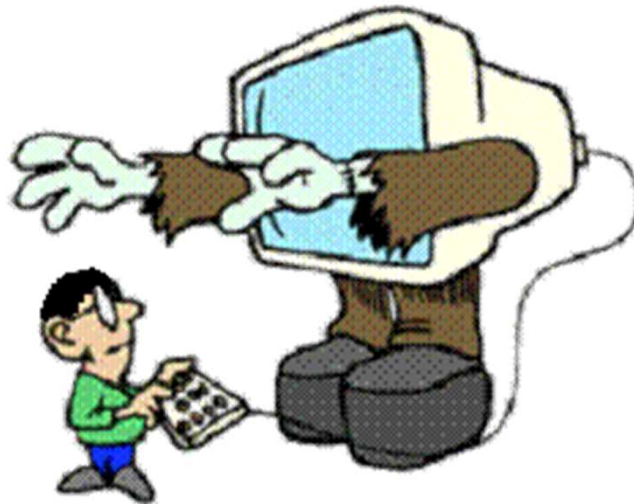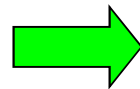# Welcome to the Display Screen Equipment User Tutorial

Safety Section

L B Merton
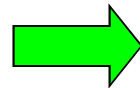
Legislation

→ **Health and Safety at work ACT etc.1974**

- **General duties**

↓

→ **Health and Safety (Display Screen Equipment) Regulations 1992**

- **Introduced in response to the vast increase in the use of DSE**

↓

(As amended by the):

Health and Safety (Miscellaneous Amendments) Regulations 2002

DSE Reg's require employers to:

- **Analyse all <u>workstations</u> and reduce any risks to the lowest level 'reasonably practicable'**

- **Ensure all workstations meet the minimum requirements laid down in the Schedule to the Regulations**

- **Ensure users have adequate breaks from the screen within their daily routine**

- **Ensure users have the opportunity to attend free eye sight tests, and receive glasses as appropriate**

DSE Reg's require employers to:

- **Ensure users are provided with adequate training and information on health and safety issues**

- **The Reg's are also intended to:**
  - **Dispel concerns regarding certain hazards**
  - **Heighten awareness to other potential hazards which could cause harm**

Employees Duties

- **Employees must co-operate by completing the DSE User Self-assessment form to provide correct information to their line manager or supervisor**

- **Report any concerns/shortcomings in Health and Safety**

- **Use anything provided in the interests of health, safety and welfare in the proper manner**

DSE and Health

Incorrect workstation set up and use could lead to a range of health problems such as:

- Musculoskeletal Injury
- Eye fatigue and headaches
- Stress

Musculoskeletal Injury

- **Injuries generally relating to the movement and posture of the skeleton –**

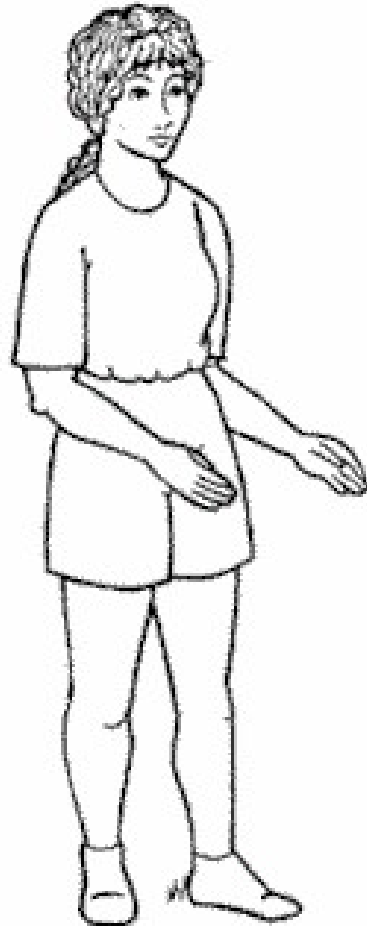 **Back, neck, shoulders-**

- **Injuries and disorders relating to the upper limbs**

  Hands, arms, wrists, fingers

Poor posture can play a significant part in all of the above health problems

ADOPTING THE CORRECT POSTURE

STANDING   SEATED

Neutral posture

The spine should be in a gentle 'S' shaped curve

! **Don't lean forward**

! **Don't slouch**

! **Do sit up straight**

! **Do let the backrest support some of your weight**

Eye Fatigue and Headaches
common causes include

- Staying in the same position and concentrating for too long

- poor positioning of the display screen equipment

- poor legibility of the screen or source documents

- poor lighting, including glare and reflections

- a drifting, flickering or jittering image on the screen

It could be a combination of these!

