

HOME OFFICE

Office Ergonomics for the Teleworker

Working from home is our new normal during the COVID-19 pandemic. For many of us, though, it's a brand-new experience altogether. Where we may have perfected our office workstations, our home offices might not feel so comfortable. That's where this guide comes in, thanks to the Division of Safety & Hygiene at the Ohio Bureau of Workers' Compensation (BWC) and the federal Occupational Safety and Health Administration.

Please note: BWC's Division of Safety & Hygiene provides virtual and in-person consultations on safety, industrial hygiene, and ergonomics for private and public employers covered by BWC (State Insurance Fund) at no extra charge to their premium. The division offers a library of tip sheets, online courses and videos related to ergonomics, industrial hygiene and safety. Visit bwc.ohio.gov and our Safety & Training page for more information or call **1-800-644-6292**.

Ergonomics basics

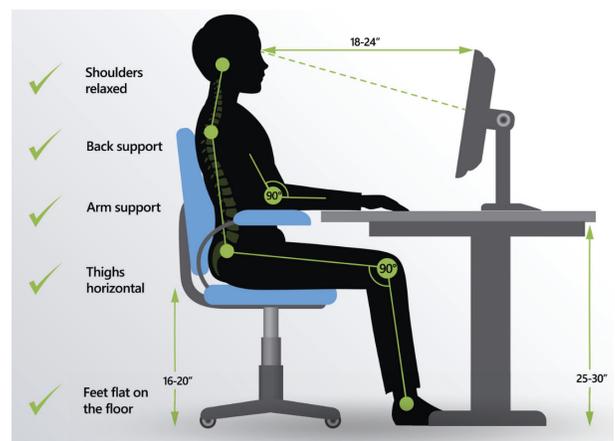
The goal is a neutral seated posture, in which your joints align naturally and you feel comfortable. Working this way reduces stress and strain on the muscles, tendons, and skeletal system. It also increases comfort and reduces your risk of developing a musculoskeletal disorder. Here are some important considerations for maintaining neutral body postures while using a computer:

- Your hands and forearms are straight, the wrist is slightly elevated, and the forearms are parallel to the floor.
- Your head is level, forward facing, and balanced. Your head is in line with your torso.
- Your shoulders are relaxed, and your upper arms hang normally at the side of your body.
- Your elbows stay in close to your body and bend between 90 and 120 degrees.
- Your feet are fully supported, either by resting on the floor or on a footrest.
- Your back is fully supported with appropriate lumbar support when you're sitting upright or leaning back slightly.
- Your thighs are comfortably supported and parallel to the floor.
- Your knees are at the same height as your hips and bent at about 90 degrees.
- There's a little space between the back of your knees and the chair seat edge.

Ergonomic Tricks and Tips

Monitor(s)

- Place the monitor screen directly in front of your face.
- If possible, adjust the height so the top of your monitor is level with your eyes. This will put your neck in a neutral posture, looking straight ahead. If the monitor doesn't have this option built in, consider using a book or reams of paper under the monitor to raise it, if needed.
- If you wear bifocals, consider lowering the monitor to avoid tilting your head back.
- Move the monitor closer to you if you are leaning forward or have difficulty viewing the screen. Change screen font size by pressing CTRL and then forward scrolling (enlarge font) or backward scrolling (reduce font) with the mouse.
- If you are using two monitors, put the monitors directly in front of your face, side by side at the same height.



Here's a helpful visual example of neutral seated posture

Keyboard and mouse

- If your arms and shoulders are elevated, raise your chair height so your shoulders are relaxed. If this higher chair height causes your feet to dangle, use a footrest, box, or three-ring binder to support your feet.
- Lower your chair height if your arms are higher than the keyboard.
- The keyboard and mouse should be at the same level.
- If the edge of the desk is putting pressure on your wrist or forearm, use a wrist rest in front of the keyboard and mouse.

Chair

- Put a chair cushion or small throw pillow on the seat of your chair if it doesn't have enough padding. This can also raise you up if your chair is not height adjustable.
- Attach a small pillow or a rolled-up towel (taped together) in the lumbar area of the chair backrest. This will support your lower spine and reduce the risk of back pain.
- If your chair is height adjustable, adjust the height so your arms are at the same level as the keyboard and mouse.
- Use a footrest, box, or three-ring binder to support your feet, if needed.

Reference Documents

- Place a closed (but empty) three-ring binder directly in front of you between the monitor and keyboard. The thick side of the binder should be closest to the monitor and the thin side should be towards the keyboard. This creates a slanted surface for your papers and will make it easier to view them without awkward neck postures.
- To avoid eye strain, make sure you have good lighting on your papers. Use a task light if necessary but be careful the light doesn't shine directly into your eyes.
- Periodically, look away from your screen or documents and look at objects that are more than 6 feet away. Blink your eyes a few times. This will help reduce dry eyes and eye strain.

