

DISPLAY SCREEN EQUIPMENT

ASSESSORS

HANDBOOK

Health & Safety Office
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CONTENTS

	Page
INTRODUCTION	3
SECTION 1 - The Law	4
SECTION 2 - Health Effects / Risks	6
SECTION 3 - Assessing Workstations / Carrying out a Risk Assessment – Flow Chart	8
SECTION 4 - Compliance with the Schedule – Minimum Requirements for Workstations	10
SECTION 5 - Work Environment	10
SECTION 6 - Injury Prevention	12
SECTION 7 - Where to Purchase Equipment	14
SECTION 8 - Access to Work	14
SECTION 9 - Rest Breaks	14
SECTION 10 - Training	16
SECTION 11 - Task Analysis of the Organisation of a DSE User	16
SECTION 12 - Home workers	17
SECTION 13 - Laptop Use	17
SECTION 14 - Shared Workstations / Hot Desking	18
SECTION 15 - University Eye Test Procedure	18
SECTION 16 - Occupational Health	19
SECTION 17 - Further Help	20
Appendices	
• Appendix A – Minimum Requirements for Workstations	
• Appendix B – Ergonomic Equipment Held in the Health & Safety Office	
• Appendix C – DSE Flyer	

INTRODUCTION

This reference has been put together to provide information for Departmental Safety Advisers or nominated Competent Persons to undertake Display Screen Equipment (DSE) risk assessments.

The principal health risks associated with DSE work are physical (musculoskeletal) problems such as back pain or repetitive strain injury, visual fatigue and mental stress. Risks to typical users should be low if the DSE Regulations are complied with and ergonomic principles are taken into account in the design, selection, installation and use of the equipment; the design of the workplace; and the organisation of the task.

This reference should enable the DSE Assessor to recognise poor workplace layout and posture and improve upon this by producing a risk assessment that is effective and thorough. The Assessor should then be able to put in place adequate control measures to minimise any adverse effects of the DSE workstation.

SECTION 1 - THE LAW

Health and Safety (Display Screen Equipment) Regulations 1992 as amended by the Health and Safety (Miscellaneous Amendments) Regulations 2002

Below is a summary of the main points of the DSE Regulations and gives a basic understanding of what is required from the Departments to ensure compliance with the legislation.

Regulation 1 – Interpretation and application

DSE: Display Screen Equipment is any alphanumeric or graphic display screen regardless of the display process involved.

DSE workstation: A workstation is a work area that comprises of display screen equipment, optional accessories to the display screen and any peripherals to the display screen equipment such as printer, scanner or footrest, chair and the immediate work environment.

User: A User is any employee who habitually uses display screen equipment as a significant part of their normal work. The Regulations apply to users whether they are employed to work at their own workstation, a workstation at home or hot desking. In the University most employees are classed as Users as most people have access to and use a computer. Post Graduate students who are paid by the University and are DSE Users are subject to the Regulations in the same way as University Employees. Students are owed a duty of care by the University and reasonable steps must be taken to ensure their safety whilst studying at the University. The Access Unit offers specialist advice for students who have a special need with regards to DSE. For further information see <http://www.bristol.ac.uk/accessunit>

Use: for or in connection with work

Regulation 2 – Analysis of workstations to assess and reduce the risks

A suitable and sufficient analysis of the workstation should be carried out to assess health and safety risks (i.e. a risk assessment). Information should be recorded and can be carried out online, with an assessor or on paper. Link to form which may be used is <https://www.bris.ac.uk/safety/policy/vduworkstation.doc>

Review the analysis if it is no longer valid or significant changes occur. Take steps to reduce the risks.

A person who is competent to carry out the assessments is someone who has had training, has an understanding of the regulations and is able to use checklists competently.

The Health and Safety Office run a DSE Assessors course for Departmental Safety Advisers which will give them the competency to carry out assessments and these can be booked through Staff Development, <http://www.iser.bris.ac.uk/cgi-bin/sdev/courselist.pl?sect=st>.

Regulation 3 – Minimum requirements for workstations – detailed in the Schedule to the Regulations (see Appendix A). These minimum requirements apply to all workstations not just those used by ‘users’ and include the following;

- Adequate lighting
- Adequate contrast, no glare or reflection
- Minimise distracting noise
- Allow enough leg room and clearances to enable the User to make postural changes
- Provide window coverings if needed to minimise glare
- Software to be appropriate to the task
- Display screen should have a stable image, free from glare and reflection, readable and adjustable (height and tilt)
- Keyboard should be separate from the screen, legible, adjustable and usable
- Work surface should allow sufficient space for flexible arrangement of equipment and documents and be free of glare
- Chair should be stable and adjustable
- Footrest should be provided if needed

These minimum requirements are fully applicable to office workstations. For compliance in other situations such as where DSE is used to control machinery etc please seek further advice from the Health & Safety Office.

Regulation 4 – Daily work routine of users

Tasks should be designed so that the worker can avoid visual, physical and mental workload repetition. There should preferably be a mix of screen and non-screen based work. Breaks should be taken away from the DSE and similar tasks avoided during these breaks (see Section 9).

Regulation 5 – Eyes and eyesight

The University shall, if requested, provide an eye sight test by a competent person before a member of staff becomes a User, at regular intervals or where the User experiences visual difficulties.