Eye and Eyesight Tests

- Classified regular users have a right by law to eye and eyesight tests at the employers expense
- Merton's Shared HR has procedures in place
- Appointments to see the Optometrist can be made by contacting Merton's HR on (020) 8545 3369am/3282pm
- If required you will be provided with a pair of prescription glasses for DSE use only
- Appointments are treated as duty

Stress

- slow computer response time
- repetitive data entry tasks
- visual / postural fatigue
- higher concentration requirements
- greater sensitivity to environmental conditions
- external measurement of performance
- perceived health effects

Health Myths

- Radiation given off by DSE causes miscarriages and defects in offspring

- Radiation causes cataracts

- Using DSE causes epilepsy
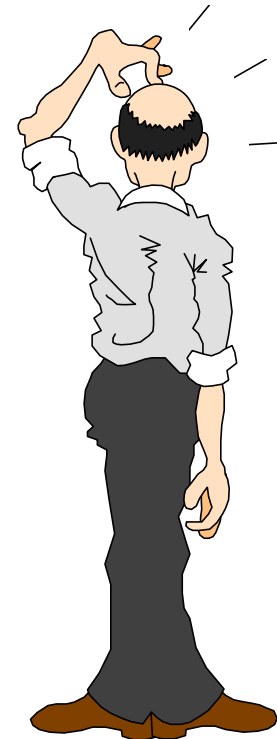
A Guide to Assessing Your Workstation -
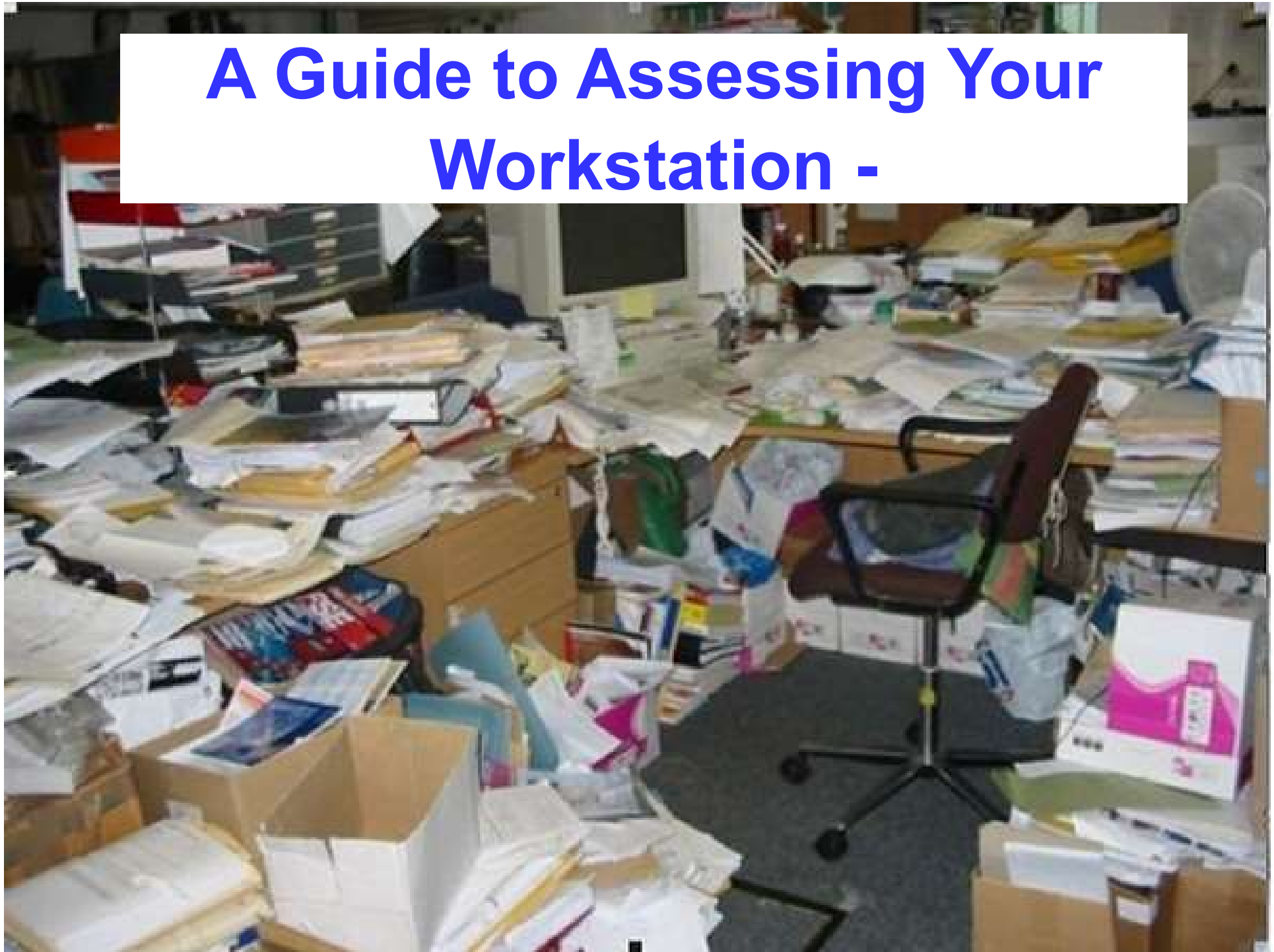
DSE ASSESSMENT

Assessments should be completed when:

- The user takes up their post;

- There is any <u>significant change</u> to the workstation or any of its equipment;

- There is any reason to believe the original assessment has changed;

- At least annually.

