# UNIVERSITY OF BATH HEALTH AND SAFETY STANDARD

## Use of Display Screen Equipment

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| Version Number | Version 4 | Date of Approval | 10/09/2024 | Review Date | Three years from acceptance by UHSC |
| Author and Lead | Chris Young | | | | |
| Aims | The purpose of this standard is to provide a means of assessing the hazards which arise from display screen equipment to reduce the risk of injury to employees. This should, in turn, reduce the level of sickness or injury and the risk of civil action in respect of back injury, eye strain, headaches or other musculoskeletal problems. | | | | |
| Scope | This standard applies to all University provided fixed and portable display screen equipment used by "users" in the course of their employment. This includes any such equipment used by Postgraduate research students (who are classed as employees for the purposes of this standard) or agency workers who are working under the control of the University.<br><br>This standard applies to University employees who are contracted to work from other premises (such as **contracted homeworkers and employees routinely working from home with agreement from their line manager)** or who are using display screen equipment provided by other organisations (e.g. when working as a display screen equipment user at another employer's premises). Occasionally or informally working at home is not covered by this standard although it is recommended that employees follow the University's guidance on safe set up and use of Display Screen Equipment.<br><br>This standard does not apply to display screen equipment provided for short period use only, such as display screen equipment associated with some research equipment (e.g. display screens associated with electron microscopes) nor does it apply to equipment provided for undergraduate and postgraduate taught student use. However, in these cases the general requirements for risk assessment will apply and the minimum requirements for computer workstations should be observed so far as is reasonably practicable. | | | | |
| Relevant Legislation | The Management of Health and Safety Regulations 1999<br>The Health and Safety (Display Screen Equipment) Regulations 1999 (DSE Regulations). Supported by HSE Guidance to the Regulations Publication L26. | | | | |
| Definitions | **User:** means any worker (employee or postgraduate research student or agency worker) who habitually uses display screen equipment as a significant part of their normal work. | | | | |
| | **Eye and eyesight test:**<br>This is a 'sight test' as defined by legislation and includes a vision test and an eye examination. For computer users, the test should take their work into account.<br>Computer users are entitled to ask their employer to provide an eye and eyesight test. The University has arrangements for reimbursing relevant users for the cost of this test, and for contributing to the cost of glasses if they are required specifically for computer use. Agency workers at the University are excluded from this provision as their employing agency is responsible for these costs. | | | | |
| | **Rest Break:** Rest breaks are short (5-10 minutes per hour) breaks away from the computer to rest the eyes and get up from their workstation. The computer user may perform other work tasks during this time. | | | | |
| | **Local Workstation Assessor:** Faculties, Departments, teams etc. may informally appoint one or more staff members to undertake assessments or monitor self-assessments for groups of staff and research students. These individuals will be confirmed as local assessors once they have undertaken the relevant training provided by UHSE. A list of current local workstation assessors is available from SHEW. | | | | |
| | **Display Screen Equipment (DSE):** is a device or equipment that has an alphanumeric or graphic display screen, regardless of the display process involved; it includes both conventional display screens and those used in emerging technologies such as laptops, touch-screens, smart phones and other similar devices. | | | | |
| | A **workstation** includes display screen equipment such as a monitor, keyboard, mouse, telephone, modem, printer, chair, desk and the immediate working environment. | | | | |

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| | **Portable IT equipment** includes any portable DSE and all ancillary equipment used with it such as laptop stands, earphones, capacitance pens, etc. |
| | **Home workers** are those individuals who work at home by formal agreement with the University either as stated in their contract of employment or as a long-term reasonable adjustment under the Equality Act 2010 or under the Hybrid Working arrangements introduced under the Future Ways of Working initiative. Where an assessment identifies that equipment or software is required in order to achieve an ergonomically safe workstation set up, it is the responsibility of the employing School, Faculty, Department or Directorate to provide this.<br><br>Individuals who choose to work from home on an occasional basis are excluded from this definition, although it would be prudent for them to follow the standard so far as they are reasonably able. |
| Responsibility for implementation | Deans, Heads of Departments, Directors and Line managers. Individual users also have responsibility for implementing aspects of this standard that relate to their use of their workstation. |
| Training availability: | Guidance notes are available via TOPDesk<br>SHEW provides training and a toolkit for local workstation assessors. |

