

# Health & Safety

## computers and other hand held devices



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## 1. Introduction

The Health and Safety (Display Screen Equipment) Regulations aim to protect the health of people who work with display screen equipment.

### What is display screen equipment?

Display Screen Equipment (DSE) is sometimes referred to as Visual Display Units (VDU) or Computer Workstations and includes: laptops, touch-screens, and other similar devices that incorporate a display screen. Any item of computer-related equipment including the computer, display, keyboard, mouse, desk and chair can be considered part of the DSE workstation.

**Part-time workers** should be assessed using the same criteria. For example, if an employee works only two days a week but spends most of that time on DSE work, that person should be considered a user.

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Includes:

- laptops
- touchscreens
- other similar devices that incorporate a display screen

Prolonged working with computers and other devices can be associated with neck, shoulder, back or arm pain, as well as with fatigue and eyestrain. These aches and pains are sometimes called upper limb disorders (ULDs), which can include a range of medical conditions such as RSI. Most of these conditions do not indicate any serious ill health, but it makes sense to avoid them as far as possible. The hazards associated with DSE workstations must therefore be properly assessed so that they are adequately equipped and adjustable to suit the user's needs.

## 2. Display Screen Equipment Regulations

The main provisions apply to display screen equipment (DSE) users, defined as workers who habitually use a computer as a significant part of their normal work. This includes people who are regular users of DSE equipment, or rely on it as part of their job. This covers you if you use DSE for periods of an hour or more continuously, and/or you are making daily use of DSE.

That does not mean that DSE work is high risk – it isn't. However, muscular skeletal problems can be avoided if users follow effective practice, set up their workstations properly and take breaks during prolonged use. By just taking a few simple precautions, work with DSE can be more comfortable and productive.

### Employers are required to:

- Make a risk assessment of workstation use by DSE users and reduce the risks identified
- Ensure DSE users take adequate breaks
- Provide regular eyesight tests
- Provide health and safety information and training
- Provide adjustable furniture (desk, chair etc.)
- Demonstrate that they have adequate procedures designed to reduce risks (such as “repetitive strain injury”) associated with DSE work

## 3. University policy and procedures

### eLearning Workstation package

All staff must complete annually the on-line Essential Skillz Workstation training/ErgoWize assessment. This is available through the university network from the start menu – All Programs – Applications – Health and Safety – Essential Skillz. The interactive training provides practical guidance on the safe set-up and use of workstations, along with a risk assessment to highlight any issues with the workstation and allow these to be raised and recorded with the relevant line manager. The package covers correct posture, workstation set-up, additional issues, exercises and test, along with the Ergowize risk assessment.

The on-line Workstation training should also be carried out when a new workstation is set up, when a new user starts work, or when a substantial change is made to an existing workstation (or the way it is used). Assessments should be repeated if there is any other reason to suspect it may no longer be valid, for example if users start complaining of pain or discomfort. The assessment must also be completed every year.

### Specialist Ergonomic Equipment recommended through an Occupational Health report

If a member of staff advises that they are experiencing discomfort or pain at work they should initially undertake the Workstation eLearning training accessed via their

computer from single sign-on from the start menu - All Programs - Applications - Health and Safety - Essential Skillz.

If this does not resolve the issue then the line manager, in discussion with the staff member, should complete a referral for our Occupational Health provider including all relevant details to enable them to arrange a workstation assessment and to provide advice.

Following the workstation assessment, a report will be received and the HR Services Team will send this to the line manager. The report will highlight if equipment is recommended and what this would be. As a line manager you should then discuss the information in the report with your staff member and organise any relevant equipment. Any furniture or equipment purchased incurs costs which are paid for by the relevant department, therefore before progressing with any purchasing, please ensure that this has the budget holder's approval.

**If Occupational Health recommends equipment such as an adjustable desk, mouse, screen, keyboard, document holder** etc. the department can source these directly. The report may include recommendations for equipment.