Special corrective appliances (usually glasses) appropriate to work should be provided as the result of an eye or eyesight test or where employees prescribed glasses cannot be used. The University employer is only liable for the basic cost. (It should be noted that usually less than 10% of the working population will need special glasses for VDU work – see page 17 for full details).

Regulation 6 – Provision of training

Health & safety training should be provided to Users, to new User before they become Users or whenever organisation of the workstation is substantially modified.

Regulation 7 – Provision of information

Users should be provided with adequate information on health and safety relating to the workstation and should be aware of whom they should report any problems to. This would normally be their Line Manager, Departmental Safety Adviser or Head of Department. Measures must be taken by the employer to satisfy duties i.e., rest breaks, training, eye and eyesight tests.

SECTION 2 - HEALTH EFFECTS / RISKS

Musculoskeletal Disorders

Musculoskeletal disorders are the most common form of occupational ill health. A range of musculoskeletal disorders of the arm, hand, shoulder and neck linked to work activities are described as ‘work related upper limb disorders’ (WRULD’s). These range from temporary fatigue or soreness in the limb to chronic soft tissue disorders such as carpal tunnel syndrome.

DSE work can give rise to back pain or make an existing back pain worse particularly if seating is poor or badly adjusted, the workstation has insufficient space or is badly designed or if workers sit too long without changes of posture or breaks from DSE work.

The risk factors relating to the onset of any disorder may not be clear. Often a combination of factors is involved which can include non-work factors such as sports, hobbies or earlier injuries, as well as factors relating to the workstation, task or work environment. Prolonged static posture of the back, neck and head is known to contribute to musculoskeletal problems. Awkward positioning of the hands and wrist (for example unnecessarily bent as a result of poor working technique or inappropriate work height) are further risk factors.

Stress and Fatigue

Stress is the second most common cause of occupational ill health. Many symptoms described by DSE workers reflect stresses arising from their work. Symptoms may be linked to upper limb or visual problems but there is evidence that stress often contributes as well.



It is important to realise that stress and other psychological problems can play an important part in the onset and experience of work related upper limb disorders (WRULDS). Stress causes increased muscle tension and general sensitising of the nervous system, which leads to an increased perception of pain. Stress factors, whether related to work, family or any other area can therefore be important contributors to WRULD’s.

The University takes staff 'well being' very seriously and has introduced a number of developments to help address the causes of issues that some staff may face. This includes actions with regard to the Positive Working Environment initiative and the requirements for Departments to complete stress risk assessments. Departmental Safety Advisers should encourage members of staff to report incidences of stress either to themselves or a Line Manager whether or not directly linked to DSE at the earliest opportunity.

Follow the link for further information on the University of Bristol's PWE programme <http://www.bristol.ac.uk/pwe> .

Eye and Eyesight Effects

Medical evidence shows that using DSE is not associated with permanent damage to eyes or eyesight; or does it make existing defects worse. As more people use computers in the workplace complaints of eye fatigue, difficulty in focusing and discomfort have become common. Although computer screens do not damage vision, eye strain may still be experienced.

Rearranging the computer workstation, taking more frequent rest breaks or getting proper glasses or contact lenses can often relieve these symptoms for the user of the Display Screen Equipment (DSE).

When an employee reports eye discomfort it is essential to discover the cause of that discomfort, in the first instance the workstation should be assessed for problems.

When undertaking an assessment check for the following;

- Check the settings on the monitor
- Glare on the screen, positioning of copyholder, and
- Humidity (steps can be taken to increase humidity if necessary to prevent dry eyes)

New and Expectant Mothers at Work

The phrase 'new or expectant mother' means an employee who is pregnant, who has given birth within the previous six months, or who is breastfeeding. Given birth means having delivered a child or, after twenty-four weeks of pregnancy, a stillborn child.



Expectant mothers may be more affected by ergonomic hazards such as;

- Awkward postures, heavy lifting, repetitive forces and limited rest periods
- Hormonal changes can affect ligaments and joints, which can cause postural problems, backache and impairment of dexterity, agility, coordination and balance
- Reach distance and lifting capability can be affected

As the expectant mothers size increases her reach distance is affected which can result in over-reaching, this can result in pain and discomfort to the arms, shoulders, and lower back.

Reorganisation of the workstation may be required. DSA's must ensure that risk assessments are updated frequently.

SECTION 3 - ASSESSING WORKSTATIONS

Workstation assessments must be undertaken at a frequency of 1-3 years (at the discretion of the Department) for anyone who uses display screen equipment. The most efficient way of doing this is to request that all employees in your department to carry out a self assessment. This can be done by either emailing or giving a paper copy of the assessment form <https://www.bris.ac.uk/safety/policy/vduworkstation.doc> and asking for them to be completed and returned to the Assessor within a nominated time frame. There should be a brief explanation on the process of filling out the form and why it is being carried out i.e., the risks associated with DSE.

Assessments can be made by any person who has been trained to carry out the task.

The assessor should be familiar with the main requirements of the DSE Regulations and should:

- Identify hazards (including less obvious ones) and assess risks from the workstation and the kind of DSE work being done;
- Draw valid and reliable conclusions from assessments and identify steps to reduce risks;
- Make a clear record of the assessment and communicate the findings to those who need to take appropriate action, and to the worker concerned;
- Call on further expertise if necessary i.e., Health & Safety Office, Occupational Health

Employees' safety representatives should be encouraged to play a part in the assessment process. In particular they should be encouraged to report any problems in DSE work that come to their attention.