| | **Standard to meet:** | **Accountability** | **Reference documents and more information** |
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| **DSE work at workstations (including the regular use of portable IT equipment and workstations used by contracted homeworkers and people routinely working from home under agreed arrangements with their line manager – e.g. "hybrid workers".)** | | | |
| 1 | Work stations, including homeworking workstations provided for homeworkers, meet the minimum legal requirements as described in the guidance notes, below. Hot desking facilities will be provided with equipment to meet the minimum legal requirements. | Deans, Heads of Departments and Directors | Minimum legal requirements are tabulated below |
| 2 | A Display Screen Self- Assessment is completed for each user at the start of a role or whenever there is a substantial change to the workstation. People routinely working from home (under contractual or other formal agreements) are required to complete a workstation assessment for their home workstation. Users using hot desking facilities do not need to complete a new assessment each time they work at a different desk but will need to adjust their workstation to ensure that it is set up according to their needs. | Line Managers | SHEW provides a standard self-assessment pro forma |
| 3 | Where issues are identified these are directed, in the first instance, to the Line Manager (or an appropriate Local Workstation Assessor where appointed) for resolution. | Line Managers | |
| 4 | Where Issues cannot be resolved by local management these are escalated to SHEW for support. | Line Managers | Assistance should be sought from SHEW especially where there is a musculoskeletal difficulty or other health condition that may affect the way a person is able to use their workstation |
| 5 | Control measures identified by the self-assessment process (and any subsequent assessment by local management and/or SHEW) are implemented. These should include any required:<br>• Physical adaptations to the workstation (e.g. changes to chairs, desk layout, provision of ancillary equipment for laptop use, etc.)<br>• Changes to working practices (taking of appropriate screen breaks, alternating tasks etc.)<br>• Changes to office environment (e.g. provision of blinds, changes to lighting etc.)<br><br>Changes to homeworking environment (such as changes to lighting etc.) are specifically excluded from this requirement. If | Line Managers, Users | The Risk Assessment Guidance provides advice and guidance on all aspects of the workstation environment to enable appropriate control measures to be identified and implemented. |

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| | a safe set up cannot be achieved, then consideration may be required as to whether home working should be permitted. | | |
| 6 | Workstation assessments are reviewed at least annually. This may need to be done more frequently if a related issue (for example, back or wrist pain) occurs. | Line Manager / User / local DSE assessor where present | |
| **Homeworking falling within the scope of this standard** | | | |
| 7 | Guidance and training is available to enable users to safely set up and use home workstations. | HR Deputy Director: Safety and Wellbeing Services | The Risk Assessment Guidance provides advice and guidance on all aspects of the workstation environment to enable appropriate control measures to be identified and implemented.<br><br>Users who routinely work from home are required to carry out a workstation assessment for their home workstation.<br><br>Other users who carry out work at home on an ad hoc or infrequent basis, may wish to complete the generic self-assessment for their home workstation. |
| **Assistive Technology** | | | |
| 8 | Users requesting the assistance of the Assistive Technologist (whether for on site or homeworking) are expected to have completed a self-assessment in TOPDesk. | Line Manager / User | This helps to ensure that the causes of problems have been correctly identified so that the most effective remedies can be put in place. |

# Risk Assessment Guidance

This guidance identifies potential health hazards associated with the use of computer workstations, in particular desktop computer equipment. There are similar hazards associated with the use of portable equipment and further guidance is available on the SHEW TopDesk site.