**If Occupational Health recommends an ergonomic chair**, Occupational Health will provide measurements for the chair. The line manager should liaise directly with Posturite or another supplier in relation to requirements and provide any relevant details directly to them to enable them to decide if an assessment is required prior to recommending a suitable chair. If an assessment is required, once this takes place, the line manager will receive a detailed report including recommendations. A copy should be passed on to HR Services ([humanresources@napier.ac.uk](mailto:humanresources@napier.ac.uk)) so that the report can be saved onto the individual's employee file. Posturite or the other supplier will try to make use of existing University equipment (for instance re-adjusting current chairs/equipment), however this may not always be possible. If required, following receipt of the report, a chair can be purchased and this will incur a cost which is paid for by the relevant School/Service. Before progressing with any purchasing, please ensure that this has the budget holder's approval.

**Process for a Posturite Assessment:**

1. Email your request to [appointments@posturite.co.uk](mailto:appointments@posturite.co.uk) or telephone 0345 3450010
2. Complete the [Posturite Assessment Referral](#) form including:
  - a. the address with post code
  - b. name, telephone number and email of person to be assessed
  - c. the line manager's telephone number and email address (under requestor/contact/report return section on form)
  - d. details from the OH report including any measurements or advice provided. Only relevant details should be provided to Posturite and not the entire OH report.

You can then order the Posturite chair following receipt of the report.

**Setting up the Posturite chair when it arrives:**

1. Email [appointments@posturite.co.uk](mailto:appointments@posturite.co.uk) or telephone 0345 3450010
2. Provide the Purchase Order Number, Order Confirmation or Delivery Note attached to the box
3. Provide the address with post code, name, telephone number and email of person to be assessed

**If you need a repair to a Posturite Chair:**

1. Take photographs of damaged parts
2. Provide information from sticker under seat of chair
3. Email this information to [neilshave@posturite.co.uk](mailto:neilshave@posturite.co.uk)
4. Parts get sent out to client
5. Let Appointments know you have received the parts and Customer Service will organise a Technician to come on site for repair.

Further information is available:

<https://staff.napier.ac.uk/services/hr/workingattheUniversity/healthandwellbeing/Pages/ErgonomicEquipment.aspx>

**Stand up desks/vari-desks**

Many studies show that sitting for more than 6 hours a day is linked to being overweight, obese, having type 2 diabetes, some types of cancer and even premature death.

With technology such as computers, television and video consoles changing our work and leisure habits, it seems we're spending increasing amounts of our lives sitting down. There is no doubt this is seriously impacting the nation's health.

An adjustable height sit-stand desk or vari-desk gives you the option to sit or stand throughout the day, keeping your muscles active and reducing the risk of aches and pains caused by repetitive movements.

***What are the benefits of a sit-stand vari-desk?***

- Increased alertness, concentration and productivity
- Improved blood circulation
- Relief from muscle ache caused by static posture
- Flexibility to adjust your working position to the task at hand
- Burn more calories

<https://getbritainstanding.org/index.php>

## 4. Management responsibilities

The Dean of School/Director of Service is responsible for ensuring that effective arrangements are in place such that the DSE regulations are complied with.

All employees in each school/service who have access to display screen equipment must complete the Essential Skillz eLearning Workstation package annually or whenever their work desk/room environment changes

Line Managers will have access to the administration system and will monitor completion of the health and safety eLearning Workstation package for staff in their area and resolve concerns raised through the ErgoWize assessments. This will be recorded and confirmed as part of the annual health and safety report.

All employees in each school /service who have access to display screen equipment (DSE), whether or not they are considered to be users, must complete the package **annually or whenever their work desk/room environment changes.**

Completion of the Workstation eLearning package is also needed where employees work from home (whether or not the employer provided the workstation).

Risks identified in the assessment must be addressed.

Where the user has identified problems they cannot deal with a formal workstation assessment should be requested through Occupational Health via their line manager. <https://staff.napier.ac.uk/services/hr/workingattheUniversity/healthandwellbeing/Pages/OccupationalHealth.aspx>

The Occupational Health Service is available for assistance and advice, including assessment for users where unusual circumstances prevail, e.g. an individual has a medical condition that requires to be taken into account in the assessment process.

