



Working with Display Screen Equipment

Introduction

Welcome to your course on 'Working with Display Screen Equipment'.

The course covers:

- what display screen equipment is and the risks in using it improperly
- your employer's duties under the Health and Safety (Display Screen Equipment) Regulations 1992
- what you should do to ensure your health and safety when using display screen equipment.

Introduction

Display screen equipment (DSE) is common throughout the workplace. However, it can lead to spending long periods sitting looking at a screen and using a keyboard. If care isn't taken, some people can experience problems such as headaches, eye strain and muscle pain, and as a result, there are Regulations about its use.

The Health and Safety (Display Screen Equipment) Regulations only apply to those who work with DSE as a significant part of their normal work (daily, for continuous periods of an hour or more).

They do not apply to those who use DSE infrequently or for short periods of time, or to users of mobile devices such as tablets. However, the knowledge contained in this course should benefit everyone.

What is display screen equipment?

DSE includes any alphanumeric and graphic display screen equipment, regardless of the display process involved. This includes computer workstations, laptops and touch screens. Laptops which are used without a docking station are unsuitable for regular prolonged use due to poor posture which often cannot be avoided and the smaller screen which can increase eye strain.

What are the risks?

The risks from DSE work are actually quite small and are easily avoided provided your workstation is set up correctly and you know what to do to reduce risks to yourself; for example, taking regular breaks away from the equipment. Poor work design and a lack of awareness of the correct way to set up a workstation can result in discomfort and cause or aggravate conditions such as:

- upper limb disorders; for example, upper limb aches and pains caused by poor posture
- backache
- fatigue and stress
- temporary eye strain.



Upper limb disorders

This covers a variety of conditions ranging from simple aches and pains in the back or neck to conditions such as repetitive strain injury. Upper limb disorders can be caused by long periods of rapid, repetitive actions and/or prolonged static positions, particularly in uncomfortable or unnatural positions that twist or stretch muscles. Usually aches and pains do not last, but in a few cases they may become persistent or even disabling. Following the advice in this course will help prevent upper limb disorders.

It is important that you report any regular discomfort in your hands, wrists, neck or shoulders to your line manager so that they can take appropriate action. Symptoms could include aches, pains, sensory loss, tingling or 'pins and needles'. If symptoms continue after you have finished DSE work you should seek medical advice promptly.

Of course, upper limb disorders may not be caused by DSE work, although it may exacerbate the condition. For example, carpal tunnel syndrome is a wrist condition which can often affect pregnant women. Other conditions such as tennis elbow may be associated with hobbies.

Visual problems

Working with DSE cannot damage eyesight. It can, however, highlight an existing problem and prolonged periods of working with DSE can lead to symptoms of visual fatigue.

Problems can include eye discomfort such as dry, itchy, aching or tired eyes, difficulties with focusing or perception of the image. Postural problems may also result from visual difficulties if the user adopts an unnatural position in order to see the screen more easily.

Visual problems can occur if:

- you stay in the same position and concentrate for a long time
- your workstation is badly positioned
- lighting conditions are poor
- the image quality is unsatisfactory.

Visual problems could also be due to a defect with your vision. Some people have difficulty focusing at the visual distance of the screen and there are also some rare eye conditions which may only become apparent when doing DSE work which tends to be visually demanding.

Fatigue and stress

Working with DSE can sometimes be stressful. For instance, pressure to meet deadlines or an increased pace of work can lead to fatigue or the feeling of being 'snowed under'. Poor job design can also lead to boredom, feelings of isolation or a lack of familiarity with the software which can result in frustration when things go wrong. Many problems can be overcome by better training, work planning and organisation.

Photosensitive epilepsy

This is a relatively rare condition where the sufferer reacts adversely to flickering lights and patterns. The majority of those who suffer an attack will have done so before the age of 20. Only a small proportion of those who suffer from photosensitive epilepsy are likely to be affected by working with DSE, so if you do you should still be able to work successfully with DSE.



