# Tips for Reducing Ergonomic Risk Factors at Your Workstation

Becoming aware of the ergonomic risk factors at your workstation is the first step to minimizing them. Reducing these risks can improve your comfort and productivity, reduce fatigue, and even help to prevent long term injury.

The illustration shows the optimal layout for a healthy, uninjured person at a seated computer workstation. If you have received a medical diagnosis, suffered an injury, or are experiencing pain or discomfort, you should consult a health care professional prior to making changes to your workstation.

Below is a list of items often found at computer workstations, along with some general suggestions on how to reduce or eliminate the risk factors associated with them.
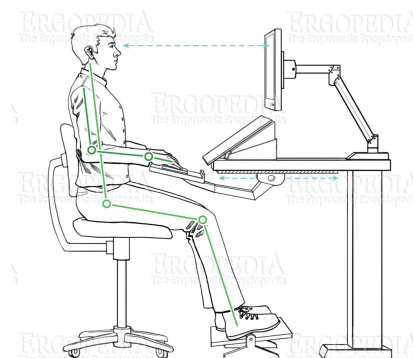
- **Keyboard** – Use a compact keyboard that allows you to use your mouse within your Comfort Zone, and that minimizes ulnar deviation, wrist extension and pronation[1]. To minimize effort while typing, look for full travel keyswitches that provide tactile feedback and have a low actuation force.

- **Mouse** – Use a mouse that eliminates or reduces the need to maintain a strong, static grip, that allows your fingers to relax and to curl naturally, and that has easily accessible buttons.

- **Mousing Surface** – Use a hard, low-friction mouse pad that minimizes drag and provides a uniform mousing area.

- **Palm Support** – Avoid using palm supports as wrist rests. Using a wrist rest when mousing or keyboarding can put pressure on the carpal tunnel area and can restrict blood flow to the hands and fingers. Instead, use a palm support beneath the heel of your hands to keep your wrists straight and to help support the weight of your forearms. Make sure the palm support is flush with or lower than the mouse or keyboard.

- **Work Surface** – Use a work surface that has room for both your keyboard and your mouse. A work surface just above your thighs allows your forearms to slope down slightly to the keyboard. Ideally, your elbows should be about an inch higher than your wrists, and your wrists slightly higher than your fingertips. Remember to factor in the space requirements of your input devices. For instance, a mouse requires an eight inch diameter circular area.

- **Monitor** – Make sure your monitor is placed at least 18" from your eyes. Ideally, there should be a distance at least as much as the diagonal width of the monitor between your eyes and the screen. Adjust the height so that the top of the viewing area is level with your eyes, and so that you are looking at the majority of the screen at a slightly downward angle (5-10 degrees).

- **Reference Materials** – Place reference materials inline (between your monitor and your keyboard) so that you can avoid having to turn your head to either side to read, and can avoid having to reach outside of your Comfort Zone to make notes. If this is not possible, place materials on an angled document holder, writing surface or in a reference organizer, and keep these well within your Comfort Zone.

- **Footrest** – Select a sturdy, height adjustable footrest to prevent your feet from dangling. The tilting platform should be large enough to support both feet comfortably.

- **Seating** – Ensure that your chair is at the correct height relative to your work surface. Your thighs should be at a 5 - 10 degree negative downward slope. Check that the angle at your knees is more than 90 degrees. You might need to add a footrest to your workstation to accomplish this. Adjust the lumbar support, seat pan depth and tilt, and the arm rests to customize the chair to your own size and needs.

- **Laptop** – Whenever possible, treat your laptop like a monitor, and position it as described in the Monitor section above. Use an external keyboard and mouse.

- **Work Habits** – At your desk, use the 20-20-20 rule to reduce eye strain. Take a 20 second break every 20 minutes to look at something 20 feet away. At the same time, take this opportunity to flex your hands and fingers, and relieve any stiffness in your arms, shoulders and neck. Break up long periods of repetitive activity by alternating computer work with other tasks. Walk and take the stairs to stretch your legs and boost your circulation. Drink plenty of water to remain hydrated throughout the day.