

Display Screen Equipment Frequently Asked Questions

- 1 [What constitutes Display Screen Equipment or VDUs?](#)
- 2 [Are there any exclusions when working with Display Screen Equipment?](#)
- 3 [Who is covered by the Display Screen Equipment Regulations 1993?](#)
- 4 [What are the employers duties in providing health and safety protection for employees who habitually use display screen equipment?](#)
- 5 [What is the definition of a 'workstation'?](#)
- 6 [What are WRULDs?](#)
- 7 [What are other common complaints arising from working with VDUs?](#)
- 8 [If I have a complaint arising from working with VDUs what can I do?](#)
- 9 [If I move from one desk to another do I have to have my new workstation ergonomically assessed?](#)
- 10 [What are the minimum requirements for work with display screens?](#)
- 11 [What are the minimum requirements for work with keyboards?](#)
- 12 [What standard covers the design of workstations?](#)
- 13 [What are the minimum requirements for work desks or work surfaces?](#)
- 14 [What are the minimum requirements for work chairs?](#)
- 15 [What are the minimum requirements as regards workspace at a workstation?](#)
- 16 [What are the requirements as regards lighting at a workstation?](#)
- 17 [What level of lighting should be used when working at display screens?](#)
- 18 [What instrument is used to measure the level of light?](#)
- 19 [I work in a very noisy call centre with a number of keyboards and printers in operation – how can the noise levels be reduced?](#)
- 20 [I work in an IT section with numerous VDUs operating at the same time – it is very hot and sticky – what can we do?](#)
- 21 [What is comfortable relative humidity and how can it be achieved?](#)
- 22 [What must the employer take into account when considering the employee/computer interface?](#)
- 23 [How often should I take a break from working at a VDU?](#)
- 24 [Who is entitled to eye and eyesight tests?](#)
- 25 [What does habitual and significant use mean?](#)
- 26 [What is an eyesight test \(Visual Ability\)?](#)
- 27 [Who can carry out an eyesight test?](#)
- 28 [What is an eye test?](#)
- 29 [How frequently should eyesight tests be carried out?](#)
- 30 [I already wear glasses to correct a visual defect, which are adequate for VDU work. Is my employer liable to pay for change of lenses etc?](#)
- 31 [When is an employer liable for the costs of providing glasses?](#)
- 32 [Do VDUs present a risk to workers with epilepsy, or can the VDU actually cause epilepsy?](#)

1. What constitutes Display Screen Equipment or VDUs?

Display Screen Equipment means any alphanumeric or graphic display screen, regardless of the display process involved. Hence, display screen equipment (VDU's) covers computer screens, microfiche readers and applies to both conventional cathode ray tube (CRT), display screens, and other display processes such as liquid crystal displays (LCD). Display screens when showing films, videos, television pictures or for surveillance purposes are not covered.

However display screens capable of being used for a range of functions such as video viewing, as a television screen, as well as for word-processing or viewing of data and graphics will need to be assessed to establish the use of the screen and whether, if there is greater habitual use for data and graphics, it falls within the scope of the Regulations.

2. Are there any exclusions when working with Display Screen Equipment?

The Regulations provide for the exclusion of:

- Drivers' cabs or control cabs for vehicles or machinery;
- Computer systems on board a means of transport ;
- Computer systems mainly intended for public use;
- Portable display screen equipment not in prolonged use at a workstation;
- Calculators, cash registers and any equipment having a small data or measurement display required for direct use of the equipment;
- Typewriters of traditional design, of the type known as "typewriter with window";

3. Who is covered by the Display Screen Equipment Regulations 1993?

The following should be considered when deciding if the Display Screen Equipment Regulations are applicable to an employee:

- If the employee has no choice but to use the VDU to carry out her/his work;
- If the employee normally uses the VDU for continuous periods of more than one hour;
- If the VDU is generally used by the employee on a daily basis;

4. What are the employer's duties in providing health and safety protection for employees who habitually use display screen equipment?

The employer is required to perform an analysis of the workstations in order to evaluate the safety and health of employees, with particular reference to eyesight and physical difficulties. Steps must be taken to remedy any risks to safety and health identified. The employer must:

- Carry out a risk assessment of all workstations;
- Consult with employees on all issues affecting safety and health;
- Identify the employees to whom the VDU regulations apply and the workstations used;
- Provide a suitable environment and equipment for VDU work;
- Provide eye tests if they are requested and glasses if needed for VDU work;
- Inform employees of the hazards associated with VDUs and of what has been done to protect employees;

5. What is the definition of “workstation”?

The definition of “workstation” is all encompassing and includes the VDU, along with all the individual pieces of accessories and equipment, e.g. keyboard or other input device, chair, desk and the immediate work environment.