## 5. What you can do

There are several ways to make sitting at a computer for long periods more comfortable, including:

*This advice is based on the HSE booklet Work With Display Screen Equipment: Guidance on regulations L26. ISBN 9780717625826.*

- Adjust the angle and height of your back-rest. It should support your lower back.
- Adjust the tilt of your seat so that your body is inclined slightly forwards. This encourages you to sit upright, and keep your back straight.
- Adjust your screen position, so that your eyes look down on it from an angle of around 15 to 20 degrees (slightly below eye level).
- Adjust the viewing angle of the screen to minimise reflections and glare. If this proves impossible you may need to address any problems with natural or artificial lighting e.g. fit blinds to windows or use a screen filter.
- Adjust your keyboard, so that your desk supports your wrists and forearms and the angle feels comfortable during use.
- Arrange your desk and equipment to minimise the amount of bending, twisting and stretching. Keep the area around and underneath your desk clear to allow you enough room to change position regularly.
- If you spend a lot of time reading from source documents or copy typing, place a document holder beside the screen.
- Work so that there are breaks or changes of activity. Short, frequent breaks are better than longer, less frequent ones, and ideally the individual should have some discretion over when they are taken.
- It is recommended that all users exercise frequently to avoid muscular fatigue. Neck circles, shoulder raises, flexing of arms and legs, rotation of ankles and wrists, and stretching of all the fingers are all common exercises that can prove beneficial. These exercises can be done quite easily at the desk, and take only a few minutes.

## 6. Eyesight

You can request a free eye test if you are classified as a user. Employers have a duty, under the Display Screen Equipment Regulations, to offer regular DSE users eyesight tests on request when they start DSE work with the organisation and follow-up tests at regular intervals.

If an employee complains of eyestrain, which they believe has been caused through using the DSE, they can request for an eye examination and provision of spectacles if special ones are needed. Any member of staff who requires corrective spectacles should obtain a referral letter from their line manager to take to their optometrist. Referral letter available on Human Resources website at <http://staff.napier.ac.uk/services/hr/Documents/ReferralletterforOptometrist.doc>.

In the event that special corrective spectacles are required, the sum of £50 (including VAT) will be paid by the School/Service. However, should employees wish to upgrade to any frame or lens, they will do so at their own expense.

## 7. Hot-desking

Hot-desking is a common working practice. If you share your desk, readjust your chair and desk before you start work. It is vital that at workstations where hot-desking is the norm that the equipment offers a wide range of adjustments to offer those using it a comfortable working position.

## 8. Working at home

The Regulations apply if you are an employee working at home and habitually using a VDU for a significant part of your normal work.

All staff working from home should in the first instance carry out the Essential Skillz eLearning Workstation package and Home Working package. (See also University [Homeworking Policy](#)).

Frequent rest breaks and work away from DSE equipment gives eyes a chance to recover. Your 'blink rate' drops the longer you use a computer. Your eyes are less well lubricated, and are likely to become dry and sore. It is important to remember to maintain a normal blink rate when using a computer.

The risks of developing a work-related injury to hands, wrists, arms, neck and back through using ill-adjusted equipment at home are high. Your employer has a duty to apply the Display Screen Equipment (DSE) Regulations.

When using a laptop always ensure it is used on a workstation at the correct height, use a comfortable adaptable chair and adopt good posture at all times. Laptops are primarily designed for short term use. Docking stations, separate keyboards and mice should be used if a laptop is to be used for frequent or prolonged use. This enables the laptop user to adjust the workstation in a manner most comfortable for them.

## 9. Pregnancy

When you notify your School/Service that you are pregnant, your School/Service should carry out a pregnancy risk assessment including assessing your workstation to ensure you are sitting comfortably. You should also complete the Essential Skillz eLearning Workstation package (contact the Health & Safety Office).

Over time as your tummy expands your sitting position should be monitored to ensure you are maintaining a good sitting posture. You will need to take more breaks to cope with increased fatigue.



