Furniture Industry Research Association

Employees' guide to ergonomic home working



User's guide to the ergonomics of working with laptops or computers at home

June 2020

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The purpose of this guidance

This guidance is intended for laptop users and computer users working from home with whatever equipment and furniture they have available.

A poorly set up workspace can lead to inefficiency, difficulty in getting motivated, problems with staying focussed and the onset of aches and pains from adopting poor postures for prolonged periods of time.

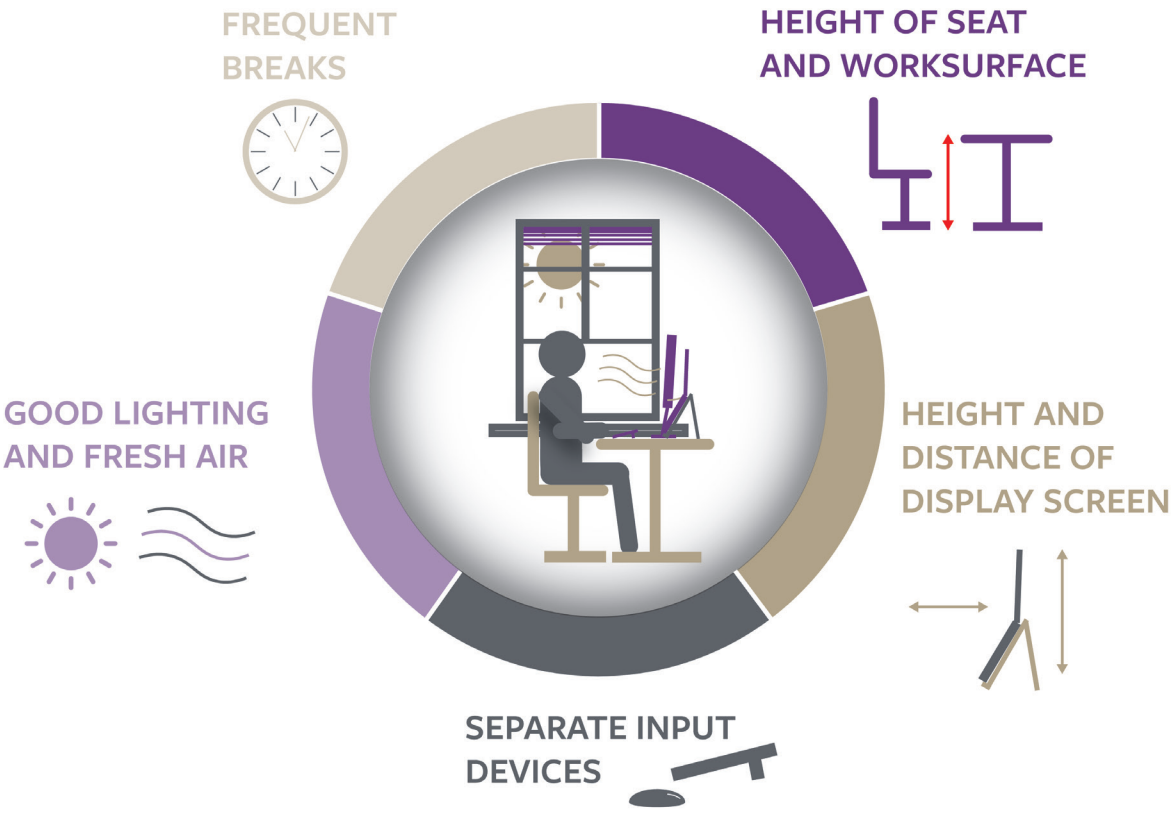
This guide outlines how to optimise your home working environment. It includes general guidance followed by three typical scenarios for users with different types of equipment available.

The three scenario guides in this document have been structured to take into account your starting point, so find the scenario closest to your own and start from there.

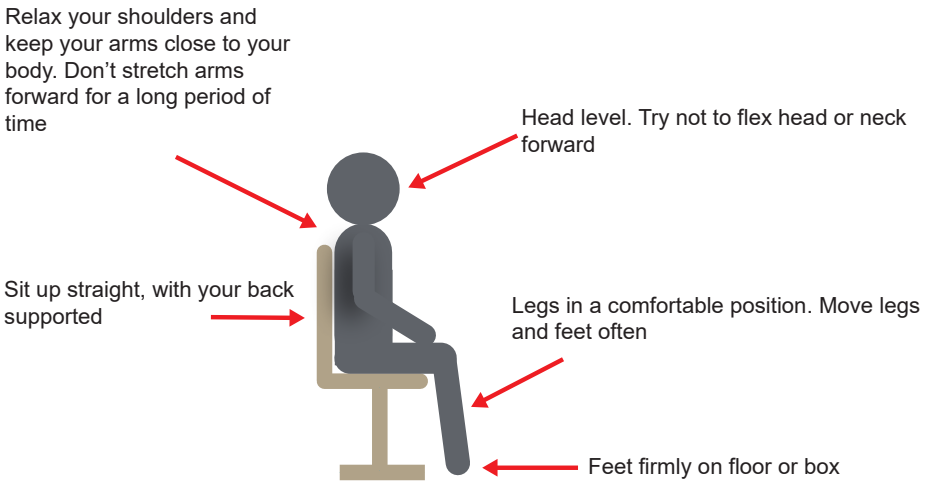
Direct link to Scenario One Direct link to Scenario Two Direct link to Scenario Three

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The fundamental components of ergonomic office work

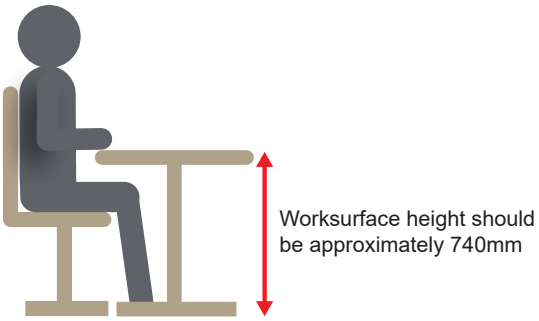


General posture guidance



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Worksurface height

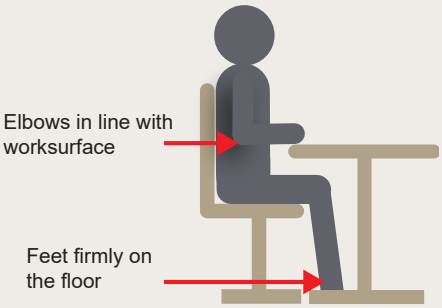


The height of your worksurface should be the same as your elbow height when seated. Aim for a worksurface height of around 740mm.