Responsibilities

Your employer's responsibilities

Employers must:

- Assess the risks associated with using DSE equipment and any special needs of individual staff. People may self-assess if they are competent to do so.
- Reduce, control and manage the risks. This can be achieved with staff information and training, improving work organisation, enabling staff to take regular breaks.
- Provide eye and eyesight tests on request, and special glasses for DSE use if needed.
- Review the assessment when the DSE user, their workstation or the work itself changes.

Your responsibilities when using DSE

Planning your work

Breaks away from the DSE are important to prevent fatigue and the development of postural and visual problems. The Regulations do not specify a minimum frequency of breaks as this would depend on the intensity and length of use of the DSE. Ideally, 5-10 minutes after every 60 minutes work or a micro break of 60-90 seconds every 30 minutes.

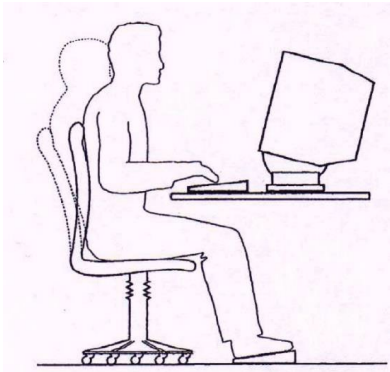
However short, frequent breaks are preferable to longer, less frequent breaks. Where possible you should plan your work so that DSE work is mixed with periods of non-DSE work. Where this is not possible deliberate breaks may need to be introduced. Breaks should be taken before you begin to experience symptoms of fatigue and should not be spent doing similar work. For instance, if your DSE work involves continual use of the keyboard you should not type or knit during any break, but for example, you could take a toilet break or make a drink.

Setting up your workstation

The next section gives general guidance on how you should set up your workstation. The design of your workstation should allow you flexibility to arrange the equipment to suit your needs and comfort. It is important that you take account of the guidelines to minimise the risk of health problems.

The ideal seating position

It is recommended that you sit with a straight back and at a height which allows your lower arms to be horizontal when typing, with an approximate 90 degree angle at the elbow. Your eyes should be at roughly the same height as the top of the DSE casing and your feet should be flat on the ground. If your feet do not touch the ground a footrest will be necessary. If you sit too high or too low you will be forced to type with bent wrists or in a hunched or stooped position, which can cause discomfort in your wrists, arms, shoulders, neck or back. The recommended seating position is illustrated in the diagram below.



Whilst this position is recommended to reduce the possibility of muscle tiredness, staying in any position for a long time will lead to discomfort. So, choose a position that you find comfortable, but change it as often as is practicable to avoid discomfort. You should avoid positions which result in unnatural twisting or bending as this could lead to muscle pain, particularly if maintained for a long time. Also, whilst some movement is desirable, repeated stretching should be avoided.

Your chair

Your chair should be comfortable and of a swivel type to minimise unnecessary twisting. It should be adjustable in height, and the chair back should tilt, though not necessarily independently of the seat. If possible you should adjust the chair so the back-rest supports your lower back where it naturally curves inwards. The chair height should be adjustable so that your lower arm is horizontal from the backrest. If other people use your workstation, remember to check that the chair is adjustable to suit your needs before beginning work. Chair arms are not recommended.

Your desk

Your desk height should allow you to attain the recommended seating position with your legs fitting comfortably under the desk. You should have enough desk space for the display screen, keyboard, document holder and any other items you may need and you should have room to move equipment to find the most comfortable arrangement for you.

Arrange your equipment so that the most frequently used items are within easy reach to minimise stretching. You may need to experiment with different layouts to find the best for you. If necessary change the layout throughout the day.

You should also have sufficient space in the general environment around your desk to move and vary your position. There should be enough space under your desk to allow you unobstructed leg room. Avoid storing equipment and items under the desk which may restrict your leg room and lead to unnecessary stretching.