The body shape changes as time progresses, the centre of gravity shifts putting extra strain on back, extra pressure on thighs, legs and tummy under bump.

Backache is common as the tummy enlarges forcing the mother-to-be to sit further back from the desk causing problems with reaching and stretching.



Leaning forward puts additional strain on back and pressure on thighs and tummy under the bump.



You should re-adjust the chair as your size increases.

The seat slide should be in the forward position to support the back of the legs and tilted forwards about 5 degrees to relieve pressure on thighs.

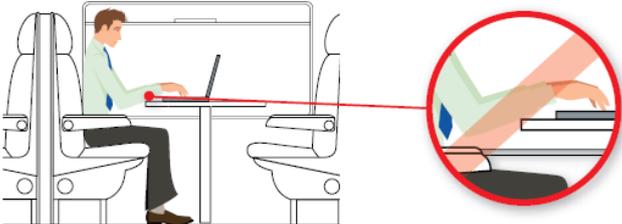
The back should be tilted slightly back to relieve pressure under bump. This could place more pressure on the buttocks which should be relieved by regular breaks for exercise.

Make sure you maintain back support.

## 10. New technology

### Get fit for mobile working

New smaller and more portable devices such as laptops, tablets and smartphones are supposed to make work easier, more accessible and therefore make us more productive. However, because it is harder to find a good posture to use these devices, the risk to the user of discomfort, fatigue and therefore reduced productivity is increased and needs to be managed.

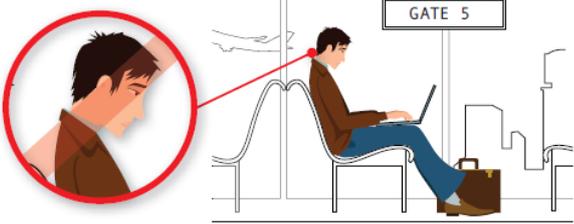


**On the train**  
Under pressure

- ✗ Seat too low relative to the table; ensure forearms are not leaning on the edge of the table for long periods which can lead to discomfort.
- ✓ Position laptop so you can reach it comfortably, without leaning forwards.
- ✓ Take regular breaks every 30-40 minutes.

**At the airport**  
Pain in the neck?

- ✗ Neck has to be inclined to look at the screen – could lead to discomfort.
- ✓ Take regular breaks from this, as the screen is likely to be too low for comfortable viewing.
- ✓ Place something (e.g. files, magazines etc) between your laptop and knees to protect from the heat of the laptop and bring it to a suitable height for keying; wrists should be straight when typing.

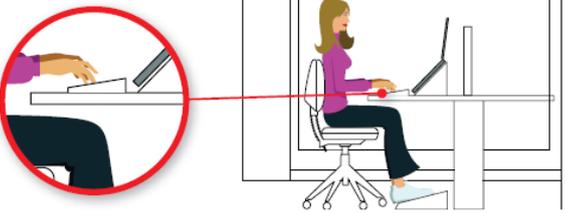


**In a coffee shop**  
Watch your back

- ✗ Screen too low: uncomfortable neck position.
- ✓ Be careful about resting arms on the edge of the table, as high pressure on the forearms can cause discomfort.
- ✓ Consider using a cushion, rolled up towel or item of clothing to support the small of your back.
- ✗ Don't leave your bag unattended: mobile equipment can be a target for theft.

**Borrowing a desk in another office**  
Sitting pretty

- ✓ Good posture, with upper arms by body and forearms horizontal, without resting on the desk, and back supported.
- ✓ Connect a separate keyboard and mouse to the laptop so you can position them independently of the screen.
- ✓ If you use the laptop screen, place it on something (e.g. a stand) so it is a comfortable viewing height and distance.



## Laptops

The increased usage of laptops in the workplace increases the risk of injury for employees not using this device correctly. Laptops require additional equipment so that employees can work comfortably with them for long periods.

