



Computer Ergonomics Are More Than a Comfy Chair

The awkward positions, excessive reaching, and eyestrain caused by poor computer ergonomics can contribute to discomfort or injury. Back and neck pain and carpal tunnel syndrome are some of the conditions brought on by bad ergonomics. Here are some guidelines to follow when using a desktop computer:

- Position the keyboard at a height that allows you to keep your wrists straight and your shoulders relaxed as you type. Your forearms should be roughly parallel to the floor.
- Find the correct keyboard distance by sitting with your shoulders back and your elbows close to your sides. Your fingertips should rest comfortably in the typing position.
- Your monitor should be centered in front of you and placed approximately an arm's length away.
- With your head level, your eyes should be aligned with a point 2 to 3 inches below the top of the screen.
- Use a document holder positioned near the monitor to avoid straining your neck from reading papers lying flat on the desk.

Laptops are more ergonomically challenging because of the fixed position of the keyboard and screen. Here are a few tips for preventing injury:

- Change positions periodically by alternating between working on your lap or at a desk and setting it on a standing-height surface. Consider using a laptop stand on a desk paired with an external keyboard. A docking station allows for even more flexibility.
- Adjust the screen angle and positioning of other light sources to minimize glare.

Save Yourself from a Shock with Electrical Protective Devices

Shocks, burns, electrocutions, and other injuries happen because of unsafe or improperly installed electrical equipment. Many incidents can be prevented with insulation and other protective devices, including insulating blankets, matting, covers, line hoses, gloves, and sleeves made of insulators. These devices form a critical barrier between you and the hazard, protecting you from shocks and potential electrocution. Some are personal protective equipment, while others directly cover or coat the live electrical parts.

Insulators

Insulators stop or reduce current flow. Rubber, glass, or plastic insulators are used to coat conductors and help confine the current flow along wires or through equipment, preventing shocks, fires, and short circuits when someone or something touches the insulated wire. The type and quality of insulation must match the voltage and withstand environmental factors like temperature, moisture, and corrosive fumes.

Insulation on conductors is usually color-coded. Insulated grounding conductors are usually solid green or green with yellow stripes. Insulation covering grounded conductors is often white or gray. Ungrounded conductors, or "hot wires," are mostly black or red, although they may be any color other than green, white, or gray.

Markings on Protective Devices

Protective blankets, matting, covers, line hoses, gloves, and sleeves are clearly marked with the electrical class and type of equipment. The markings will help you determine the maximum-use voltage that the devices can safely withstand. Gloves have safety markings on the cuffs and include the manufacturer's identification and size.

Electrical protective devices must be tested, with the test date marked directly on the device and recorded in a log. See your supervisor for the log if the date isn't legible on the device.

Inspection

Inspect electrical protective devices at the start of every day and after incidents that could have damaged the electrical equipment. Every device must be free of physical defects or damage that could interfere with its insulating properties. Report any defects or damage to your supervisor so the device can be tested. Failed devices must be immediately removed from service.

Maintenance and Storage

Make sure the protective devices are clean and in good condition. If you are qualified, remove damaged or worn devices from service. If you are not trained or qualified, mark the damaged device and notify a supervisor. Repaired devices must be retested and certified before reuse.

Store all insulating devices to protect them from light, extreme temperatures, excessive humidity, ozone, and other damaging substances that could compromise their effectiveness.



Cold Comfort

Stay Warm and Safe

How cold is too cold? According to OSHA, cold stress can occur when the body is unable to warm itself. This can lead to tissue damage and possibly death. Four factors contribute to cold stress:

1. **Cold air temperatures**
2. **High-velocity air movement**
3. **Dampness of the air**
4. **Contact with cold water or surfaces**

A cold environment forces the body to work harder to maintain its temperature. Cold air, water, and snow all draw heat from the body. OSHA points out that while below-freezing conditions and inadequate protection can bring about cold stress, problems can also occur with much higher temperatures, even in the 50s, when coupled with rain and wind.

The most common cold-induced problems are hypothermia, frostbite, and trench foot.

Hypothermia occurs when body heat is lost faster than it can be replaced. When the core body temperature drops from the normal 98.6°F to around 95°F, symptoms generally begin. The person may begin to shiver and stomp the feet in order to generate heat. Workers may lose coordination, experience slurred speech, and fumble with items in their hands. The skin will likely be pale and cold. As the body temperature falls, symptoms will worsen and shivering will stop. At a body temperature of below 85°F, severe hypothermia will develop and the person may become unconscious; at 78°F, death can occur. Treatment depends on the severity of the hypothermia.

Frostbite occurs when the skin actually freezes and loses water. In severe cases, amputation of the frostbitten area may be required. Frostbite usually affects the extremities. The affected body part will be cold, tingling, stinging, or aching, followed by numbness. The skin turns red in color, then purple, then white, and is cold to the touch. In severe cases, there may be blisters.

Trench foot, or immersion foot, is caused when the feet are immersed in cold water at temperatures above freezing for long periods of time. It is similar to frostbite, but considered less severe. Symptoms include tingling, itching, or a burning sensation.



Electrical Device Safety: Quiz

Choose the correct response to the following statements.

1. Insulators covering conductive materials are usually not color-coded. **True or False**
2. Electrical protective devices should be inspected before use:
 - a. Every day
 - b. Once a week
 - c. Every month
 - d. There's no need to inspect them
3. Repaired devices need to be retested and certified before reusing them. **True or False**
4. The insulation or protective device needs to be able to withstand environmental factors. **True or False**
5. If you find defective or damaged protective devices, there's no need to tell your supervisor; he or she will see them sooner or later. **True or False**

Answers

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1. **False.** Insulation is typically color-coded by the type of conductor it is used on. **2. a.** Electrical protective devices need to be inspected before use each day. **3. True.** Repaired devices do need to be retested and certified; if unsure, check with your supervisor. **4. True.** The insulation needs to both be able to withstand environmental factors and be rated for the voltage being used. **5. False.** Always notify your supervisor in the event of a damaged or defective device. He or she isn't typically "hands-on" with the equipment every day and, therefore, may not discover the problem.

The Eyes Have It

Protect what you have

January is **National Eye Care Month**, which is a great time to be reminded how precious our eyesight is and how we need to protect it. Consider these eye care safety basics.

- **Identify each eye hazard** you face on the job and know specifically how a particular type of safety eyewear protects you from each hazard.
- **Realize why OSHA requires eye protection.** OSHA knows how dangerous many jobs are and imposes strict fines to urge all workers to take steps that will save their eyesight from workplace injuries.
- **Know the consequences** of failing to use required eye protection. Have you heard horror stories—or miracle stories—about how workers' eyes have been injured because they weren't wearing eye protection or their eyesight was saved because they were?
- **Recognize that eye protection gives you more control** over your own safety. The simple practice of donning appropriate PPE in the face of particular hazards gives you that extra measure of control.
- **Be a vision leader.** Always use required eye protection in the work area. Make sure visitors use it, too—even if they're just passing through an "Eye Protection Required" work area. The example you set for co-workers is always a powerful message.

Always protect your eyes with a clear vision for eye safety on the job