Ergonomics Overview

Introduction

What is 'ergonomics' and how does it impact us? Ergonomics is the study of the relationship between people, their work and their workplace. The primary goal is to help the body move in natural ways and reduce stressors that might cause damage.

Common Musculoskeletal Disorders

The most common 'pains' come from the neck, low back, shoulders, elbows, wrists and hands and eye strains. This primarily occurs due to one or more of the four primary risk factors of awkward postures, using excessive force, repetitive motion or contact stress. In addition, how employees lift and move their bodies contributes to the various disorders.

Computer Concerns

One of the biggest ergonomic issues is the use of personal computers in the work area. Improper positioning of the computer or workstation can cause various disorders, but if some care if given to some basic rules, those problems can be avoided.

Maintaining Flexibility

One of the main contributing factors to strains is the body moving in ways that it is not ready to move or using muscle groups that haven't been 'warmed up' for work. There is real value in practicing some basic stretching exercises to prepare our bodies for work.

Simple stretching exercises for our hands and wrists, back and neck can help to avoid problems during the day. Hands and wrists should be stretched so they are ready to move in typical ways required at work. Your neck can be stretched gently from side to side and then from front to back. Your back can be stretched while sitting in a chair and bending so your chin gets close to your knees.

Proper Computer Position

This diagram shows the proper computer position that reduces potential stressors that may cause varied disorders. When using a computer, remember some basic rules:

- **Rule #1:** Maintain your neck in an upright position so the screen is at or slightly below eye level.
- **Rule #2:** The monitor should be at least 18" from your eyes.
- **Rule #3:** Keep your elbows at the sides of the body and at a right angle to the keyboard.
- **Rule #4:** Keep your wrists in a straight or neutral position to avoid stressors on the carpel tunnel.
- **Rule #5:** Avoid excessive force such as gripping the mouse too tightly or typing in the same position for too long.
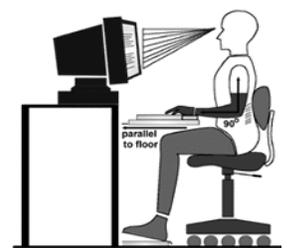
Lifting Techniques

How we lift and use our back will determine if we experience pain and what kinds of troubles we can avoid.

First, when lifting, size up what is going to be lifted and if it is too awkward, too big, or too heavy, get some help lifting it. On many occasions, people have lifted items that were too big for them and the results were painful.

Second, always lift with your legs and never with your back. Your legs are your biggest muscles and are designed to lift heavier objects. Use them to lift items off the ground instead of your back. Never bend at your waist when you are lifting heavier objects because you will end up having low back pain, and that pain can indicate musculoskeletal disorders.

Third, avoid lifting and twisting all in the same motion. Your first goal is to get the object off the ground and then, once your legs are straight, you can move your legs instead of twisting your back.

One final thought on lifting – back belts don't help people lift and may cause more trouble than they are worth if properly lifting principles are ignored. Lifting with your legs and not your back is the best way to avoid back injuries when lifting; on the job or at home.

Some Simple Steps to Avoid Stress

Much has been said about re-designing work stations and taking action against cumulative trauma disorders, repetitive motion injuries and other ergonomic-related problems. One of the best ways to avoid these situations is to recognize that muscles need some rest every now and then.

As you are working, take a moment to allow worked muscles to rest periodically; take a moment to stretch your muscles again. If you are sitting, stand up and stretch. If you have been typing for a while, stop and stretch your hands and wrists again. If you have been standing for long periods of time, sit down and stretch your back out again. If you can alter the work that you do and use different muscle groups, change work after a period of time to give one set of muscle groups a rest while using some others. Sometimes a little common sense can go a very long way in reducing painful situations.

Final Thoughts…

When you have work station design issues that need reviewing, remember to bring this information to your supervisor's attention. The company is very interested in making sure that everyone is able to work without pain. If you have any questions regarding your work area, please let them be known.

Ergonomic Best Practices
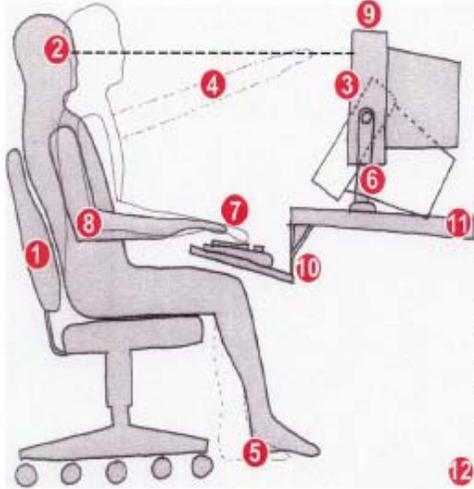
1. Use a good chair & sit back.
2. Monitor casing 2"- 3"above eyes (top of screen level with eyebrows).
3. No glare (anti-glare filters if needed).
4. Sit at arms length from monitor.
5. Feet on floor or stable foot rest.
6. Document holder even w/monitor
7. Wrist flat and straight.
8. Arms & elbows in and relaxed.
9. Center monitor & keyboard.
10. Negative-tilt keyboard w/ mouse platform.
11. Use stable work surface & keyboard tray.
12. Take frequent short breaks.