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Ergonomics for Computer Users

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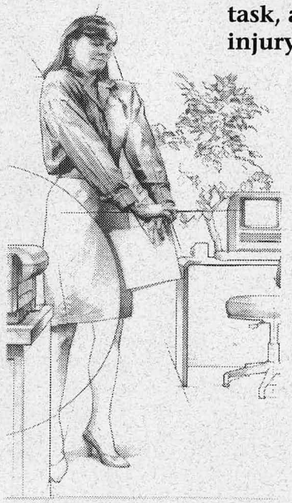
- Glare screens and user-adjustable blinds may also help.

Lighting:

- Ideally, lighting for computer work should be at half the "normal level" for office work. (One way this can be achieved is to have every other overhead light bulb taken out.)
- Use adjustable "task lights" to supplement office lighting for reading hard copy and desk work.
- LBL's lighting crew in Facilities can measure and adjust the lighting level.

Regular Rest Breaks



Taking rest breaks from computer work, where you change position, do a different task, and/or stretch, is necessary to prevent injury.

- The National Institute of Occupational Safety and Health (NIOSH) recommends:
  - √ 15-minute rest breaks every two hours for moderate VDT work;
  - √ 10-minute rest breaks every hour for intense VDT work; or
  - √ Shorter, more frequent breaks.
- In addition, look at a distant object for a few seconds every 5 to 10 minutes to relax your eye muscles.

Exercises:

- At least twice a day, stop and stretch your back, neck, shoulders, arms, and legs.
- Get up from your workstation and walk around, when possible, to improve circulation. Sitting for long periods of time can lead to muscles aches.

Work Organization:

- Intersperse VDT work with other tasks;
- Whenever possible, organize your work to avoid long stretches of time at the computer.

For More Information:

- If you are experiencing health or vision problems that may be related to your VDT work, notify your supervisor and Health Services, ext. 6266.
- If you have questions on workstation design, call Industrial Hygiene, ext. 5829, or Occupational Safety, ext. 6135.
- If you're interested in purchasing new ergonomic furniture or accessories, call ext. 5175.
- For lighting issues, call the Facilities Department Work Request Center, ext. 6274.
- Training for departments and groups on Ergonomics for Computer Users is available through Environmental Health and Safety Training. Call ext. 6614 for information.

The following equipment is available through Inventory Management:

- "Ergonomic" Chairs
- Adjustable Tables
- Adjustable Task Lights
- Copy Holders
- Foot Rests
- Keyboard Drawers & Platforms
- Monitor Risers
- Track Balls
- Wrist Rests

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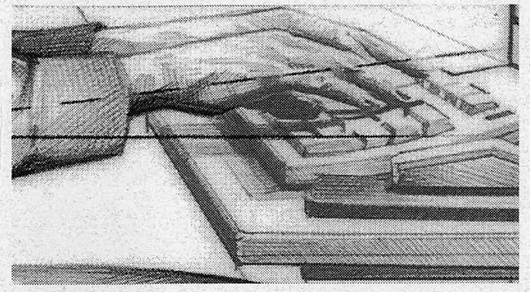

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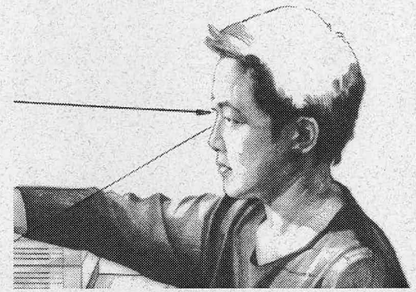
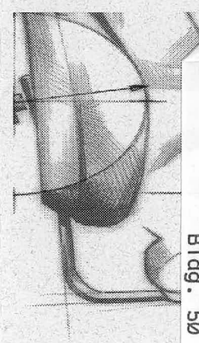
Ergonomics for Computer Users



Make sure your workstation "fits" you



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A poorly designed computer workstation can put you at risk for a variety of health problems. Musculoskeletal injuries, including pain and/or numbness in the hand, wrist, arm, shoulder, neck and back; vision difficulties, stress and other health effects have been associated with prolonged, improper use of VDTs (Visual Display Terminals). The right furniture and equipment in the right arrangement can help prevent injury and discomfort. Your supervisor should take an active role in helping you to evaluate and set up your work station to make it ergonomically correct. Using this guide will get you started learning basic ergonomic principles.

