

SQ: Electrical Safety



Welcome to **SQ: Electrical Safety**.

Select START MODULE to begin.

Be sure to click on all of the interactive elements in the module in order to advance.

Introduction


Electricity Basics

Causes and Effects of Electric Shock

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Introduction



Healthcare facilities rely on electricity. Electricity helps turn on monitors and machines. It makes the lights work. It powers nurse call buttons. But electricity can be unsafe if you are not careful.

You use electric devices every day. You work with and around electricity all the time. So, let's learn how to keep yourself and others safe.

In this module, we will review:

1

What is electricity

2

When and how electricity can be dangerous in a healthcare facility

Please look at the important terms before you begin.

Select "+" to expand.

Glossary —

Adapter

A device that connects one electric device to another

Conductors

Materials or objects that are easy for electricity to flow through

Electric shock

The result of electricity moving through the body. It can cause pain and injury.

Electrocution

Getting hurt or dying because of electric shock

Emergency power supply system

A source of electricity that is used if the power goes out

Ground-fault device

A device on an outlet that helps protect from electric shock. If electricity escapes its path, the ground-fault device stops the flow of electricity.

Insulators

Materials or objects that are not easy for electricity to flow through

Lockout/tagout method

Adding a lock or tag to an electric device or electricity source. This tells workers not to use the device or electricity source.

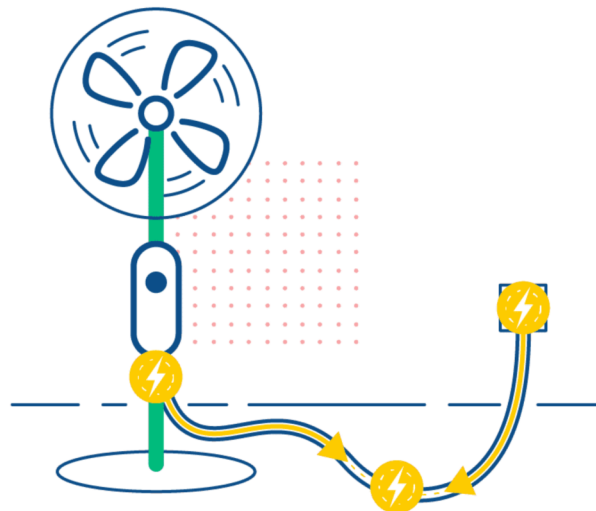
Let's get started!

CONTINUE

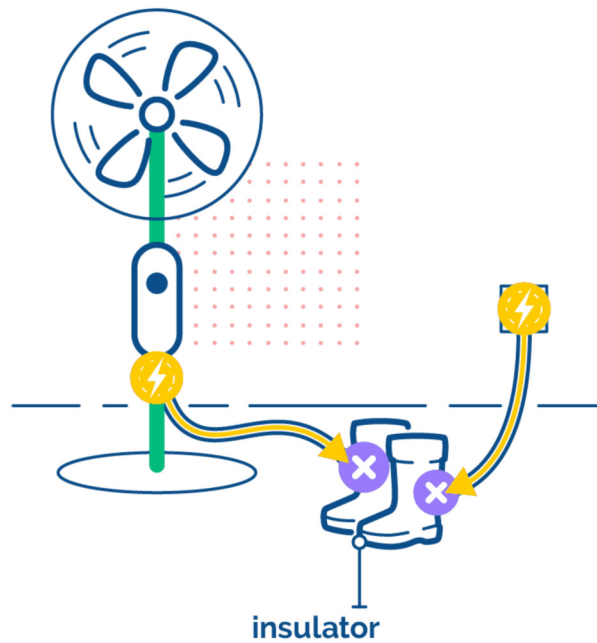
Electricity Basics

Electricity is a type of energy that makes some items work. Think of a fan. When you plug a fan into an outlet and turn it on, electricity makes the fan spin.

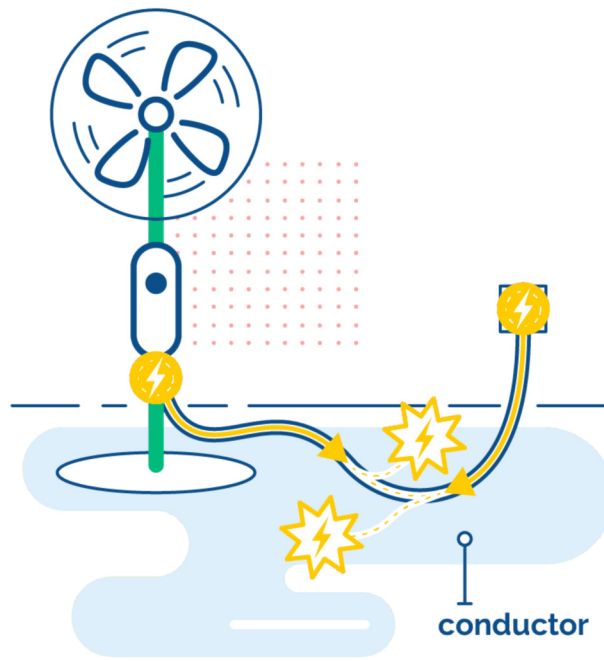
Electricity flows in a circle. Here, it flows from the outlet to the fan and back to the outlet.



Electricity keeps moving between the fan and the outlet. If something gets in the way (or breaks the circle), it is called an **insulator**.