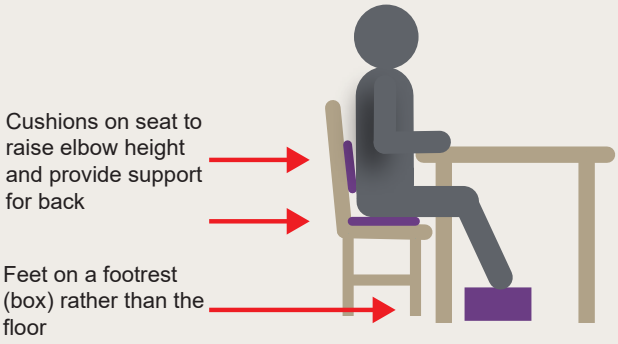


It is **not** advisable to work at a kitchen counter or island. There is usually limited legroom underneath, forcing you away from the worksurface. This will generally cause you to stoop and this poor posture will likely lead to backache over time.

Seat height



If you do not have a height-adjustable chair available, a dining chair will be approximately the right height. However if it is too low, you can always add height by sitting on a cushion.



Ensure you are able to place your feet firmly on the floor. This relieves pressure from the underside of your thighs. If your feet cannot reach the floor, then use a footrest if you have one or find a sturdy box to place your feet on.

Display screen height







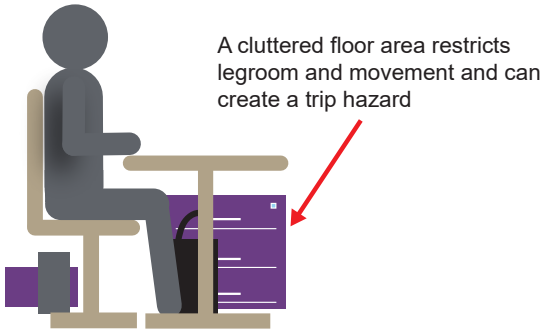
Whether you are using a laptop or have a desktop with a separate monitor, use anything you can to raise the screen height to be in line with - or just below - eye height. Use a laptop support if you have one, alternatively, a stable stack of books or a sturdy box would work.

If you are raising the height of your laptop, it is essential that you use a separate keyboard and mouse rather than the laptop's own input devices.

Your keyboard should be at least 100mm from the edge of the table so that you can rest your wrists on the table when not typing. Always keep the mouse as close to your keyboard as possible to avoid overreaching.

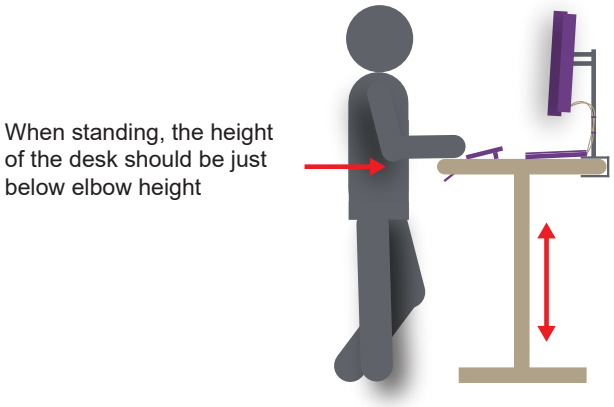
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Legroom



Your legroom area should be clear, so that you can stretch your legs and change position to use different parts of the desk for different tasks. Try to leave enough empty space under the table so that you can move your legs freely.

Stand up to work



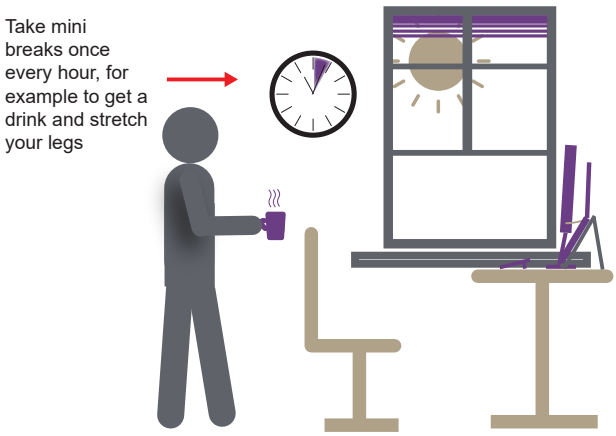
If feasible, stand up to work from time to time at a surface which is similar in height to your elbow height. Bear in mind that kitchen counters are too low for working at while standing.

Active working



In order to maintain good spinal health, make small frequent changes in posture. Movement is essential. Spinal discs are like sponges, they do not have their own blood supply so rely on movement to stay hydrated and keep your back healthy. No posture is a good posture if it is static.

Breaks



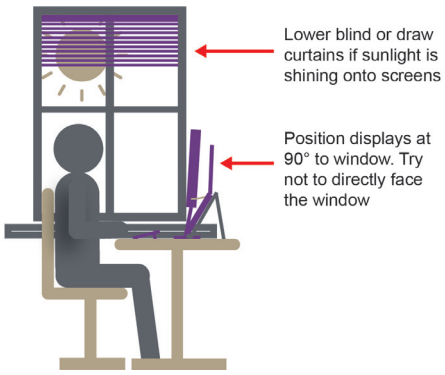
You should get away from your laptop every 45 minutes to an hour to do another type of work, walk about or get a drink. Getting hydrated regularly is good for you.

Take frequent breaks before you become tired. Many mini breaks are better for you than one very long break. It takes you a lot longer to recover if you work for extended periods without a break.

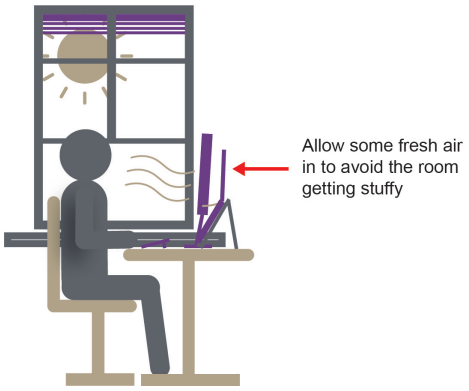
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Environmental factors

Ensure you make your environment as good as possible to help you work more comfortably and efficiently.

