Ergonomics and the Computer Workstation

Occupational Health
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What is Ergonomics?

The study of the relationship between people, their work and their physical work environment

Major goal of ergonomics is to fit the task or job to the individual

## What This Presentation Will Help you Learn

•The definition of ergonomics and how applying good ergonomic practices can help you work more comfortably and avoid injuries related to poor ergonomics.

•Use this slideshow prior to the troubleshooting guide for the basics of setting up your chair and workstation.

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Good Working Postures

Sitting Posture

Torso and neck are approximately vertical and in-line, the thighs are approximately horizontal, and the lower legs are vertical
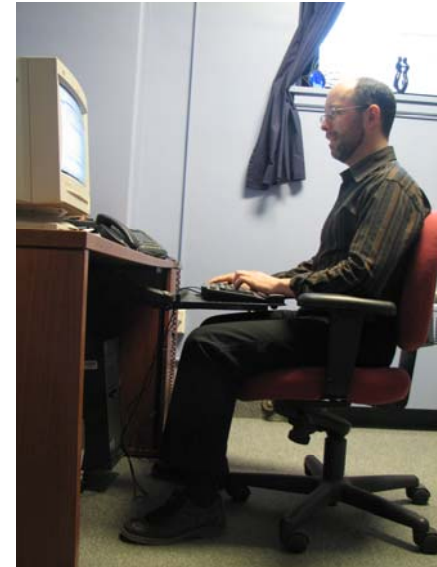
Standing posture

Legs, torso, neck, and head are approximately in-line and vertical. If possible the user could also elevate one foot on a rest while in this posture

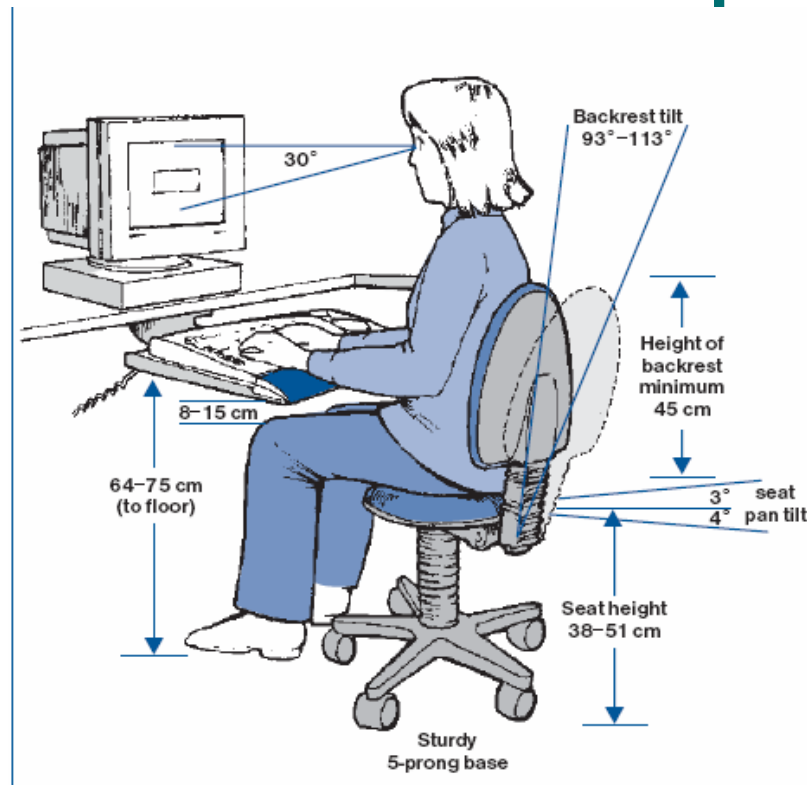# 10 Step Program for Computer Workstation Set-up

Photo credit: WorkSafeBC

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Step 1: Seat height

- Sit in chair, relax and position shoulder, elbows and wrists

- Neutral (relaxed) shoulder position

- Shoulders, elbows and hips in a straight line

- Wrists in neutral posture

- Move to desk and adjust height of chair (elbow height should be at about the same height as the work surface, wrists should be the same height or lower than the elbows)

