Fact Sheet

OSU
ENVIRONMENTAL
HEALTH & SAFETY

Safety Instruction

Comfortable Computing

Advice for the computer user's comfort and health.

Adjusting Your Workstation

- Chair: Adjust the components of the chair to fit the body. Adjust the chair height to allow the upper arm and forearm to form a right angle while resting the hands on the keyboard.
- Keyboard: Maintain the hands in a reasonably straight line with the forearms. A keyboard fitted with a wrist rest may help in supporting the wrists.
- Mouse or Digitizer: Position the tool at the same level as the keyboard so the upper arm can be close to the body while maintaining a straight line between the hand and forearm.
- Display Monitor: Position the monitor directly in front of you at arms length. The upper line of characters on the display should be at approximately eye level.

Adjusting Your Environment

- Overhead Lighting
  - Light levels should be lower than what is commonly found in office areas. Reduce overhead lighting levels by removing tubes from the fixtures or using lighting filters. This should be requested through Facility Services by calling 7-4038. It may be necessary to supplement lighting for reading documents with task lighting.

- Windows
  - Position the workstation perpendicular to windows or other bright sources of light. Light sources located behind monitors can cause unnecessary eyestrain.

Checklist. Use this checklist to assess your own computer workstation.

Chair Adjustment

- Is your chair height adjustable?
- Does your chair support your lower back?
- Is there room between the front edge of the chair seat and the back of your knees?
- Can you easily reach your work without interference from the arms of your chair?
- When using the keyboard or mouse, are you able to keep your arms in a comfortable position with elbows in at your sides?
- Do your feet rest flat on the floor or footrest?
- Are your knees bent at approximately 90-110 degree angles?

Sitting with your feet flat on the floor (or supported by a footrest) will help support your spine. Having your thighs parallel to the seat with knees bent at approximately a 90-110 degree angle, and having adequate clearance behind your knees, will keep the chair from interfering with the blood circulation to your legs.

If the back of your chair is adjustable, raise or lower it so that the contour of the chair provides maximum lumbar (lower back) support. If possible, adjust the tilt of the backrest to support your body in an upright position. A slight angle, either forward or back, is also acceptable. Adjust the chair according to what is most comfortable for you.

If your chair has arms, they should allow you to get close to your work without getting in the way. If you are typing, they should be at a height where they barely contact your

Contact EHS:
safety@oregonstate.edu
oregonstate.edu/ehs/
541 • 737 • **2273**

elbows when your arms are resting comfortably at your side. Chair arms should not force you to elevate your shoulders or wing your arms to the side.

Work surface/Keyboard Adjustment

- With your chair adjusted properly, is your keyboard at approximately elbow level?
- Are your arms in at your sides rather than stretched out in front of you?
- Are your shoulders relaxed and not elevated when you work at your work surface?
- When using the computer, is there approximately a 90-110 degree angle between your forearms and upper arms?
- When using the computer, are your wrists in line with your forearms and not bent upwards, downwards, or to one side or the other?
- Is there at least 2 inches of clearance between the bottom of your work surface and the top of your thighs?

Ideally, with your arms resting comfortably at your sides, the bottom of your elbow should be at the same height as the surface supporting your keyboard. To easily check this, turn sideways to your keyboard. If your work surface is too high and cannot be adjusted, raise the chair to bring your elbows level with the keyboard and support your feet with a footrest if necessary. If your work surface is adjustable, start by adjusting your chair as described in the first section. Once the chair is adjusted, then adjust the work surface.

Monitor Adjustment

- Is your monitor aligned in front of your keyboard rather than off to the side?
- Is the viewing distance to your computer monitor at least 18 - 30 inches (at arm's length)?
- Is the top of the computer screen at or just below eye level?
- Is your computer monitor protected from excess glare?
- If you wear bifocals or trifocals, are you able to look at the monitor without tilting your head?