6. What are WRULDs?

WRULDs are Work Related Upper Limb Disorders, which refer to a range of adverse effects on the arm, hand and shoulder areas linked to work activities. These disorders may range from temporary fatigue or soreness in the limbs, to cramp, to ongoing pain in the muscles, soft tissue or nerves.

These effects are generally due to a number of factors rather than any single cause. Holding a part of the body rigid for a long time such as the back, neck and head may cause discomfort in the muscles, bones and tendons. Likewise, awkward positioning of the hands and wrist relative to the work being carried out is another likely factor.

These effects can be avoided by correct use of proper equipment, suitable furniture and thorough training. Problems can be avoided by good workplace design and by good working practices. Prevention is easiest if action is taken early through effective analysis of each workstation.

7. What are other common complaints arising from working with VDUs?

Other common complaints include:

7.1. Effects on the eyes:

Employees may experience temporary eye fatigue, with such symptoms as failure to see clearly, red or sore eyes and headaches. Eye fatigue may also lead to employees adopting awkward postures which may cause discomfort of the limbs. Medical evidence shows that using VDUs does not cause damage to eyes or eyesight, nor does it make existing defects worse. However, eye fatigue may be caused by staying in the same position and concentrating for a long time

- Poor positioning of the VDU;
- Poor legibility of the screen or source documents;
- Poor lighting, including glare and reflections;
- A drifting, flickering or jittering image on the screen;

To prevent eye fatigue take regular micro breaks throughout the day if you feel you have been staring at the screen too long. Refocus your eyes on distant objects to relax the eyes and increase blink rate. You should stretch and vary your position at the same time.

7.2. Fatigue and stress:

The volume of VDU work to be carried out by employees can vary widely between different employments and activities. The work may range from accounting, stock recording and control, or documentation creation and revision. Some tasks may require a very high degree of concentration and vigilance, and can result in stress or fatigue.

Several symptoms, including fatigue, described by VDU users can also be caused by stress arising from broader aspects of their work. They are more likely to be caused by poor organisation of the work, lack of control by the employee over the pace of the work, underutilisation of skills, high-speed repetitive work or working in isolation.

The onset of fatigue and stress can be minimised by careful design, selection and location of VDUs, good design of the workstation, its environment and the task involved as well as training, consultation and involvement of the employee.

8. If I have a complaint arising from working with VDUs what can I do?

You should approach your Line Manager initially and express your concern. Arrangements will then be made to carry out a risk assessment as outlined in the regulations.

Look at the risks associated with your workstation, which you think are presenting a risk to your health and safety. Ask yourself the following:

- Is the display screen image clear?
- Are the screen characters easy to read?
- Is the keyboard comfortable?
- Does the furniture 'fit' the work and the user?
- Is the environment around the workstations risk free?
- Is the software user friendly?
- If you answer 'no' to any of the above then it is likely that your workstation may require some adjustment and a full risk assessment should be carried out.

*Remember it is the employer's responsibility to carry out the risk assessment of the workstations when you have concerns but if we don't know what your concerns are we cannot make appropriate adjustments

9. If I move from one desk to another do I have to have my new workstation ergonomically assessed?

Yes; Ergonomics is the science of fitting the task to the person. It focuses on the person and their interaction with the workstation and the environment used in everyday life and work. So every workstation has to be assessed to fit the person.

10. What are the minimum requirements for work with display screens?

The minimum requirements for all display screens include:

- The characters on the screen must be well defined and clearly formed, be of adequate size and with adequate spacing between the characters and lines;
- The image on the screen must be stable, with no flickering or other forms of instability;
- The VDU shall be capable of adjustment for contrast and brightness by the employee. This will help avoid eyestrain;
- The VDU shall be free of reflective glare and reflections liable to cause discomfort. Work surroundings should have a low reflective finish;

It must be possible to adjust the screen to suit the height and position of the employee as necessary. As a general guide, the eyes should be the same height as the top of the VDU. If you are not a touch typist a slightly lower position may be more comfortable as this will prevent excessive head and neck movement when keying in.

