

Proper posture, work breaks minimize injuries

Employers should address 2 main ergonomic risk factors for workers using computers

BY KRISTI MacAULAY

The typical office worker spends up to eight hours seated at a desk, often in front of a computer and telephone. The wrong workstation set-up can lead to various physical ailments that in turn lead to lowered productivity and days off work. As such, ensuring all workers who use computers on an ongoing basis have the best working techniques and practices makes good business sense.

The three main risk factors to take into account when evaluating ergonomic risk, in any situation, are force, posture and repetition and duration. When using a computer, force is typically minimal and doesn't contribute to the development of ergonomic-related injuries. Therefore, when evaluating a computer workstation, the primary areas of focus are a worker's posture and the repetition and duration of tasks.

Working postures: Upper body

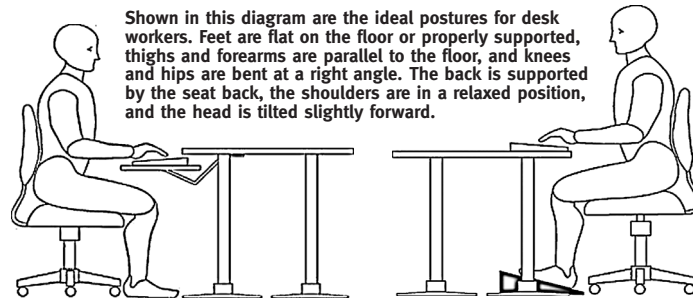
When examining the posture of a worker at a computer, the shoulder, hand and wrist postures are very important.

Many jobs require not only the use of a keyboard but a mouse as well. Mouse use has been associated with awkward postures and shoulder and wrist strain. When mousing with the right hand, the upper body is often placed in awkward postures due to the design or layout of the keyboard.

Since the mouse is typically placed to the right of the keyboard, the number pad on the keyboard increases the distance from the worker's midline to the mouse, causing extra stress on the shoulder muscles.

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Ideal working postures



The effect on a worker depends on her size. For example, a slight, petite female would be required to reach farther from her midline than a taller, stockier male. As a result, risks and postures must be evaluated on a case-by-case basis.

The following should be considered when determining if a keyboard and mouse are set up to encourage ideal working postures:

- Both the keyboard and mouse must be located on the same level — either both on the desktop or both on the keyboard and mouse tray.
- Workers should be able to use both the keyboard and mouse while maintaining the ideal working postures shown in the above diagram.
- Workers should be able to work with their arms and elbows on the armrests or desktop when using the mouse. Anchoring at the elbow instead of at the wrist decreases the muscular strain placed on the wrist joint and permits the larger muscles to be utilized.

Another option is to put the mouse to the left of the keyboard, which means workers won't have to reach as much and

keeps a worker's shoulders in a more neutral posture. Also, if the worker rarely uses the number pad, he could use a keyboard with a number pad on the left side or a keyboard that doesn't have a number pad at all.

Mouse pads with a wrist support or gel pad aren't the ideal solution because workers often rest their wrists on the pad when they're using the mouse. Anchoring the wrist this way actually increases the risk of ergonomic strain. Workers should only rest their wrists intermittently on the gel pad.

Working postures: Back

One of the most consistent changes made when completing a workstation assessment is adjusting the work chair. If workers are reporting increased back discomfort, the first step should be to determine if their chair is adjusted to best support them. This includes the backrest height and angle, as well as seat-pan depth and angle.

These adjustments are subtle and may appear minor but can have a large impact on a worker's comfort level. The chair should support the worker and permit her to work in the

ideal postures shown in the above diagram.

Repetition and duration

After targeting workers' postures, the repetition and duration of tasks should be considered to reduce the risk of injury. One way to decrease injury due to repetitive or long-lasting tasks is a work-rest program. However, this can be a daunting task that raises many questions:

- What length of break is necessary to encourage muscle recovery and eyestrain reduction?
- Will productivity decrease if employees are taking frequent breaks?
- How do workers know when they should take a break?

Recent research in this area shows that computer users who take more frequent rest breaks benefit from not only a decrease in musculoskeletal discomfort but also an increase in productivity. However, it has also been shown even when employers encourage workers to take rest breaks, workers may not take them or wait until they feel pain before taking them, which is too late.

The decision to implement a work-rest program and how it is conveyed to workers should be undertaken with consideration of their tasks and preferences and all workers should be educated on the need for these breaks.

Kirsti MacAulay is the principal ergonomist and owner of Options Incorporated in Guelph, Ont., which provides short- and long-term ergonomic support to employers. She can be reached at (800) 813-4202. For more information visit www.oieweb.com.