

Computer Work

Important Facts

02866328200

Computer users are prone to develop muscular aches in the spine, neck, shoulders, arms and hands. Headaches and eye symptoms such as tired eyes, irritation, redness and blurred vision are also common. These problems are believed to be due to a combination of risk factors:

- ◆ Working for a long time in one position
- ◆ Working in awkward or uncomfortable postures (particularly of the shoulder, arm and hand)
- ◆ Repetition (high number of key strokes and repetitive use of the mouse)
- ◆ Faulty working technique (non-touch typists)
- ◆ Not taking adequate breaks away from the keyboard (taking e-breaks instead of tea breaks)
- ◆ Not compensating for a sedentary job by being physically active out of work



All employers have a duty of care to employees who are computer users. The term 'user' means that the person depends on a computer or laptop to do their job, has little choice about using it and uses the computer for periods of one hour or more on a daily basis.

Employers must carry out a display screen equipment (DSE) risk assessment, identify risk factors and reduce the risk to the lowest extent reasonably practicable. The workstation should be reassessed if the workstation is changed or if the nature of the work changes. Shared workstations must be assessed for all users. The risk assessment should be done in conjunction with the user and should be documented.

Aches, pains and other problems that computer users experience are seldom serious and can be prevented, or managed if you already have symptoms. The important thing is to recognise and report symptoms early and to take positive action to identify and reduce risk factors. This requires action from both you and your employer. Your employer should review your DSE risk assessment and should ensure that you have:

- ◆ Correct workstation set up
- ◆ Work organisation that allows interruptions in your computer work

You need to take positive action to keep fit, both in and out of work. You need to: ◆

Take microbreaks and do stretches and exercise in the office

- ◆ Keep active and physically fit when you are not at work

People were not designed to sit at computers all day. They need to move to keep flexible and strong and to maintain the fitness of their heart and circulatory system (cardiovascular fitness). If you are an office worker you should aim to take at least 45 minutes of physically active exercise (when you get slightly out of breath) every day. This type of exercise will keep you fit, reduce the likelihood of getting aches and pains and help you to concentrate better at work.



Email: info@lindaburke.co.uk

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Your Chair and Desk

Your chair

The chair must be stable and have appropriate casters or glides for the floor surface. A strong, five-legged base is required. Chairs that can be set up to allow variation in working posture between the three neutral seated positions and movement during work are highly recommended

A well-designed and correctly adjusted chair is needed that has the following features.

The back rest should

- ◆ be height-adjustable
- ◆ provide lumbar support.
- ◆ allow the user to recline at least 15 degrees from the vertical.

The seat should be:

- ◆ height-adjustable (the chair height is correct when the entire sole of the foot can rest on the floor with the back of the knee slightly higher than the seat of the chair)
- ◆ padded and have a rounded, 'waterfall' edge
- ◆ wide enough to accommodate your hips easily



Arm rests are not necessary for a computer user. Incorrect arm rests can cause tension in the shoulders. Arm rests with hard or sharp edges can irritate the muscles in the forearm, causing pain or tingling in the fingers, hand and arm. Arm rests, if provided, should be height and width-adjustable. They should be wide enough to support the forearm properly but should not prevent the user getting in close to the desk.

You should be properly trained in the use of all the controls on your chair so that you can adjust it to fit you comfortably. You should be encouraged to use the adjustments to change positions frequently throughout the day.

Your desk

Your desk should have adequate work surface to allow proper placement of computer equipment. In particular, there should be enough room for your keyboard mouse and screen so that they are directly in front of you. You should be able to support your forearms while using the keyboard and mouse. You should have enough space to work. Adequate leg room is important so that you can move your legs freely.



Some desks have a square edge that can cause contact pressure on the forearm and wrist. This can lead to problems and should be avoided

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Workstation Set-up

Your workstation should be arranged so that you can sit comfortably. You should be able to work with your spine, shoulders, elbows, wrists and hand joints in neutral mid-range postures (neutral posture means that the joint is not bent or twisted and feels comfortable and not strained).

Your chair should support your spine so that you have a slight inward curve in your lower back and your neck and shoulders are balanced over your hips. You should be able to move your legs freely under your desk and rest your feet flat on the floor or you should have a foot rest to support your feet

Your shoulders should be relaxed and your upper arms more or less by your side. Your elbows should be bent to about 90 degrees and your wrists and hands should be in line with your forearms and should not be bent or twisted when using the keyboard or the mouse.