| # | Hazards | How users may be affected | Required controls & measures |
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| 1 | Eye strain | Computer users may suffer eye strain after prolonged periods of work. This is an uncomfortable condition, but not permanent. | • Clear screen image which is free from glare<br>• Work to be managed so that screen users have periodic changes of activity: 5-10 minutes away from the screen each hour should suffice. This may happen without planning, if the user needs to answer the phone and field enquires during the working day<br>  ○ It is possible to install software that pops up at pre-set intervals to remind the user to take a break. This can be useful for some individuals, although may be irritating to others. |
| 2 | Eyesight defects | There is no evidence that computer use can cause eye sight to deteriorate such that glasses are needed. However, the visual demands of computer use may make users aware of eyesight defects that they had not noticed beforehand. | • Employees who are habitual users of computer can have an eyesight test; paid for by their department. They can have this test:<br>  ○ When they first start work<br>  ○ Periodically thereafter – follow the advice of the optician<br>• Employees who need glasses specifically & solely for computer use can have them paid for by their department. (The monetary contribution made is equivalent to the cost of a “basic” pair). |
| 3 | Triggering a photo epileptic attack | Most people with epilepsy are unaffected by computer use.<br>Most people with photo epilepsy are unaffected by computer use for business applications – usually flickering lights and striped patterns are the trigger | • Computers restricted to business use only; games (which are more likely to generate flickering images) are not permitted<br>• User to report any problems with computer screens or software that causes problems related to photo epilepsy<br>• Individual instances will be assessed to identify additional control measures |

| # | Hazards | How users may be affected | Required controls & measures |
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| 4 | Muscular or skeletal disorders caused or exacerbated | Computer users can suffer MSD or can exacerbate existing MSD problems due to:<br>• Poor workstation ergonomics<br>• Repeated repetitive movements (such as continuous mouse use)<br>• Existing MSD conditions | • Computer workstations to meet the minimum legal requirements (see below)<br>• Individual assessments to be completed for each habitual user / computer workstation.<br>• Ergonomic or other shortcomings to be addressed by the department. Assistance is available from UHSE.<br>• Assessments to be repeated after changes in user / workstations. Assessments to be repeated periodically.<br>• Staff to receive training on the safe use of computer equipment. |
| 5 | Stress | Computer users may suffer from stress. However, this usually arises from a combination of workload and personal factors and is not directly caused by the computer.<br>Computers can contribute to stress:<br>• Inadequate software or hardware<br>• Inadequate training to use software or hardware | • Suitable software and hardware provided<br>• Changes to software or hardware to be managed and communicated effectively to minimise stress<br>• Identify requirements for training and refresher training and make suitable provisions<br>  ○ Training is available from Computing Services for most of the software packages used widely across the campus<br>• Channels available for staff to report stress and for the University to implement remedial action. Consult the University Stress Policy and associated guidance documents. |

# Guidance for users of laptop computers and other portable devices

Increasing numbers of people are using portable display screen equipment (DSE) as part of their work. While research suggests that some aspects of using portable DSE are no worse than using full-sized equipment, the same is not true of every aspect. The design of portable DSE generally includes features (such as smaller keyboard or no keyboard-screen separation) which make it more difficult to achieve an ergonomic and comfortable working posture.

The Health and Safety Executive advises that portable DSE such as laptops and handheld devices are subject to the DSE Regulations if in prolonged use for work purposes.

People who habitually use portable devices at work should take steps to minimise risks, for example by attention to posture, angling the screen so it is easy to read, and taking frequent breaks. Wherever possible, portable DSE should be placed on a firm surface at a comfortable height.

Where portables are in prolonged use at the user's main place of work, additional steps should be taken to reduce risks, e g by using a docking station.

**Risk assessment**

Risk assessment for users of portables can be a challenge, as it is clearly not practicable to fully analyse each work location as a user travels around with their portable. Users of portable DSE will need to make their own risk assessments and ensure that measures are taken to control risks (for example poor posture) wherever they set up their portable.

Portable users' risk assessments for, say, half an hour's work in a borrowed office can be quite informal and need not be written down. Where, however, a portable is frequently used in the same location, such as at the user's regular desk, the user should record their assessment on the University system.

Other risks may be associated specifically with portable DSE work and need to be taken into account, such as:

- Manual handling risks when moving between locations (bearing in mind that other equipment may add to the burden of the portable itself);
- Trip hazards from trailing wires if the equipment is plugged in to the mains;
- Risk of theft possibly involving an assault.

**Equipment, workstation and task requirements**

As with full-sized DSE, portable items in prolonged use (and the workstations and working environments where they are used) need to comply with the DSE Regulations, which set out the criteria for what a workstation should look like. However, the very nature of the equipment's portability may mean that some of the details cannot be complied with fully.