Assessments should be reviewed;

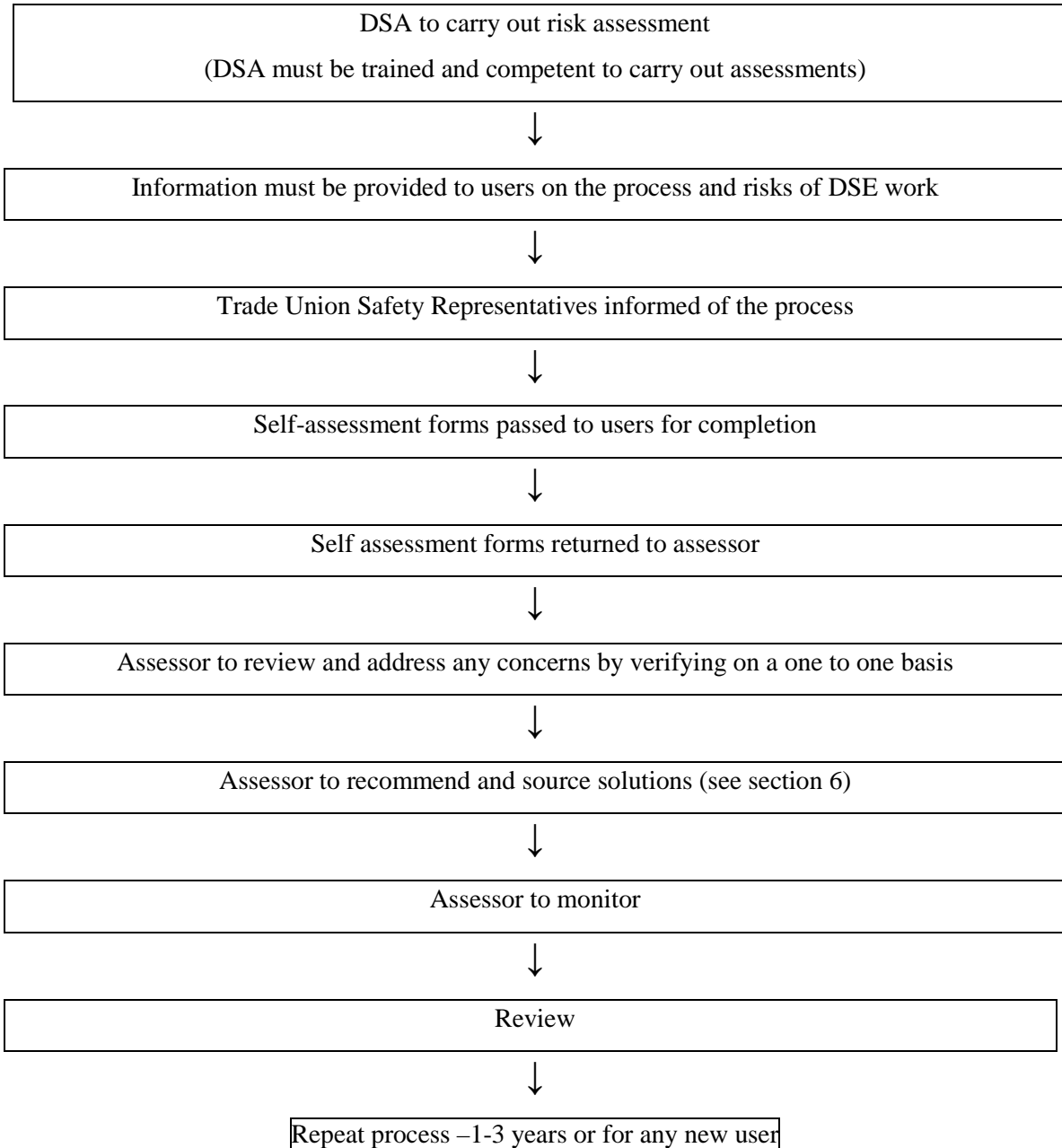
- Frequently (between 1-3 years at the discretion of the department);
- When a major change to software used;
- A major change to any of the equipment (screen, keyboard);
- Major change in workstation furniture;
- Substantial increase in the time required to be spent using DSE;
- If the workstation is relocated.

Departmental assessors must include in their assessment schedules, where necessary, the work and workstations of undergraduate and postgraduate students. Workstations should meet at least the minimum ergonomic requirements set out in the Regulations in regard to furniture, equipment and environmental factors. This typically for designated computer areas will require a generic assessment and not an individual workstation assessment.

The needs of disabled persons require to be properly addressed through a suitable and sufficient risk assessment which takes into account the nature and extent of their disability. Further advice for members of staff responsible for the provision of, and setting up of workstations for disabled persons can be sought from the Occupational Health Service or by contacting the Health & Safety Office.

CARRYING OUT A RISK ASSESSMENT

The following flow diagram summarises the steps required by the DSA to complete a workstation assessment;



SECTION 4 - COMPLIANCE WITH SCHEDULE (See Appendix A) - MINIMUM REQUIREMENTS FOR WORKSTATIONS

This provides detail on how to comply with the requirements of the Schedule to the regulations. Further assistance is available from the Health and Safety Office as necessary.