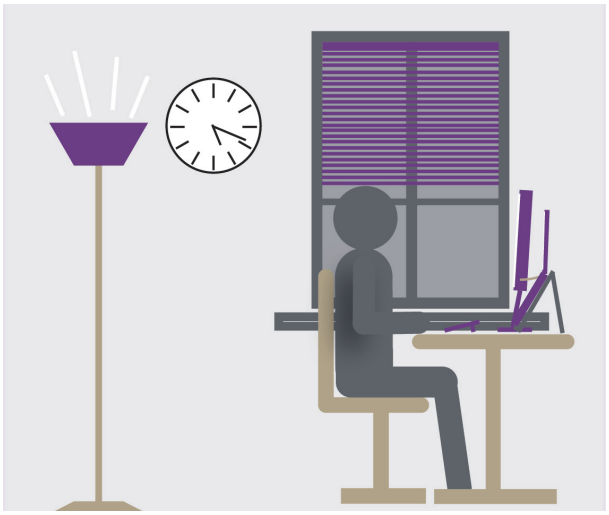


Aim to avoid direct sunlight shining onto your screen or in your eyes. If possible, position the computer screen so that it is at 90º to a window. If there is sunlight streaming in, lower the blind or draw the curtains.



Ensure you have enough fresh air in the room to keep you alert. Prevent the room from getting stuffy.





Do not work in a room that is too dark. The contrast between the screen and the ambient lighting will be too high and cause eye strain. Turn on overhead or other indirect lighting to reduce the contrast.

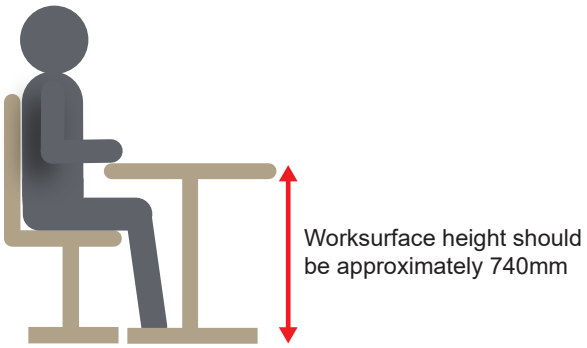


If the ambient light is not sufficient for reading documents, you may benefit from using a desktop lamp.

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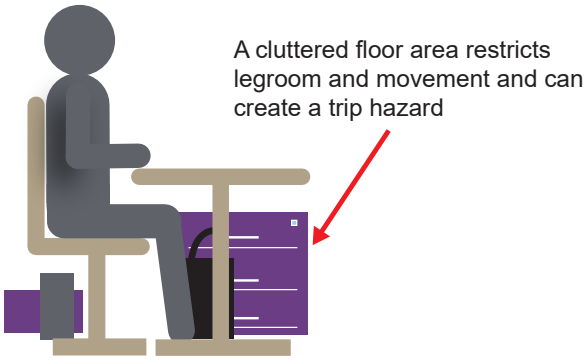
Scenario One: Emergency set-up for working at home

Worksurface height



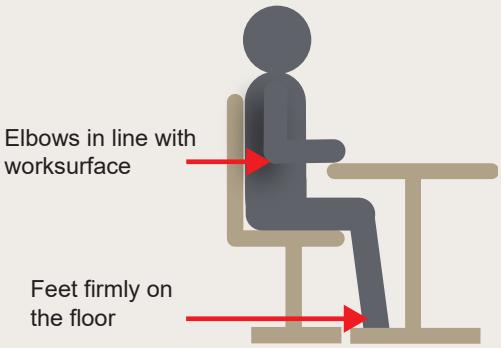
Choose a table or worksurface as close to 740mm high as possible with enough depth to fit your knees under when sitting.

Legroom

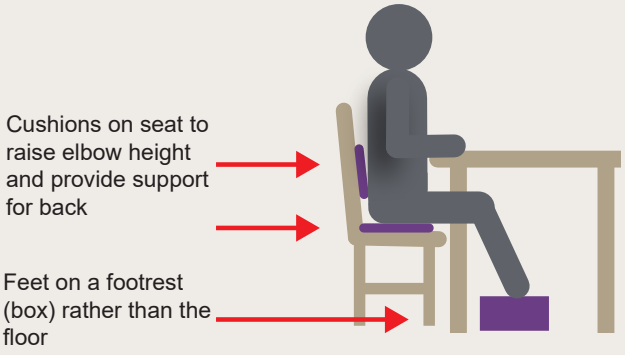


Your legroom area should be clear, so that you can stretch your legs and change position to use different parts of the desk for different tasks. Try to leave enough empty space under the table so that you can move your legs freely.

Seat height



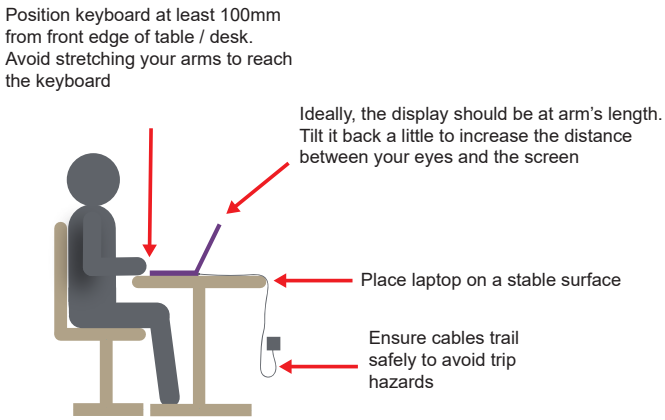
Choose a comfortable chair which is high enough for you to sit upright with your upper arms almost vertical, your forearms almost horizontal and your elbows just above the level of the top of the table. You may need to sit on a cushion to help you achieve the correct elbow height.



Ensure you are able to place your feet firmly on the floor. This relieves pressure from the underside of your thighs. If your feet cannot reach the floor, then use a footrest if you have one or find a sturdy box to place your feet on.

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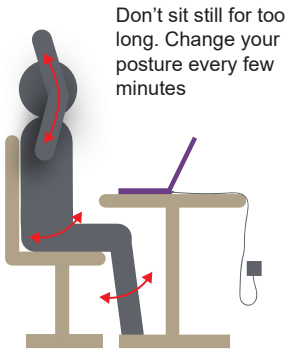
Display screen height and distance



Place the laptop so that the screen is as far away from your eyes as possible, whilst you are also able to reach the keyboard without stretching your arms forward. You could tilt the screen back a little to increase the distance between your eyes and the screen.

Position your equipment where it is stable so it will not be dislodged accidentally and will not fall off the table. Make sure that cables trail safely, staying away from your feet and your chair, so they do not become a trip hazard or electrical shock risk.

Active working



Do not adopt a static posture for an extended period. To remain alert and avoid muscle fatigue and feeling tired, change your posture from time to time and stretch your legs and feet.

Breaks



You should get away from your laptop every 45 minutes to an hour to do another type of work, walk about or get a drink. Getting hydrated regularly is good for you.