Some design compromises inherent in portables can lead to postural or other problems (for example neck ache or headache arising from the low, fixed position of the screen). One way of tackling such

risks is to avoid prolonged use and take more frequent breaks. Another way, if working in an office, is to use the portable with a docking station or laptop stand so that the screen can be raised to a more ergonomic height, and to use a separate keyboard and mouse.

**When selecting portable computers**:

1. Look for as low a weight as possible for the equipment, and keep accessories to a minimum.
2. Choose as large and clear a screen as possible that can be used comfortably for the task to be done.
3. Where available, opt for a detachable or height-adjustable screen.
4. Look for tilt-adjustable keyboards on laptops.
5. Choose portables capable of being used with a docking station and/or with a facility for attaching an external mouse, keyboard and/or numeric keypad, where these are likely to help the user to work comfortably.
6. Check the portable has friction pads underneath to prevent it sliding across work surfaces when in use.
7. Specify as long a battery life as possible. Where practicable, provide extra transformer/cable sets so the user has a set in each main location where the portable is used, and carries only the computer from place to place.
8. To cut working time and user stress, ensure the portable has sufficient memory and speed for the applications to be used.
9. For some tasks it may also be desirable to provide add-ons that improve usability and reduce maintenance time, such as removable drives and additional memory - but consider the weight penalty when deciding if this is appropriate.
10. For applications requiring use of a non-keyboard input device, opt for a portable with a touch pad, rollerball or external mouse rather than a 'nipple' trackpoint or isometric joystick device
11. Use a lightweight carrying case with handle and shoulder straps. A backpack-style case that can be carried with straps over both shoulders will put least strain on the back when carrying.
12. To reduce risk of theft or assault, avoid manufacturer-branded laptop cases.

**Hot-desking**

If you are hot-desking, you will need to ensure that each workstation you use is not likely to cause you any health risk. You should always make at least basic checks like adjusting the chair and using a footrest if you need one.

**Docking stations or laptop stands** are a way to avoid many of the ergonomic disadvantages of portables by allowing the use of a full-sized screen and/or keyboard and mouse or other peripherals. Height-adjustable stands for notebook computers are also available.

The aim is to achieve a comfortable working position allowing some variation in posture and having sufficient space for documents and anything else needed for their work tasks.

**Carrying equipment**

If the task involves risk from **manual handling**, take reasonable steps to cut down the risk; for example:

- Do not carry equipment or papers unless they are really likely to be needed;
- Consider using a backpack to cut down strain on arms and distribute loads evenly across the body. Wheeled luggage might be worth considering if you have a substantial load to transport.
- You may be able to avoid carrying heavy papers by sending them in advance, by post or e-mail, to your destination, or storing them electronically on the portable or on a removable device.

**Breaks or changes of activity**

Breaks or changes of activity are particularly important for portable users not working at a docking station. Such users need longer and more frequent breaks or changes of activity to compensate for less ergonomic working environments, which can impact particularly on posture.

Break-monitoring software may be a useful aid, such as BigStretch or WorkRave.

**Reporting problems**

Users of any DSE equipment should report problems such as discomfort or pain as soon as they become apparent, either to their departmental assessor or to SHEW.

# Risk assessment for working away from your normal desk, or at home

All use of display screen equipment should be risk assessed. This need not be difficult or time-consuming.

One-off or short-term work need not have a formal risk assessment unless there are problems that need remedial action. Each time you work at a separate location, make a rapid assessment of the workstation or set-up that is available. A simple check through the potential risk factors will indicate what precautions you need to take, mainly in physical posture and maximum length of time of use.

Use Chart 1 to help you rapidly assess any short-term or one-off tasks, meetings, etc., or working at home. Your assessment can be simply a judgement based on your responses to the flowchart.

Your posture should reproduce as closely as possible the ergonomic posture expected when using desk-top computers. If you can't achieve this, reduce the amount of time spent using the device.

The guidelines for maximum working times without a break should be followed as far as possible. The times have been chosen by reference to a standard expectation that users of an ergonomically set up desk-top arrangement will take a short break after an hour of continuous use. Times have been adjusted to take account of additional risks posed by the limitations of the equipment and likely working postures.

