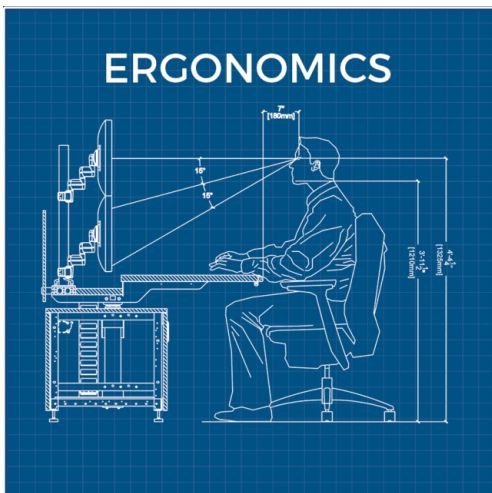


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Safe Use of Computers

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Safe Use of Computers

When operating a computer for an extended period of time, it is important to follow several ergonomic guidelines.

Ergonomics, a word derived from two Greek words meaning "work" and "laws" is the study of human factors related to work.

Proper ergonomic practices can help prevent **repetitive stress injuries** (RSI).

“ **Soft tissue injuries** - many of which relate to poor ergonomic practices - are estimated to account for about 50 per cent of workplace injuries. ”

Setting Up Your Work Area

The Ottawa Citizen (November 23, 1999)

Using the Mouse

The continual clicking and small, precise motions involved in mouse use are a repetitive action that can be a health hazard. A few basic rules can help make handling this convenient input device safer and more comfortable:

- Hold the mouse loosely. "White knuckling" the mouse creates too much tension. Use a light touch when you click.
- Use your whole arm and shoulder to move the mouse, not just your wrist.
- Don't rest your forearm on the desk while you move the mouse.
- Do not lift your "pinkie", use all of your fingers to lightly hold the mouse.



20/20 Rule

For every 20 minutes of computer work, stop what you are doing and focus on an object about 20 feet away for 20 seconds.

Protecting Your Eyes

To avoid the eye strain associated with focusing on an object 50 cm away from your face for long periods of time, follow the **20 / 20 Rule**. For every 20 minutes of computer work, stop what you are doing and focus on an object about 20 feet away for 20 seconds. It is estimated that 40% of people who use computers for prolonged periods suffer from eye strain ("25 Steps to Safe Computing", Don Sellers).

- The monitor should be at eye level and 45 to 75 cm away.
- Blink often to keep your eyes moist. This helps prevent burning from dryness.
- Steps should be taken to avoid glare from the monitor.
- Use the control knobs on the monitor, they can help you. Don't be afraid to fiddle around with the tilt and height positions of the monitor. Rearrange things until you can see well and it feels comfortable for you.

Sources:

ErgoWeb, Cornell University Human Factors Group, Dept. Design & Environmental Analysis, 1996
Microsoft Healthy Computing Guide - <http://www.microsoft.com/hardware/hcg/default.html>
www.healthycomputing.com
www.klis.com/computers+health

Ergonomics - Proper Posture

1 Use a good chair with a dynamic chair back. Ensure that your chair is at a height so that you can reach the keyboard without discomfort.

2 The top of monitor should be 5 to 8 cm above eye level.

3 Avoid glare on screen. Use an optical glass anti-glare filter where needed.

4 Sit at arm's length from the monitor.

5 Place your feet flat on the floor and sit in an upright position. If your feet do not reach the floor, place a footrest under them.