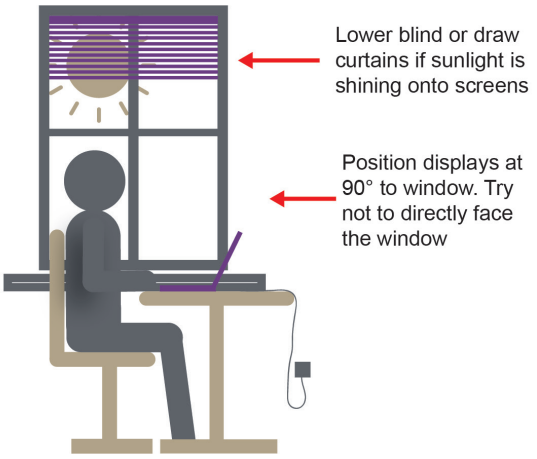
Take frequent breaks before you become tired. Many mini breaks are better for you than one very long break. It takes you a lot longer to recover if you work for extended periods without a break.

Although this is not an ideal workstation setup, it should allow you to work without being too uncomfortable as long as you take frequent breaks.

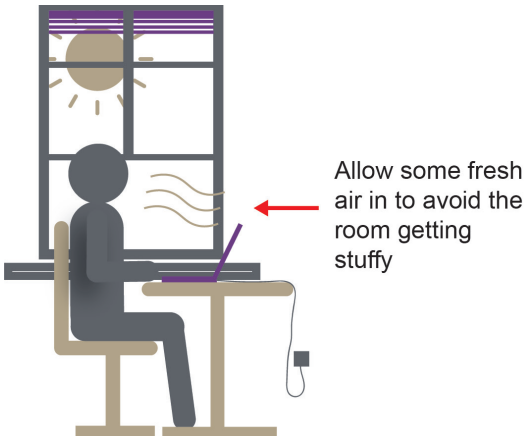
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Environmental factors

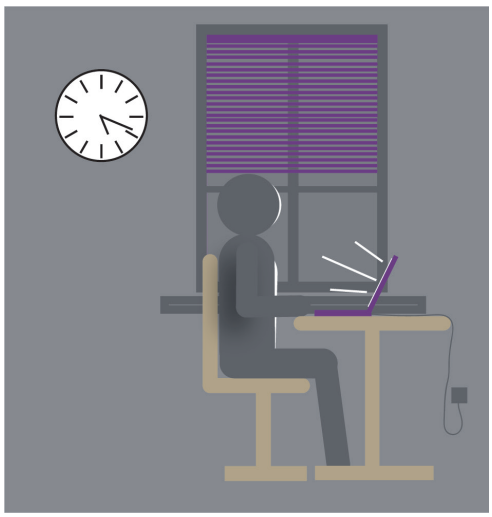
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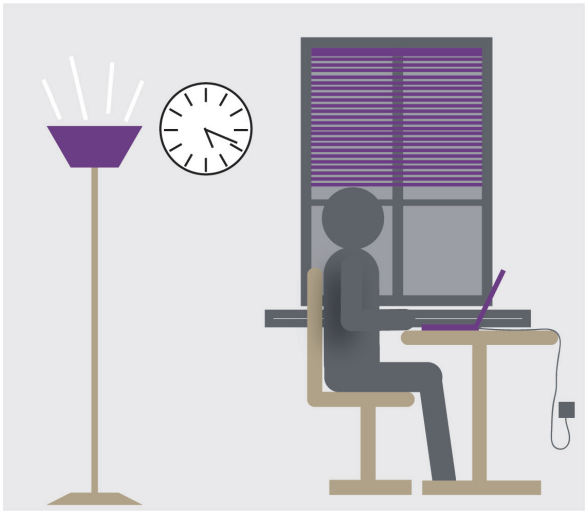


Aim to avoid direct sunlight shining onto your screen or in your eyes. Position the laptop on a table about right angles to the window or lower the blind or draw the curtains.



Ensure you have enough fresh air in the room to keep you alert. Prevent the room from getting stuffy.





Do not work in a room that is too dark, if the contrast between your computer screen and the ambient lighting is too high, you may experience eye strain.



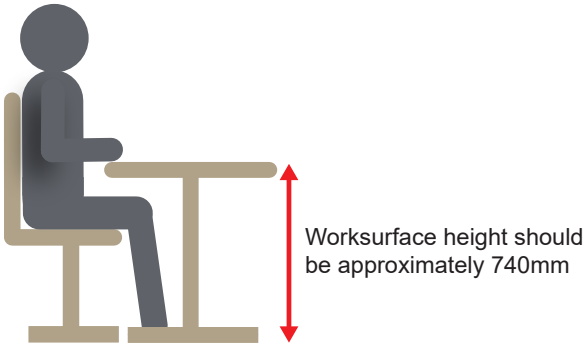
If the ambient light is not sufficient for reading documents, you may benefit from using a desktop lamp.

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Scenario Two: Working with a laptop and a separate keyboard and mouse

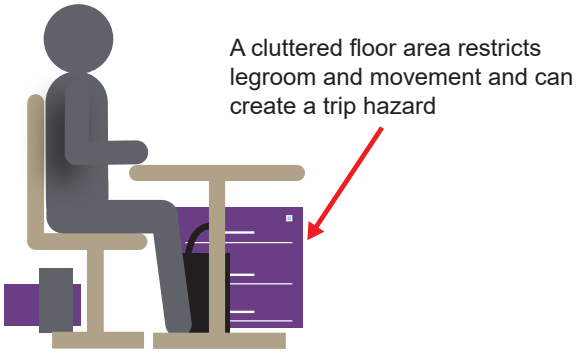
You may have access to a few ergonomic aids such as a separate keyboard, a mouse, a laptop holder/ laptop riser or a separate monitor.

Worksurface height



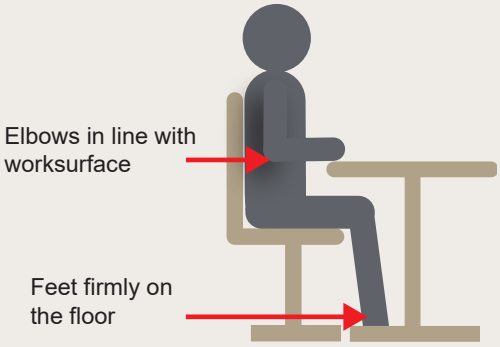
Choose a table or worksurface as close to 740mm high as possible with enough depth to fit your knees under when sitting.

