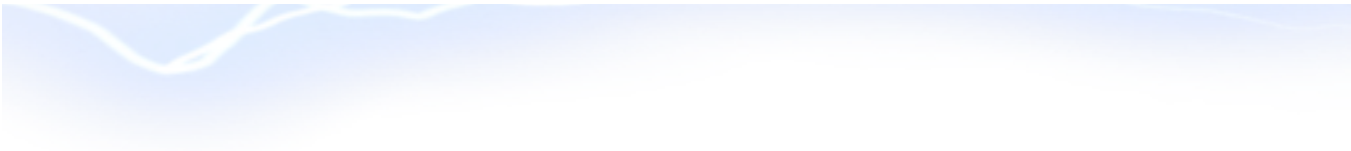
Check your understanding before you move on.

What are some electrical hazards? (select multiple answers)

- An extension cord plugged into a power strip.
- A worn power cord from a desk chair rolling over it.
- Burn marks around the edges of an outlet.
- A leak in the ceiling is dripping onto an electric device.
- There is a cart stored in front of an electrical panel.

SUBMIT





Now that you understand some common electrical safety hazards, let's look at the harm that they can cause.

When Hazards Hurt: How Injuries Happen

What happens when electrical dangers are not identified and fixed? People can get hurt. This lesson explains common injuries that result from unaddressed hazards.

Electrical hazards create risk for injury.

According to the Occupational Safety and Health Administration (OSHA), two common injuries are caused by electrical hazards. These injuries can occur when someone comes into contact with exposed wires, faulty equipment, or other unsafe electrical conditions.

Click both cards to learn more about electrical injuries.

Electric Shock



When electricity passes through the body

Electric Shock

A shock can cause burns, muscle spasms, pain, nerve damage, or even stop the heart.



CAN BE SERIOUS

Electrocution



When heat from electricity travels through the body

Electrocution

Exposure to strong electrical current can cause severe burns, breathing difficulties, heart complications, or even death.



CAN BE SEVERE

You can help prevent injuries by inspecting electrical cords, outlets, and equipment for hazards, and by stopping the use of anything that appears unsafe.



Knowledge Check

Check your understanding before you move on.

What is a possible result of touching an exposed electrical wire?

- Dehydration
- Electric burn
- Frostbite
- Broken bone

SUBMIT



Now that you're familiar with the harm that can result from electrical hazards, let's learn some essential guidelines for staying safe around electricity.

Stay Safe: Inspect, Use With Care, Report

How to Stay Safe

This lesson explains how to stay safe by inspecting, properly using, and reporting any known or suspected electrical hazard.

- 1 Inspect and use power cords, outlets, and electric devices safely.
- 2 Follow your ministry's process for reporting electrical safety hazards.
- 3 Leave the rest to the electricians and other trained staff.

Let's review each of these.

1

Inspect and use power cords, outlets, and electric devices safely.

Safe Use of Electrical Devices

It's important to inspect power cords, outlets, and electric devices before each use, and to handle them safely every time.

Click **Start** to review safety tips.

Electrical cords and plugs



- Cords must have no signs of wear or damage.
- All plug prongs should be present, undamaged, and fit snugly into the outlet.
- Always pull a cord from an outlet by grasping the plug (not by pulling on the cord).

Extension cords and power strips



- Check with your ministry to find out which extension cords and power strips are approved for use, and to confirm the areas where they are allowed.
- Ensure they are in good condition, only used temporarily, and located where they can be inspected for hazards.
- Use only one extension cord or power strip per outlet.
- Never daisy chain extension cords or power strips to avoid overheating, loss of power, fire, or damage to the equipment.