Position your monitor so it is aligned in front or nearly in front of your keyboard to allow your neck to remain straight when viewing the monitor. Raise or lower your computer monitor so that the top of the screen is at or just below eye level. You may need to unstack the monitor from the CPU to lower the monitor to the correct height or place a book between the monitor and CPU to raise it to the correct height. People who wear bifocals or trifocals often end up tilting their heads back to read through the lower portion of their glasses. Lowering the computer monitor by placing it directly on the desk surface typically helps. Bifocal users may want to discuss with their eye doctor the possibility of obtaining glasses specifically designed for computer use.

Workstation Accessory Adjustments

- Are your input devices (mouse, trackball, digitizing tablet) at the same level and next to your keyboard?
- Are your primary work materials located in front of you?
- Are your most frequently accessed items (phone, manuals, etc.) easy to reach?
- Do you have a document or copyholder to hold reference material?
- Are you able to keep your arms from resting on any sharp, square edges of your work surface?
- If a large percentage of your time involves using a phone, do you use a phone headset?

Computer input devices such as a mouse or trackball should be located at the same level and next to the keyboard to avoid reaching. This can sometimes be a problem if using a keyboard tray that is not wide enough to accommodate the keyboard and mouse. Modification or replacement of the keyboard tray may be necessary.

As you change tasks, remember to move primary materials in front of you. If you must frequently look at reference materials as you type, you should consider a document holder to allow your head to remain in a more upright position. Position the document holder at the same height and distance as your monitor. If doing a lot of reading or writing on the desk, inclining the material by placing it on a 3-ring binder notebook helps reduce the need to bend the neck forward.

The wrists should remain straight when typing. If you have poor wrist habits, a padded wrist rest can help support your wrists in a straight position. Height of the wrist rest should not exceed the height of the space bar on the keyboard. Avoid wrist rests that are wider than 3 inches since this results in the need to reach further for the keyboard.

When talking on the phone, it is not good for the neck to cradle the phone between your ear and shoulder. For jobs with a high volume of phone calls, headsets are recommended since they allow you to maintain the head in an upright position when talking on the phone.

Work Habits

- When using the computer, do you have a light touch on the keys?
- When using the keyboard or mouse, do your fingers, forearms and shoulders remain relaxed?
- When using the mouse, do you move your arm from your shoulder instead of reaching excessively with your wrist or fingers?
- Do you take short and frequent micro breaks throughout the day to reduce fatigue?
- Do you frequently change body positions while working?
- Do you provide your eyes with vision breaks every hour?
- Do you work fairly regular hours without a lot of overtime?
- Are you able to meet deadlines without excessive stress?
- Are you comfortable and free of pain while working?

When typing, it is important to use a light touch on the computer keys. Sometimes, slowing your typing speed just 5-10% helps you use a lighter touch and reduces tension in the fingers, forearms, and shoulders. During mouse use, hold the mouse lightly. Movement of the mouse should occur from the shoulder instead of only at the wrist. When not actively using the mouse, ease your grip on the mouse to let your hand relax.

Periodic breaks help alleviate fatigue and strain to your eyes and upper body. Taking a break does not mean that you have to stop working. Rather, it allows you to integrate other activities such as making phone calls, making copies or talking with a co-worker. Changing positions periodically helps maintain circulation and prevents putting pressure on any one area of the body for an extended period of time.

Working overtime, or working under stress to meet deadlines can add to tension or discomfort. In addition to taking breaks and frequently changing positions, you should pay attention to how your body responds to discomfort. Discomfort, which goes away overnight, can be a sign of fatigue. Discomfort that is continuous may build to a more serious problem. If you experience lasting discomfort, please discuss this with your supervisor or contact EH&S. Aches and pains that are addressed early, typically resolve quickly. Ignoring pain prolongs and may worsen the problem.

Finally, develop good habits away from work. While you may not be able to adjust all of the work surfaces at home, you may be able to make minor adjustments that are significant to your body. Good posture and good work habits are just as important away from work, whether you are using your home computer, doing chores around the house or are involved in special projects or hobbies.