

# Guidance on the Safe Use of Display Screen Equipment

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## 1. Introduction:

- 1.1 This guidance has been produced in order to explain the procedure and criteria used to ensure that good practice is followed in the use of Display Screen Equipment. It is important to realise that best practice in this guidance is intended to prevent injury to staff and not to detail the specific requirements for equipment, which can frequently depend on individual needs.
- 1.2 Display Screen Equipment includes desktop computers, as well as lap tops, microfiche readers, Blackberries and Personal Digital Assistants (PDAs).
- 1.3 It is important that all users are identified as such by their managers and records of their training and the DSE assessments are maintained.

## 2. Definitions:

- 2.1 **Workstation:** An assembly of computer equipment, with or without keyboard or other input device or software; any optional accessories to the equipment or other item peripheral to the computer equipment; **and the immediate work environment.**
- 2.2 **User:** an employee, full or part time, permanent or temporary, who uses display screen equipment as part of their usual work,
- 2.3 **Display Screen Equipment:** Any alphanumeric or graphic display screen, regardless of the display process involved.

- 2.4 **Work Related Upper Limb Disorders (WRULDs):** is a term covering all kinds of work related injury to the muscles, nerves and tendons of the upper limbs. It includes carpal tunnel syndrome, bursitis, tendonitis, tenosynovitis, frozen shoulder and epicondylitis. They are painful and disabling conditions, which need immediate medical attention. Recovery can be a long and uncertain process.

### 3. Responsibilities of management:

- 3.1 All managers must ensure that arrangements are in place to:
- Identify all users and operators.
  - Appoint and train sufficient DSE Risk Assessors.
  - All workstations are assessed.
  - All workstations meet the standards set out in the schedule to the guidance on the Health and Safety (Display Screen Equipment) Regulations 1992 as amended by the Health and Safety (Miscellaneous Amendments) Regulations 2002. Following the requirement of the DSE assessment form will ensure this.
  - Work is planned to ensure that regular changes of activity away from the work screen take place.
  - Employees receive adequate training and information on the correct way to use any workstation they may be required to use.
  - DSE users are offered free eyesight tests and assistance towards the cost of corrective spectacles for DSE work.

### 4. Risk assessment:

- 4.1 The general risk assessment process will identify those who use DSE equipment as part of their normal work. It is important that these users are identified and recorded by the manager. This will enable records of information, instruction and training to be maintained. When looking at the working environment, besides looking at the layout of the Display Screen Equipment (DSE) it is important to consider the rest of the workstation. The way in which work is done should also be considered as this can also have a profound effect on the body and general health.
- 4.2 Following on from the general risk assessment a DSE assessment should be carried out by a competent assessor. The majority of staff will be users, and this applies regardless of where they work, whether in Council offices or at home and what type of contract of employment they have.
- 4.3 **It is vitally important that the user of the workstation is involved in the assessment process and informed of any actions that are necessary in order to ensure their health and safety.**
- 4.4 After the assessment has been completed any actions required must be implemented and entered onto the health and safety action plan (see the assessment form CSSF007) This should include target dates for actions to be completed by, and the person responsible for taking the actions. These work plans need to be monitored to ensure that any outstanding issues are resolved to meet the targets.

- 4.5 The control measures introduced through the risk assessment process must be monitored by the manager in consultation with the user to ensure that they are actually used and do reduce the risks involved.
- 4.6 The assessment must be reviewed on a regular basis, depending on the residual risk or when there is a change in the work activity, e.g. the amount of keyboard work or a change in the equipment or software used. If there is a change in the health of the user or the workstation is moved, another assessment should be carried out immediately.

