



# **Health, Safety and Maintenance Tips**

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## **HEALTH, SAFETY AND MAINTENANCE TIPS**

As with any activity that involves sitting for long periods of time, using a computer can make your muscles sore and stiff. To minimise these effects, set up the work environment carefully and take frequent breaks to rest tired muscles. To make working with a computer comfortable, allow enough space in the work area so that the operator can change position frequently and maintain a relaxed posture.

### **Repetitive Strain Injury (RSI)**

Another type of musculoskeletal concern is repetitive strain injuries (RSI). These problems can occur when a certain muscle or tendon is repeatedly overused and forced into unnatural position. The exact causes of RSI are not totally understood, but in addition to awkward posture, such factors as the amount of repetition, the force used in the activity, the individual's physiology, workplace stress level and lifestyle may affect the likelihood of experiencing an RSI.

RSI did not suddenly arise when computers were invented, tennis elbow and writer's cramp, for example are 2 RSI's that have been with us for a long time. One serious RSI discussed more often today is a wrist problem called carpal tunnel syndrome, which may be aggravated by improper use of computer keyboards.

### **Eye Fatigue**

Eye fatigue can occur whenever the eyes are focused on a nearby object for a long time. This problem occurs because the eye muscles must work harder to view an object that's closer than about 20 feet (6 metres). Improper lighting can hasten the development of eye fatigue. Although eye fatigue is annoying, there is no evidence that it leads to permanent damage.

Whenever you are engaged in an activity that involves close-up work, such as reading a magazine, doing craft work, or using a computer, be sure to have sufficient glare-free lighting and give your eyes frequent breaks by looking up and focusing on distant objects. Remember to have your eyes examined regularly.

### **Electromagnetic Emissions**

A very small amount of electromagnetic emissions is given off by monitors. Based on the prevailing evidence and opinions, the electromagnetic emissions produced by monitors do not pose a health risk. Apple have lowered the emission levels of their monitors.

### **Room Temperature**

Computers and servers give off a tremendous amount of heat. If a room does not have adequate temperature control problems can occur. The maximum room temperature for a server is 39°C if this is exceeded the server will shut down. Keep all ventilation openings on the computer clear and unobstructed.

## Guidelines For Operating A Computer

- Use an adjustable chair that provides firm, comfortable support. Adjust the height of the chair so that your thighs are horizontal and your feet are flat on the floor.
- The back of the chair should support the lower back.
- When using the computer keyboard, your shoulders should be relaxed. The upper arm and forearm should form an approximate right-angle, with the wrists and hand roughly in a straight line.
- Position the mouse at the same height as the keyboard. Allow adequate space to use the mouse comfortably.
- Arrange the monitor so the top of the screen is slightly below your eye level when sitting at the keyboard. The best distance from your eyes to the screen is 18 to 28 inches (45 to 70cm).
- Position the monitor to minimise glare and reflections on the screen from overhead lights and windows. It may be advisable to use a tiltable monitor stand. The stand lets the monitor be set to the best angle for viewing, helping to reduce or eliminate glare from lighting sources.



## Avoiding Fatigue

- Change your seat position and stand up, or stretch whenever you start to feel tired. Frequent short breaks are helpful in reducing fatigue.
- Use light touch when typing or using a mouse and keep your hands and fingers relaxed.
- Some computer users may develop discomfort in their hands, wrists or arms after intensive work without breaks. If you begin to develop chronic pain or discomfort in your hands, wrists or arms consult a qualified health specialist.
- Allow adequate work space so that you can use the keyboard and mouse comfortably. Place papers or other items so you can view them easily while using the computer.

- Eye muscles must work harder to focus on nearby objects. Occasionally focus your eyes on a distant object and blink often while you work.
- Adjust the screen brightness and contrast to reduce strain on the eyes.
- Clean the screen regularly. Keeping the screen clean helps reduce unwanted reflections.

### **Safety Instructions**

For your own safety and that of the equipment, always take the following precautions, when switching-off the computer.

Disconnect the power plug by pulling the plug not the cable, if any of the following conditions exist:

- The power cable becomes frayed or the plug is damaged
- Liquid is spilled on the case
- The computer has been exposed to rain or excessive moisture
- The computer has been dropped or the case has been damaged
- Cleaning the case

### **Handling Floppy Disks**

- Store disks at temperatures between 10°- 52°C.
- Keep disks dry
- Do not touch the exposed part of the disk, behind the metal shutter
- Keep disks away from magnets

### **Handling CD-ROM Disks**

- Do not write on disks
- Do not touch the disk surface
- Do not spill liquids on disks
- Do not scratch disks
- Position the computer so that when the tray opens it does not bump into anything
- Do not leave the disk tray open. If dust gets on the lens of the CD-ROM drive, it may cause problems reading CD's.
- Never transport the computer with a disk inside the CD-ROM drive. Place the card which came with the CD drive for holding the read and write head in place.

**Maintenance Tips**

- Use a screen saver program which dims or varies the image on the screen when the computer has been idle for a specified period of time. More recent monitors use energy saving software which put the monitor into sleep mode when not being used.
- Never force a connector into a port. If the connector and port do not join with reasonable ease, they probably do not match. Make sure that the connector matches the port.
- If there is interference on the monitor's screen or on a television or radio near the computer, move the affected equipment further away.
- If the mouse is slipping on the mat when being used, it is possible that it requires cleaning. Turn the mouse upside-down and remove the cover. Clean the ball and the small rollers inside with a cotton swab.

## **QUESTIONS ON HEALTH, SAFETY AND MAINTENANCE TIPS**

- (1) What is Repetitive Strain Injury?
- (2) Why does eye fatigue occur when using computers?
- (3) What is the name of the emission given off by a monitor?
- (4) Why is it important that ventilation openings on a computer must be kept clear?
- (5) Name 3 guidelines for operating a computer?
- (6) Name 3 routines for avoiding fatigue when using a computer?
- (7) Give an example when you would switch-off the computer and disconnect the power plug for safety reasons?
- (8) When handling floppy disks, what needs to be avoided when touching the metal shutter?
- (9) When transporting a computer, what considerations need to be given to the CD-ROM drive?