Safety Talk

Computer Workstation Ergonomics

Before you begin:

Think about your posture when you're at your computer. Pay attention to:

- **Discomfort in any part of your body, such as your back, neck, or eyes.**
- **How long you sit without moving.**
- **Any postures or movements that feel unnatural or awkward.**

Introduction

This session will cover:

- What is ergonomics and how it can help.
- Setting up an ergonomic workstation.

Computer ergonomics can help make you more comfortable by reducing poor postures that can create tension in your neck and shoulders. Proper positioning of your computer monitor, keyboard, and mouse are key to good ergonomic posture.

Definitions

Ergonomics – the field that uses science and engineering to design workplaces that "fit" the worker.

Awkward posture – any posture of the body that deviates from a neutral posture, such as twisting, bending, or extended reaching.

Discussion

Ergonomics is the field that uses scientific information about people to design workplaces that are safe and comfortable to use. An ergonomic workstation can also improve productivity and worker morale. A basic ergonomic principle is to avoid awkward postures. For computer workstations, this means proper positioning of all the equipment:

- Chair: This is the single most important piece of equipment, so it's critical to get the right chair and adjust it properly.
  - The chair should be height-adjustable so you can set it at a comfortable working height. To determine the correct height of your chair, bend your elbow to 90 degrees (but keep your upper arm next to your body), then raise or lower the chair until your bent elbow is at the same height as your desk. After raising your chair if your feet aren't touching the floor, a footrest can support your feet.
  - The backrest should support your back when you lean against it. It should recline, but not so far back that you strain your neck to see the monitor. The backrest should have a lumbar support (located at waist level) that supports the curve in your lower back.
  - The seat should be padded to prevent soreness when sitting for long periods.
  - The seat dimensions should fit your body, both in terms of width (side-to-side) and depth (front-to-back). The seat width should match the width of your hips and thighs. Seat depth should match the length of your thighs. You should be able to sit comfortably with your back well supported by the backrest.
  - Armrests should support your elbows. They should not keep you from moving your chair close to the desk. If they do, try to lower the armrests so they fit below the desk. If that doesn't work, remove the armrests if you can, or get another chair without armrests.

- Desk: The desk needs to be large enough for all the usual office equipment (monitors, keyboard, mouse, phone, etc.) and any books or papers that you need. Place often-used items within easy reach, so you don't have to stretch for them. To prevent neck strain use a copyholder to hold papers upright so you don't have to look down at them. If your desk edge is hard and sharp, get a wrist rest to cushion your wrists when typing or mousing.

- Monitor: Once again, the goal is to keep your head and neck in a natural posture and avoid uncomfortable work postures.
  - Put the monitor (or monitors, if you have several) at a comfortable viewing location, so you're not leaning forward towards the monitor nor tilting your head backward excessively. Usually this means the monitor is about arm's length away, but the size of the monitor and your eyesight will determine the final distance. The top of the monitor should be at the same height as your eyes (with your head level).
  - Align the monitor, keyboard, and mouse and place them directly in front of you. Avoid having the monitor in one direction and the keyboard/mouse in a different one.
  - Tilt the monitor backwards 10 or 15 degrees rather than have it vertical. This backward tilt can help reduce eyestrain.
  - Check for glare on the face of the monitor and remove any glare source.

- Keyboard: The position of the keyboard should allow you to type with your elbows at 90 degrees and your wrists straight. The keyboard should lay flat on the desk. If the keyboard legs are extended, fold them down. If your desk is still too high, even after adjusting the chair height, you can try a keyboard tray that attaches to the underside of your desk. These trays are height-adjustable so you can set them to hold the keyboard at a comfortable height.

- Mouse: As with the keyboard, the mouse should be located so your elbows are at 90 degrees and your wrist is straight. Ideally, the mouse should be placed on the same surface as the keyboard and as close to the keyboard as possible. Some people prefer mouse designs that keep their wrists in the "handshake" position. Others prefer trackball mice that are controlled by the thumb or fingers, rather than by moving the mouse itself. These alternate mice designs can improve hand and wrist comfort. Trial-and-error is often the best way to pick the most comfortable mouse for you.

Conclusion

Ergonomics can guide positioning of all the pieces of a computer workstation to improve comfort, productivity, and morale. It may take several attempts to get things right. Listen to your body and where it tells you of aches and pains. Fixing poor postures early can prevent more serious problems later.

Group Activity

Think about whether you are uncomfortable when working at your computer. Where do you have the most aches and pains? Try the suggestions above.

Ask a co-worker to watch for a few minutes as you work and look for awkward postures of your head and neck. Then make changes to the workstation to eliminate poor postures.

Resources

Ohio BWC Computer Positioning Tips

Office set up – Practical solutions to computer set up at home