## 5. Information, instruction and training:

- 5.1 **Information** can be regarded as the provision of knowledge about the hazards and risks involved, **instruction** is being told what to do in order to work safely and can be applied during the risk assessment process. **Training** is a more involved process, providing education to staff in order that they are aware of the work-standards required, how to achieve the standards and the confirmation that they are able to do so.
- 5.2 The preferred method of training delivery is away from the workstation, although the method of delivery is not as important as the achievement of the training objectives and confirmation of the ability of the trainee to put the objectives into use. Users need to be given training and information on;
  - How the software works.
  - How the workstation operates.
  - How any equipment works, including chairs.
  - The importance of changes in work activity and taking short frequent breaks away from the screen.
  - The need to be provided with training and information on the risks associated with the use of DSE in general and their own workstation and how to work safely.
  - Details of this training should be recorded and the user should sign as having received this training/information.

## 6. Monitoring of users:

- 6.1 The most important aspect of any training is that it has the effect of improving the trainees' efficiency, e.g. the way they work safely, and the continued achievement of the objectives of the training. Monitoring of staff who have been trained is vitally important, and can be achieved by, the monitoring of the correct work practices by supervisors and managers, workplace inspections, or as part of an audit. Monitoring should identify if any further action is required, e.g. retraining or changes to the course.

## 7. Workstation requirements:

- 7.1 The requirement is to ensure that staff are free from risks to their health and safety from the workstation. The actual size of the work area depends on the tasks undertaken but as a MINIMUM should be 11 cubic metres (based on a maximum height of 2.5 metres) after allowance for furniture and equipment. The standards given below are minimum requirements and anything less can affect performance and health.

7.2 Proper ventilation is important, and the area around the PC and monitor should be kept clear of obstruction, to allow a free flow of circulating air. This will help to keep the temperature and humidity at reasonable levels.

### 7.3 The Screen.

- For touch typists the correct height for the screen is with the top of the monitor level with or slightly below the eyes of the user, when they are sat correctly.
- For non-touch typists the screen should be lower.
- The monitor should also swivel and tilt to enable adjustments to suit the individual to be carried out.
- The screen image should be stable and free from any flicker when viewed from directly in front.
- Display screens should have contrast and brightness controls capable of adjusting the light level for ambient lighting conditions.

7.4 **Lighting and Daylight.** Wherever possible adequate lighting should be provided by natural light. Positioning of equipment is an important factor in the reduction of glare.

- Wherever possible display screens should be positioned at right angles to windows and other light sources, such as strip lighting.
- If possible windows should have blinds, or curtains fitted which restrict light into the room.
- Glare can also be reduced on screens by keeping them clean, as dust and grease can seriously affect legibility.
- Any surface that might cause reflections on the screen should be of a matt finish. This includes, desktops, wall surfaces, cupboards and any other equipment that may reflect light.
- Natural light is unquestionably the best form of lighting, supplemented by artificial lighting as required. Unfortunately it is impossible to achieve ideal lighting conditions for display work, as the level of illumination needed for using a display screen is lower than needed to read documents. Any supplementary lighting, such as desk lights should not adversely affect nearby workstations.
- No source of light should be in the visual field of the user, nor should there be direct light on the screen. Natural light conditions will vary during the day, and according to season, and should be taken into consideration. Lighting conditions perfectly adequate at midday in high summer may be totally inadequate at 5.00 p.m. in midwinter.

### 7.5 Keyboard.

- The keyboard should be separate from the display screen in order to achieve a more flexible arrangement of screen and keyboard.
- The height of the keyboard should be adjusted for the individual's preference. Most keyboards have small adjustable feet towards the back that can be pulled out of the underside to adjust the height and angle of the keyboard, which should be adjusted for the individual's preference.
- There should be sufficient space in front of the keyboard to allow the hands to rest when not keying. A wrist rest may be of use.
- All lettering should be clearly visible.

#### 7.6 **Mouse.**

- The mouse should fit the hand of the user and be located in a position that enables it to be used without discomfort and particularly overreaching or twisting of the arm or wrist.
- If there is more intensive use of the mouse than the keyboard, consider placing the mouse in line with the shoulder of the arm using it.
- The mouse should be lightly gripped and allow the user easy and accurate operation.