Legroom

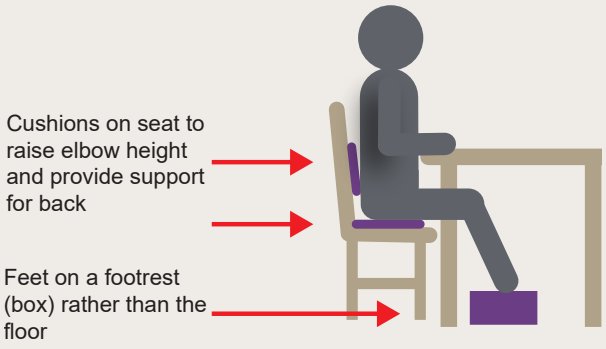


Try to leave enough empty space under the table so that you can move your legs freely.

Seat height



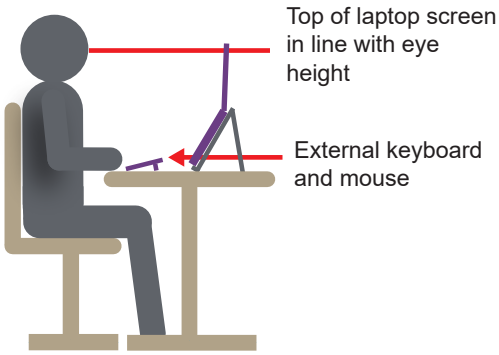
Choose a comfortable chair which is high enough for you to sit upright with your upper arms almost vertical, your forearms almost horizontal and your elbows just above the level of the top of the table. You may need to sit on a cushion to help you achieve the correct elbow height.

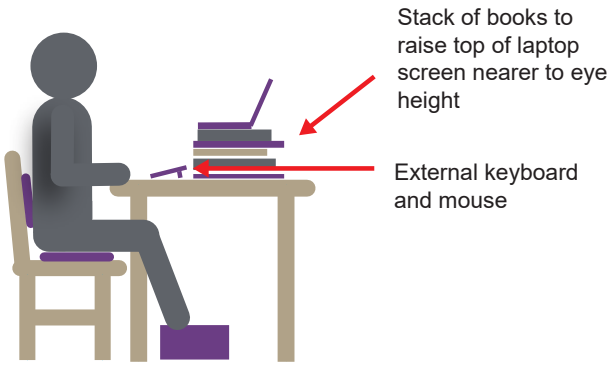


Ensure you are able to place your feet firmly on the floor. This relieves pressure from the underside of your thighs. If your feet cannot reach the floor, then use a footrest if you have one or find a sturdy box to place your feet on.

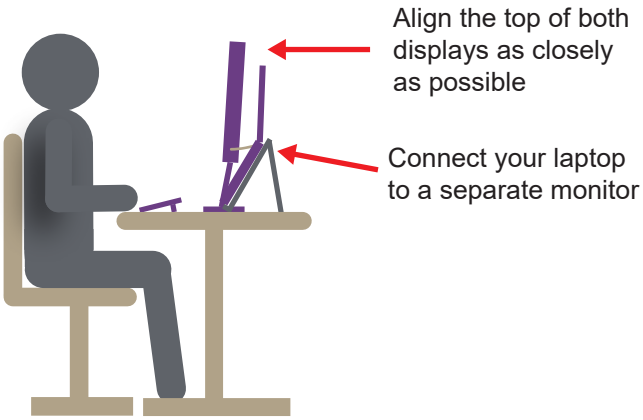
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Display screen height and distance

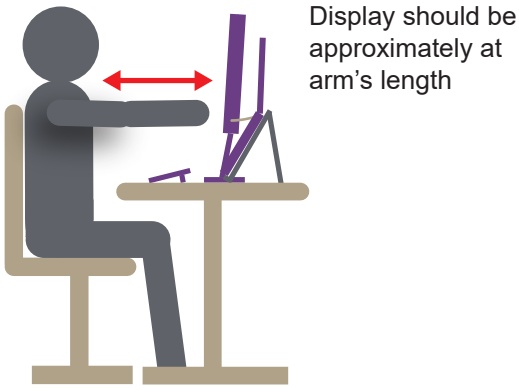




If you have a separate keyboard and mouse, place the laptop on a laptop support, if you have one - alternatively a stable stack of books or a sturdy box would work. The laptop should be high enough so that the top of the screen is in line with - or just below - eye height. Always use a separate keyboard and mouse when your laptop is raised or when you are using a separate monitor. Your keyboard should be at least 100mm from the edge of the table so that you can rest your wrists on the table when not typing. Always keep the mouse as close to your keyboard as possible to avoid overreaching.



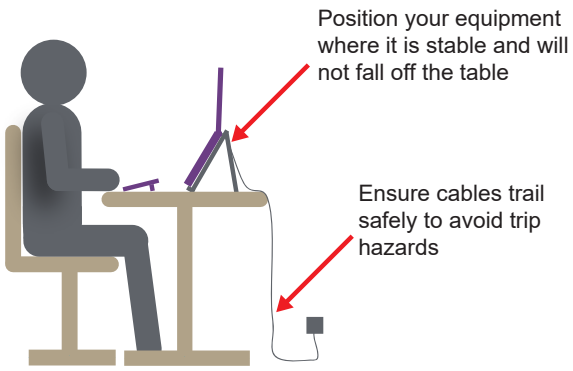
If you have a separate monitor available, adjust the height of the monitor so that the top of it is in line with - or just below - eye height. It is quite likely that this monitor is larger than your laptop screen. To get a comfortable distance between your eyes and the monitor, you may need to push the monitor further away from you than you usually place your laptop, approximately an arm's length away.



Adjust the position of the object under the laptop so that the screen is approximately at arms length from your eyes, so you can read text on the screen comfortably.

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Safety



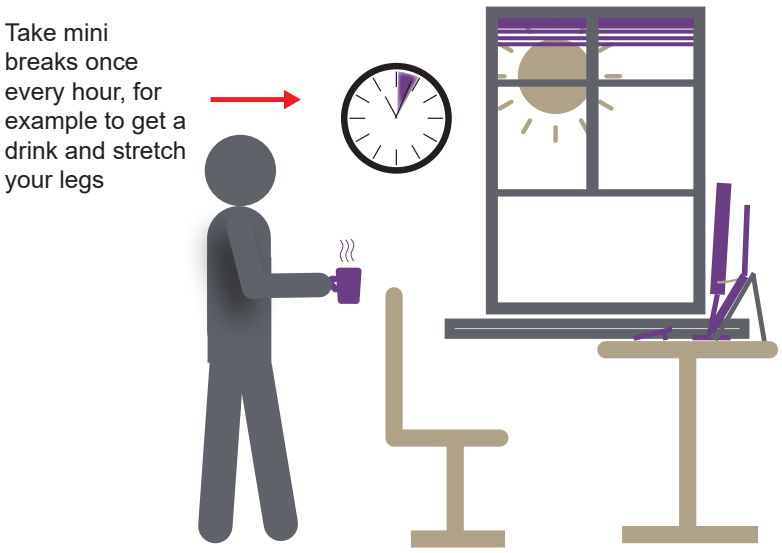
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Active working