11. What are the minimum requirements for work with keyboards?

The minimum requirements regarding keyboards include:

- The keyboard should be designed so that the employee can work efficiently in reasonable comfort;
- The keyboard shall be positioned so as to allow sufficient space for the employee's hands and arms to be supported;
- The keyboard should be detachable so that the employee can find a suitable working position and avoid straining hands and arms, i.e. It should be positioned so that the angle of the employee's elbow (when seated) between the forearm and the upper arm is in the range of 70° to 90°;
- The employee should be able to look at parts of the keyboard used frequently without lowering the head;
- The keys should have low reflectance surfaces and should have concave tops to follow the contours of the finger tips;
- The symbols on the keys should be adequately contrasted and legible;
- The keyboard shall be tiltable and separate from the screen so as to allow the user to find a comfortable working position which avoids fatigue in the arms and/or hands;

12. What standard covers the design of workstations?

I.S EN ISO 9241:1999 is the standard concerned with ergonomic requirements for office work with visual display terminals. This standard covers the following aspects concerned with display screen equipment and workstations:

- Part 1: General introduction;
- Part 2: Guidance on task requirements;
- Part 3: Visual display requirements;
- Part 4: Keyboard requirements;
- Part 5: Workstation layout and postural requirements;
- Part 6: Guidance on the work environment;
- Part 7: Requirements for display with reflections;
- Part 8: Requirements for displayed colours;
- Part 9: Requirements for non-keyboard input devices;
- Part 10: Dialogue principles;
- Part 11: Guidance on usability;
- Part 12: Presentation of information;
- Part 13: User guidance;
- Part 14: Menu dialogue;
- Part 15: Command dialogues;
- Part 16: Direct-manipulation dialogues;
- Part 17: Form filling dialogues;

13. What are the minimum requirements for work desks or work surfaces?

The minimum requirements regarding work desks or work surfaces include:

- The work desk must have a matt or low reflectance surface;
- The work desk must permit a flexible arrangement of the screen, keyboard and document holder;

- The area underneath should be clear of any materials in order to allow adequate knee clearance. There are standards available, which will give recommended specifications for office desks, which will allow for adequate knee and thigh clearance as well as other important design considerations;
- Storage space for documents, etc. Should be provided in the desk without interfering with comfortable use of the screen;
- The document holder shall be stable and adjustable and shall be positioned so as to allow the employee read the document without awkward extension or bending of the neck;
- There must be adequate space available for users to find a comfortable position;

14. What are the minimum requirements for work chairs?

The minimum requirements regarding work chairs include:

- The work chair must be stable and allow the user easy freedom of movement and a comfortable position;
- The seat must be adjustable in height;
- The seat back must be adjustable in both height and tilt;
- A footrest shall be made available to any user who requires one;
- The support area produced by back rests for the employee's lower back should be as large as possible so as to avoid undue pressure on the employee's thighs and spine;

15. What are the minimum requirements as regards workspace at a workstation?

There must be sufficient space for the employee to carry out their work safely and comfortably. Each workstation should allow the employee the room to stretch out arms or legs and to turn from side to side, adequate freedom of movement and the ability to stand upright and move unhindered to any way out.

16. What are the requirements as regards lighting at a workstation?

Detailed guidance on lighting can be found in the CIBSE (Chartered Institute of Building Services Engineers) Lighting Guide LG3 "The visual environment for display screen use" and in Part 6 of I.S. EN ISO 9241.

Correct lighting arrangements are essential if eye fatigue is to be avoided:

- Reflections and glare can cause discomfort for the employee by making it difficult to see the information on the VDU;
- VDUs should not be positioned directly under overhead lights;
- Windows shall be fitted with suitable blinds etc. that can be adjusted to reduce light and glare;

17. What level of lighting should be used when working at display screens?

As a general rule a level of lighting of 300 – 350 lux should be appropriate. If more light is required for reading documents, local lighting should be used.

18. What instrument is used to measure the level of light?

A lux meter is an example of an instrument to measure light.

19. I work in a very noisy call centre with a number of keyboards and printers in operation – how can the noise levels be reduced?

Noise can be reduced in the office environment:

- By the repositioning of printers and office equipment;
- By the use of sound absorbent partitions and suitable floor coverings;
- Where printers are installed near the employee, suitable housings designed to reduce noise should be provided;

20. I work in an IT section with numerous VDUs operating at the same time – it is very hot and sticky – what can we do?

Work areas should be well ventilated, kept at a comfortable temperature and humidity and free of draughts so as to avoid fatigue and discomfort.

21. What is comfortable relative humidity and how can it be achieved?

Hot dry air will cause the eye surface to dry, creating eye irritation, which may lead to fatigue. Indoor relative humidity levels between 40-60% are usually considered comfortable.

Tests may be carried to check humidity levels this can usually be arranged via Facilities Management on site. This is particularly important where work is carried out in a relatively confined space or where there are several VDU workstations.

