

MAJOR PROGRAM POINTS

"WORKING SAFELY WITH COMPUTER WORKSTATIONS"

Part of the "GENERAL SAFETY SERIES"

Quality Safety and Health Products, for Today...and Tomorrow

Outline of Major Points Covered in the "Computer Workstation Safety" Course

The following outline summarizes the major points of information presented in the course on "Computer Workstation Safety". The outline can be used to survey the course before taking it on a computer, as well as to review the course when a computer is not available.

- **Most people feel that heavy equipment and machines are potentially dangerous.**
- **By comparison, a computer workstation seems pretty harmless.**
 - But, as with other types of equipment, using your computer improperly can cause a lot of problems.
- **Millions of people use computers during the work day.**
 - Unfortunately, for nearly one in five the experience has become painful in some way.
 - As the number of computer workstations continues to increase, so do injuries from their use.
- **Repetitive motions, poor lighting and muscular stress can cause conditions such as:**
 - Carpal tunnel syndrome.
 - Computer vision syndrome.
 - Lower back pain.
- **In this course, we'll look at the hidden hazards of computer use and at common sense methods for preventing them.**
- **We'll begin by considering a problem so widespread that it's sometimes literally underfoot... clutter.**
- **An organized work area is usually a safe work area.**

- **Disorganization often causes us to move in ways that stress our muscles and joints.**
 - Over-stretching can cause chronic injuries like lower back pain.
 - To help prevent this, place your materials so they are no more than 14 to 18 inches away.
 - Put as much in front of you as possible (this decreases the need to twist or turn while you are sitting).
- **What's underneath your desk can cause problems, too.**
 - Clutter underfoot constricts the position of your feet and inhibits freedom of movement.
 - This creates uneven pressure on your lower back and restricts blood flow to the feet, both of which can be painful.
- **You can prevent this by keeping your floor area clear of materials and debris that might force your feet into awkward positions.**
 - While you are sitting, keep your feet flat on the floor and your lower back firmly supported.
- **Positioning your body and your computer properly is one of the keys to ensuring your health.**
 - Nothing is more important than maintaining the neutral positions that are crucial to relieving muscle tension and avoiding injuries.
- **Neutral positions are achieved by keeping the body in stress-free postures.**
 - Your chair can be a big help in these efforts.
- **First, it should be set low enough to allow your feet to rest firmly on the floor or a footrest.**
 - This keeps your legs from dangling, which puts stress on your lower back.

- **When seated, keep your thighs at a right angle to your shins.**
 - At the same time, make sure that the seat of your chair is high enough for you to place your forearms at right angles to your upper arms.
 - Keep your elbows as close to your body as possible, as well.
- **If maintaining neutral positions for both your arms and your legs conflicts, choose the position that accommodates your arms first.**
 - Then use a footrest to get the proper leg position.
- **While you're sitting, keep your back straight and the lower back... the lumbar region... fully supported.**
 - This helps maintain the natural "forward curve" of the spine, and relieves pressure on the spinal discs.
 - If you need help use a lumbar cushion, pillow or even a folded towel.
- **You should also keep your torso at a 90⁰ angle to your thighs.**
 - This is another neutral position that reduces strain on the lower back.
- **Once you are correctly seated, position your computer's keyboard so that your fingers can easily reach the "home" keys of:**
 - a, s, d and f on the left.
 - j, k, l and semi-colon on the right.
- **You should be able to do all of this while maintaining a neutral position with your arms.**
- **Remember to keep your wrists flat, not bent.**
 - This creates another neutral position that relieves pressure on the median nerve, which is where carpal tunnel syndrome begins.

- **Change the height of the keyboard or use a wrist-pad if necessary.**
 - Wrist-pads should have rounded edges and a firm, but soft, cushion.
 - A rolled up towel will also work, if no other support is available.

- **After you get your body into the proper position, you'll want to do the same for your monitor.**
 - A bad "viewing angle," or having your eyes too close or too far from the screen, can lead to eyestrain and neck pain.
 - Place the monitor 16 to 27 inches from your eyes, and position it so you look down at a 5° to 20° angle.