SECTION 5 - WORK ENVIRONMENT

Noise

In the office environment levels of noise from equipment such as printers and faxes etc can be distracting for members of staff. The noise levels produced should always be considered when any new equipment is ordered. In most office environments a background noise of 55 dB(A) is satisfactory. Occupants should be able to hold conversations and use equipment e.g., telephones in comfort. Any department concerned about levels of noise should contact the Health and Safety Office who can advise and if necessary monitor the noise levels.

Lighting

Poor office lighting can cause eye strain, irritation, fatigue, double vision, watering and reddening of the eyes. Headaches as well as neck and back pains may occur as a result of workers straining to see small or detailed items.

There are a number of measures that can be used to prevent and control poor lighting conditions in the work environment:

- Regular maintenance of the lighting system should be carried out to clean or replace bulbs and faulty lamp circuits.
- DSE users should not face windows, unshielded lamps or other sources of glare.
- Adjustable shades (blinds) should be used if workers face a window.
- Task lighting can be used. Some task lamps permit several light levels and some provide daylight.

Temperature and Humidity

The temperature of a workplace/room should provide reasonable comfort without the need for special clothing. There is no maximum temperature but if a reasonable temperature cannot be achieved local heating or cooling should be provided.

The optimum comfort range for relative humidity is 40-50 per cent. Humidity can be controlled by removing or adding moisture to the air. Humidity can be increased by having houseplants in the office or by using dishes of moistened pebbles.

Posture / Chairs

Chairs must be comfortable in good order and fully adjustable to comply with DSE regulations. A suitable chair will allow the user to achieve different postures and reduce muscle effort when seated. An ideal chair should be height adjustable with back height and tilt adjustments, good

lumbar support, sliding seat, rocking action and adjustable/removable arms so they do not get in the way.

Desking

The work desk should be of such size that it allows for flexible arrangement of the screen, keyboard, documents and related equipment. The height of the work surface for sitting postures should be between 705 – 735mm. Desk feet can be purchased to raise the height of the desk if necessary (for a particularly tall person). Another option is a height adjustable desk for the rare occasions where the user (maybe due to a back problem) is required to sit/stand.

Footrests

The objective of a footrest is to support the users lower limbs whose feet cannot touch the floor when sitting correctly in relation to the workstation. Ensure that knees are not touching the underside of the workstation. The rocking action footrest gently stretches the calf muscles and improves circulation and works well for users with lower limb conditions or sciatica.

Document Holders

The best position for a document holder is between the keyboard and monitor. A document holder will help eliminate repetitive head and neck movement as well as the need to twist. A document holder allows data to be positioned at the same focal length as the screen to minimize eye strain and improve productivity.

Mouse



An ideal mouse should be comfortable for the user with smooth, precise easy controls. Ergonomic mice may be more suitable than a standard mouse. A vertical mouse supports the hand in a natural relaxed position. Left handed users would most likely benefit from a left handed mouse. If changing a mouse check out the USB or PS/2 fitting.

Keyboards

Keyboard design should allow workers to locate and activate keys quickly, accurately and without discomfort. The choice of keyboard will be dictated by the nature of the task and determined in relation to other elements of the work system. The user should align the ‘H’ key with the centre part of the body. Compact keyboards with complementary number pads encourage positioning of the mouse close to the body thereby avoiding forearm extension and excess wrist movement. Natural ‘split’ keyboards allow further adjustments reducing reliance on the same tendon and muscle groups. Check USB or PS/2 fitting.

Wrist Support

Working for long periods with arm and hand extended together with poor posture can lead to specific complaints of the wrist, elbow and shoulder. There are a number of aids to encourage correction and provide relief such as gel filled wrist rests and articulating arm supports. Special wrist rests are not a requirement. If used, they should be chosen with care to ensure they do not increase rather than decrease the risks.

Task Lighting

A task light will allow the user to focus light on a desired surface, and avoid the need to bend forward to peer at copy and is the best way of obtaining individual adaptable lighting.



Monitor Risers

The monitor needs to be positioned directly in front of the user. The height will vary according to the users comfort. Too high or too low will cause unnecessary repetitive neck and head movements.

Telephone Headsets

Heavy telephone users may consider using a headset, especially if they are inclined to cradle the telephone when multi-tasking. As there are many different telephone systems, exercise care when choosing by obtaining as much information about the user's telephone.

Laptop Accessories

Laptops should be capable of being used with a docking station and/or with a facility for attaching an external mouse, keyboard and/or numeric keypad which should be supplied to the user. A suitable bag should be supplied for carrying heavy equipment to facilitate even weight distribution and alleviate back strain.

SECTION 6 - INJURY PREVENTION

Below are some of the common problems that DSE users may encounter along with some solutions that you as DSA can suggest and easily implement to help improve the condition. This information is available in a leaflet format that can be printed and provided for members of staff (see Appendix C).



Back of neck - Common contributing factors include looking down at your documents or keyboard.

What you can try: Provide a document holder. Improve the user's keyboard skills through training. Check monitor height so that eyes are level with the top of the screen.

Side of neck - Looking to one side can cause this problem or cradling the phone between the neck and shoulder.