Your screen should be directly in front of you and the top of your screen no higher than eye level. Touch typists may prefer to have the top of the screen at eye level, as they do not need to look at the keyboard when typing. Non-touch typists often prefer their screen lower and tilted, as shown below, as this makes it easier to move the eyes between the screen and the keyboard.

You can use other neutral sitting postures (see *Working Postures* fact sheet)

The ideal VDU workplace

1. Seat depth
Leave hollow free, support legs as much as possible

2. Chair height
Heels just have to reach the ground

3. Sloping seat
Sloping slightly to the back (>10°)

4. Closed hip angle <90°

5. Lumbar support
At belt height

6. Armrest height
At elbow height at relaxed shoulders

7. Angle back >90°

8. Viewing distance 50-70 cm
F.i. depending on height characters

9. Viewing angle 20-50°
Top monitor ≥20° below eye level

10. Viewing angle monitor / document holder >90°

11. Document holder
Between monitor and keyboard

12. Desk height
Equal to armrest height

13. Desk depth ≥80 cm.

Computer Work Peripherals

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Keyboards

Your keyboard should be positioned directly in front of you. It is best to type with your forearms unsupported as this prevents contact pressure on the underside of your arms. If you type for long periods you should learn to touch type. Most people do not need wrist rests. For the majority these are not advised because they increase the pressure in the structure on the underside of the forearm.

You need a keyboard with characters that are clear and easy to read. Keyboards should be adjustable in tilt, allowing you to select a flat or slightly angled position. Most standard keyboards have a number pad on the right hand side. If you do not use the number pad you may prefer a short keyboard as this allows you to position your mouse closer to you. Discuss the keyboard options available with your IT department.



Mice

There are many different designs of mice. You need a mouse that is comfortable for you to use and that works. The mouse should have a long enough tail (wire) so that you can position it close to your body. Ask your IT department what designs of mouse are available and find the one that best suits you.

Document holders



If you work from documents it is helpful to have a document holder beside your screen or between your screen and your keyboard.

Foot rests

If you are small you will need a foot rest to allow you to rest your feet securely while you work. Foot rests that are adjustable in height and angle are preferable.



Phones



If you need to use a keyboard while you speak on the phone you need either a speaker phone or a headset. The choice will depend on where you are working. You should not hold the phone under your chin as you type.

Computer Work

Laptop Set-up

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Your laptop workstation should be arranged so that you can sit comfortably. You should be able to work with your spine, shoulders, elbows, wrists and hand joints in neutral mid-range postures (neutral posture means that the joint is not bent or twisted and feels comfortable and not strained).

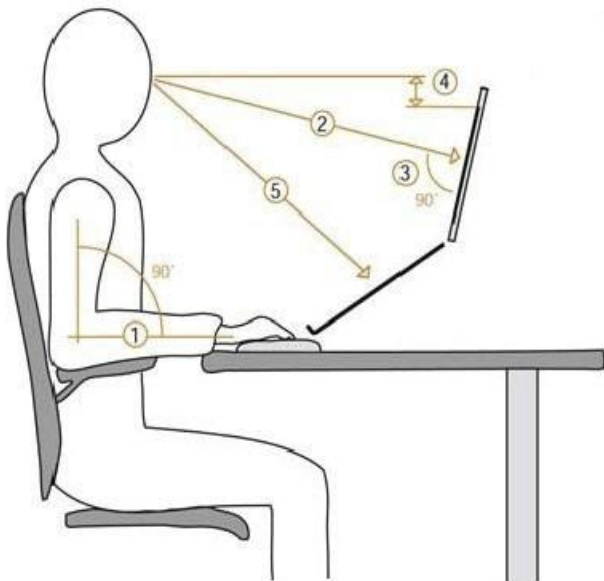
For long periods of use you should set up your laptop on a desk and use an adjustable office chair. The same posture and movement principles apply as for working at a regular computer.

You should have separate keyboard and mouse to plug into your laptop so that you can adjust the screen position. A lightweight screen stand allows you to position the screen at the correct distance and height for your visual comfort.

You should interrupt all computer work for at least 5 minutes in every hour and get up from your workstation, move around and do some stretching exercises.