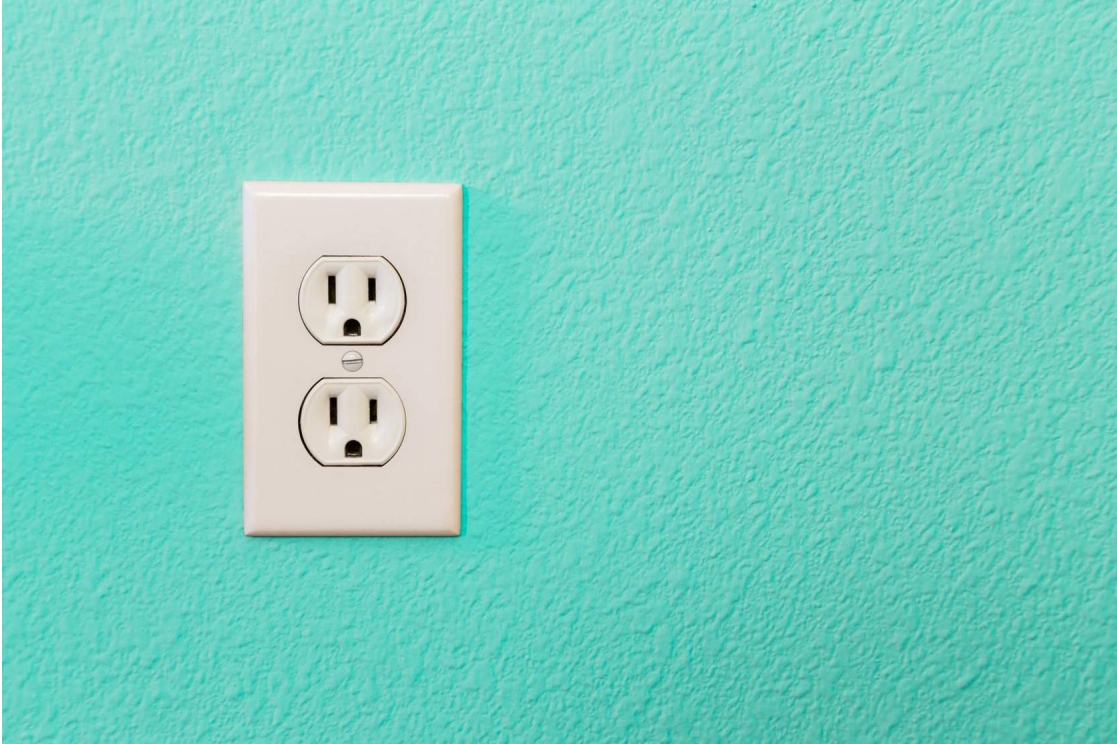
Wet conditions



Exposure to water and other wet conditions dramatically heightens the danger of electrical injuries.

- Do not handle electrically charged wire or equipment while standing in water, with wet hands, while sweating, or when not wearing rubber-soled shoes.
- Do not use equipment that is wet unless it is made for use in wet conditions.
- Do not place electrical cords, extension cords, or power strips near spills or other wet or damp areas.
- Look for **Ground Fault Circuit Interrupter (GFCI)** protection (shown above) near wet or damp conditions. These special outlets shut off power instantly when a hazard is detected, helping prevent electric shock.

Outlets



- Use outlets that are undamaged and have no burning odors or hot surfaces.
- Do not block outlets with carts, boxes, or other equipment.

Electrical panels



All electrical panels (sometimes referred to as fuse panels or fuse boxes) must remain clear and accessible to ensure quick access during maintenance or emergencies.

If it smells or feels hot



If you smell something burning or equipment feels hot:

- Do not touch the equipment.
- Assume it may cause an injury.
- Evacuate the area if there is visible smoke, sparks, or signs of fire.
- Report the hazard.

Electrical safety and our patients



- Patients may bring personal electrical devices from home, and these should also be inspected for potential electrical safety hazards.
- Never touch electric equipment and the patient at the same time.



Knowledge Check

Check your understanding before you move on.

A nurse's station has multiple devices plugged into several power strips that are connected end-to-end. One day, a loud pop sound came from under the desk, the power went out, and a burning smell is noticed. What was the electrical safety hazard in this scenario?

- The devices were left plugged in for too long.
- The power strips were placed too close to the wall without ventilation.
- The surroundings were clear and dry.
- The power strips were daisy chained, creating an overloaded condition.

SUBMIT

2

Follow your ministry's process for reporting electrical safety hazards.

Everyone plays a role in maintaining a safe environment. If you come across an electrical hazard, take action by notifying maintenance or your supervisor right away. This includes electrical outages, which may occur during severe weather or due to equipment failure.

Your Ministry has a process in place for reporting electrical hazards, so make sure you know it and use it when needed. Some patients rely on critical electrical equipment to stay alive, so timely reporting and awareness are essential to their safety.



3

Leave the rest to the electricians and other trained staff.

Your responsibilities include inspecting electrical equipment, using it safely, and reporting any hazards you observe. Do not attempt to make repairs yourself. Electricians and other qualified staff will handle repairs, replacements, and testing. In some cases, they may provide a temporary power source and will notify colleagues once the equipment is back in service.





Lockout/tagout is a safety device used by trained staff to ensure equipment is completely shut off and cannot be used until it has been properly serviced. If you see a lock or tag on equipment, it indicates a known or suspected electrical hazard, and the equipment must not be used.





Knowledge Check

Check your understanding before you move on.

What should you do if you encounter an electrical hazard, such as an outage or damaged equipment, in your work area?

- Unplug the equipment and continue using it
- Wait to see if the issue resolved on its own
- Notify maintenance or your supervisor immediately
- Attempt to fix the issue yourself if it seems minor

SUBMIT



In this lesson, you learned essential guidelines for using electrical equipment and reporting hazards.

- 1 Inspect and use power cords, outlets, and electric devices safely.
- 2 Follow your ministry's process for reporting electrical safety hazards.
- 3 Leave the rest to the electricians and other trained staff.

Let's move on to the final lesson to wrap things up.



Wrap-up

Course Summary

Keeping our patients, colleagues, and ourselves safe around electricity is an important part of our Core Value of Safety. By identifying hazards, using electricity safely, and reporting concerns, you prevent harm and nurture a healing, safe environment for all.

These topics were covered in the course:

- Spot the Danger: Common Electrical Hazards
- When Hazards Hurt: How Injuries Happen
- Stay Safe: Inspect, Use with Care, Report

Resources

Occupational Safety & Health Administration. (n.d.). Hospitals etool. U.S. Department of Labor.
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Occupational Safety & Health Administration. Safety and Health Topics: Electrical. <https://www.osha.gov/electrical>