What you can try: locate documents and screen directly in front of the user. Implement the use of a telephone headset.

Top of shoulders, outside or front of the shoulders - These conditions are caused by the fact that the keyboard is too high, the chair is at an incorrect height or arms are unsupported.

What you can try: raising the height of the chair, providing a footrest, resting palms on front of the desk, and reducing desk height (if adjustable).

Lower back - Brought about by inadequate lumbar support.

What you can try: Adjust backrest height and angle to give firm support, remove arms from chair, and remove obstructions under desk (e.g. drawers).

Upper back - This is caused by twisted posture.

What you can try: ensure that the user is sitting straight on and ensure the chair is adjusted correctly; position documents, screen and keyboard directly in front of the member of staff.

Right arm, wrist or shoulder - Brought about by having an arm outstretched and unsupported.

What you can try: move mouse closer (next to keyboard), use single surface desk, use keyboard or mouse wrist rest.

Left arm, shoulder or neck - These conditions are caused by reaching for the telephone or cradling the telephone on shoulder.

What you can try: move the phone closer. Ask the employee to use a headset if appropriate.

Leg discomfort, swollen feet - Arises from the underside of thighs being compressed against the chair seat.

What you can try: provide a footrest or reduce desk and/or chair height.

Headaches - Caused by one or a combination of the following; poor posture, visual problems, noise, stress, glare and high workload.

What you can try: rearrange work area to place screen away from window, install a screen filter, install window coverings, close blinds, shut door, vary tasks, take regular breaks, smooth out work flow, reduce time on computer and ensure that staff are aware of their eye test entitlement.

Eye fatigue, temporary short sightedness - Brought about by visual problems, screen too close, poor image quality, glare and screen reflections.

What you can try: rearrange work area, screen filter, install blinds, close blinds, vary tasks, take regular breaks and ensure staff are aware of their eye test entitlement.

SECTION 7 - WHERE TO PURCHASE EQUIPMENT

Most solutions can be achieved by making adjustments to the equipment you already have but sometimes the Department will need to provide new equipment such as a chair or a wrist rest. Most equipment can be purchased from Office Depot, Back in Action or Godfrey Syrett in line with the University purchasing policy. However sometimes alternative specialist equipment may be needed. It is the responsibility of Departments to locate a supplier and purchase equipment. The Health & Safety Office can advise if appropriate. The Health & Safety Office keeps a stock of equipment which can be loaned out/. Further details is available on the Health and Safety Office website.

Most suppliers will allow you to trial any piece of equipment for two weeks before purchasing it. After that time it either has to be purchased or returned but always check with the supplier prior to purchase.

SECTION 8 - ACCESS TO WORK

Funding for equipment comes from the individual department. If a member of staff has a medical problem and a lot of equipment is needed you can apply to Access to Work which is a Government funded body for funding. Access to Work will carry out their own assessment and the medical condition has to be backed up by a letter from the staff members GP. This application must be done through the personnel officer for the department.

SECTION 9 - REST BREAKS

In many tasks, natural breaks or pauses occur as a consequence of the organisation of the work. Whenever possible, jobs using DSE should be designed to consist of a mix of screen based and non-screen based work to prevent fatigue and to vary visual and mental demands. Where the job unavoidably contains spells of intensive DSE work (whether using the keyboard or input device, reading the screen, or a mixture of the two), these should be broken up by periods of non-intensive, non-DSE work. Where work cannot be so organised, for example in jobs requiring only data or text entry or screen monitoring requiring sustained attention and concentration, deliberate breaks or pauses must be introduced.

The table below gives examples of good practice for break frequency that can be passed onto all members of staff;

Opportune breaks	An example of this type of break would be, when the phone rings the User picks it up and at the same time stands and stretches to restore the circulation and reduce static loading to the body. It is an opportune break because the User has not taken time out of their duties. A User waiting for a phone to answer could look out of the window for twenty seconds at a distant scene as this will allow the eyes to relax
Micro-breaks	Work using the keyboard is carried out in varying lengths of continuous but repetitive activity. The User should take a micro-break, which is less than two minutes, the User can stretch, stand up, move around or do a different work task i.e.,

	<p>send a fax, make a telephone call.</p> <p>The purpose of a micro-break is to let the user rest a particular set of muscles that has been doing most of the work. If a lot of keying is being carried out the finger flexors will be overexerted. The User should be encouraged to rest their hands in a relaxed, flat, straight posture.</p>
Eye breaks	<p>If a User stares at a computer screen for an extended period it will affect how the eye mechanism works. The eye will blink less often, and more of the eye surface will be exposed to the surrounding air. If this is dry it can contribute to what is known as dry eye syndrome.</p> <p>Solution - 20/60/20 rule: look twenty feet away for sixty seconds every twenty minutes. This allows the eye muscles to relax.</p> <p>The User should be encouraged to blink their eyes rapidly for a few seconds. This will refresh the tear film and clear dust from the eye surface. Dust in the air can result in eye irritation.</p>
Rest breaks	<p>Every 30 to 60 minutes Users should take frequent short breaks to relieve the strain associated with keyboard work, they should ideally stand up and move around.</p> <p>This way they can exercise different muscles and perform movements that will relieve the feeling of muscle fatigue (shrugging shoulders are generally the most effective way of dealing with fatigue) as a result the User will feel less tired.</p> <p>Altering posture will relieve muscle fatigue, some chairs have a forward tilt control that allows the worker to sit forward, and this can sometimes help reduce fatigue to the muscles of the forearm, neck and shoulders.</p> <p>For sustained keying activity or repetitive tasks, a break should be taken every few minutes every half hour in some cases every fifteen minutes.</p> <p>To reduce eye strain, Users should take short rests and look into the middle distance or if necessary, close the eyes and cover them with the hands without pressing, while breathing eight or nine times.</p>
Change of tasks	<p>Employees need to move around as by doing different tasks it will help reduce the effects of fatigue.</p> <p>If task variation is not possible, as the job requires a sustained period of repetitive or static activity, rest breaks must be taken.</p>