Your screen

Your display screen should be supported at a height which avoids the undue raising and lowering of your eyes. If the viewing angle is wrong you may suffer from neck and shoulder pains. Swivel or tilt your screen to find the most comfortable position and to minimise reflection from windows and light fittings. If necessary alter the screen position throughout the day.



If you have a document holder you should adjust it so that it is at the same height and plane as the screen. Place it at a distance where you can read it easily without leaning forward. If you spend most of your time looking at the source document you may prefer to put the document holder directly in front of you and the screen to one side.

Your keyboard

Adjust the position and angle of the keyboard to find a comfortable position.

Leave a space in front of the keyboard to support your hands and arms when you are not typing. You should not support your wrist on the edge of the keyboard or desk, or bend your hands up at the wrist whilst typing. This is because your hands will then bend backwards in an unnatural position, which can result in discomfort and may lead to permanent injury. You may find a palm rest to support your hands and forearms useful, particularly if the keyboard is high. If used whilst keying in, it should support your hands in a horizontal position.

Whilst typing, try to keep a soft touch on the keyboard and do not overstretch your fingers.

The screen image

The screen image should be stable with no flickering and the characters well defined and easy to read. If you think that the image quality is poor tell your line manager who may need to seek professional advice.

Adjust the brightness and contrast controls to suit your needs and the lighting conditions in the room.

On some computers it is possible to alter the colour of the characters. Experiment with the colour combinations to find the one which you find most pleasing to the eye. Certain colour combinations, particularly light characters on a dark background, reduce the perception of flicker; whilst dark characters on a light background reduce the effects of glare.

Use proprietary screen cleaner to remove dirt and grime from the screen and filter regularly. If you use a screen filter remember to clean the screen behind it as well.

Other areas to consider

Light, glare and noise

Light levels should be sufficient to enable you to read the source document easily, without affecting the visibility of the display screen.

Glare is caused by bright areas, such as windows, light or reflections off shiny surfaces, which can cause discomfort either directly or by reflecting off the screen. If you find glare from the screen or other sources disturbing discuss this with your line manager. There are several things that you can do to minimise glare:

- Adjust the position and angle of your screen.
- If possible place the screen between and parallel to rows of light fittings. Avoid positions with windows immediately behind or in front of the screen.
- If the light fittings are directing light downwards try positioning the screen in a vertical plane.
- Adjust the brightness and contrast to suit your needs. You can also experiment with different colour combinations to find the one you prefer.



- If curtains or blinds have been provided to reduce the effects of sunlight, use them.
- Display screens can be protected with anti-glare shields, meshes (filters) and sprays. If they are provided, use them.

If you find the noise level in your work area is distracting or makes conversation difficult you should discuss this with your line manager.

Thermal conditions

A large amount of equipment in a single room can make the atmosphere feel warm and dry. The presence of static often suggests low humidity. Whilst there are recommended levels for temperature and humidity, the decision as to whether conditions are adequate depends very much on personal preference so where people work together, it may be necessary to reach a compromise.

If the room where you work does appear dry a simple solution can be the addition of houseplants. Watering of such plants helps to increase humidity as well as creating a more pleasant environment.

Your software

The software you use should be suitable for the task and easy to use. If you feel it is unsuitable or that you need further training, discuss this with your line manager. You should also know where to get help if you have problems with the computer or its software.

Summary

This concludes your course on 'Working with Display Screen Equipment' and we trust you will find it useful in your work and daily life. We recommend that you read your own organisation's display screen equipment policy which may form part of their health and safety policy. Please also visit the '**Resources**' when you exit the course where you will find lots of useful information to expand your knowledge, including a self-assessment checklist that you can use to assess your own workstation and working arrangements.

You have now completed this course and are ready to complete the accompanying questionnaire. Simply close this window to save your progress and then click on '**Questionnaire**'.

When you have completed the questionnaire, there is the opportunity for you to leave feedback on the course and we would be very grateful if you would take a minute to do so.