

10 Health and safety

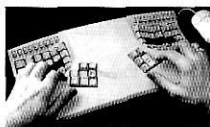
A Computer ergonomics

There are a number of health and safety problems that may result from continuous use of computers.

- Typing constantly at high speed may provoke **repetitive strain injury** or **RSI**, which causes pain in the neck, arms, wrists, hands and fingers.
- Bad work postures and sitting in uncomfortable chairs may cause backache and stress.
- Looking at the screen for long periods of time, and lights reflecting off the screen, can cause headaches and **eye strain**, pain and fatigue of the eyes.
- Cathode Ray Tube monitors can emit electromagnetic radiation which can be dangerous to health.

The study of how people interact safely and efficiently with machines and their work conditions is called **ergonomics**. In computing, ergonomics is about designing computer facilities so they are safe and comfortable. Here are a few tips.

- 1 Get an **adjustable chair** so you can change its height and angle.
- 2 Make sure your **feet rest firmly** on the ground or on a foot rest.
- 3 Ensure you have **enough leg room** under the desk.
- 4 Put the **monitor at eye level** or just below.
- 5 Sit at **arms' length** from the monitor (40–80 cm). Don't sit near the sides or back of CRT monitors; or use LCD screens, which are free from radiation.
- 6 Use a **document holder**, in line with the screen, to reduce awkward neck and eye movements between the document and the screen.
- 7 Position the **keyboard at the same height as your elbows**, with your arms parallel to the work surface. Try to keep your **wrists straight** and flat when typing.
- 8 Take regular breaks from the computer and look away from the screen at regular intervals.



An ergonomic keyboard helps you type in a more natural, relaxed position

B Electronic rubbish

Irresponsible disposal of **electronic waste**, from old computers and mobile phones to hi-fi and video systems, can cause severe environmental and public health problems. For example, children or workers who come into contact with the toxic components of electronic products may suffer from skin and breathing problems.

- We should **recycle** or treat ICT equipment (e.g. plastics from mobiles could be used to make pens and rulers).
- Manufacturers should pay to finance recycling programs.



We should reduce, reuse and recycle e-waste

C The risks of using mobiles and in-car computers

Frequent use of mobile phones has been the cause of concern and there is ongoing research into whether radiation emitted causes health problems.

A serious risk is the use of mobiles and navigation systems in cars; this can distract the driver and cause accidents.

- **Don't use your mobile while driving.**

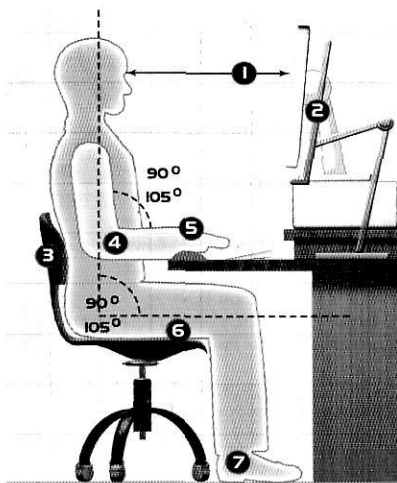
Another health problem is **Internet addiction**, including obsessive game playing, gambling, etc.

- If you are an Internet addict, you should ask for help from specialists.



Talking on a mobile phone when driving is illegal in most countries

0.1 Match the numbers in the picture to the correct tips in the checklist.



Tips for a user-friendly workstation

- Consistent chair support for the lower back. Seat height and angle adjustable.
- Feet flat on the floor.
- Document holder beside the screen, at the same height and distance as the screen.
- Text on the screen in line with the eyes. Viewing distance at arm's length.
- Thighs horizontal, with feet on the floor. Adequate room for legs beneath the desk.
- Keyboard height at a comfortable open angle for the elbows and arms.
- Wrists and hands in a neutral position, in line with the forearms. Optional rest for wrists at the same height as the keyboard.

0.2 Complete the sentences with words from the opposite page.

- Experts believe the best way to reduce musculoskeletal injuries is through
– designing jobs to fit people instead of making people fit the job. It can mean everything from adjusting the height of a desk to buying a new chair or overhauling a production line.
- The Safetype ergonomic keyboard may look strange, but its makers claim that it can prevent or RSI.
- Visual problems, such as and irritation, are often reported by computer users. Causes of these problems include glare, poor lighting, and focusing the eyes on the screen for a prolonged period.
- Some companies have begun to test ways to and dispose of
..... For example, Epson Portland sponsored an electronics collection day this year on Earth Day.
- Road safety campaigners say motorists using while driving are six times more likely to crash.
- When a person is spending so much time on the Internet that their lives are affected negatively, they are suffering from

You and computers



Imagine you are designing an ICT classroom with 16 networked PCs, Internet access and peripherals. What safety precautions should be taken into account? Use these notes to help you write four tips or suggestions.

- Room conditions (space, desks, chairs, lights and windows)
- Ergonomic devices
- Electrical safety: layout of cables and connectors, hotspots for a wireless network, etc.
- Noticeboards and posters with health and safety recommendations