SECTION 10 - TRAINING

Employers should ensure that all users have been provided with adequate health and safety training, in addition to the training received in order to do the work itself. Health and safety

training should be aimed at reducing or minimising the main risks to health – musculoskeletal, stress and fatigue and eye and eyesight effects.

This training can be carried out in many ways to suit the individual Department. The Health & Safety Office runs a DSE Assessors course which can be booked through Staff Development. This course will be of benefit to anyone who carries out DSE assessments in their department. Also available is the option of a DSE drop in session where a workstation is set up in a room in a department and members of staff can come along to learn how to set up their workstation and ask questions as appropriate. Other options are available at the request of a department and tailored to suit.

The use of an e-learning package to teach employees the correct way to use their workstation can be an effective way of training in the use of the workstation. The following link is a free program that covers all that you need to know for your workstation <http://www.learninglink.ac.uk/site.htm>

Many employees do not have good typing techniques therefore putting stress on upper limbs. The following are links to a free program that teaches touch typing <http://www.sense-lang.org/typing> and <http://www.typeonline.co.uk/lesson1.html>

SECTION 11 - TASK ANALYSIS OF THE ORGANISATION OF A DSE USER

DSE Regulation 4 requires employers to design tasks so that the worker can avoid visual, physical and mental workload repetition. To do this the assessor needs to know the type of work the User undertakes and also if the user have more than one workplace or work from home.

The first consideration should be can the work of the DSE User be improved? Does the User work flexitime or take work breaks and do any of these work patterns reflect problems. Does the User hot desk and if so what type of equipment is used.

Work organisation should be designed to ensure that the physical and cognitive (perception, memory and stress) demands of the DSE users are balanced. This can be achieved by an increase in breaks for fast keyers, variation of tasks for users who multitask. Care needs to be made that when work design is being considered that the different tasks do not result in the same physical or cognitive loading. If not the User can become stressed and the repetitive natures of tasks using the same muscle groups is likely to result in a cumulative injury.

A task analysis is the analysis of how a task is carried out, and should include a detailed description of physical and mental activities, task durations, task frequency, task allocation, task complexity, and any other unique factors involved in or required for one or more persons to perform a given task.

When carrying out task analysis the following needs to be taken into consideration:

Step One

What is the job? i.e., Secretary, Administrator.

Step Two

What are the tasks – i.e., communication via email and telephone, booking appointments, typing minutes and reports

Step Three

What are the steps relating to each task – i.e., sending and replying to emails, using the telephone to make appointments and make enquiries, typing using keyboard and mouse

Step Four

For each of the tasks look at the impact on the body and determine the level of concern i.e., low – medium or high concern. Will the task cause a particular problem i.e., back pain due to poor posture or unsuitable chair. Will strain be put on the body due to constant working without a break due to work pressures?

Step Five

How can these tasks be controlled – is ergonomic equipment required or adjustments to existing equipment, does the task need to be shared or altered.

Further guidance on task analysis is available from the Health and Safety Office.

SECTION 12 - HOMEWORKERS

Home workers are subject to the DSE Regulations regardless of whether the workstation is supplied by the employer. They are subject to the same risks of normal DSE work but the risks may increase due to the absence of supervision, social isolation and the practical difficulties of carrying out risk assessments.

Risks can be reduced by the home user being trained to carry out self assessment on the main workstation and an ad hoc assessment on all temporary workstations. Good practice can be reinforced i.e., by encouraging the User to use an e-learning package to remind of the importance of breaks and good posture. Monitoring both health of the user and that equipment is adequately maintained with necessary software updates can reduce risks.

Homeworking guidance is available at; <https://www.bris.ac.uk/safety/policy/gn08-07.pdf>

SECTION 13 - LAPTOP USE



There is an increase of workers using mobile tools that are used for DSE type tasks. Each of these should be risk assessed and the user should be made aware of the risks using the equipment.

General laptop user guidelines:

- Laptop keyboards should be set up as regular keyboards. A workers elbows should be level with or slightly higher than the keyboard
- An office chair without armrests will allow the user to have more room to move his or her arms
- Wherever possible use a separate keyboard, mouse and monitor with your laptop. If a monitor is not available use a laptop stand.
- If a separate keyboard is not available the laptop user should avoid resting the forearm on the wrist rest area when typing. Whole hand and arm movements should be used to navigate around the keys

- If a laptop has a touch pad that is difficult to move, then an external mouse should be used
- If the worker is looking down at the laptop screen, they should try and ensure that their neck and head are not held forward to see the screen as this can lead to musculoskeletal pain.