The shorter the guide time indicated, the more important it is not to work with the device for extended periods. Intermittent use during a typical meeting (a one or two hour period) is likely to be satisfactory, as small natural breaks in use are likely to occur during the progress of the meeting.

Stop using the equipment if you begin to feel discomfort anywhere, whether back, neck, shoulders, arms, wrists, or hands. Do a few simple stretches to help ease the ache, and allow time for recovery before continuing work. You can use this time to do other work that does not involve similar positions or movements.

**Working with portable equipment (laptops, iPad, etc.)**

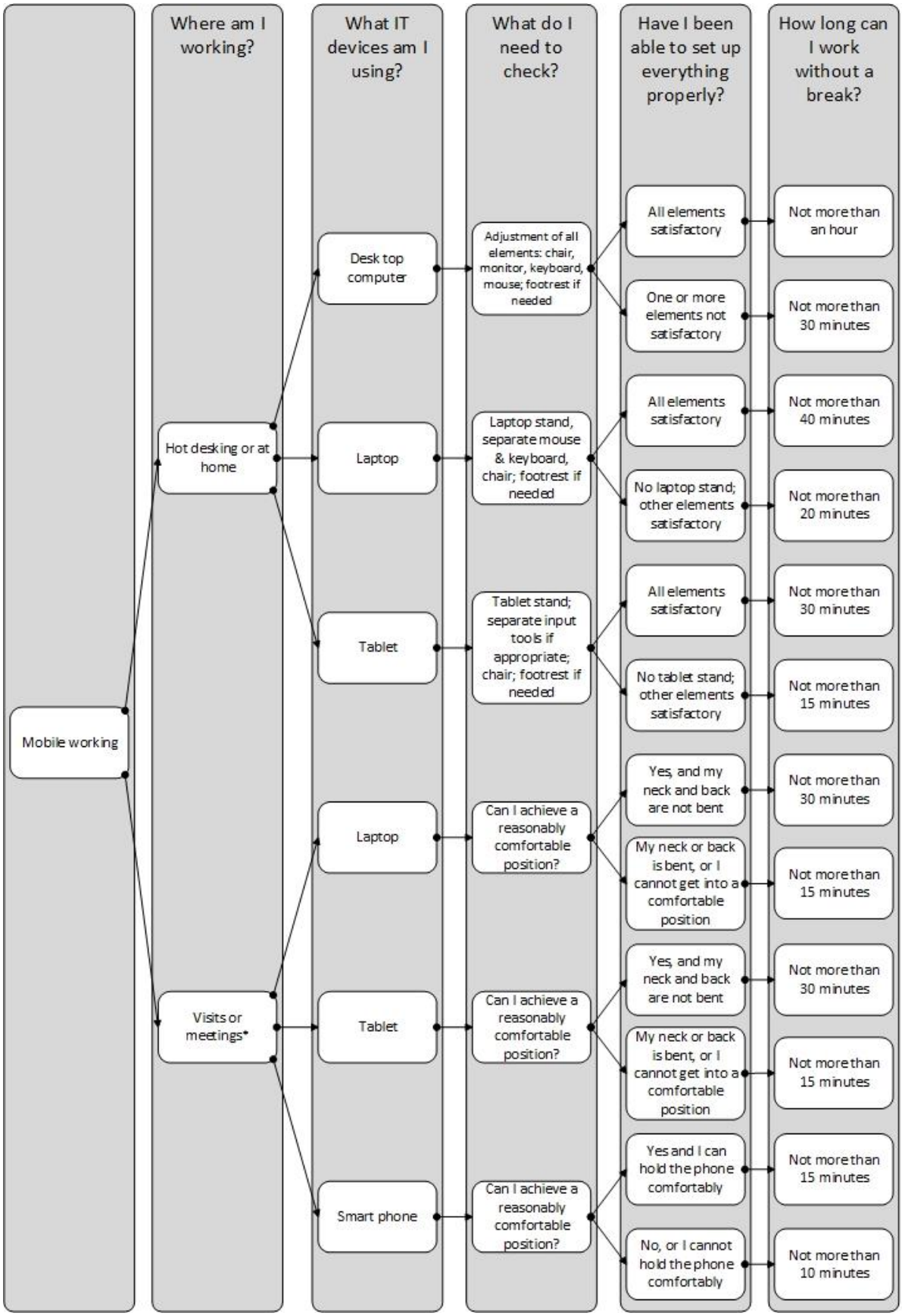
If you use laptops or other portable equipment, your risk of musculo-skeletal injury is higher and increases greatly the more you use these types of equipment.