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Breaks



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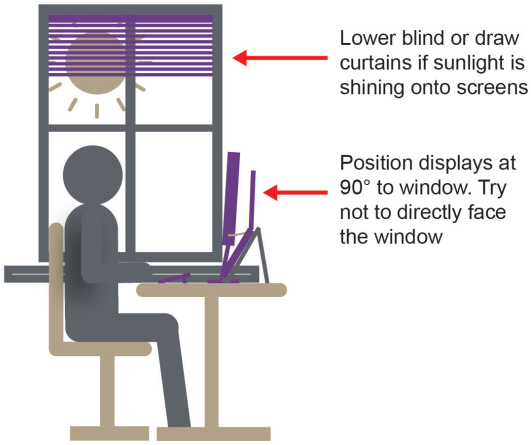
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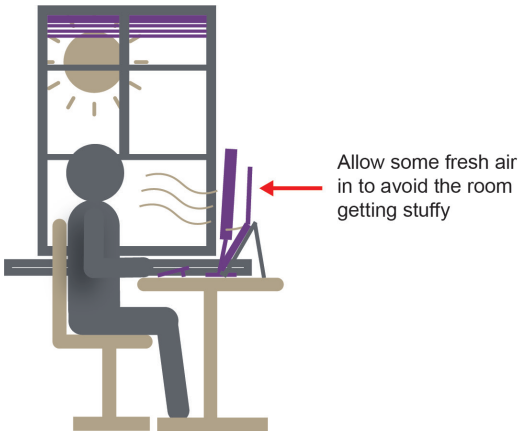
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Environmental factors

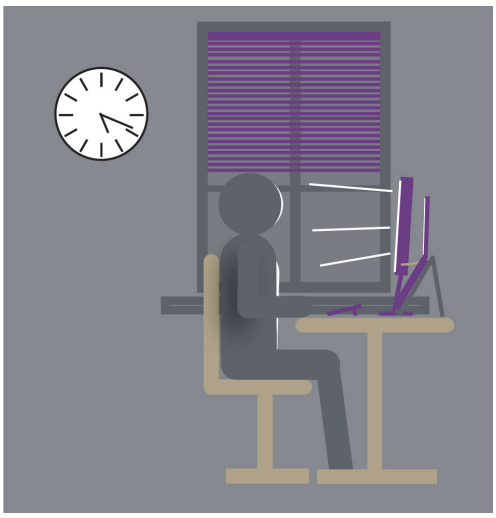
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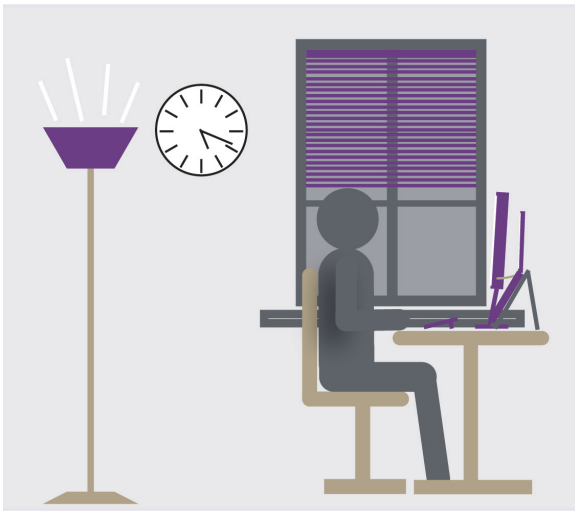


Aim to avoid direct sunlight shining onto your screen or in your eyes. Position the laptop on a table about right angles to the window or lower the blind or draw the curtains.



Ensure you have enough fresh air in the room to keep you alert. Prevent the room from getting stuffy.





Do not work in a room that is too dark. The contrast between the screen and the ambient lighting will be too high and cause eye strain. Turn on overhead or other indirect lighting to reduce the contrast.



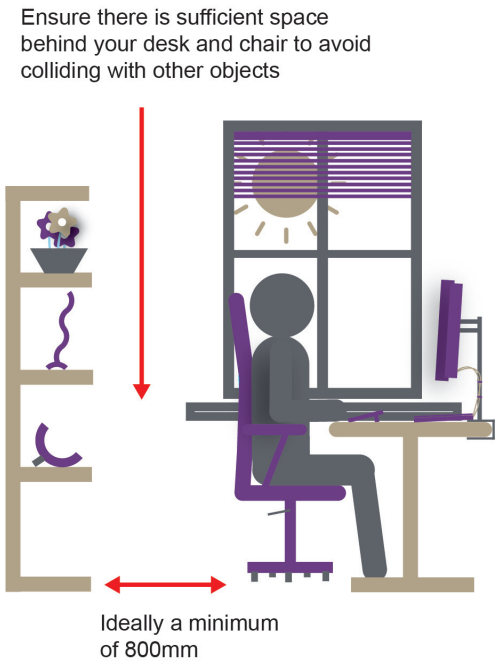
If the ambient light is not sufficient for reading documents, you may benefit from using a desktop lamp.

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Scenario Three: Home office

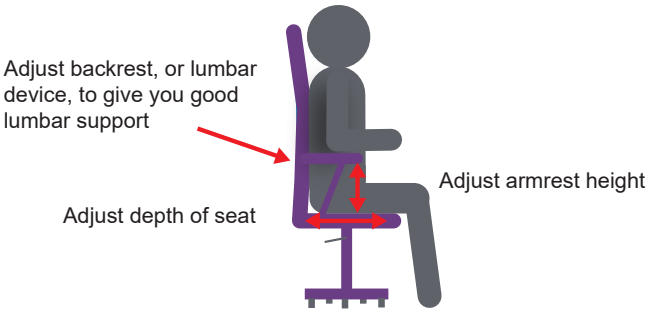
Your employer may have provided you with a desk and an adjustable chair. You may be working with a desktop computer (or a laptop) and one or two large screens, possibly on monitor arm/s provided by your employer. All of these items should be compliant with the requirements of the Display Screen Equipment Regulations.