Step 2: Feet Support

Photo credit: California Department of Industrial Relations

- Feet flat resting comfortably on the floor or an adjustable footrest

- Pressure behind thighs, adjust seat pan depth or use an adjustable footrest

- Should be a gap of two to three fingers between the back of the knee and the seat pan
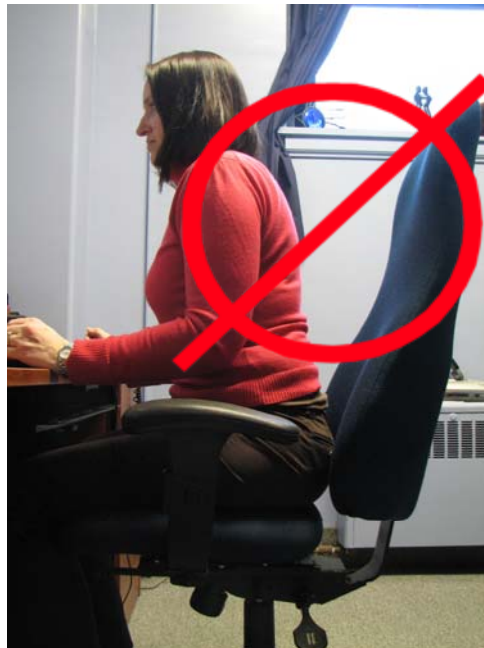

Photo credit: WorkSafeBC

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Step 3: Backrest Angle Adjustment

• Sit so backrest is supporting spine

• Adjust backrest so angle at the hip is between 90 and 100 degrees

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Step 4: Backrest Height Adjustment

- Adjust the backrest height so support is in the lower part of the backrest. The backrest should sustain the curve of the lower back (the small of the back or lumbar area)

- Note: some chairs have an inflatable air bladder for horizontal adjustment of the lumbar support to personal comfort.

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Step 5: Armrest Adjustment

- Adjust the height and width of armrests to support the arms

- Height should be about 1 cm below the elbow when the shoulder is relaxed

- If height prevents close access to the work surface, then lower or raise the armrests to avoid the work surface. Do not simply sit forward in the chair


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Step 6: Forearm Support

- Use a palm rest to maintain straight wrist postures and to minimize contact stress during keying and mousing tasks

- The hands should move freely and be elevated above the palm rest while keying

- When resting, the pad should contact the heel or palm of the hand, not the wrist

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Step 7: Monitor Adjustment

• Put monitor directly in front of you and at least 20 inches away

•Height of monitor should allow head and neck to be within 20 degrees of the upright position and <u>relaxed</u> (bifocal wearers use caution!)

•Place monitor perpendicular to window to decrease glare

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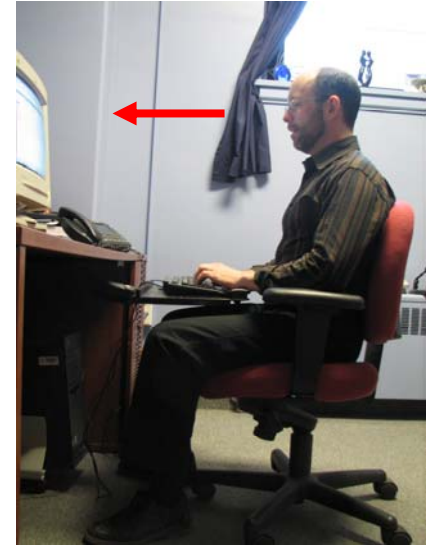
Step 8: Keyboard & Mouse Placement

- Place keyboard directly in front of the user
- Adjust height and tilt of keyboard so shoulders relaxed with elbows close to the body and wrists straight and in-line with the forearms
- Mouse should be close to the keyboard to prevent over-reaching
- If the keyboard platform is not large enough to accommodate both the keyboard and mouse
  - Use a mouse platform positioned over the 10-key pad
  - Install a mouse tray next to the keyboard platform

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Step 9: Document Placement

- Place close to the midline of vision and be elevated to maintain neutral neck and head position

- Position the document holder between the monitor and keyboard - elevate to maintain neutral neck and head position

- If not enough space between monitor and keyboard, place the angled document at the same distance as the monitor

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Step 10: Telephone Use

- Place telephone close to computer on side of dominant hand to avoid repeated reaching.

- Keep the telephone cord out of working areas so it does not create a tripping hazard

- If simultaneously use computer and telephone on a frequent basis, use a head set

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Work Surfaces

• Avoid placing needed tools or other items above shoulder height

• Keep frequently-used devices (keyboard, phone, and mouse) close to and in front of body

• Position items for shortest arm reach to avoid overstretching while reaching up or down

• Keep frequently used tools or items close to and in front of body

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Summary

• Following good ergonomic practices can help you to avoid injury at work.

•Adjusting your computer workstation can assist you in working more comfortably.

•Also view the 'Troubleshooting' presentation to find more helpful tips.

•If you experience a work related injury that is diagnosed by your doctor, call and report it to the SAFE line (473-7233).

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