Hazards of Electricity

We couldn't run this facility without electricity. It powers almost everything in the building. The electrical power we depend on needs to be treated with respect, however. When not handled properly, it can be very hazardous.

Electrical fires are one serious hazard. In fact, electricity is one of the most common causes of fire in health care facilities. Fire, or contact with live electricity, can also burn your skin or internal tissues badly.

Another electrical hazard is shock. To understand how serious that is, you have to know a little about how electricity gets from the power station to us.

- Electric current travels through wires or cables called conductors. They're made of metals or other materials that conduct electricity.
- Conductors are wrapped in electric-resistant materials like rubber, plastic, or glass. They're called insulators because they resist the electricity and keep the electric current on its path.
- Electrical equipment and wires are grounded. That means they're connected to the ground through a conductor like a 3-pronged plug or metal circuit box. Grounding creates a low-resistance path for the electrical current, which keeps electrical current from touching you.

You get an electric shock when you touch the ground at the same time you touch a live wire or a piece of electrical equipment with poor insulation. That makes your body an electrical conductor and the electric current goes through you. That electric shock can be dangerous, even deadly. The longer the contact, the greater the shock. The danger is greatest if the current enters your body near your heart.

Shock doesn't have to kill you to cause serious injury. In addition to pain, it can cause cardiac arrest, internal bleeding, damage to nerves, muscles, or tissues, and loss of muscle control and coordination.

Water increases the risk. It can change your body, or anything that normally resists electricity, into something that conducts it. You can easily become a conductor if you contact electricity with wet hands or while standing in water. Even moisture in the air creates a risk.

Basic Electrical Safety

A health care area has so many damp or wet areas that this source of electrical shock is a great concern. As protection, wet areas have weatherproofed enclosures for circuit breakers and switches. In addition, the enclosures and electric cables are usually made of nonconductive materials.

You'll also find special electrical outlets in wet areas and outdoors. These ground fault circuit interrupters (GFCIs) monitor the current going in or out of electrical equipment. If it's out of balance, the GFCI cuts off the power immediately so it won't leak out and shock you.

You still have to take extra precautions when water and electricity come together.

- Never touch an electric wire or electrical equipment when your hands are wet.
- Don't place electrical cords, equipment, or appliances in or near water.
- Don't work with or near anything electric in an area with wet floors, counters, or equipment.

Water isn't the only electrical hazard to watch out for. Remember that insulation keeps the electric current on its path. So always check wires and cords before you use them. Turn in anything that has worn or frayed insulation.

Try to protect the insulation, too. Don't run cords along the floor where feet, furniture, or equipment could damage them. Don't fasten cords with staples. And quickly untwist any cords that are tangled.

Let's close with a few other electrical safety "don'ts."

- Don't use extension cords.
- Don't force a 3-pronged plug into a 2-pronged outlet.
- Don't use a cord whose prongs are bent or removed.
- Don't overload outlets or circuits.
- Don't let anything that could burn, including paper and dust, come in contact with electrical lights and equipment.
- Don't use anything electric that sparks, smokes, smells, shocks, or blows a fuse or circuit. Report the problem immediately.
- Don't try to operate anything electrical that has been locked out or tagged out.

And finally, don't try to work on electrical equipment or circuits yourself. Only people with special training that makes them qualified for the task can perform these jobs. We have our areas of expertise. Leave electricity to those who have the proper skill, equipment, and knowledge.