Location



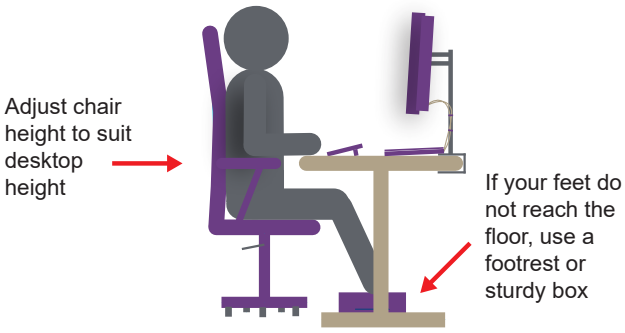
Think about the location of your workstation in the room. Make sure you place your desk where you will have enough space behind you so that you do not bump into things when you move your chair. Aim to avoid direct sunlight shining onto your screen or in your eyes. Position your desk and screen or monitor about right angles to the window or lower the blind or draw the curtains.

Office chair set up



Adjust the backrest or lumbar device to a position to give you a good lumbar support. Depending on what adjustability your chair may have, make each adjustment to match your body. If you do not have the instruction leaflet, visit the manufacturer's website where you may be able to download the instructions or view an online instruction video.

Fixed-height desk

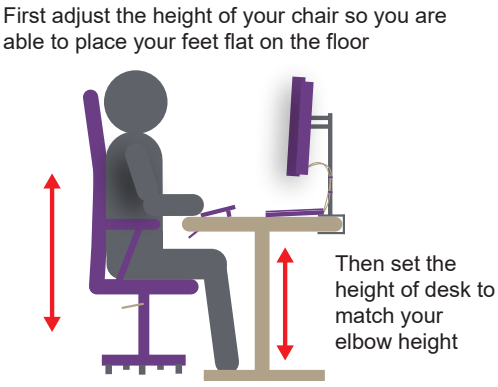


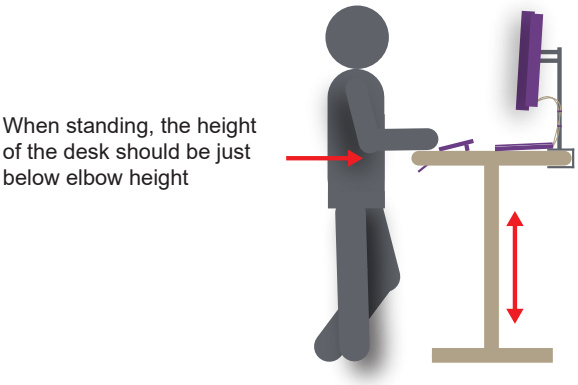
If you have a fixed-height desk, adjust the height of your chair to match the height of the desk so that you sit upright with your upper arms almost vertical, your forearms almost horizontal and your elbows just above the level of the top of the desk.

Ensure that you are able to place your feet flat on the floor to prevent the chair putting too much pressure on the underside of your thighs. If your feet cannot reach the floor, then use a footrest or a sturdy box to place your feet on.

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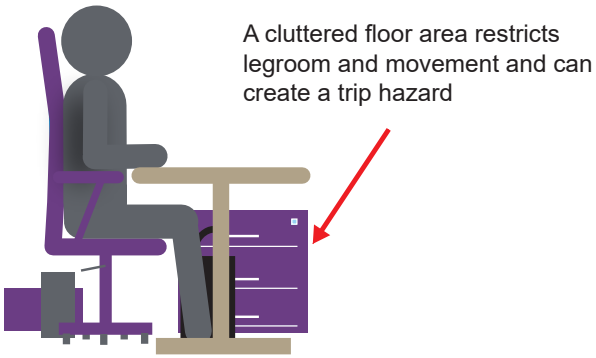
Height-adjustable desk





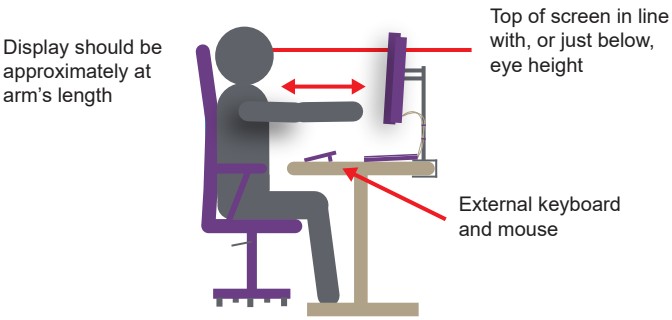
If you have a height-adjustable desk, first adjust the height of your chair so that you are able to place your feet flat on the floor. This will prevent the chair from putting too much pressure on the underside of your thighs. Then adjust the height of your desk so that you can sit upright with your upper arms almost vertical, your forearms almost horizontal and your elbows just above the level of the top of the desk. Alternate frequently between sitting and standing; when standing, the height of the desk should be just below your elbow height.

Legroom



Keep the space under the desk free of clutter so that you can move your feet and legs easily and change the position of your chair to utilise different parts of your desk for different tasks.

Display screens

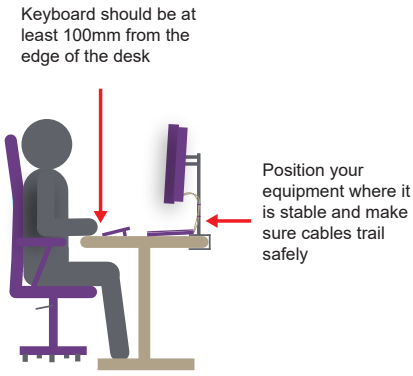


Adjust the height of the display screens so that the top of them are in line with - or just below - eye height. It is quite likely that the monitor you have been given is larger than your laptop screen. To achieve a comfortable distance between your eyes and the monitor, you may need to push the monitor further away from you than you usually place your laptop, perhaps about an arm's length away.

If you are working with two large monitors, make sure the one you are using mostly is immediately in front of you, to prevent you from twisting your body or head for extended periods of time.

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Accessories



Your keyboard should be at least 100mm from the edge of the table so that you can rest your wrists on the table when not typing. Always keep the mouse as close to your keyboard as possible to avoid overreaching.

Position your equipment where it is stable so it will not be dislodged accidentally and will not fall off the table. Make sure that cables trail safely, staying away from your feet and your chair, so they do not become a trip hazard or electrical risk.

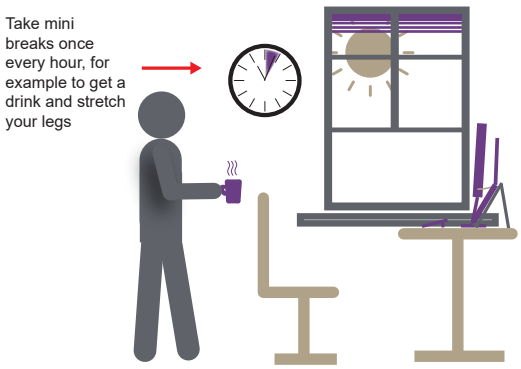
You should follow any training or guidance on the use of your computer workstation that your employer provided. You should also follow the guidance on working with computers provided by The Health and Safety Executive at https://www.hse.gov.uk/pubns/indg36.pdf

Active working



Do not adopt a static posture for an extended period. To remain alert and avoid muscle fatigue and feeling tired, change your posture from time to time and stretch your legs and feet.