SECTION 14 - SHARED WORKSTATION / HOT DESKING

In some work areas a workstation may be used by more than one person. Where this occurs the assessment of the workstation must be conducted for each person using it.

The range of adjustments must meet the needs of each user e.g., the chair must have a sufficient range in height adjustment for each user. In addition a shorter user may need a footrest which may not be necessary for a taller person using the same equipment.

If a laptop is used a docking station is recommended with availability of a separate keyboard, mouse and laptop stand.

SECTION 15 - UNIVERSITY EYE TEST PROCEEDURE

Under The Health and Safety (Display Screen Equipment) Regulations 1992 (as amended 2002), DSE Users (as defined in section 1 of this document) are entitled to eye and eyesight tests by a registered practitioner on the following occasions:



- When they first become a DSE User
- When the User requests it
- At regular intervals thereafter on the recommendation of the Practitioner
- When the user experiences visual difficulties attributed to display screen use

Schools or departments are responsible for making arrangements to manage eye testing of DSE users within the school/department and for providing information to staff on the school or department's procedures for eye testing. The local procedures for eye testing should be detailed in the Local Rules document.

Further guidance on the options available to schools/departments on managing eye testing arrangements for DSE users can be found on the Health and Safety Office website:

<http://www.bristol.ac.uk/safety/guidance/eyetest.html>.

All staff who are DSE Users and request an eye test must complete the authorisation form (https://www.bristol.ac.uk/safety/uobonly/forms/health/eyetest_form.pdf) and submit it for authorisation to the nominated person within their school/department before attending an eye test (please contact your DSA for more information on your school/department's procedures). Once authorisation is received, the employee should arrange an appointment for their eye test. The completed form must be submitted back to the school/department after the eye test has been

carried out and will be kept as evidence that eye testing is being managed and legal requirements are met.

The school or department will contribute up to £20 towards the cost of the eye test, and up to £35 for glasses specifically required for DSE use (£55 in total).

If the optician determines that glasses are needed specifically for DSE use, they must indicate this in section 2 of the authorisation form.

Any DSE spectacles issued to a user remain the property of the University.

***Please note:** from 1st January 2011, the Health and Safety Office will no longer accept or pay any invoices from Specsavers and will direct these back to the relevant school/department for payment.

SECTION 16 - OCCUPATIONAL HEALTH

The University Occupational Health Service (OHS) is in place to offer advice on health, safety and well being at work.

The Occupational Health Service offers a range of services to maintain health at work and operate alongside departments to ensure that the working environment is safe. Occupational Health work closely with the Health & Safety Office, Personnel, Departmental Safety Advisers (DSA's), Managers and the Staff Counselling Service.

If a member of staff has a health concern which they think may be work related they should report to their DSA, Line Manager or Head of Department who will liaise with the relevant Personnel Manager who will decide whether a referral to Occupational Health is appropriate. Details of the referral process and a referral form is available at; <http://www.bristol.ac.uk/safety/health/wsassessment/>

Information given to the department following contact with the OHS relates to fitness for work and not the clinical details of the health condition and the information is usually limited to any adaptations to the work carried out.

There are a range of services available to you through the Occupational Health Service including workplace assessments which may be carried out in conjunction with the Health & Safety Office.

The Occupational Health Service can be contacted on 0117 330 2572.

FURTHER HELP

Information for users

Working with VDU's

<http://www.hse.gov.uk/pubns/indg36.pdf>

Microsoft word keyboard shortcuts

<http://support.microsoft.com/default.aspx?scid=kb;en-us;290938>

link to University Positive Working Environment web page

<http://www.bristol.ac.uk/pwe>

link to University eye test authorisation form

<https://www.bristol.ac.uk/safety/uobonly/forms>

link to touch typing program

<http://www.typeonline.co.uk/lesson1.html>

link to e-learning program

<http://www.learninglink.ac.uk/site.htm>

Sources of advice

Health & Safety Office (including Occupational Health)

<http://www.bris.ac.uk/Depts/Safety/>

University Equality and Diversity

<http://www.bristol.ac.uk/equalityanddiversity>

MINIMUM REQUIREMENTS FOR WORKSTATIONS

The minimum requirement for workstations are contained in the Annex to the Regulations and are in place to secure the health, safety and welfare of persons at work. For your information this has been reproduced as follows;

Equipment

2. (a) General comment

The use as such of the equipment must not be a source of risk for operators or users.

(b) Display screen

The characters on the screen shall be well-defined and clearly formed, of adequate size and with adequate spacing between the characters and lines.

The image on the screen should be stable, with no flickering or other forms of instability.

The brightness and contrast between the characters and the background shall be easily adjustable by the operator or user, and also be easily adjustable to ambient conditions.

The screen must swivel and tilt easily and freely to suit the needs of the operator or user.

It shall be possible to use a separate base for the screen or an adjustable table.

The screen shall be free of reflective glare and reflections liable to cause discomfort to the operator or user.

(c) Keyboard

The keyboard shall be tiltable and separate from the screen so as to allow the operator or user to find a comfortable working position avoiding fatigue in the arms or hands.

The space in front of the keyboard shall be sufficient to provide support for the hands and arms of the operator or user.

The keyboard shall have a matt surface to avoid reflective glare.