ERGONOMICS

The study of the interrelationship between people, the work they do and their work environment. It is about adapting the workplace and work tasks to fit each worker

Workstation - The Three Areas

- Equipment

- Environment

- Computer / Operator Interface taking into account individual user characteristics

EQUIPMENT & SET-UP

Desk and work surface

Screens
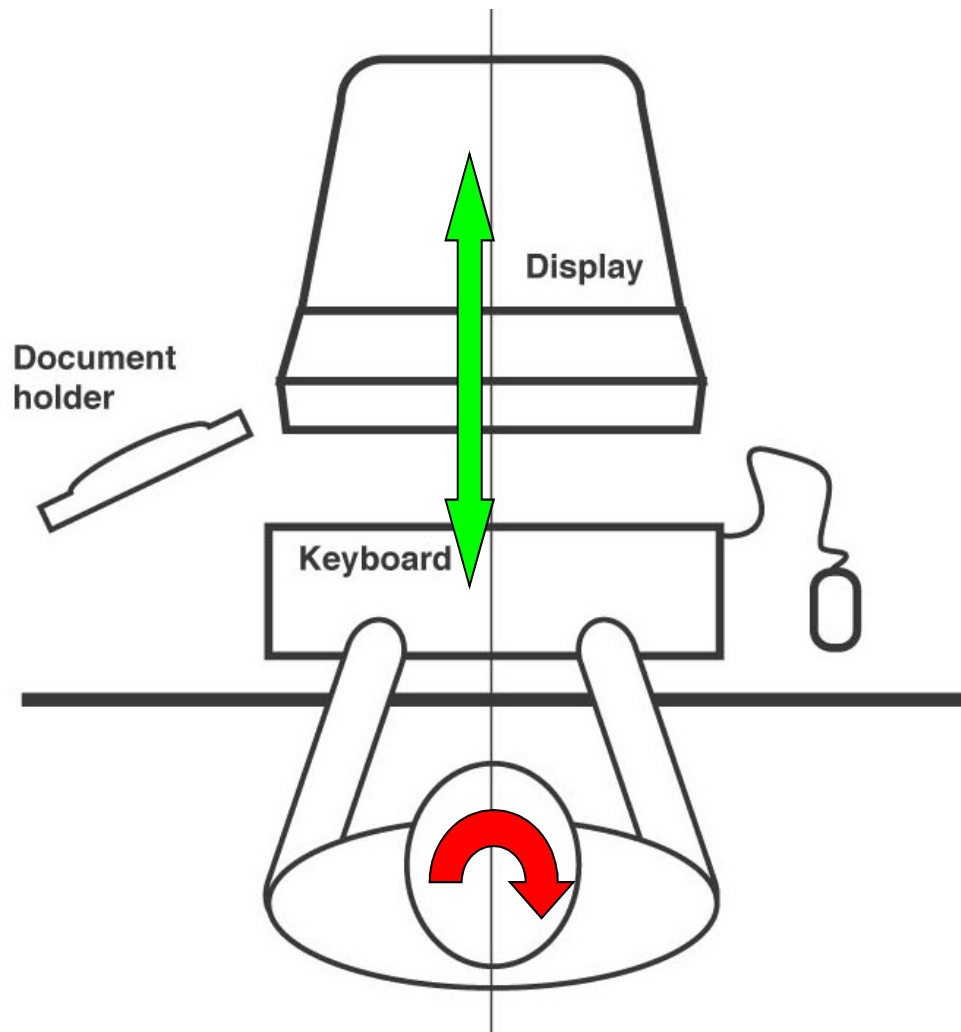
•Keyboard

Mouse

Chair

Document holder

Etc…

What are the key principals for workstation equipment?

- **Flexibility**

- **Control**

- **Positioning**

- **Ability to adjust to suit the individual (why?)…..individual characteristics**

- **Stability**

POSITIONING THE SCREEN / KEYBOARD

Display

Document holder

Keyboard

- Both the keyboard and monitor should be directly in front of you - Not to one side

- Many people position the monitor in the corner of the desk, at an angle. This can cause you to angle your arms and wrist in order to type.

- You should not have to twist your body or neck to use the keyboard or to look at the screen

POSITIONING THE SCREEN

- Ideally the top of of the screen should be just below eye level (but it must not be above eye level)

- The monitor should be at a comfortable height that doesn't make the user tilt their head up to see it or bend their neck down to see it

