



FAST FACT

*Office of Compliance - -
Advancing workplace rights, safety, health, and accessibility in the Legislative Branch*

Computer Workstation Setup

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Adjusting your office environment makes your workspace personal. You can adjust it so your use of the computer does not produce discomfort, pain, or injury. You are the best judge of what works best for your workstation. The guidelines listed below should give you some ideas about how to make your workspace a healthy and productive place.

More than two-thirds of office workspace problems can be resolved by following a simple six-step process:

1. Adjust the chair
2. Adjust the keyboard and mouse (or other pointing device)
3. Adjust the monitor
4. Readjust the chair, if needed
5. Arrange the remaining items on your desk, such as the telephone
6. Move and change positions frequently while using the computer

Adjust the Chair

Adjust the height of your chair so it's low enough for you to rest your feet on the floor and so you will be able to move your legs often. Make sure you remove items stored underneath the desk that restrict knee space. Be sure the front of the chair doesn't apply pressure to the back of your legs. You might be more comfortable if your knees are a little higher than your hips.



Figure 1: Sitting in an "open posture"

Sit in your chair and get comfortable. Don't sit with a perfectly erect posture unless you routinely sit with perfect posture. Most people prefer to sit with an "open posture," (Figure 1) leaning slightly toward the rear of the chair. Some studies have shown that an open posture may be better for the back than a perfectly erect posture.

Adjust the backrest so it firmly supports the lower, curved part of your back and allows you to sit in a comfortable position. If the backrest can't be adjusted so it supports the lower back, attach a lumbar cushion so it will fit into the curved part of the back. Be sure the cushion supports the lower back without causing you to sit too far forward in the chair.

If the chair has armrests, adjust them so they allow your arms to fall relaxed at your sides. They should not force you to "shrug" your shoulders when you're seated in the position you use when operating the computer.

Adjust the Keyboard and Mouse (or other pointing device)

Possibly the most important adjustment you'll make is to provide good linkages between your hands and the computer keyboard and mouse (or other pointing device, such as a roller ball).

What's a good linkage? There are 5 factors to consider:

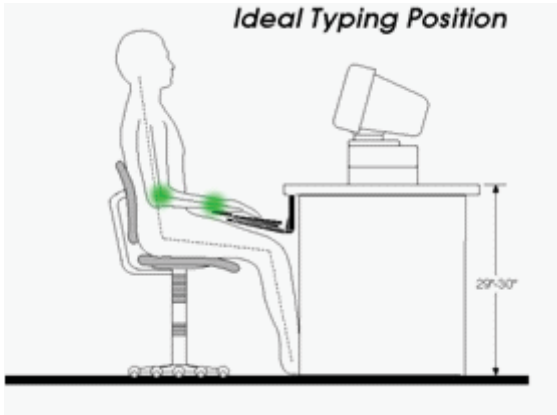


Figure 2: Ideal typing position

1. The elbows should fall relaxed at each side and should be at, or slightly below, a right angle. The “ideal typing position” at the left (Figure 2) demonstrates a good linkage for the elbows.

2. The “ideal typing position” also demonstrates a good linkage for the wrists. Notice that they are straight. Wrists must not bend backwards (toward the ceiling). That position can cause pain, interfere with blood flow, and even affect the nerves in the hands.



Figure 3: Improper placement of the mouse

3. A good linkage includes the mouse (or other pointing device). Your mouse should be at the same level as the keyboard, or possibly lower. You should not angle your forearm upward so it would be higher than your elbow (Figure 3).

4. Your mouse should also be as close to the keyboard as you can get it. The idea is to avoid reaching to the side to move the mouse, as is depicted on the left, (also labeled Figure 3). If you don't use your number keypad, consider placing a cover over it and place the mouse above it. That arrangement will keep your elbow near your side, which is where it should be.



Figure 4: Bending of wrist can cause longterm problems

5. The final factor in establishing good linkages between the hands, keyboard, and mouse is to make sure they're located so your wrists do not bend toward either side (Figure 4). This type of bending can also cause pain, interfere with blood flow, and affect the nerves in the hands. The problem doesn't usually arise when the keyboard and mouse are located directly in front of you.

Adjust the Monitor

Like the keyboard and mouse, the monitor should be located directly in front of you. If it isn't, you're likely to experience neck or shoulder pain.

Place the screen as far away from you as you can but close enough to see the information without straining. It should be at least an arm's distance away. Viewing at distances that are too close produces more strain on the eyes than distant viewing.

If you use bifocals or transition lenses, you will need to locate the monitor at the distance that allows you to see clearly without tilting your chin up. Tilting your head slightly forward and downward should not cause a problem, but you must make sure you don't have to tilt your head back to see the screen clearly.

Adjust the height of the screen so the top is at, or slightly below, the level of your eyes. The top of the screen should be tilted slightly away from you. Think of how you hold a newspaper to read it.

If the lights or windows create glare on the screen, you may need to relocate the entire workstation to eliminate the glare. When possible, the screen should be perpendicular to windows and any other source of bright light. You may, however, be able to use monitor screens to reduce the glare sufficiently.

Readjust the Chair, If Needed

With luck, you've adjusted the locations of the keyboard, mouse and monitor and you're still able to sit comfortably in your chair. However, you might need to readjust the chair to maintain a good linkage with the keyboard and mouse, or an appropriate relationship between your eyes and the monitor. If this happens, you need to make sure your feet don't dangle after the chair has been readjusted.

You can prevent dangling feet by using a footrest. Because footrests limit movement and restrict leg positions, they should be considered a temporary measure until a computer/mouse tray can be installed or the desk can be replaced by one that's low enough to allow the chair to be lowered to a comfortable height.

After the chair has been readjusted, you may need to readjust the keyboard, mouse, and monitor using the same steps discussed earlier.

Arrange the Remaining Items on Your Desk

You have located the keyboard and mouse in the workspace that is between your elbow and your hand. Think of this area as the "computer zone." With that in mind, envision a "near zone," located within arm's reach, and a "far zone" at a distance beyond arm's reach.

You should place the items that you use frequently in the near zone. For some, the telephone should be in the near zone. For others, it should be in the far zone. If you talk on the telephone while entering data into the computer, you may need to wear a headset to avoid cradling the telephone on one shoulder. Supporting the telephone in that manner can cause severe pain in the shoulder and neck.

Material should not be read while placed flat on the desk. That position can result in bending and twisting the neck for extended periods of time; which is almost certain to cause pain in the neck and upper back. A document holder can be used, if it can be located so the neck does not twist when using it, and if it is close enough to see without eye strain. Some people find that a tilted surface, such as a large 3-ring binder, located between keyboard and the monitor provides a suitable means to support reading material.

Move and Change Positions Frequently While Using the Computer

After you've arranged and personalized your workspace, you can take further action to reduce pain. Take "micro-breaks." Remember the "20/20 principle." Every 20 minutes, stop using the keyboard and mouse for at least 20 seconds. During each micro-break, stand up, move around, and look into the distance to rest the eyes.

Conclusion

These six steps will not resolve every potential issue that might be involved with office workspaces, but they should help most office workers adjust their workstations. If you encounter aching, numbness or tingling in your neck, shoulder, arms, wrists or hands, consult a qualified health professional.

For further information click on the OSHA eTool for Computer Workstations.
<http://www.osh.gov/SLTC/etools/computerworkstations/index.html>



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