The arrangement of the keyboard and the characteristics of the keys shall be such as to facilitate the use of the keyboard.

The symbols on the keys shall be adequately contrasted and legible from the design working position.

(d) **Work desk or work surface**

The work desk or work surface shall have a sufficiently large, low-reflectant surface and allow a flexible arrangement of the screen, keyboard, documents and related equipment.

The document holder shall be stable and adjustable and shall be positioned so as to minimize the need for uncomfortable head and eye movements.

There shall be adequate space for operators or users to find a comfortable position.

(e) **Work chair**

The work chair shall be stable and allow the operator or user easy freedom of movement and a comfortable position.

The seat shall be adjustable in height.

The seat back shall be adjustable in both height and tilt.

A footrest shall be made available to any operator or user who wishes one.

Environment

3. (a) **Space requirements**

The workstation shall be dimensioned and designed so as to provide sufficient space for the operator or user to change position and vary movements.

(b) **Lighting**

Any room lighting or task lighting provided shall ensure satisfactory lighting conditions and an appropriate contrast between the screen and the background environment, taking into account the type of work and the vision requirements of the operator or user.

Possible disturbing glare and reflections on the screen or other equipment shall be prevented by co-ordinating workplace and workstation layout with the positioning and technical characteristics of the artificial light sources.

(c) **Reflections and glare**

Workstations shall be so designed that sources of light, such as windows and other openings, transparent or translucent walls, and brightly coloured fixtures or walls cause no direct glare and no distracting reflections on the screen.

Windows shall be fitted with a suitable system of adjustable covering to attenuate the daylight that falls on the workstation.

(d) **Noise**

Noise emitted by equipment belonging to any workstation shall be taken into account when a workstation is being equipped, with a view in particular to ensuring that attention is not distracted and speech is not disturbed.

(e) **Heat**

Equipment belonging to any workstation shall not produce excess heat which could cause discomfort to operators or users.

(f) **Radiation**

All radiation with the exception of the visible part of the electromagnetic spectrum shall be reduced to negligible levels from the point of view of the protection of operators or users health and safety.

(g) **Humidity**

An adequate level of humidity shall be established and maintained.

Interface between computer and operator/user

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

- (a) software must be suitable for the task;
- (b) software must be easy to use and, where appropriate, adaptable to the level of knowledge or experience of the operator or user; no quantitative or qualitative checking facility may be used without the knowledge of the operators or users;
- (c) systems must provide feedback to operators or users on the performance of those systems;
- (d) systems must display information in a format and at a pace which are adapted to operators or users;
- (e) the principles of software ergonomics must be applied, in particular to human data processing.



Injury prevention analysis:

The information below outlines common areas where aches and pains can be experienced by DSE users and recommends actions to alleviate the symptoms. Many aches and pains can be relieved by changing your posture or work patterns.

Back of neck

Common contributing factors include looking down at your documents or keyboard. What you can try: Use a document holder. Improve keyboard skills. Check monitor height.

Side of neck

Looking to one side can cause this problem. What you can try: locate documents and screen directly in front of you.

Top of shoulders, outside or front of the shoulders

These conditions are caused by the fact that the keyboard is too high or arms are

unsupported. What you can try: raise chair, use footrest, rest palms on front of desk, and reduce desk height (if adjustable).

Lower back

Brought about by inadequate lumbar support. What you can try: Adjust backrest height and angle to give firm support, remove arms from chair, and remove obstructions under desk (e.g. drawers).

Upper back

This is caused by twisted posture. What you can try: sit straight on; locate documents, screen and keyboard in front of you.

Right arm, wrist or shoulder

Brought about by having an arm outstretched and unsupported. What you can try: move mouse closer, use single surface desk, use keyboard or mouse wrist rest.

Left arm, shoulder or neck

These conditions are caused by reaching for the telephone or cradling the telephone on shoulder. What you can try: bring phone closer. Use headset.

Leg discomfort, swollen feet

Arises from the underside of thighs being compressed against the chair seat. What you can try: use footrest or reduce desk and chair height.

Headaches

Caused by one or a combination of the following; poor posture, visual problems, noise, stress, glare and high workload. What you can try: rearrange work area, install a screen filter, close blinds, shut door, vary tasks, take regular breaks, smooth out work flow, reduce time on computer and have an eye test.

Eye fatigue, temporary short sightedness

Brought about by visual problems, screen too close, poor image quality, glare and screen reflections. What you can try: rearrange work area, screen filter, close blinds, vary tasks, take regular breaks and have an eye test.

Any member of staff who believes that they are suffering from this type of pain and it is related to their work should report it immediately to their Departmental Safety Advisor (DSA) or immediate supervisor.



Health and Safety Office

- **Situated:** 1-9 Old Park Hill
- **Tel.:** 0117 92 88780
- **Web:** www.bris.ac.uk/Depts/Safety
- **E-mail:** Bristol-Safety@bristol.ac.uk

Detailed guidance on working with display screen equipment is contained in the Health and Safety Office code of practice on office safety, to be accessed at;

<https://www.bris.ac.uk/safety/policy/dsecomp.doc>

For information regarding eyesight tests:

www.chm.bris.ac.uk/safety/eyetests.htm



Health and Safety Office

Advice Sheet on the use of Display Screen Equipment