You should not use portable display screen equipment, whether laptop, tablet, or smartphone, for extended work unless you can achieve a fully ergonomic working position. This is unlikely to be possible when mobile working, unless you use a hot desk that has been set up to an ergonomic standard with a suitable equipment stand, separate mouse and keyboard, an ergonomically adjustable chair, and a footrest.

If you habitually use portable equipment, be self-disciplined in how you use it. Maintain a sensible posture and take frequent breaks from using the equipment. If you hold the equipment in one hand, ensure that you stretch your hand periodically to help prevent muscle fatigue and avoid the risk of 'iPad hand' (a version of trigger finger where the fingers become locked and rigid).

If you use a laptop for more than short periods, you should use a laptop stand with a separate mouse and keyboard so that you can maintain a suitable posture and hand/finger positions.

Chart 2 is based on assuming that the user is not using the device continuously over the course of a working day, but has significant periods of other types of activity that allow for physiological recovery before resuming use of the device.




*See also Chart 2.

Chart 1: Working away from your usual desk

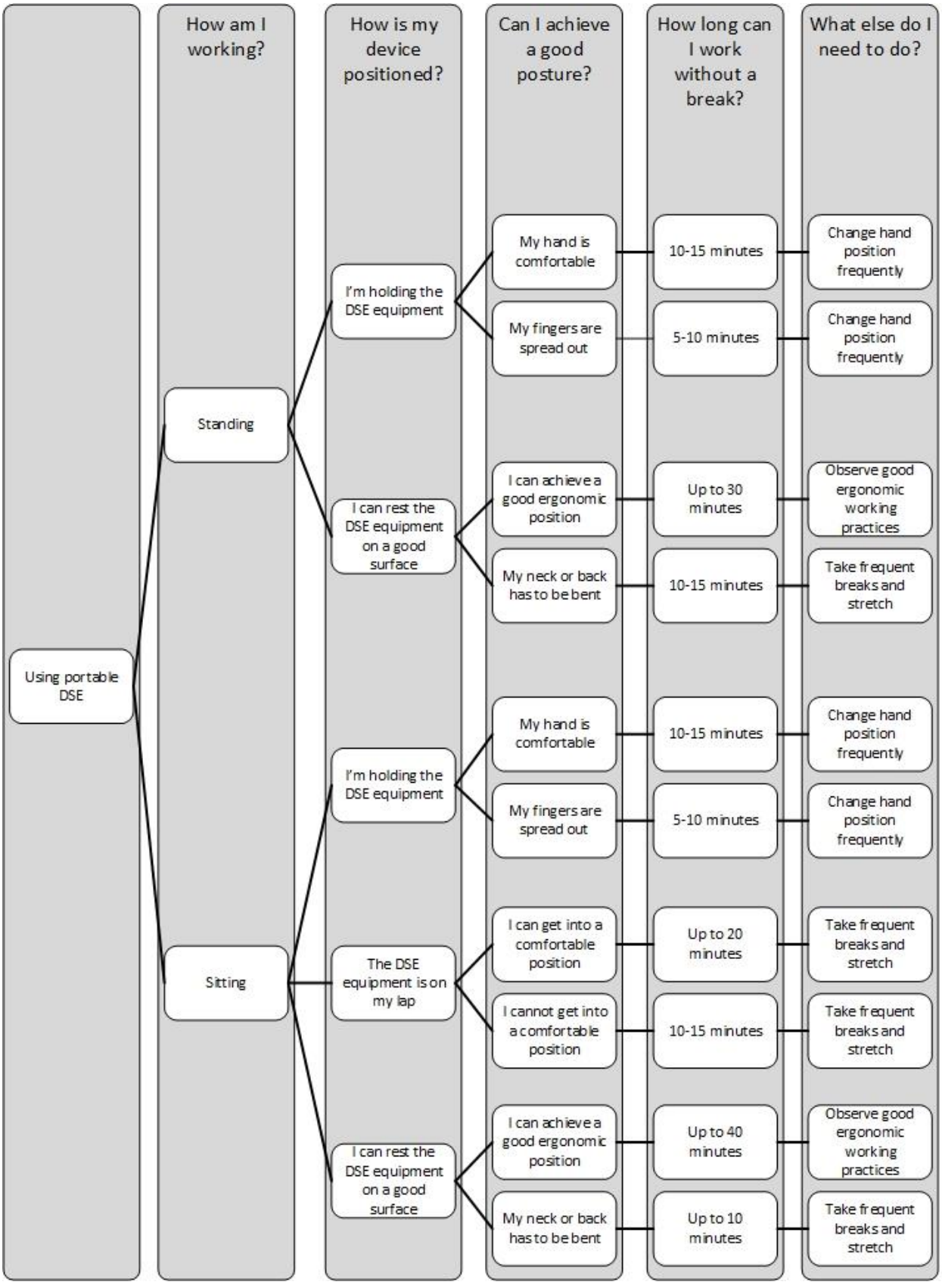



Chart 2: Using portable DSE equipment

For further advice on choosing and using portable equipment, see **Guidance for use of portable IT** and **Posture Guidance for Handheld Devices**.

# MINIMUM REQUIREMENTS FOR WORKSTATIONS

## Equipment

### *Display screen / monitor*

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| Screen | • Swivel and tilt easily and freely to suit the needs of the operator or user.<br>• Free of reflective glare and reflections liable to cause discomfort to the operator or user. |
| Screen height | • Height adjustable or use an adjustable table (monitor rest). |
| The image on the screen | • Stable, with no flickering or other forms of instability |
| Characters on the screen | • Easy to read |
| Brightness and contrast | • Easily adjustable |

### *Keyboard*

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| The keyboard | • Separate from the screen and tiltable so that the operator or user can find a comfortable working position and avoid fatigue in the arms or hands.<br>• Matt surface to avoid reflective glare.<br>• Arrangement and style should mean it is easy to use.<br>• The symbols on the keys should be easy to read in use. |
| Space in front of the keyboard | • Sufficient to provide support for the hands and arms of the operator or user. |

### *Work desk or work surface*

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| The work desk or work surface | • Large enough to allow a flexible arrangement of the screen, keyboard, documents and related equipment.<br>• Low-reflectance surface. |