6 Use a document holder, preferably in-line with the computer screen.

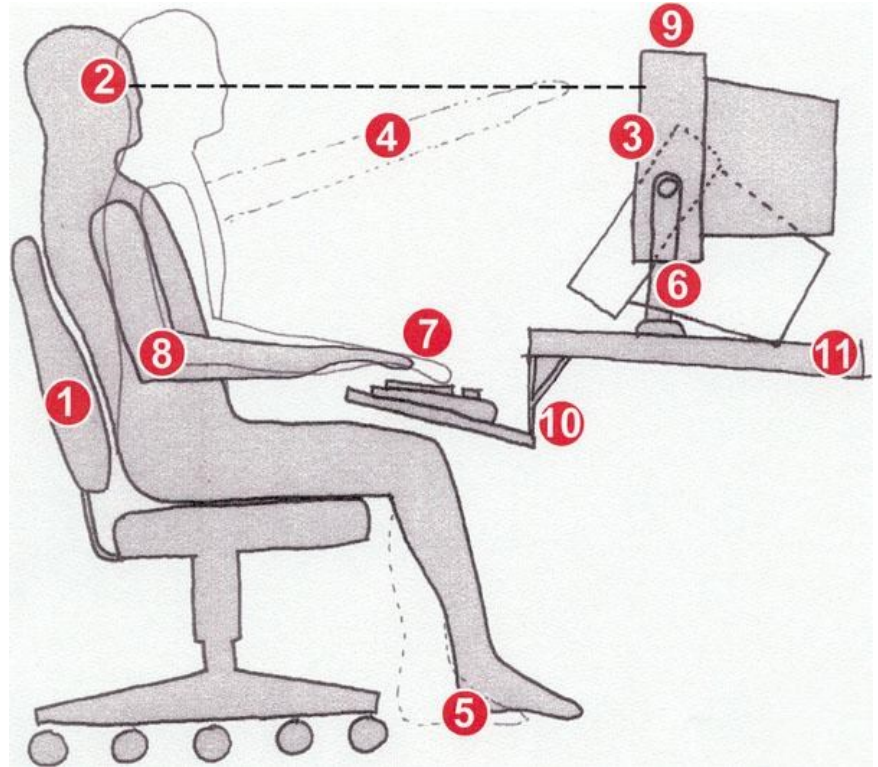
7 Support your wrists when using the keyboard or mouse for long period of times. This will help to alleviate such problems as carpal tunnel syndrome, which causes pain in the wrists.

8 Arms and elbows should be relaxed and close to your body. Your hands should follow the same line or plane as the forearms. This position is called wrist-neutral.

9 The monitor and keyboard should be centered and in front of you.

10 Use a negative tilt keyboard tray with an upper mouse platform or downward tiltable platform adjacent to keyboard. The keyboard should be sloped 5 to 20 degrees. Many keyboards can tilt; unfortunately, most of them tilt the wrong way. The keyboard should tilt to help the wrist stay straight, which is to say raising the space bar end and lowering the "top" (the F1, F2 etc.) end. Tilting the keyboard the other way (space bar lower and "top" row higher) can predispose you to carpal tunnel syndrome.

11 There is no "perfect posture for all time" and a dynamic posture (frequent changes in posture) is a good way to reduce stress and redistribute pressure related to long duration static postures.



Ergonomics - Stretching

Just as an athlete prepares for a game by stretching and loosening the joints and muscles to prevent injury and enhance performance, you too should prepare for prolonged computer use. Do some shoulder rolls, neck stretches, wrist wiggles and leg stretches before you even log in. Prevention is better than repair. Take advantage of un-scheduled "downtime". Instead of staring at the little hour-glass and wishing it would go faster, do something beneficial for your body.



Neck Stretch

Sitting tall in the chair with the neck relaxed, gently tilt the head to each side, then front and back, holding each position for a count of 10.



Shoulder Rolls

With your shoulders relaxed and your arms hanging loose at your sides, roll your shoulders up and forward, then back to center. Next, roll your shoulders up and back, then again to your side. Repeat 5 times.



Forearm Stretch

Position your right arm straight in front of you with your palm facing outward and your fingers pointing down. Using the left hand, gently pull the palm toward you and hold for a count of 10. Next, raise your hand so that your palm is facing away from your body and your fingers are pointing toward the ceiling. With the left hand, gently pull the right hand toward your body and hold for a count of 10. Repeat with the left arm.



Tendon Glides

Start with one hand pointing toward the ceiling. Make a fist. Then touch your fingertips to the base of your palm, keeping the thumb straight. Next, make a hook with your fingers, and then straighten them out again. Repeat 5 times.



Finger Pulls

Grasp each finger at its base and very gently pull it in the opposite direction. Hold each for a count of 5.



Chest Stretch

Find an uncluttered corner in your office or cubicle. Stand about a foot away from the walls, facing the corner. Raise your elbows until they are level with your shoulders and then place both forearms directly on the walls. Next, keeping the body in alignment, lean into the corner and hold for 10 seconds. You should feel a good stretch across the pectoral muscles in your chest.

Source: Dr. Emil Pascarelli, MSNBC Research