- The monitor should be at a comfortable horizontal distance for viewing, which usually is around an arms length (sit back in your chair and raise your arm and your fingers should touch the screen)
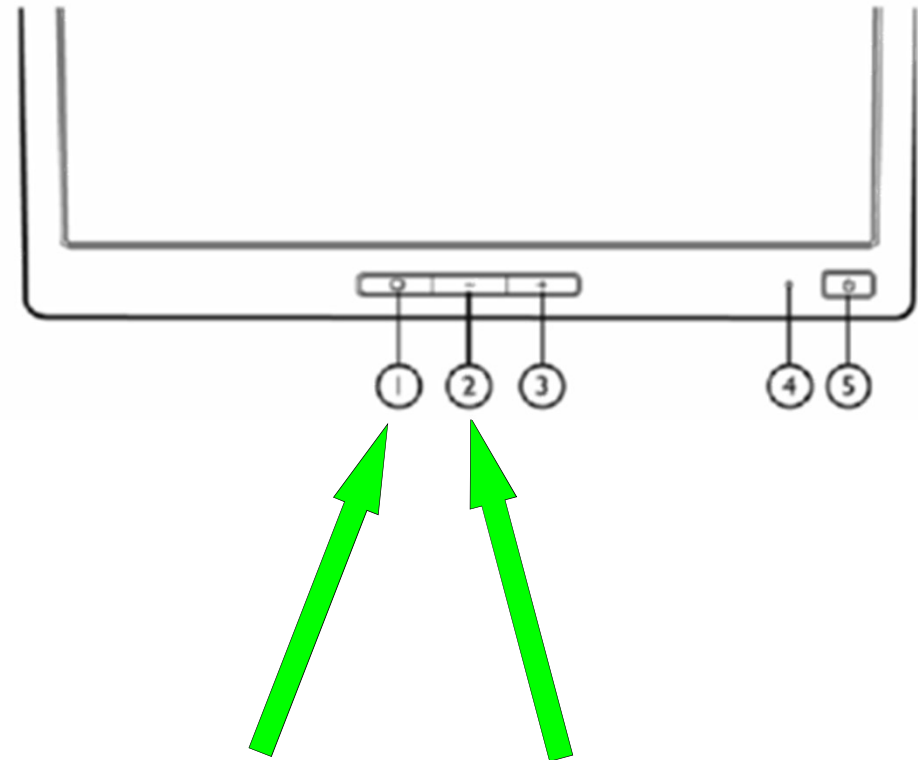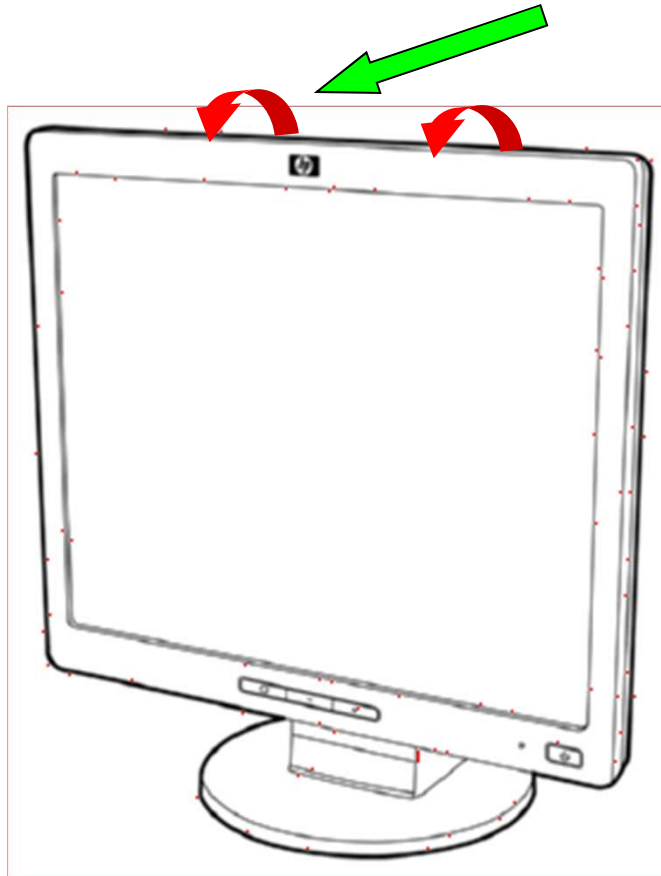
ADJUSTING THE SCREEN

The Display Screen image:

Type some characters or look at some that are already visible

- Are the characters clear and easy to read?

- Does the display screen have adjustable controls for brightness and contrast?

- The image should not flicker and it should be stable

- Is the screen free of reflections or glare?

- Is it possible to tilt and swivel the screen? having regard to its size and weight and electrical cabling?

ADJUSTING THE SCREEN

Is it possible to tilt and swivel the screen?

On screen menus for adjusting picture/ background.
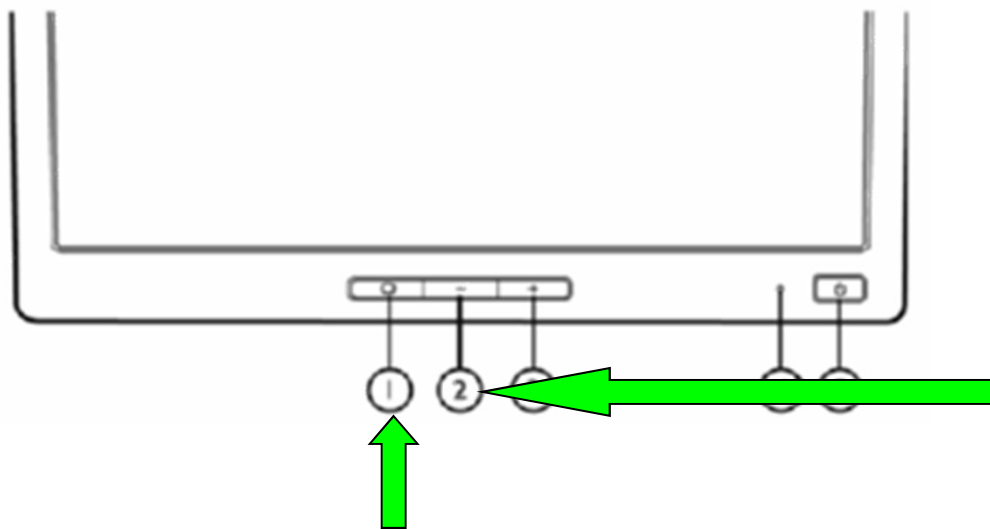
Brightness/Contrast

Exit

Brightness　25

Contrast　50

DELL™　2001FP

Main Menu

- A
- B
- C　Exit
- Positioning
- Image Settings
- Color Settings　D
- OSD Settings
- Language
- Factory Reset
- PIP
- Audio/Video
- E　1:D-SUB
- F　Resolution:　1600x1200@60Hz

Color Settings

Blue Preset

Normal Preset

Red Preset

User Preset

Exit

Red　45

Green　38

Blue　41

DOCUMENT HOLDER

- Typically, document holders allow you to position documents right next to the screen or between the screen and the keyboard.