All users should have a separate keyboard and mouse with either a laptop riser or separate monitor. These items should be available to users for as much of the time they spend using the laptop as possible and in particular in the places they use the laptop most frequently and for the longest durations. Choice of peripherals is important. Monitors aren't portable so they'll only be of benefit where they're situated. Consider investing in laptop risers instead so that the laptop can be set up correctly in more of the locations it might be used.

We should ensure when working with laptops we do **not** adopt a hunched posture and the following unhealthy trends:

- Flexion in the neck as we look down to see the screen
- A rounding of the back
- Bending of the wrists to use the keyboard and touchpad
- Resting the wrists on the edge of the laptop

To reduce the risk of manual handling injury, make sure employees who travel a lot with their laptops are provided with appropriate bags to carry them in. The bags need to house any peripheral equipment and other items they need to perform their role. Users should also be advised to minimise how much they carry with them. Staff should only be carrying the items essential for work but the items they pack should definitely include their peripheral equipment if they are going to be using the laptops for long periods wherever they're going.

Users shouldn't work for long periods with their laptop:

- on their lap
- in comfy furniture such as a sofa
- in bed
- just before they go to sleep

## Tablets

Tablets are best used as supplementary devices for travelling or specific tasks such as browsing, emails and note-taking.

Tablets are very difficult to set up to work comfortably and the screen is too small to be used as a main computer. Tablets are often held closer to the face than usually recommended and therefore can cause visual fatigue. Many users use their tablets just before bed to check emails and browse the internet. This practice can have a negative effect on sleep as using the tablet stimulates the brain. Because a tablet's data input is via a touch screen this makes finding a good posture difficult.

Using a tablet flat on the desk encourages the user to adopt a curved spine and flex the neck down to see the screen. Using a case/riser to angle the tablet for a better viewing position tends to make the user bend the wrist when inputting. This is another unhealthy posture that potentially puts the user at risk of developing a WRULD (Work-Related Upper Limb Disorder).

Peripheral devices to make tablets safer to use are already appearing on the market. Some tablet designs are starting to resemble laptops. Recreating the laptop is better for typing tasks but this isn't enough. As we have already seen, laptops need further peripheral equipment for comfortable working.

No matter how much we love to use them, tablets are not suitable as a main device for long periods of DSE work. They are best used as supplementary devices for travelling or specific tasks such as browsing, emails and note-taking.

Tablets are extremely useful for employees who work away from a desk or who need to input information standing up. Research has shown that when using the tablet standing up, the supporting arm becomes fatigued when inputting data. In fact, some tablet users have experienced pain in the elbow and forearm after just 30 minutes of continuous use.

When using a tablet away from a desk and where no peripheral equipment is available the user should:

- Vary the hand they hold the tablet in
- Vary the position of the hand on the tablet and the way the device is held
- Not use the device for too long at any one time



## Smartphones

Portability makes smartphones an extremely high-use device but their size and method of operation don't lend themselves to long term comfortable working. Unfortunately, their many and varied functions encourage prolonged usage among smartphone enthusiasts. Smartphones are responsible for very intensive stress on small tendons and muscles. Users try to use these devices in one hand, putting a large workload on their thumbs.

Good practice advice states that a smartphone should be held in one hand and operated using the fingers on the other hand. Many users try to use the device while walking. With their concentration focused on the phone the possibility for an accident massively increases.

Drivers of University owned, leased or hired vehicles must not use a hand-held mobile phone or similar device whilst driving. Failure to comply with this requirement may result in disciplinary action and revoking of University Authorised Driver status. Hands-free kits are also banned.

## Adjust & Relax - summary

Flexible and mobile working can bring great benefits to our work and personal lives, but to gain these benefits it's important that you are working comfortably. It's always worth taking some time to adjust the equipment and work area to suit you.

**So, what's the top tip? Let's keep it simple: adjust and relax.** Making adjustments and taking regular breaks are the most important things you can do to help yourself work comfortably when using mobile devices.

Whatever the future holds, following the good practice set out here should allow you to use the technology in a comfortable and safe manner.