- **Remember, when you are working with documents keep them at the same distance and height as the screen.**
 - This eliminates the back-and-forth neck motions that can cause fatigue and pain.
 - It also reduces the eyestrain that can result from constant refocusing.

- **While positioning your monitor properly can help to prevent eyestrain, lighting levels are also important.**
 - Too much or too little light in your work area can also lead to vision problems.

- **Eyestrain has long been associated with computer work. The medical name for this is "Computer Vision Syndrome" (CVS).**
 - Uneven light levels and glare make the eyes work harder to focus.
 - Dry eyes and uncorrected vision also make focusing more difficult.
 - All of these factors can contribute to CVS.

- **The result is often red, irritated eyes, fatigue and headaches.**
 - Adjusting the light around you is one of the best defenses against Computer Vision Syndrome.

- **Overall lighting levels are a good place to start.**
 - It's important that the light in your work area be evenly distributed.
 - Uneven lighting forces your eyes to continually refocus, and that causes fatigue.
 - So you need to report defective or burnt out lamps as soon as possible.

- **Position your monitor at right angles to windows to minimize the effect of outside light.**
 - Adjust blinds and shades as necessary.
 - Remember to change them as the light shifts throughout the day.

- **Strong light sources can also cause another problem... glare.**
 - Glare on a computer monitor can overwork your eyes, since they naturally attempt to cut down on excess glare by squinting.
 - "Localized" glare comes from windows or reflective surfaces that form a single point of light on the monitor screen.
 - "Washout," another type of glare, covers the entire screen rather than just a part of it.
 - Washout can be caused by the sun shining through a large window opposite the monitor, or from an excessive amount of fluorescent ceiling light.

- **To reduce glare at your computer, try:**
 - Decreasing the general lighting level.
 - Moving the monitor.
 - Tilting the monitor.

- **If the glare persists, use a small mirror to determine what's causing it.**
 - Place the mirror over the glare spot on the screen.
 - You will see the source of the light in the mirror.
 - You can then adjust the monitor accordingly.

- **Putting a "glare filter" over your screen can work, too.**
 - Make sure to choose one that is recommended by eye-care professionals.

- **Keeping your monitor clean also helps to fight glare.**
 - A monitor's electrical charge attracts dust, which can cause glare, since the dust provides a natural reflective surface for light.
 - A dusty monitor makes focusing difficult as well.
 - Without regular cleaning, the screen will become increasingly hard to see, which can contribute to CVS.

- **The monitor itself can be another source of potentially irritating light.**
 - A high "contrast ratio," such as dark lettering on a light background, makes focusing fairly easy.
 - A low contrast ratio can make focusing more difficult... and increase the chance of developing CVS.

- **For best viewing, first try to match the brightness of your screen as closely as possible to the surrounding light level.**
 - Then adjust the contrast to the point where the characters on the screen are easy to see.

- **While properly controlling workplace lighting is essential to a healthy working environment, our eyes can be affected by other factors as well.**
 - Your eyes tend to dry out when you work at a computer, because we blink at about half the normal rate when looking at a monitor.

- **Dry eyes can reduce your ability to focus.**
 - To counteract this, make a conscious effort to blink more frequently.
 - If you are still having trouble, use lubricating drops or "artificial tears."

- **Room temperatures that are too high, or humidity levels that are too low, can dry out your eyes as well.**
 - To help create a comfortable, "eye-friendly" environment, adjust the thermostat to avoid these problems.

- **The overall health of your eyes is also important.**
 - If your job requires significant time at a computer workstation, you should have your eyes examined at least once a year.
- **Uncorrected vision is a serious concern for one in three computer users.**
 - The most common problems are farsightedness and astigmatism.
 - Computer use does not cause these conditions, but people with these disorders may experience blurred vision when they use a computer.
- **If you have any difficulties in viewing your computer screen a visit to the doctor may be in order.**
 - Be prepared to talk about your job and the overall state of your health to get the most out of the examination.
- **Your doctor needs to know:**
 - Your health history.
 - The nature of your computer work.
 - The number of hours you spend at a computer each day.
 - The type of monitor screen you use (such as a CRT or LCD model).
- **Your eye doctor will try to do two things:**
 - Correct any vision problems you currently have.
 - Begin to build a "medical history" that can help to determine if your eyesight is deteriorating over time.
- **So even if you've just started to work with computers, it's a good idea to get an eye exam now to establish a "baseline" for future exams.**
 - If you've been working with computers for some time and don't have a vision health record, you should start one immediately.