- Position it at the same height and distance as your monitor

- The document holder should be large enough to support the documents the operator uses

- Task lighting on the document should not cause glare on the monitor

THE KEYBOARD

Your wrists and hands:

🟢 In line with your forearms and relaxed and comfortable

🟢 Extended straight, not bent up or down uncomfortably.

🟢 Hands should glide over the keys - Use a light touch for keying, keeping your hands and fingers relaxed.
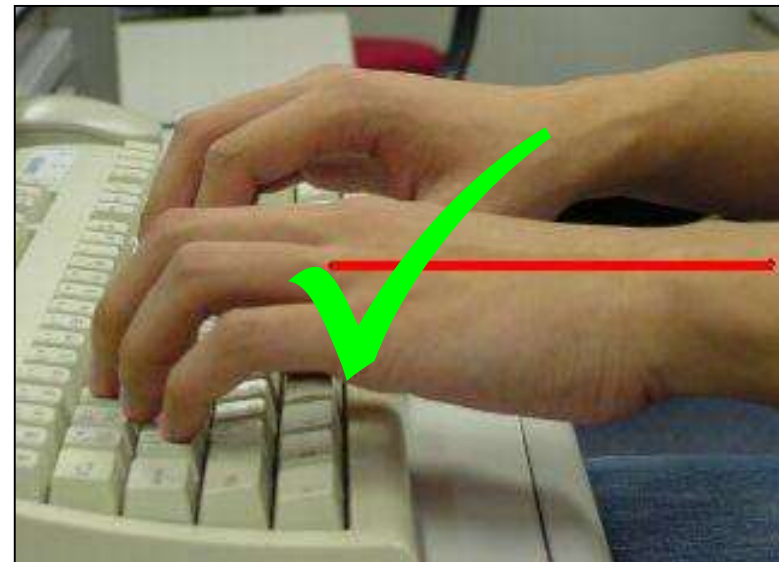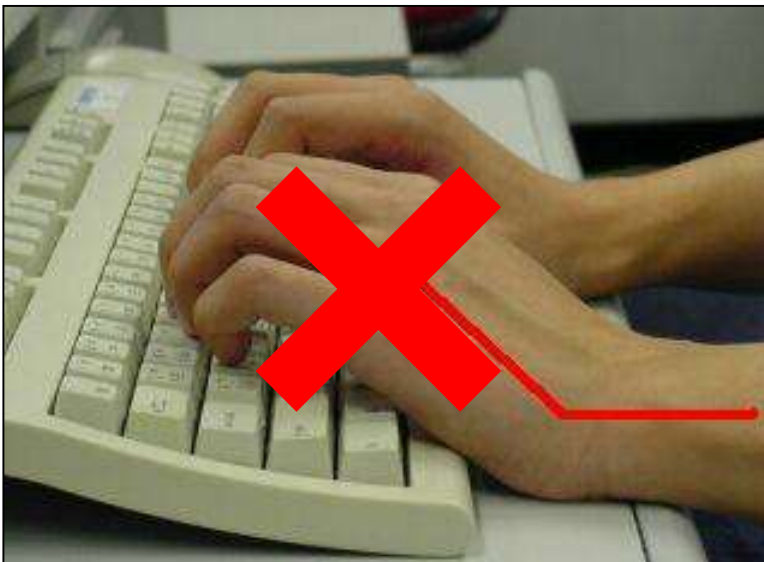
THE MOUSE

🟢 **Keep it within easy reach, wrist straight**

- Place your mouse close to the side of the keyboard for combined keying and mouse use

- Place your mouse in front of you for sessions of intensive mouse use

- Avoid working with your mouse arm stretched

🟢 **Take regular breaks**

- If you use a mouse a lot, you can try changing from right to left-handed use (and vice-versa) from time to time

- Take your hand off the mouse during short pauses and let your mouse arm hang straight down from your shoulder

THE CHAIR

- Chairs should provide good all round body support

- Chairs should be stable and fully and easily adjustable from the seated position

- A well adjusted chair should encourage a **neutral body posture**

- When comfortably seated, the operator's feet should be flat on the floor or on a foot rest

