

# Ergonomics

## What is Ergonomics?

Ergonomics is the study of how your body interacts with your environment when you perform a task or activity. Ergonomics often involves arranging your environment, including equipment, tools, lighting, and how you do a task, to fit you and the activity you are doing.

## Office

When your workstation is set up properly, you may be less likely to have problems. An efficient workstation may prevent headaches, eyestrain, reduce neck and back pain, may reduce conditions such as carpal tunnel syndrome, and other conditions related to repetitive activities.

## Quick Tips

- Arrange your office to minimize glare from overhead lights, desk lamps, and windows.
- Maintain appropriate air circulation.
- Avoid sitting directly under air conditioning vents that “dump” air right on top of you.
- Stretch your fingers, hands, arms, and torso.
- If you are able, stand up and walk around for at least 5 minutes an hour.



## Workstation set-up

To understand the best way to set up a computer workstation, it is helpful to understand the concept of neutral body positioning. This is a comfortable working posture in which your joints are naturally aligned. Working in a neutral position reduces stress and strain on the muscles, tendons, and skeletal system, and reduces your risk of developing a musculoskeletal disorder. The following are important considerations when attempting to maintain neutral body postures while working at the computer workstation:

- Seat Height is as high as possible to improve your vision, and to ensure your hips are aligned with your knees.
- Hands, Wrists, and Forearms are straight, in-line, and roughly parallel to the floor.
- Head is level or bent slightly forward, forward facing, and balanced. Generally it is in-line with the torso.
- Shoulders are relaxed and upper arms hang normally at the side of the body.
- Elbows stay in close to the body and are bent between 90 and 120 degrees.
- Feet are fully supported by the floor or a footrest may be used if the desk height is not adjustable.
- Back is fully supported with appropriate lumbar support when sitting vertical or leaning back slightly.
- Thighs and hips are supported by a well-padded seat and generally parallel to the floor.
- Knees are about the same height as the hips with the feet slightly forward.

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Appropriate placement of the components and accessories for the desktop computer workstation will allow you to work in neutral body positions, help you perform more efficiently, and work more comfortably and safe.

### Chairs

- The backrest should conform to the natural curvature of your spine, and provide adequate lumbar support.
- The seat should be comfortable and allow your feet to rest flat on the floor or footrest.
- Armrests, if provided, should be soft, allow your shoulders to relax and your elbows to stay close to your body.



### Desk

- Avoid storing items under desks.
- Desks should be able to accommodate a variety of working postures.
- Clearance for the legs, under the desktop, should generally be between 20-28 inches (50-72 cm) high.
- If the work surface cannot be lowered, raise the chair to accommodate the user. If needed, provide a footrest to support the user's feet.

Resources:  
[www.osha.gov](http://www.osha.gov)  
[www.webmd.com](http://www.webmd.com)  
[www.cdc.gov](http://www.cdc.gov)

### Telephone

- Use the speaker phone or head set for long conversations.
- Keep it close enough to avoid repeated reaching.

### Monitor

Choosing a suitable monitor and placing it in an appropriate position helps prevent possible health effects such as excessive fatigue, eye strain, and neck and back pain.

- Put monitor directly in front of you and at least 20 inches away.
- Place monitor so top line of screen is at or below eye level.
- Place monitor perpendicular to window.

### Wrist Rest

- Use a wrist rest to maintain straight wrist postures and to minimize contact stress during typing and using a mouse.
- Provide wrist/palm supports that are fairly soft and rounded to minimize pressure on the wrist. The support should be at least 1.5 inches (3.8 cm) deep.

### Keyboard/mouse

- Put the keyboard directly in front of you.
- Your shoulders should be relaxed and your elbows close to your body.
- Your wrists should be straight and in-line with your forearms.
- Use keyboard short cuts to reduce extended use.

