

Everyday Office Ergonomics

By Chris Sorrells

Nearly anyone who has used a computer has experienced discomfort in the neck at some point. The most common cause is overuse of the neck musculature to hold the head up, instead of letting the spine do the job. This occurs when the worker juts the head forward while viewing the screen. People are rarely conscious they are doing this. When a screen is too far away for the eyes to see properly, our heads move closer to the screen to fix the problem. Unfortunately, this creates other problems such as neck strain.

Adjusting the Monitor

In general the screen should be about an arm's length away; it can be moved within a six-inch range, either way, depending on the worker's vision. Monitors should always be placed where the user can look straight at them. Constantly looking off to one side to view the screen creates static load in the neck musculature, as well as muscle imbalances that can add up to significant injury. Adjustable monitor arms allow the screen to be placed in front of the worker and then slid out of the way for other tasks.

For users without glasses or for those who use single-vision lenses, the top of the glass screen should be at eye height. This position will let the eyes gaze down on the screen at the preferred angle. Workers who have bifocals will often tilt the head up to view the screen through the lower part of the lenses. The best solution is

to discuss single-vision computer glasses with an optometrist. Otherwise, workers should lower the screen a few inches, so they can view the monitor with the head in a straight-forward position, without the chin pointing up or down.

Positioning the Chair

A properly adjusted office chair is the most important tool that allows an office worker to work efficiently and safely. Surprisingly, most people who are uncomfortable at work have never taken the time to properly adjust their chairs. If there is insufficient lumbar support, patients can compensate with a back support, rolled towel or small pillow. If the seat is too deep—keeping the workers from being supported—they can use a back support or full-length pillow to take up the extra room.

In addition, educate your patients about how to adjust their chairs:

- Lower the chair until feet are well supported on the ground. If they are not firmly planted, use a footrest to provide support.
- Adjust the seat depth so there is one-to-three-fingers' space between the front of the chair and the back of the knee.
- The seat angle and the backrest should allow for approximately a 105-degree angle between the torso and thighs. Sitting too upright increases the pressure in the lumbar intervertebral discs. Leaning too far back will cause the neck to compensate, putting it at risk.
- Adjust the armrests so they are one inch below the forearms. If the patient has any neck issues, bring the armrests up to provide support, without reaching down or up to use them.

Choosing a Keyboard

Design

Most keyboards have a standard design copied from typewriters with a number pad thrown on the right side for increased efficiency. Users typically plop down in front of the computer and center themselves between the side of the keyboard on the left and the mouse on the right. Now the right arm is externally rotated and reaching to use the mouse and then reaching across the mid-line of the body to type, so it is never in a good position.

The best solutions are to move the mouse to the left or use a keyboard that has the number pad on the left side. The workers can then center themselves by lining the bellybutton up with the "B" key.

Angle

Due to the variability of people's shoulder widths and forearm lengths, many workers cannot use a standard keyboard without sustained ulnar deviation at the wrists. This causes static use and overload of the forearm muscles. A keyboard that allows angle and pitch adjustments is the solution to this problem.

Reach

Reaching to use a keyboard that is too high forces the upper traps to fire continuously, creating tension, fatigue and pain. A keyboard tray is the most helpful of the ergonomic tools, as it can fix problems ranging from excessive reach for the keyboard and mouse to improper wrist angles when typing. Since the proper writing height is several inches higher than the proper typing height, the tray will allow both functions to be performed safely.

Rest Breaks and Task Rotation

To work properly, muscles need a break to rid themselves of lactic acid and waste products while delivering oxygen to the tissues to prevent overuse and damage.

Teach patients to take a 15-second micro-break each hour. This is an easy solution for employers to accept, which helps gain compliance. During the micro-breaks, the office workers should shake their arms out or do simple stretches you can provide for them. Computer users should also frequently look away from their screen to focus on something about 20 feet away. This allows a break for the eye muscles. If they can't seem to remember to take breaks, an egg timer can serve as a reminder. A software program such as RSI Guard can also help workers tailor breaks to the amount of work.

People are always concerned about how it will look if they seem to be taking too many breaks or are unproductive. By spreading tasks, like going to the fax and copier, returning phone calls and meeting with co-workers throughout the day, they can still be productive while giving their body a break from the computer.

Starting with these simple adjustments, your patients who work in an office should feel happier and healthier at their jobs in no time. ■

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has launched the largest campaign to support chiropractic through positive press in the history of the profession with:

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- National radio broadcasts
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