**The seat should adapt to the user, not vice versa**

Getting the right Posture - Part 1: Adjusting the Seat
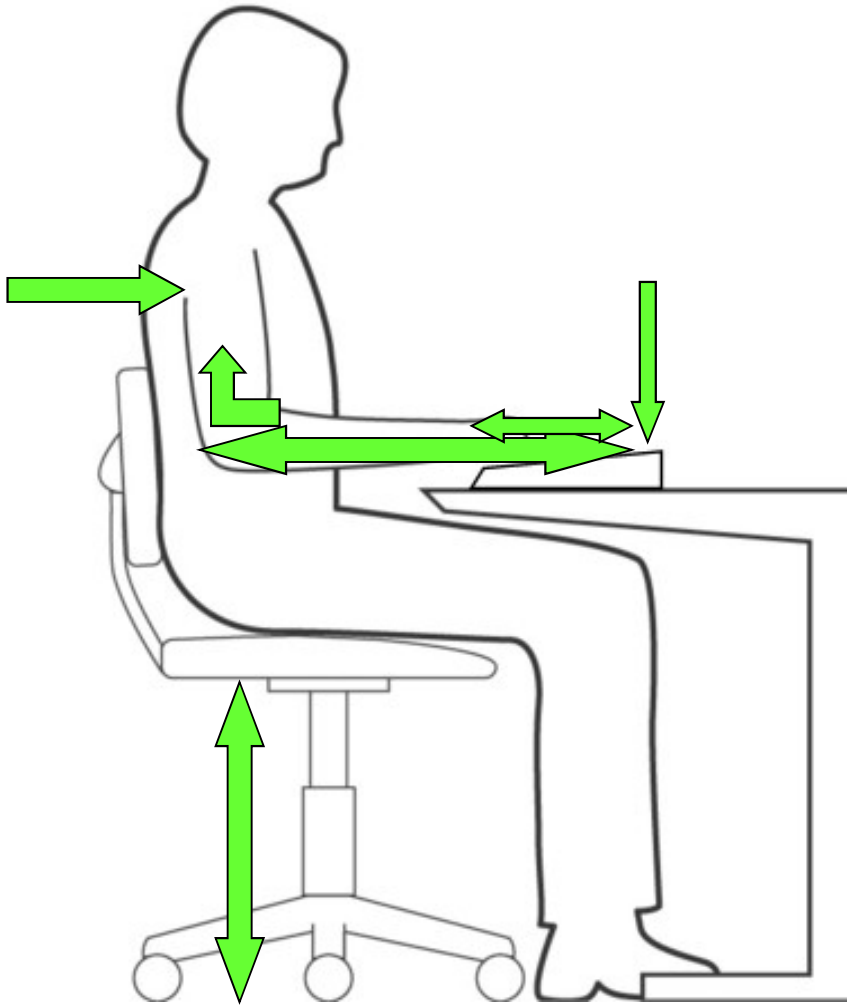
- Elbow level with keyboard
- Upper arm vertical
- Fingertips just above the home row of the keyboard
- Forearms and hands horizontal
- Elbows with right angle bends
- Elbows tucked into the sides
- Adjust your seat to allow all the above

Don't be afraid to experiment with your chair to find out what all the adjustments do!

Getting the right Posture - Part 2: Adjusting the Backrest

5°
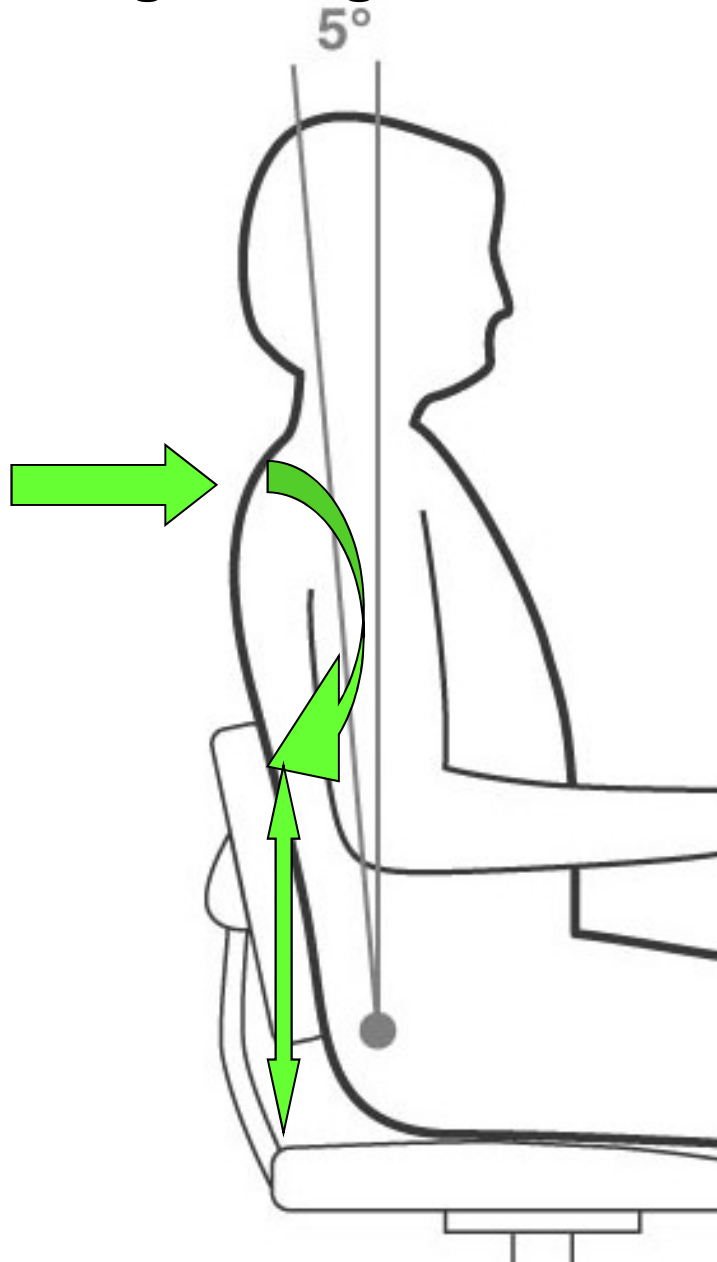
- Sit back in the chair

- Sit straight or slightly back, letting the backrest support some of your weight