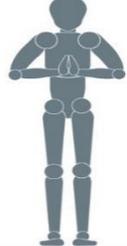
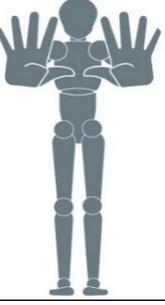
## 11. Stretching exercises

Do each exercise five times and, ideally, repeat every hour to stretch muscles, tendons and nerves. The whole process will take only a couple of minutes.

1. Hold out both hands with palms down. Clench and then stretch the fingers and thumbs slowly.
2. Bring one hand up to the shoulder, then stretch the arm out straight in front of you (with the palm uppermost) until you feel a slight pull on the forearm. Repeat with the other arm.
3. Shrug the shoulders by pulling them up towards the ears then relax.
4. Bring one hand to the shoulder with the elbow out to the side and draw a circle in the air with your elbow. Repeat with the other arm.
5. With the head level, turn it gradually as far to the left as you can, then to the right.
6. Keeping the back straight with chin tucked in, clasp hands behind your back and raise straight arms - four times holding full stretch for a count of three.

### How to help avoid injury whilst using DSE - with 8 daily, useful exercises

<p><b>1. Your back area and neck:</b> Raise your hands behind your head. Move your head in a forward motion, slowly stretching the upper part of the neck, breathing calmly. Keep your back and shoulder areas in a level position to stretch all your muscles at the back of the neck. Maintain this position whilst breathing deeply five times.</p>	
<p><b>2. Side neck:</b> Place the base of your palm just above your right ear. Tilt your head position to the left, slightly stretching the side of the neck. In this position breathe deeply three times. By doing this the muscles on the side of your neck will stretch. Do the same principle on the right side of the neck.</p>	
<p><b>3. Upper back and shoulders:</b> Stand vertical to a wall. With your elbow kept straight, place your right hand on the wall, and move your feet close together. Whilst in this position breathe deeply four times. Repeat this exercise with your left hand. This will help stretch the sides of your muscles in the spine.</p>	

<p><b>4. Backward shoulder stretch:</b> Place your hands behind your back. Reach backwards behind the chair, expanding the chest. Slightly bending your back, lift your hands. This enables you to stretch all those muscles in the chest.</p>	
<p><b>5. Wrist and forearm stretch:</b> Expand your arms outwards, stretching the forearm muscle by positioning the base of the left hand across the back hand. Maintain this position for five deep breaths. Do again for the right hand.</p>	
<p><b>6. Wrist stretch:</b> Position the base of your hands together in an upwards position with your elbows raised upwards. Your fingers should be positioned level with the breastbone, pressing the base of the hands together. Continue this exercise for 5 slow breaths, enabling your wrist and arm muscles to stretch.</p>	
<p><b>7. Fingers and palms:</b> Position your hands in front of you, stretching all your fingers outwards. Maintain this position through four deep breaths. This will ensure your hand and finger muscles stretch.</p>	
<p><b>8. Chair twist:</b> Place yourself onto a chair, crossing your right thigh over the left and slightly turn the upper body, pushing the right thigh against your left arm. Continue with this exercise for four breaths and do the same exercise on the other side. This will result in the muscles of the lumbar region being stretched.</p>	

By simply following these 8 daily exercises you can help avoid injury whilst using DSE. Remember to take short frequent breaks when using DSE if it is being used for long periods of time.

## 12. Further information

**NHS:**

<http://www.nhs.uk/Livewell/workplacehealth/Pages/howtositcorrectly.aspx>

**Backcare:**

<http://www.backcare.org.uk>

**Health & Safety Executive:**

<http://www.hse.gov.uk/msd/dse/>

***Free HSE publications:***

Working with display screen equipment - offers basic advice for people who use VDUs at work.

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

***HSE priced publications***

Work with Display Screen Equipment: Guidance on regulations

Ref. L26. ISBN 9780717625826.

Gives detailed legal guidance and includes the text of the regulations.

**Laptop ergonomics (YouTube)**

<https://www.youtube.com/watch?v=ZLwIP8cBaWA>