22. What must the employer take into account when considering the employee/computer interface?

In designing, selecting, commissioning and modifying software, and in designing tasks using display screen equipment, the employer shall take into account the following principles:

- Software should be chosen appropriate to the particular task;
- Software must be easy to use and, where appropriate, adaptable to the employee's level of knowledge or experience;
- Systems shall provide feedback to employees on their performance;
- Systems shall display information in a format and at a pace which are adapted to employees;
- The principles of software ergonomics shall be applied, in particular to human data processing;

23. How often should I take a break from working at a VDU?

Employers must plan work so that daily work at VDUs is interrupted periodically by breaks or changes in activity which reduce the work at the screen. The Regulations do not specify the frequency or duration of work breaks when working with VDUs. Ideally, the length of the rest should reflect the intensity of the individual job. However, no single continuous period of work at a screen should, in general, exceed one hour. In some countries, including Ireland, there are employer trade union agreements on work breaks at company level. However, there are four important points:

- Rest breaks or changes in the pattern of work, where they are necessary, should be taken before fatigue sets in. Some employees suffer symptoms from the effort used to keep up performance while fatigued;

- The employee should not sit in the same position for long periods. Make sure to change posture as often as practicable, but avoid repeated stretching to reach things you need. If this happens a lot, rearrange the workstation;
- Short frequent rest breaks are more satisfactory than longer breaks taken occasionally;
- Rest breaks should be taken away from the VDU. Other duties may be assigned during this period, provided they are not too intensive;

24. Who is entitled to eye and eyesight tests?

Every employee who habitually uses a VDU as a significant part of normal work has a right to opt for an appropriate eye test and an eyesight test which must be made available and paid for by the employer – See HR Eyesight Form

25. What does habitual and significant use mean?

This could mean using a VDU for one continuous hour or more as part of every day work.

26. What is an eyesight test (Visual Ability)?

An eyesight test means a test of a person's ability to see, to focus at various distances and to keep the two eyes coordinated.

27. Who can carry out an eyesight test?

A doctor or optometrist can carry out an eyesight test. It can also be carried out by a person (including a nurse) trained to use a vision-screening machine. The person operating the machine must know when to refer employees, who do not pass the eyesight tests at the screening level to a doctor or optometrist.

28. What is an eye test?

An eye test means an examination of the eye itself, using an ophthalmoscope, normally carried out by a doctor or optometrist. Though entitled to an eye test and eyesight test, the first approach by an employee is likely to be to have an eyesight test. If the eyesight test results in the employee being referred on to a doctor or an optometrist, the doctor will probably do a further eyesight test as well as an eye test and will decide if the employee needs particular lenses for VDU work.

29. How frequently should eyesight tests be carried out?

Employees have the right to an eye and eyesight test before taking up work if it is habitual work with a VDU as well as at regular intervals (usually every 2 to 3 years) thereafter. In determining the intervals, factors such as the ages of the employees and the intensity of VDU work should be taken into account in deciding the frequency of repeat tests. Additionally, an appropriate eye and eyesight test must be made available to an employee who experiences visual difficulties which may be due to display screen work.

30. I already wear glasses to correct a visual defect, which are adequate for VDU work. Is my employer liable to pay for change of lenses etc?

No. Where an employee already wears glasses to correct a visual defect (normal corrective appliances), and a routine change of lenses arises, if these glasses are adequate also for VDU work, the employer is not liable as regards meeting the cost. The cost of dealing with more general eye problems which are revealed as a result of the tests and which are not directly related to

working with a VDU is a matter for the employee as part of his or her general health care, taking account of health care entitlements.

31. When is an employer liable for the costs of providing glasses?

When eye tests carried out by the doctor or optometrist reveal that particular lenses are required for VDU work, the basic costs of providing the glasses, or of new lenses where the employee already wears glasses, must be borne by the employer.

32. Do VDUs present a risk to workers with epilepsy, or can the VDU actually cause epilepsy?

There is no evidence to suggest that VDU's can actually cause epilepsy. However, seizures may be provoked in a few people who already have sensitivity to the flicker and glare effect of the screen, especially as the nature of use means the person is close to the screen. Only a very small number of people are affected in this way (as few as 3-5% of all people with epilepsy), which means that computer work should not be an unduly restricted occupation for people with epilepsy.

Many people who are photosensitive may still use computers quite safely. The high flicker rate of most current computer displays (CRTs or Cathode Ray Tubes) means they present a very small risk to people with photosensitive epilepsy. When using VDUs, such workers should adhere to safety advice, e.g. using a screen filter to reduce glare, adjusting the rate of flicker, using an LCD screen, reduce the brightness of the screen, taking frequent breaks and avoiding becoming overtired. However, those with photosensitive epilepsy may find that more problems arise using older rather than newer equipment due to the speed of flicker.

Liquid Crystal Display screens (LCDs) and Thin Film Transistor screens (TFTs) are flicker free and may pose less risk to a person with photosensitive epilepsy. Glare factors may still need to be accommodated with an attachable anti-glare screen if this measure is not built in. For further information on epilepsy and photosensitive epilepsy, contact the Irish Epilepsy Association.