- The spine should be gently curved at the back

- Adjust the backrest height to support the small of the back

Getting the right posture - Part 3: Adjusting Legs and feet
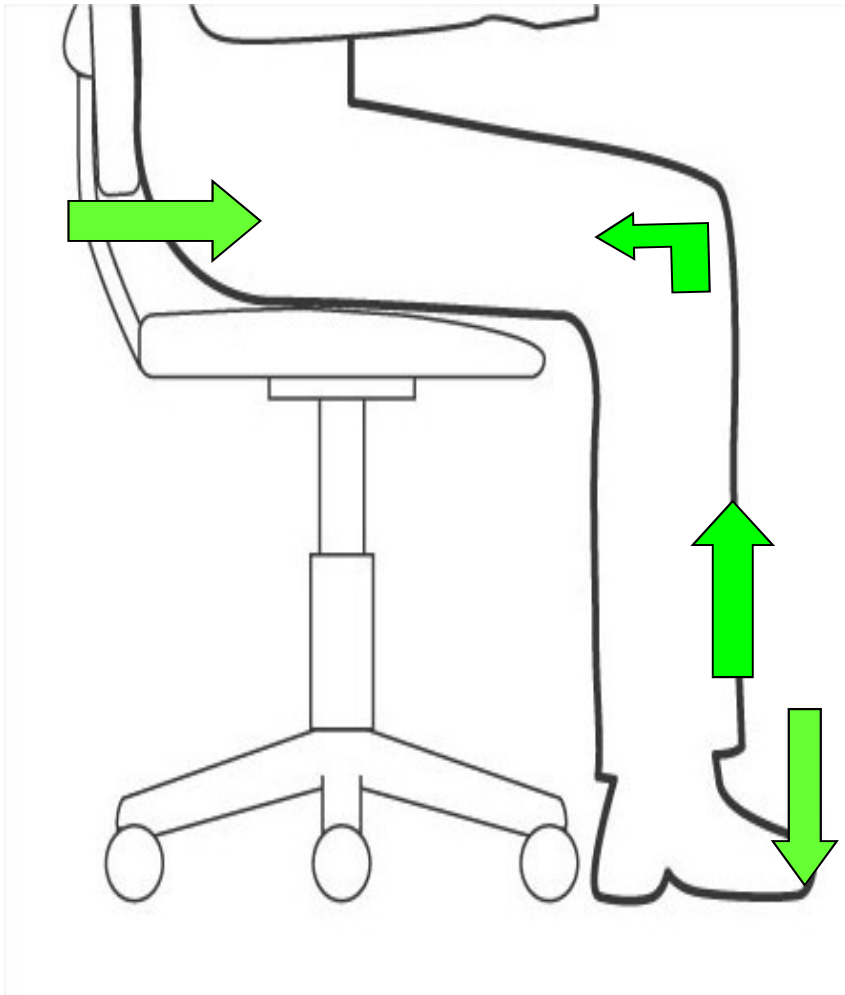
- Sit with thighs horizontal, not letting them support the weight of the body

- The lower legs should be vertical

- The knee joint should have a right-angle bend

- Feet should be flat on the floor, or resting on a footrest

ENVIRONMENT

Another feature of an office is the environment, or surroundings, in which you are working. This includes:

- Space
- Light
- Noise
- Temperature
- Humidity
- Ventilation

SPACE

- **Avoid leaving anything in gangways where they could injure you or a colleague.**

- **Allow plenty of space so you are able to move freely around your workspace**

- **Don't let cables trail across floors where they could trip someone over!**
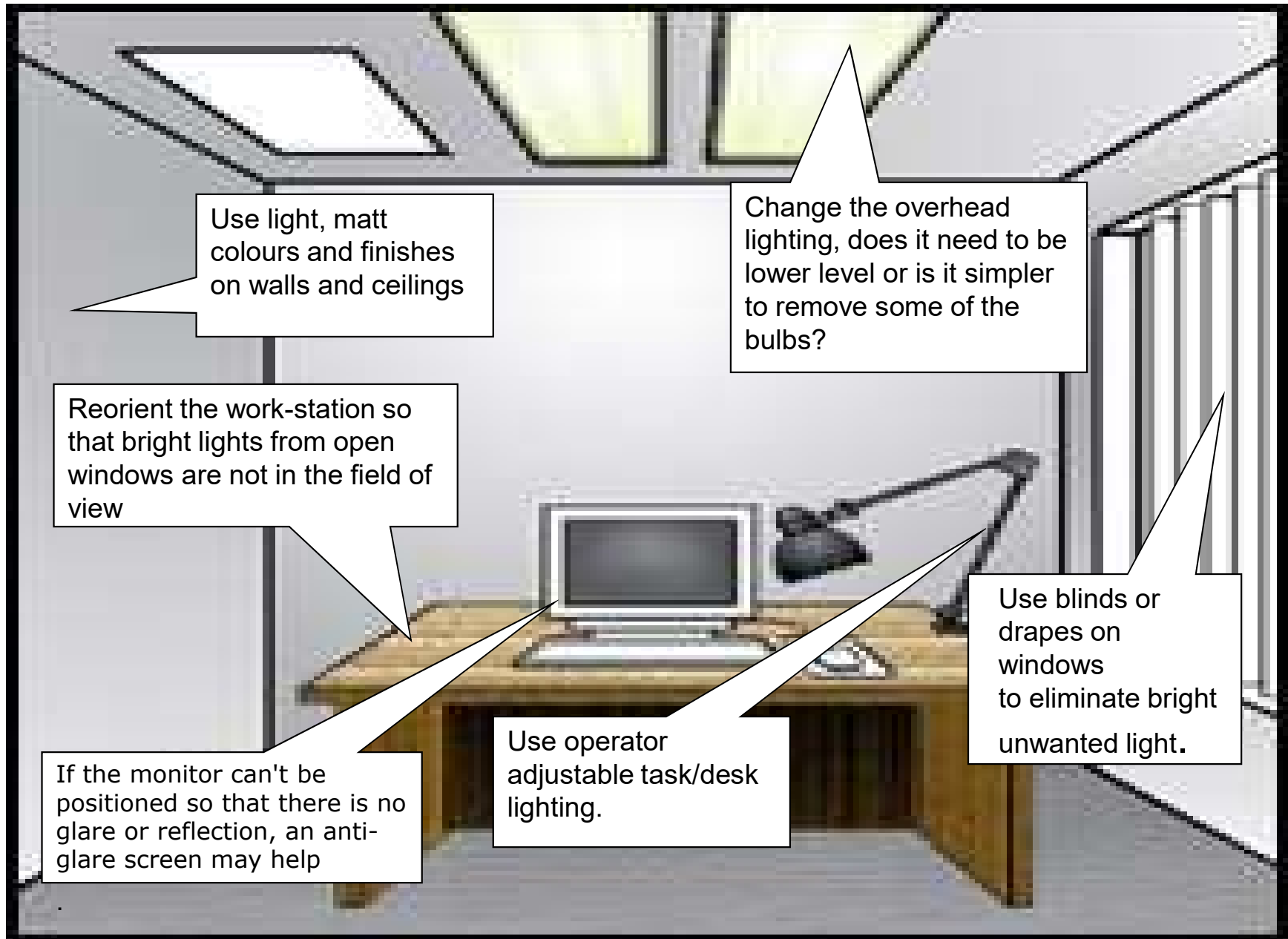
LIGHTING

