Optimal Health University™

Presented by Dr. Michael Corey

Office Ergonomics

Do you ever feel "chained to your desk?" If so, you aren't alone. For many office workers, spending all day behind a desk can have a detrimental effect on physical and mental health.

That's why Dr. Corey is concerned about ergonomics in the workplace. Simply put, ergonomics is the science of equipment design as it applies to operator fatigue and discomfort.

What's any of this got to do with chiropractic? Improper ergonomics can spark what's known as ***vertebral subluxations***. This common condition occurs when spinal movement is restricted or spinal bones (vertebrae) become misaligned. Dr. Corey corrects vertebral subluxations with safe and gentle maneuvers called ***chiropractic adjustments***.

Conditions related to vertebral subluxations range from musculoskeletal problems like carpal tunnel syndrome, headaches and backaches to general health challenges, such as heightened emotional stress and a weakened immune system. Vertebral subluxations are particularly devastating to employees and employers because they lead to conditions that increase absenteeism and lessen productivity.

As a prevention-oriented provider of health care, Dr. Corey educates patients on strategies for avoiding vertebral subluxations, including proper posture and ergonomics.

Sitting Down on the Job

How many hours did you spend sitting in your office chair today? Were you posture perfect or a serious slouch? Was your low back (lumbar area) properly supported at all times? And what about the rest of your spine?

It's difficult to assess these things by yourself, which is why more and more companies are enlisting the services of professionals who monitor employee posture and movement for ergonomic deficiencies.

Some companies are even turning to electronic sensors that detect back-recline angles, lumbar engagements and armrest use. Several "position switches" are mounted to an employee's chair and linked to a microprocessor. The microprocessor, in turn, tracks the various positions and generates a report.

According to industry experts, electronic sensors "provide an automated, independent method for collecting data on chair positions. Information can be collected and studies conducted on seated durations, chair back motion while seated, chair lumbar usage and common armrest location while in a visual display terminal workstation." (*Clin Biomech* 2003;18:981-4.)

If your company doesn't provide visual or electronic ergonomic feedback, try these tips:

- Choose an adjustable chair with adequate back support. You may also want to talk with the doctor about adding an additional lumbar-support pillow.
- Position your chair so that your knees face forward at 90-degree angles and your feet are flat on the floor. This may require you to lower the seat portion of your chair or add a footrest.

Monitoring Your Monitor

Ergonomic experts suggest sitting at least one arm's length from the computer screen (approximately 20 to 24 inches) and adjusting the terminal so that the top of the screen is at a 90-degree angle to eye level.

A computer monitor placed too high or too low can also trigger neck pain. If it's too high, it can cause an exaggerated stretching of the neck. If it's too low, the neck retracts downwards into the shoulders. Both postures force the alignment of the spine of the neck (cervical spine) off balance, leading to vertebral subluxations.

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Calling off Neck Pain

Another instigator of work-related neck pain is the telephone. One of the worst things you can do to your cervical vertebrae is wedge a telephone receiver between your shoulder and your jaw. Instead, opt for a lightweight headset or a speaker phone.

Managing Your Mouse

According to a study of 2,374 office workers in Japan, "the inconvenient arrangement of the mouse in relation to the body," along with the mouse being at an inappropriate height to the desk, set workers up for arm, wrist and neck pain (*Sangyo Eiseigaku Zasshi* 2004;46:201-12).

The traditional computer mouse forces workers to overuse muscles in their arms, shoulders, neck and upper back, often leading to vertebral subluxations and related problems.

If you have a traditional mouse, send it packing. Replace it with a more ergonomic-friendly variety, such as a touch-screen or ball-roller. These devices require much more subtle movements and restrict movement to mostly one or two fingers.

If your mouse isn't built into your keyboard, place it conveniently as possible to minimize arm and wrist movement. Never place a mouse at a different level than the keyboard (for instance in a lower folding drawer). And don't leave your hand resting on top of the mouse when you're not using it. Look at the way your hand is bending upwards from the wrist the next time you use your mouse, and you'll understand why maintaining this posture can result in pain.

Keying in on Keyboards

If you are like most office workers today, your computer keyboard is a flat, one-piece unit. The geometry of these conventional keyboards, however, forces the wrists into a downward deviation — simultaneously turning the forearms outward.

Two-piece, slanted keyboards — with a triangle of open space between each half — keep wrists and forearms at near-neutral positions. And studies show that "experienced ten-digit touch typists readily adapt (within ten minutes) to these individual alternative keyboard features, and can type with approximately the same speed and accuracy as with the conventional keyboard." (*J Orthop Sports Phys Ther* 2004;34:638-49.)

If getting a new keyboard isn't an option, the next best thing is to focus on incorporating the following tips into your daily routine:

- Periodically release the tension in your shoulders and allow your arms to relax comfortably. If your chair is positioned at the correct height, this posture will occur naturally.
- "Float" your hands slightly above the keyboard while typing, rather than resting your wrists on a desk or wrist pad. The horizontal pad should only be used during rest periods in between keying. And keep your touch light: Don't "beat" on the keys.

Easing Eye Pain

Computer Vision Syndrome (CVS) is a relative newcomer when it comes to work-related health issues. Symptoms include eye pain and an overproduction of tears.

According to researchers in Puerto Rico — who say CVS remains an underestimated and poorly understood dilemma in the workplace — "the most important factor leading to the syndrome is the angle of gaze at the computer monitor. Pain in computer users is diminished when gazing downwards at angles of 14 degrees or more." (*Bol Asoc Med P R* 2004;96:103-10.)

So, to protect your eyes, align your monitor as instructed in the previous section on monitors. It's also important to minimize glare. Ceiling lights, desk lights and office windows can cause glare that results in teary, itchy and watery eyes. Worse yet, glare can also spark migraine headaches.

Remedies include relocating your workspace or purchasing a glare filter that drops down over your monitor's screen. You can also experiment with adjusting your monitor's color and contrast buttons to reduce eyestrain.

Shutting your eyes periodically also helps. While shut, slowly shift your eyeballs left to right, then up and down. This allows your natural tears to remoisten your eyes and provide relief.

Take a Break

Working through your lunch hour and break time may help you get ahead in the office, but it will also compromise your health.

That's why it's so important to take a break every 30 minutes. If you have trouble giving yourself "permission" to get up, make sure to drink plenty of water while you work. Then you won't have to force yourself to take a break, you'll have no choice but to answer the call of nature! Plus, you'll be doing your body an extra favor by keeping properly hydrated while you work.

We Care

Our chiropractic office is committed to keeping your spine — and overall health — on the straight and narrow. If you have any concerns about how the ergonomics of your workplace may be affecting your health, plan on discussing it with the doctor on your next visit.