Ergonomic Evaluation

Workstation Ergonomic Evaluation
Ergonomics is the application of human biological sciences with the engineering sciences to achieve optimum mutual adjustment of people and their work, the benefits measured in terms of human efficiency and well-being.

The Department of Environmental Health and Safety (EHS) can assist in correcting many of the ergonomic problems faced in your immediate work environment. Most of the problems that result in repetitive injuries can be solved with simple, yet effective solutions. If you are experiencing discomfort and feel that it is a result of current work station design, review the following information for helpful information. If you need additional assistance please contact EHS and a staff member can assist with your work area evaluation.

Here are links that further explain ergonomics and can assist in self-evaluation:

- ♣ IBM's http://www.pc.ibm.com/ww/healthycomputing/
- ♣ F-One Ergonomics http://www.office-ergo.com
- ♣ 3M's Self-help Site http://www.3m.com/cws/selfhelp/index.html
- ♣ Iowa State University http://www.ehs.iastate.edu/ebooks.htm
- ♣ OSHA http://www.osha-slc.gov/SLTC/ergonomics/
- ♣ NIOSH http://www.cdc.gov/niosh/ephome2.html

Workstation Ergonomics
Ergonomics means fitting the workplace to the worker by modifying or redesigning the job, workstation, tool or environment. Workstation design can have an impact on office workers health and well-being. There are a multitude of discomforts which can result from ergonomically incorrect computer workstation setups. The most common complaints relate to the neck, shoulders, and back, but can also include arms, hands, and occasionally the eyes. For example, poor chairs and/or bad posture can cause lower back strain; or a chair that is too high can cause circulation loss in legs and feet.

Common characteristics that may be associated with increased risk of musculoskeletal problems include:

- ♣ Workstation Design
- ♣ Nature of the task
- ♣ Repetitiveness
- ♣ Degree of postural constraint
- ♣ Work pace
- ♣ Work/rest schedules
- ♣ Personal attributes of individual

Arranging Your Workstation to Fit You
The key to comfort is maintaining the body in a relaxed, neutral position. Have someone in your department observe your position (use following list).The ideal work position is to have the arms hanging relaxed from the shoulders. Review the following information and make adjustments as necessary:

- ♣ Adjust the height of your chair's seat such that the thighs are horizontal while your feet are flat on the floor.
- ♣ Adjust the seat pan depth such that your back is supported by the chair back rest while the back of the knees are comfortable relative to the front of the seat.
- ♣ Adjust the back rest vertically to support/fit the curvature of your lower back.
- ♣ With your arms at your side and your elbow joint at approximately a 90 degree angle, adjust the height/position of the chair armrests to support your forearms.

- ♣ Adjust the height of the keyboard so your fingers rest on the keyboard home row when your arms are to your side, your elbows are at a 90 degree angle, and your wrists are straight.
- ♣ Place your mouse, trackball, or special keypads, next to the keyboard tray. Keep your wrist in a neutral position with your arm and elbow close to your body.
- ♣ Adjust the height of the monitor such that the top of the screen is at eye level. If bifocals/trifocals are used, place the monitor at a height that allows easy viewing without tipping your head back.
- ♣ Place reference documents on a document holder close to the screen and at the same distance from your eyes.
- ♣ A footrest may be necessary if you cannot rest your feet comfortably on the floor.

Your Workstation Environment

The workstation environment and the way a task is performed can influence the risk of injury and general work productivity. Good technique can make a job easy and safe. This can be accomplished by:

- ♣ Adjusting the drapes or blinds to decrease/increase light
- ♣ Moving the monitor away from sources of glare or direct light
- ♣ Tip the monitor slightly downward
- ♣ Using diffusers on overhead lighting
- ♣ Placing an anti-glare filter on the screen
- ♣ Clear desk from obstructions that are not used on a regular basis
- ♣ Place frequently used items within easy reach, no twisting or stretching
- ♣ Clean the monitor screen on a regular basis
- ♣ Avoid cradling the telephone between the head and shoulder. Hold the phone with your hand, use the speaker phone, or a headset
- ♣ Keep frequently used items like the telephone, reference materials, and pens/pencils within easy reach
- ♣ Position the monitor directly in front of the user
- ♣ Move between different postures regularly
- ♣ Apply task lighting as to your needs
- ♣ Use the minimum force necessary to strike the keyboard/ten-key keys.
- ♣ Use the minimum force necessary to activate the hole punch and stapler
- ♣ Vary your tasks to avoid a long period of one activity
- ♣ Take mini-breaks to rest the eyes and muscles. A break does not have to be a stop of work duties. However, it should be a different style of physical activity such as changing from keyboarding to using the telephone or filing
- ♣ Neutralize distracting noise by using ear plugs, playing soft music, or turning on a fan
- ♣ Maintain a comfortable workplace temperature by using layers of clothing or a fan

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