#### 7.7 **Work Chair.**

- The chair seat should be adjustable for height.
- The backrest should be adjustable for height and angle
- It should be of a swivel design and have five castors for stability.
- Armrests are optional and largely a matter of personal preference but where they are used they should be adjustable.
- The chair must be adjustable so that the user can obtain a suitable and comfortable position.

#### 7.8 **Workspace.**

- The desk should be large enough to hold all necessary equipment. This includes items such as telephones and document holders. It must be possible to position the keyboard in front of the screen allowing 50mm of space in front of it to allow the user to support their hands and arms.
- Ideally the size of the desk should be 1600mm x 800mm, the minimum size is 1200mm x 600mm.
- The desktop should be high enough to enable the user to obtain the correct relationship between their fingers and the centre of the keyboard. The space underneath, for the legs should be 580 mm high and 580mm wide and clear of any obstructions, in order to allow sufficient space for movement.
- The screen should be capable of being positioned at least 450mm from the user when seated at the desk, without overhanging the back of the desk, unless the desk is placed against a wall.
- Where desks are positioned in an L shape it is important to consider whether the person is left or right handed. It is generally considered better for the return desk to be on the preferred hand. The screen should be positioned on the main desk, rather than the return desk. The screen should never be positioned in the angle between the desks as there is insufficient space for the hand or wrist to rest.
- Care must be taken to ensure that tasks can be undertaken without twisting.
- The workstation must be placed so that it is easy to access and has sufficient space to ensure that all tasks can be undertaken safely.
- If transcription work is carried out, a document holder may be necessary to prevent excessive movement of the neck and shoulders. The document holder must be stable and positioned in the same angle and distance as the screen. Depending on how the workstation is used

it may need the document holder positioning directly in front of the user.

- With the user seated correctly, if their feet are not in contact with the ground, then a footrest must be provided.
- The layout of the workstation is important and space utilisation may become a problem. The workstation must be large enough to enable all tasks to be carried out safely. If a large amount of paperwork is carried out it may be possible to position the screen offset to one side

### 7.9 Workstation Environment.

- The temperature of the working environment needs to be comfortable with sufficient ventilation to ensure the well being of the user without draughts.
- Electronic equipment is a source of dry heat and humidity levels should be high enough to ensure a healthy environment.
- Noise from equipment should be at a level that does not impair concentration or prevent normal conversation.
- No trailing cables should be left where staff can trip over them. Positioning the workstation in order to avoid trailing cables can do this or, if this is not possible, then cables should be run through conduits or otherwise protected.

## 8. Posture:

8.1 There is no one correct posture that should be maintained. As a starting point,

- The back should be supported, although care should be taken to ensure that the backrest does not cause an unnatural bend to the spine.
- The chair height should be adjusted so that the wrists are straight and the forearm parallel with the ground with the elbows bent at right angles with the fingers in line with the centre of the keyboard.

## 9. Work planning:

9.1 Concentrating on any single task continually will lead to fatigue, aches and pains and loss of efficiency and accuracy. Ensure that work is planned to allow for productive work away from the screen or adequate rest breaks. These should;

- Occur before the onset of fatigue
- Be short and frequent as these are better than longer ones at less frequent intervals. A five-minute break every 40 minutes is recommended. Use of Laptops will require more frequent breaks.

9.2 It is important that employees are consulted on any changes may be required over changes working practices.

## 10. Eyesight testing and spectacles:

- 10.1 Eye muscles that hold the focus on paperwork or DSE can tire: other muscles can tire from adapting eyes to changing light or glare, or from shifting focus between reference sources and the screen. A document holder, level with and in the same plane as the screen, helps prevent frequent changes of focal length and minimises up and down head movements.
- 10.2 Minor problems, which allow reading and driving without glasses, may require correction for regular DSE work and can lead to eyestrain. All DSE users, apart from temporary staff, are entitled to a free eyesight test and, if required corrective spectacles. Details of the procedure are available from HR department in Children's Services.
- 10.3 Wearing corrective glasses is generally not a problem, although, bifocals or reading glasses may not be suitable as they may prevent a clear view of the screen. You may also find that staff have to tilt their heads back to see clearly, which could cause neck discomfort.
- 10.4 Contact lenses are less suitable because concentrating on a screen causes staff to blink less frequently, which in turn may cause the eyes to feel dry, or if they are prone to 'greasing' you may be more aware of the problem. Simple blinking exercises and increased lens care may help. If symptoms persist, staff should consult their optician.