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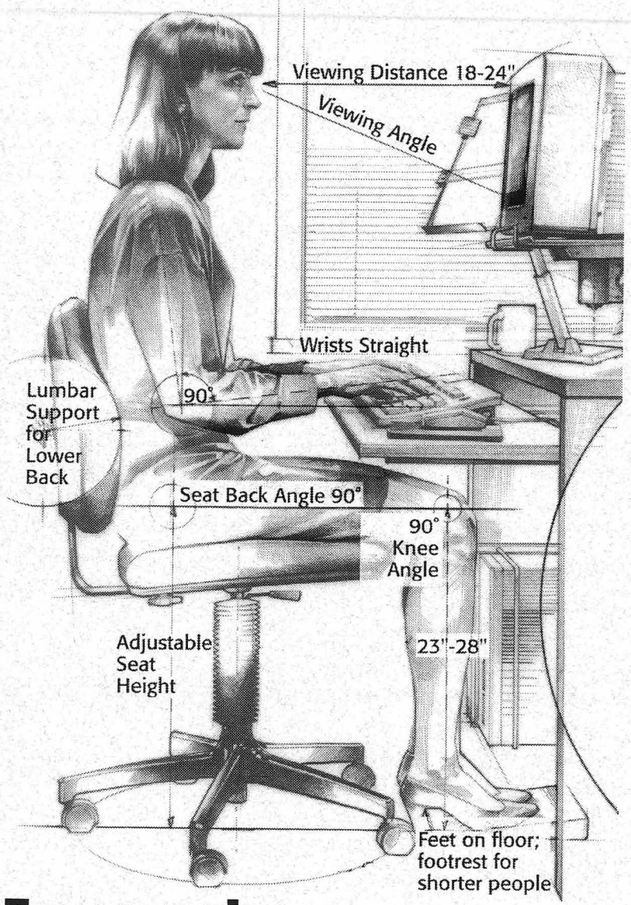
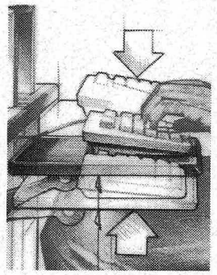
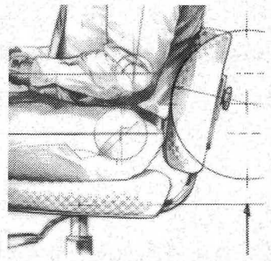


Ergonomics

Ergonomics is the science of designing workplaces, equipment and jobs to fit people. This means that your work area should be designed to fit you and your work style. Ergonomists today agree that no one can maintain one "ideal" posture all day. For this reason, adjustable furniture that can support proper posture in more than one position is a basic requirement for your workstation.

There are five components that you must arrange to maintain proper posture: the work surface, the keyboard, the mouse or trackball, the monitor, and the chair.





Work Surfaces:

- Surface height (or keyboard height independent of the main surface) should be adjustable.
- Avoid resting your wrists on a hard or sharp surface (use a wrist rest if necessary).
- Leave enough leg room to allow your legs to move freely. (Do not use the area underneath the desk for storage!)

Keyboards:

- Should be thin and detachable.
- Must be positioned low enough to keep wrists straight, shoulders relaxed, and elbows angled between 90˚ and 120˚. (A wrist rest can help you maintain straight wrists.)
- Alternative keyboards now on the market provide additional options which may alleviate discomfort.

Mouse or Trackball:

- Should be within easy reach and at the same height as the keyboard.
- Trackballs may be a better alternative because they eliminate some arm movement required by the mouse.

Monitors:

- Should be positioned so that the top of the screen is slightly below eye level, for a viewing angle of about 30˚.
- Use a monochrome monitor unless you are doing design work. Monochrome monitors have better character resolution than color monitors.

Chairs:

- Should have adjustable back support that presses firmly against your lower back and extends at least up to mid-back.
- Should have an easily adjustable seat height to permit your feet to rest flat on the ground with a knee angle of roughly 90˚. (Some people might need a foot rest to achieve this angle.)
- Should have a rolling, five-pronged base for stability and to prevent unnecessary twisting.
- Should have adjustable padded arm rests to support the weight of the shoulders and the arms if you will be working at a computer for more than two hours at a time.
- Should have an adjustable seat pan to allow the computer user you to work comfortably in a forward or reclined position.

Avoiding Eyestrain

Computer work requires you to use your eyes at a close distance for long periods of time, which may result in eyestrain. Glare on the screen from windows or overhead lights, even though it might not be noticeable, puts additional stress on your eyes. Symptoms of eyestrain include blurred vision, sore eyes, focusing problems, and headaches. Properly corrected vision, regular eye exams, careful computer placement and proper lighting can reduce eyestrain problems.

Copy Holders:

- Use an adjustable copy holder.
- Place it in the same plane as the screen—either right next to it or between the keyboard and monitor—to reduce awkward movements of the head and minimize the need to adjust your eyes to different distances.

Computer Placement:

- Place the monitor perpendicular to windows and/or major light sources so light strikes neither the screen nor your eyes.
- Place it parallel to and between overhead lights.