- As far as possible arrange your desk and DSE to avoid glare or bright reflections on the screen

- The muscles in your eyes work to keep the light entering your eyes at a comfortable level

- If there are areas of high contrast in your work place your eyes work hard to adjust to the different levels of light

- Also, a very bright light source in your field of vision can cause visual discomfort, and reflections on your computer screen can make it difficult to see what is displayed

- Lighting located directly overhead can cause reflected glare off paper on the desk or the desk surface itself

- Adjust the computer monitor position and tilt the screen to reduce glare

- Consider task lighting e.g. desk lamps if glare is a problem

Bright light entering from a window.....

- Reorient the work-station so that bright lights from open windows are not in the field of view

- Use blinds or drapes on windows to eliminate bright light. Blinds should be adjusted during the day to allow light into the room, but not directly into the operator's field of view

NOISE

- Noise in offices can affect concentration, can be an irritation, and can be a source of stress to some people. In extreme cases, it can also result in physical disorders.

- The potential for stress is further increased by the frequent interruptions often experienced by those who sit next to the equipment, e.g. when it breaks or needs more paper.

- If the operator/assessor is concerned about noise levels, contact the health and safety section to arrange noise level monitoring.)

TEMPERATURE
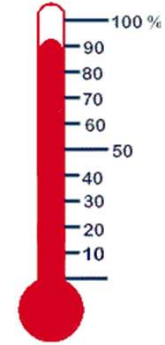
- **Managers should ensure that a reasonably comfortable temperature is maintained within the workplace (not too high or too low)**

  - ACOP: **Minimum** legal temperature no less than 16°c in an office environment.(Within first hour of occupation)

  - There is **no Maximum** legal working temperature

- **Managers must consider some or all of the following steps:**

  - local heating or cooling e.g. fans

  - Opening windows, doors

  - relaxed dress codes

  - Situating workstations away from sources of heat/cold

  - Frequent breaks

VENTILATION

- **Ventilation of the workplace should be effective and sufficient and free of any impurity.**

  - Offices should have proper ventilation to ensure that there is an adequate supply of fresh air.

  - In most offices being able to open the windows will suffice to allow fresh air to circulate.

  - Care must be taken that ventilation systems do not create other hazards for workers e.g. uncomfortable draughts.

  - Artificial ventilation can be just as good but needs to be very well designed and maintained.

COMPUTER / OPERATOR INTERFACE

The interaction between DSE and the operator

3 key areas:

- 🟢 **Software ergonomics:**

  - Presentation of information on the screen (format and pace)
  - Ways in which the worker can manipulate information

- 🟢 **System performance and monitoring facility**

  - System should provide appropriate feedback, "help" on request, messages about malfunctioning

- 🟢 **Job design**

Breaks

Any posture, whether 'good' or 'bad', will become uncomfortable after a while - we are not designed to sit still!!

Regular

- Short, frequent breaks may be more appropriate than longer infrequent breaks, the timing of the break may be more important than its length.

- you should always take a break **before** you feel tired, not **when** you feel tired

Work related

- Breaks can simply be a change of task e.g. making phone calls, filing etc

Exercises

- Take exercise breaks after a prolonged spell of typing and using a mouse

- Stretching aids blood flow and helps break up the effects of static posture

End of course!

You have now finished the course and are ready to complete the DSE Workstation Self-Assessment Form

If you have any questions on the assessment process please contact the Safety Section on 8545 3384