Breaks



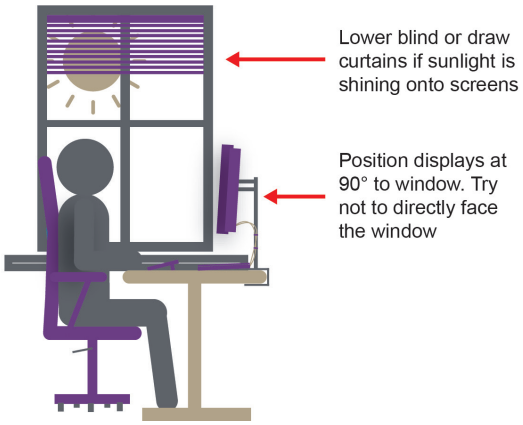
You should get away from your laptop or computer periodically to do another type of work, walk about or get a drink of water. Getting hydrated regularly is good for you.

Take frequent breaks before you become tired. Many mini breaks are better for you than one very long break. It takes you a lot longer to recover if you work for extended periods without a break.

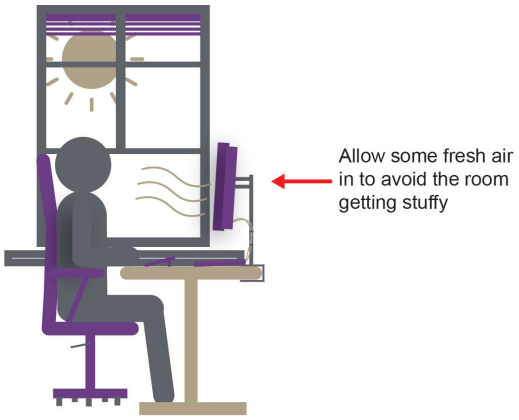
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Environmental factors

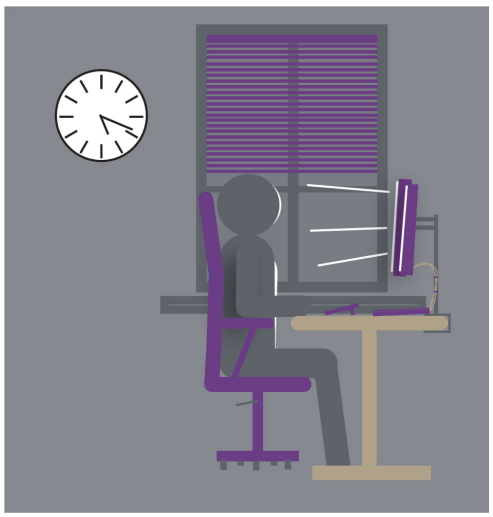
Ensure you make your environment as good as possible to help you work more comfortably and efficiently.

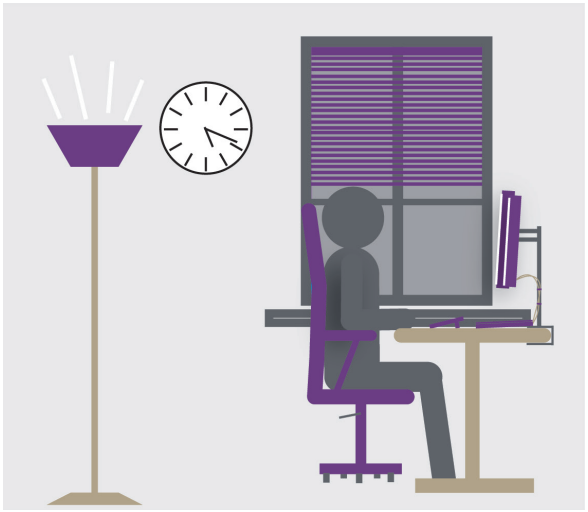


Aim to avoid direct sunlight shining onto your screen or in your eyes. Position the screen or monitor on a table about right angles to the window or lower the blind or draw the curtains.



Ensure you have enough fresh air in the room to keep you alert. Prevent the room from getting stuffy.





Do not work in a room that is too dark. The contrast between the screen and the ambient lighting will be too high and cause eye strain. Turn on overhead or other indirect lighting to reduce the contrast.



If the ambient light is not sufficient for reading documents, you may benefit from using a desktop lamp.

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About the authors

Levent Çaglar, Chief Ergonomist and Head of the Ergonomics Department FIRA International

Levent heads the Ergonomics Department. He has over 30 years of ergonomics and human factors experience in the industry, providing ergonomics consultancy not only to furniture manufacturers but also to users and specifiers of furniture in blue chip companies.

He is internationally renowned for providing independent and practical ergonomics solutions. He offers ergonomics input into the design, development and assessment of furniture from concept to final product stage for British, European and US manufacturers. Working with architects, facilities managers and furniture purchasers, Levent produces specifications for furniture, ergonomic accessories and office layouts and develops selection processes. Increasing office efficiency at the same time as improving staff wellbeing has been key to the success of the projects he has undertaken.

He has worked with clients from many different sectors including financial, banking, oil and gas, media, advertising, furniture, automotive, airlines, railways, government departments and local authorities.

Levent is also heavily involved in the development of British, European and International standards for furniture and ergonomics, chairs BSI and European standards committees and is a key author of standards.

Claire Clark, Ergonomist FIRA International

Claire joined FIRA in 2017 as an ergonomist after working as a human factors analyst in the nuclear industry for five years. She has experience carrying out a varied range of human factors assessments including tooling, environmental, room layout; and operability and maintainability of equipment and processes.

In her role in the ergonomics team at FIRA, Claire carries out ergonomic evaluations of a range of office, educational and domestic furniture for manufacturers and organisations. She tests products against British, European and ISO Standards, as well as delivering fitness for purpose ergonomic evaluations for products which fall outside of the scope of these standards.

Claire regularly delivers presentations on ergonomics and sits on British Standards Committees for office furniture and educational furniture. Claire carries out research on behalf of FIRA and has recently completed a project on how pressure mapping equipment can be used to predict comfort of mattresses.

She has a keen interest in the application of ergonomics in schools and is a key member of a Chartered Institute of Ergonomic and Human Factors special interest group, developing an ergonomics award scheme for schools.

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For your notes

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