| Space | • Adequate for operators or users to find a comfortable position. |
| If used, the document holder | • Stable and adjustable, and positioned to minimise head and eye movements. |

### *Work chair*

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| The work chair | • Stable and allows the operator or user easy freedom of movement and a comfortable position.<br>• The seat should be height adjustable.<br>• The seat back should be adjustable in both height and tilt. |
| Footrest | • Shall be made available to any operator or user who wishes to use one. |

## Environment

### *Space requirements*

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| The workstation | • Dimensioned and designed so as to provide sufficient space for the operator or user to change position and vary movements. |

### *Lighting*

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| Any room lighting or task lighting provided | • 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. |
| Disturbing glare and reflections on the screen or other equipment | • Prevent by co-ordinating workplace and workstation layout with the positioning and characteristics of light sources. |

### *Reflections and glare*

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| Workstations | • Designed so that sources of light including windows, and brightly coloured fixtures or walls cause no direct glare and no distracting reflections on the screen. |
| Windows | • Fitted with a suitable adjustable covering to attenuate the daylight that falls on the workstation. |

### *Noise*

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| Noise emitted by equipment belonging to any workstation shall be taken into account when a workstation is being equipped, to minimise distraction and disturbance. |

### *Heat*

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

### *Radiation*

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| All radiation with the exception of visible light shall be reduced to negligible levels. |

### *Humidity*

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| An adequate level of humidity shall be established and maintained. |

### Interface between computer and operator/user

| In designing, selecting, commissioning and modifying software, and in designing tasks using display screen equipment, the employer shall take into account the following principles: | |
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| Software | • Suitable for the task, 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; |
| Systems | • Must provide feedback to operators or users on the performance of those systems;<br>• Must display information in a format and at a pace which are adapted to operators or users; |
| Software ergonomics | • The principles of software ergonomics must be applied, in particular to human data processing. |