- **If an exam indicates that you do have a problem, "computer glasses" may be able to help alleviate it.**
 - Like bifocals, these glasses have multiple focal ranges.
 - The bottom position is for close work at the keyboard.
 - The top portion is for viewing the monitor and the surrounding area.

- **Now that we've thoroughly considered vision issues, let's turn to muscle and joint care.**
 - This is an area that many workers don't think about until it's too late.

- **A computer continually works the muscles of your hands and wrists. So you need to stretch these muscles from time to time to stay limber.**
 - Every so often, stop what you're doing, clench your fists tightly, then release them while fanning out your fingers.
 - Repeat this five times for each hand.
 - Then grasp your fingers and gently bend back your wrist. Hold this position for five seconds.
 - Repeat this exercise with the other hand.

- **Computer work can also strain the muscles in your neck.**
 - You can loosen them by turning your head slowly from one side to the other.
 - Hold each turn for three seconds.
 - Repeat the cycle five to ten times.

- **Even though moving your mouse is a small motion, it can fatigue your upper back and shoulder muscles. Stretch these muscles with this easy exercise:**
 - First, grasp your right elbow with your left hand.
 - Next, gently pull your elbow toward your chest... hold it there for five seconds... then slowly release it.
 - Then do the same thing with your opposite elbow and other hand.
 - Repeat this exercise until your upper back and shoulders feel limber.

- **You can also relax your shoulders by rolling them forward five times in a wide circular motion.**
 - Reverse the motion five more times, and repeat the cycle five to ten times.

- **A common workplace complaint of computer users is lower back pain.**
 - You can relieve tired back muscles by slowly lowering your upper body between your knees.
 - Hold this position for a few seconds... then sit up and relax.

- **Your legs can tire out from inactivity while you are working at a computer, as well.**
 - You can stretch them by grabbing your shin just below the knee and pulling the leg slowly toward your chest.
 - Hold this position for five seconds, then do the other leg.
 - Repeat until your legs feel refreshed.

- **These exercises will not only help your muscles and joints, they'll also relieve stress and help you to clear your mind.**
 - Since a healthy mental outlook is crucial to your overall well-being, you should perform these exercises often... perhaps several times a day.

- **These shouldn't be the only exercises you do, though.**
 - To stay healthy, you should exercise at least three times a week outside of work as well.
 - It doesn't matter what you do, as long as you can keep it up for 30 minutes or more at a time.
 - Walking or simple calisthenics can fill the bill.

- **Don't forget that maintaining good overall health also means eating right.**
 - You can't be healthy without proper nutrition.
 - If you have any questions about what types of food to eat, and how much, consult the official Food and Drug Administration "pyramid" chart.
 - You can find it on the sides of most food packages.

- **Above all else, be sure to get enough sleep. Recent studies have shown that:**
 - Many people in our society aren't getting enough "shut-eye."
 - Lack of sleep can have chronic health effects over time.
- **But avoid sleeping pills.**
 - They can cause health problems if they are overused.
 - If you regularly have trouble getting to sleep, see your doctor.
 - Only a physician can treat sleep-related problems.

*** * * SUMMARY * * ***

- **Your computer may not be as big as an earth mover, or as noisy as road grader... but using it improperly can still cause lots of problems.**
- **Working safely with a computer doesn't have to be difficult.**
 - Keep your workplace organized.
 - Maintain neutral positions.
 - Take care of your vision.
 - Exercise frequently.
 - Eat right.
 - Get plenty of sleep.
- **By developing these habits you'll be just like a good heavy equipment operator... aware of the hazards, but in control.**
- **As a result, you'll be safer, healthier and happier whenever you work with your computer workstation!**