Change Your Position

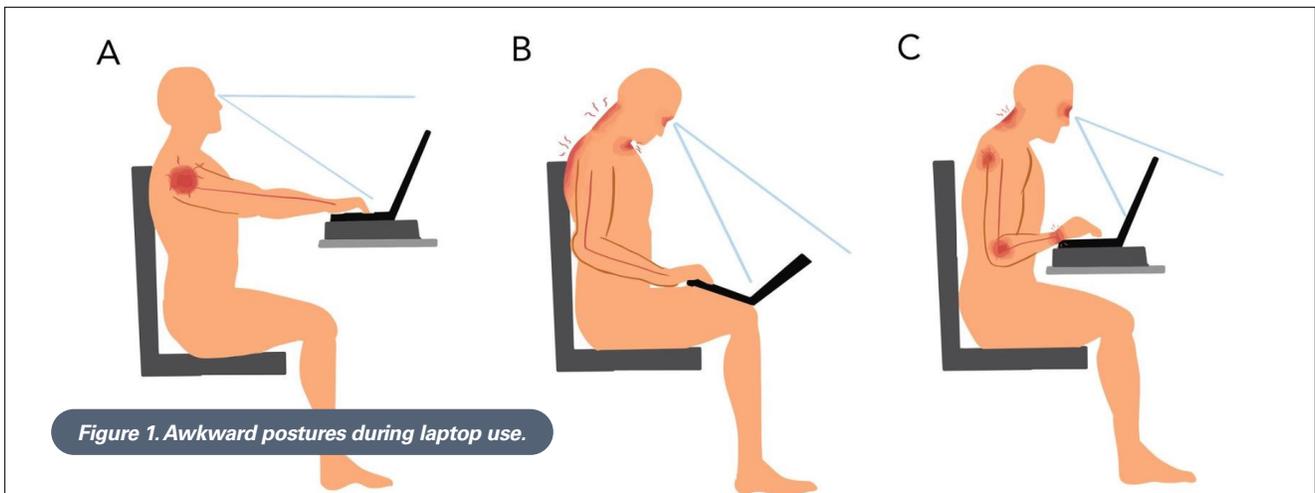
- When working on a computer, take a break or do some non-computer work every hour or two.
- After working for 20 or 30 minutes, stand up and move around for several minutes. Slowly stretch to restore blood flow to muscles that have been maintaining static postures. Stretching can also help improve concentration.
- Incorporate movement throughout your workday. Ideally, you should move and change postures two or three times per hour.

Laptop Users

Long-term use of laptops can cause the user to assume awkward fatiguing postures that result in neck, shoulder, wrist and back discomfort. The cause of the laptop user's discomfort is often due to the "fixed design" of the laptop keyboard, mouse and monitor. If the laptop keyboard is in an optimal position for the user, the monitor is too low; conversely, if the laptop monitor is in an optimal position for the user then the keyboard is too high. As a result, the design and limitations of a laptop often force the user into awkward postures, which can eventually cause pain and discomfort.

Figure 1 provides examples of how laptop operation can impact a user's posture.

- In "A", the laptop is too high and distant, causing the user's arms to be raised and outstretched, resulting in fatigue in the shoulders, neck, back, forearms and hands.
- In "B", the laptop is located on the user's lap, which facilitates good arm position, but forces the user to look downward, leading to muscle tension in the back, neck and shoulders.
- In "C", the laptop is on a surface that is too low and too close for comfortable viewing and too high to support the user's neutral posture. Notice the hands are higher than the elbows, the wrists are resting on the edge of the work surface, and the lower back is not supported. This position increases the risk of discomfort or pain in the neck, back, elbows and wrists.



To avoid the pitfalls of improper laptop positioning, consider the following:

- Use the laptop at a table or desk and sit in an appropriate chair. Don't use the laptop while sitting in a recliner, on the sofa, in bed or other comfortable or convenient place. The table or desk should have enough space for other computer equipment.
- If possible, attach an external monitor that is larger than the laptop screen. Put it directly in front of you (move the laptop to the side) so you can view it without turning your head. In terms of the height of the monitor: the top of the screen should be level with (or slightly below) your eyes when you are looking straight ahead.
- Use an external keyboard and mouse, instead of the laptop's keyboard and touch pad. The keyboard and mouse should be at the same level as your elbow (when your arm is hanging at your side). This will allow you to work with minimal strain on your shoulders, arms and wrists.
- If your table or desk or chair are not height adjustable, you will need to be a little creative to get the keyboard and mouse at the right height (elbow height). Most tables & desks are around 29"
 - **For shorter people**, a 29" table puts the keyboard and mouse too high. Raise your height by putting a flattish pillow or cushion on your chair. You may need several pillows to achieve the right height.
 - If you find that your feet are dangling because they're not fully supported on the floor, use a footrest to support them. A book, binder or more pillows can serve as the footrest
 - **For taller people**, the 29" table is too low. Raise the keyboard and mouse by putting them on books or boxes until they're at the right height.