Laptop workstation set-up



1. Adjust your chair so that it is the correct height for the desk or table. Your shoulders should be relaxed and slack and the angle at your elbow should be about 90 degrees.
2. Position the laptop on the stand so that you have a comfortable viewing distance. This varies from 50cm to 100cm depending on the screen and character size.
3. Place the screen directly in front of you. Use a separate keyboard and mouse, as illustrated above
4. The top of the screen should be no higher than eye height. If you have your screen lower, you should tilt it back to give a comfortable viewing angle
5. When working with documents use an inline document holder between the screen and the keyboard

- ◆ A backpack or wheeled laptop carrying case reduces the strain of transporting your laptop
- ◆ Be aware of security and never leave your laptop in view in the car or in the car overnight.
- ◆ Make sure your laptop is password-protected and that you do not carry confidential information on the laptop



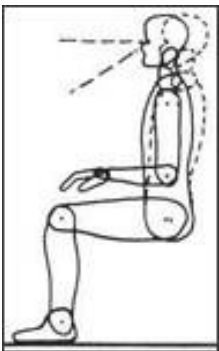
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Computer Work Working Postures

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Working posture

Computer users need to adopt a comfortable and neutral working posture and also to move frequently during the working day. It is best if they can change their working positions during the day. Depending on the type of desk and chair, there are up to 4 variations of a neutral working posture for computer work. It is important that you learn how to use the controls on your chair to adjust it to fit you and to change your working posture. Your line manager or the person responsible for doing your office workstation assessments should be able to instruct you in this.

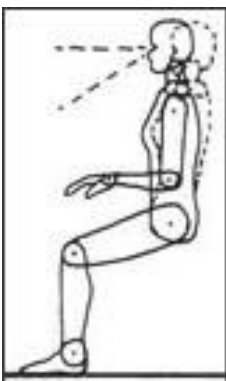
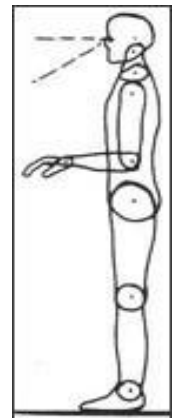


Upright sitting posture

This is the working posture that is frequently recommended. Adjust your chair so that your thighs are horizontal and your feet flat on the floor or on a foot rest. The back rest should be adjusted so that your trunk and neck are vertical and your lower back is supported in a slight inwards curve.

Standing posture

It is good for you to stand up from time to time. Are there jobs you can do in standing — for example, taking or making phone calls? A height-adjustable desk allows you to do computer work in standing.

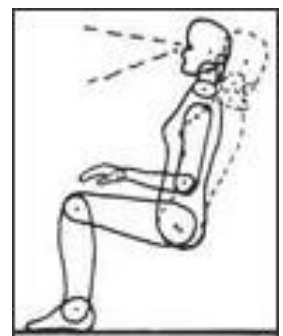


Forward tilt sitting posture

You need to use the tilt mechanism on the seat pan to adjust your seat so that it is on a slight tilt. Your thighs are inclined, with the buttocks higher than the knee. Your trunk is vertical or slightly reclined and your feet should be flat on the floor.

Reclined sitting posture

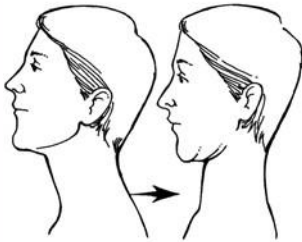
The trunk and neck are straight and recline between 10 and 20 degrees from the upright. Your thighs are horizontal and feet flat on the floor or on a foot rest.



Computer Work Office Exercises

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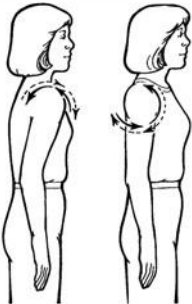
Get into the habit of doing a few exercises and stretches during every working day. These movements will increase your comfort at work by improving your posture, keeping your joints supple and improving the circulation to your muscles.



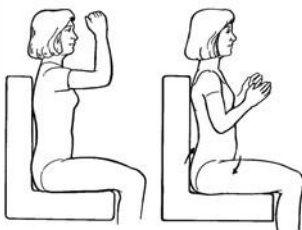
Begin by sitting or standing naturally
Tuck your chin in and pull your head back, keeping your eyes level
Hold for 3 seconds
Repeat intermittently throughout the day



Sit or stand with hands behind neck, as shown
Bend neck and shoulders backward until a stretch is felt
Hold for 3 seconds
Repeat intermittently throughout the day



Begin with shoulders relaxed
Slowly rotate shoulders backward
Repeat for one minute several times a day



Sit in a straight-backed chair
Rotate tailbone backward/upward and arch back, as shown
Relax and slouch your back, then repeat
Repeat intermittently throughout the day



Stand up from your desk and stretch upwards and backwards for 3 to 5 seconds, at least twice an hour



Email: info@lindaburke.co.uk