## 11. Laptop Computers:

- 11.1 When using a laptop away from a desk, the following will help to reduce the risk of harm.
  - A manual handling assessment will probably be required due to the weight of the equipment and how it is moved from location to location.
  - Ensure that when using a lap top it is on a firm flat surface.
  - Try to keep a good posture, keeping the back straight and not hunching the shoulders.
  - Try to maintain wrists in a neutral position when using the keyboard.
  - Use it **ONLY** for a short time while travelling.
  - Do more frequent changes of activity.
- 11.2 When using a laptop at a desk, all the requirements of this guidance should be met, additionally:
  - Laptop computers should not be used on a continual basis. When they are used in lieu of a normal sized PC a docking station should be used.
  - If a docking station is not available a normal sized keyboard and a mouse should be used with the laptop mounted on risers to raise the height of the screen to a position where hunching is avoided and the screen is easy to read.

## 12. Blackberries and Personal Digital Assistants (PDAs):

- 12.1 The main purpose of the Blackberry and other PDAs is for brief email and calendar monitoring and basic email writing away from the office. However they are not a substitute for a laptop or PC when reading or writing longer emails and documents.

- 12.2 The risks to the user of Blackberries and PDAs must be assessed and controls properly implemented to prevent their use harming the people using them.
- 12.3 The major risks from using a Blackberry or PDA are:
- Stress or anxiety, due to being considered available or accessible any time anywhere.
  - Thumb Pain, the thumbs are not designed for repetitive small movements and this can lead to fatigue and discomfort if not controlled.
  - Neck and back pain, caused by bending forward to use the device.
  - Fatigue, the longer it is used the more likely it is to cause fatigue.
  - Temporary visual fatigue, is common, if the small screen is used for long periods or in poor lighting conditions.
- 12.4 There are a number of controls that can prevent harm, and staff need to be informed and trained to use these controls.
- Restricting time used on a blackberry or PDA, not more than two hours a day.
  - Alternate telephone calls and emails.
  - Keep messages brief or telephone with a verbal response.
  - Use a laptop or PC for longer emails and documents.
  - Switch off the email function when not at work.
  - Hold the device in a relaxed grip with the thumbs lightly on the keypad and fingers curled around the back.
  - Keep the touch light
  - Keep keypad use to a minimum
  - Avoid holding the thumbs in the air when not keying, rest them lightly on the surface
  - Avoid long sessions of keying.
  - Sit sensibly the spine should be well supported in a natural position. Hold the device as you would a book so that the screen can be viewed without undue bending of the neck.
  - Avoid reflections on the screen.
  - Regularly blink and refocus the eye.
  - Adjust the font size.
  - Keep the screen clean
  - Ensure good lighting conditions.

### 13. Health issues:

- 13.1 If staff report that their hands hurt or tingle when they are using a keyboard, or mouse or they get pain in their elbow, wrist or shoulder or other health problem that may be associated with the use of DSE - refer them to the Occupational health service and record the injury using the Incident reporting system.
- 13.2 If you have any concerns about ill health or injuries that may be caused by the working environment refer the member of staff, except temporary staff, to the Occupational Health Service.

- 13.3 Although radiation is not considered to be a risk, some new or expectant mothers may have concerns about the possible risks. It may be advisable that they should be found work away from DSE until they have finished breast-feeding in order to reduce stress problems.

#### **14. Further information and assistance:**

- 14.1 This is designed to give you information about the use of Display Screen Equipment, and is not a concise guide to the regulations. Advice and information is available from the Children's Services Health and Safety Team or the Occupational Health Service.