Conductors help keep electricity moving. Electricity can pass through them. These materials include water and the human body. That means you may get an **electric shock** when you touch electricity.



Complete the content above before moving on.

Causes and Effects of Electric Shock



An electric shock can come from touching:

- A damaged electric device
- An object that has more electricity than normal
- Worn wires or broken plugs



An electric shock can hurt someone. Types of injuries include:

- Burns
- Death (**electrocution**)
- Issues breathing
- Muscle cramps
- Numbness or tingling
- Strange heartbeats

An electric shock usually hurts. How much pain depends on:



How much electricity goes into the body

Where the electricity goes into the body

How long the electricity stays in the body

Electricity will likely hurt these people the most:

- Someone wet from sweating or with wet clothes or hands
- Someone with exposed feet, not wearing shoes or socks
- Someone standing in water
- Someone with open wounds



Choose the best option and select SUBMIT.

Which staff person is most likely to get an electric shock when they unplug an electric device?

- The staff person who fully dried a spill on the floor
- The staff person who is wearing rubber gloves and shoes



The staff person who washed their hands but did not dry them, and their hands are still wet.

SUBMIT



Complete the content above before moving on.

How to Be Safe When Using Electric Devices

Healthcare facilities rely on electricity to power most devices. But it can be dangerous. Here are ways you can help keep everyone safe:



Inspect devices for damage.



Look at power cords and outlets.



Report hazards.



Follow guidelines to repair devices and keep them working safely.

Inspect Devices

Know how to use electric devices correctly before you use them.

Be aware of warning signs for electric devices:

- **Look:** Is the device not working? Does it have damage, like cracks or holes? Are all covers in place? Is the device near something that could start a fire (for example, cleaning solution)?
- **Smell:** Does the area smell like it is burning?
- **Touch:** Is the device hot? Did it shock you when you touched it? Is there liquid on the floor or near the device?



Look at the areas around the people in your care. Your actions can keep them safe from damaged electric devices. This includes:

- Do not touch people and electric devices at the same time.
- Examine any devices people or their families bring to the facility, for example, hairdryers.
- Keep floors dry in care areas.
- Move electric devices away from people.



Choose the best option and select **SUBMIT**.

A healthcare worker is cleaning a person's room and finds the nurse call button on the floor. When they pick it up, the device feels warm. There is also a small crack on the back.

Should the healthcare worker report the call button for repair?



Yes

No

SUBMIT

Only trained staff should test electric devices. If a device is damaged, do not plug it in or try to fix it. Staff with special training must do electric circuit testing.

Look at Power Cords and Outlets

Select each focus spot (+) to learn more.





Ground-fault device

Look for a **ground-fault device**. Most facility outlets have this to help protect from electric shock.

Report any outlet that does not have a ground-fault device.



Plug

Make sure the plug will fit into the outlet. The number of prongs on the plug should match the number of holes in the outlet. Three-prong plugs (not two) are the safest.

Plug straight into the wall outlet.

Adapters that interrupt equipment grounding connections may not be used.

When removing the plug from the outlet, grab the plug itself. Do not remove the plug by pulling the cord.



Cord

Keep the cord free from other objects. Do not rest other devices on the cord or bend, stretch, or kink the cord.

Make sure the cord is not broken or worn.

Do not raise or lower equipment using the cord.

Try not to use an extension cord in care areas.

Use tape to attach a cord to floors or walls if needed. Avoid using staples, tacks, or nails.



Outlet/Cover

Look for a cover over the outlet. Check for cracks or damage to the cover. Make sure the outlet is not hot.

Choose the best option and select SUBMIT.

A healthcare worker walks into a room to set up a monitor. When they enter the room, they see that the monitor is off. Before they turn it on, they look around the room. What tells them there could be an electrical safety issue?



- A wheel from the bed is on top of the power cord, pinching it.
- The floor is dry.
- The monitor is cool to the touch.
- The power cord to the monitor looks new and no holes can be found on it.

SUBMIT

Choose the best option and select **SUBMIT**.

The healthcare worker thinks there is an electrical safety risk with the monitor.

What should they do?

- Find a different outlet for the monitor.
- Try to turn the monitor on and off to get it to work.
- Avoid using the monitor. Report the issue to the supervisor or maintenance for repair.
- Stand far from the outlet and pull on the cord to remove the plug from the wall.

SUBMIT

Report Hazards



Everyone on staff should check for electrical hazards. Report them to the maintenance department or tell your supervisor. Follow your facility's process for reporting needed repairs.



A device that needs repair is marked using the **lockout/tagout method**. Trained staff will put a locked tag on the device. This means the device is broken and needs to be fixed. Do not remove the tag or use the device

Follow Guidelines for Device Repair and Upkeep



At your facility, trained staff do regular device testing. There is also a plan if the power goes out. Electricity will come from an **emergency power supply system**.

Choose the best option and select **SUBMIT**.

Who is responsible for inspecting electric devices before using them?

- Any staff person
- No one
- Only maintenance staff
- Only doctors

SUBMIT



Complete the content above before moving on.

Module Conclusion

Remember: Electricity powers many devices used in a healthcare facility. But electric power can be unsafe if you are not careful.

In this module, you reviewed electrical safety topics including:

- 1 Electricity basics
- 2 Causes and effects of electric shock
- 3 How to be safe when using electric devices

References

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You have reached the **end of this** module. To exit and return to the Activity Details, select **EXIT**.