


# PROCEDURE

## Workstation ergonomics



Issued with the authority of the Chief Commissioner  
and Chief Executive Officer of Scouts Australia NSW

Chief Commissioner signature		Chief Executive Officer signature	
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# Workstation ergonomics

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# 1 Policy

Scouts Australia NSW is a volunteer organisation that has paid workers and subsequently, has responsibilities under WHS laws. Our volunteers are called workers under WHS laws and they have the same WHS obligations as a paid worker. Therefore, Scouts Australia NSW WHS Procedures apply to workers, members and volunteer supporters (which are all described collectively in the WHS Procedures as *workers*).

Ergonomics is the process for designing or arranging the workplace or a task to fit the people using it. Workstations are one place where appropriate and ergonomic set up is needed in order to avoid musculoskeletal disorders as a result of suboptimal arrangement.

All workers at Scouts NSW will have access to information on how to appropriately set up their workstation. The concept of self-assessment is important, in order that workers become familiar with the requirements and become responsible for their own set up, seeking assistance or special equipment when needed.

## 2 Ergonomic chairs

People come in different shapes and sizes and are required to do different tasks. Of course, providing a chair specifically suited to every individual is not practicable. Instead, "Ergonomic" chairs are used, meaning that the chair has been designed and provided with an ability to be adjusted to fit the needs of around 90% of individuals.

The term *ergonomic chair* has become popular description for chairs that have some form of adjustment. However, ideally, ergonomic chairs will have the following features or characteristics:

- controls that are easy to operate from sitting position
- recline tilt
- seat height adjustment
- seat tilt adjustment
- seat depth adjustment
- backrest angle adjustment
- lumbar support height adjustment
- seat that does not put pressure the back of thighs or knees
- seat with a front edge that curves towards the floor
- breathable, non-slippery fabric on the seat.
- backrest shaped to support the lower back
- stable five-point base
- wheels or casters suitable for the type of flooring
- a swivel mechanism



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- No armrests, or alternatively armrests that do not interfere with free movements within the workstation

When purchasing an ergonomic chair, choose carefully and do not base decision solely on price or visual appeal. Take the time to inquire about the chair's functions and suitability to make sure you make an appropriate choice.

### 3 Desks

In selecting the right desk for the person/s who will use it we need to look at the types of tasks that will be performed at it. We also need to look at the equipment and other resources that will be placed on or around it and its ability to be adjusted to meet the various dimensions of the users who use it. (For additional information on desks, refer to Australian Standard AS4442:1997 Office Desks). The following types of desks are commonly selected for office and computer work:

- Free-standing, height-adjustable desks- these desks are capable of being raised or lowered to accommodate different user's dimensions.
- Free-standing, fixed height desks- generally, older types of desks are not adjustable. They often require the user to raise or lower their chair to the fixed height of the desk.
- Split desks- these desks have a section of their surface that can be raised or lowered, e.g. where the keyboard is placed. These are acceptable however once the surface is set up for a computer the desk becomes largely unsuitable for other types of work.
- Corner workstations- These are very common (and popular) as they are specifically designed for computer users, most often have sufficient space and adjustability to accommodate most users' dimensions.

If your desk is adjustable, set your chair height up first so your feet are firmly on the floor then lower the desk surface until your hands are on the keyboard, and your forearm is roughly horizontal.

If your desk is not adjustable then you will need to raise the height of your chair so you can achieve the 'safe' posture. Then, if your feet do not rest flat on the floor you may need a footrest.

If you have a non-adjustable desk with an adjustable keyboard section the process in 'A' is used but the keyboard section is raised or lowered to achieve a comfortable posture/level for the arms and hands to the keyboard.

The general features of all desks should be:

- Rounded edges with no sharp corners
- Good leg access underneath with no sharp protrusions underneath to cause injury or restrict movement
- A flat, smooth, non-reflective surface of a neutral colour that is big enough to accommodate all the work that needs to be carried out on it.



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## 4 Position of the Computer Screen

Again, as we all have different physical dimensions we need to be able to place the screen in such a position which will both maintain a safe posture, i.e. one that doesn't cause you to 'slump' but at the same time is comfortable for you. The following guidance is suggested for obtaining an appropriate balance between safety and comfort.

The screen (monitor) should be raised above the height of the desk to a point where the angle of your head allows your eyes to look down at the screen at an angle of approximately 20 degrees from the horizontal. This eliminates placing strain on the neck muscles by holding the head too stiff and straight. The top of the monitor should generally be level with the horizontal eye level.

The screen should be placed approximately an arm's length away but some variation in this distance closer or further away is acceptable depending on your eyesight requirements. Generally 450mm from the tip of your nose is considered to be the closest the screen should be.

Where the screen is too low we will need to elevate it so that there is no danger of slumping over the screen. Looking too far down to the screen tends to increase the tension in the muscles at the back of the neck.

## 5 Posture and Comfort

There is a balance to be struck between an expectation that we will sit according to a strict ergonomic interpretation and being comfortable. However if we get too comfortable and forget the stresses and strains we can incur through poor posture we may end up in pain.

So we start with the strict interpretation of what has been found to be 'the ideal' for the majority of people and depending on how closely that provides for our comfort, we move incrementally away from the ideal posture until we can feel both relaxed and maintain as close to a safe posture as possible.

With the screen in its ideal location and looking at the centre of the screen your head should not be too horizontal nor too far forward (where your neck muscles will have to take the weight of your head as it moves away from its centre of gravity).

With your hands on the keyboard:

- Your shoulders should be able to drop and be relaxed
- Your upper arms should be able to hang freely
- Your forearms should be approximately horizontal
- With your seat back adjusted into your lumbar area, your general posture should be relatively upright (but not stiffly upright or rigid)



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- Your buttocks should be square on the seat which should be adjusted to a height where your feet are \*flat on the floor (\*see note below).
- With your lower back firmly against the back rest the back of your knees should not be hard up against the edge of the seat as this may cause restriction of the blood flow to the lower legs.

## 6 Lighting

Good lighting is a very important aspect of visual comfort when at work in an office environment. Eyestrain from insufficient or excessive amounts of light can cause headaches and assist with the deterioration of eyesight in some people. In general terms lighting has an impact on our ability to work in several ways:

- Too much or too little light can cause eyestrain or other eyesight problems and often headaches.
- The number, type and positioning of the lights can create shadows and other effects.
- The reflective ability of wall and floor colours can change the quality and quantity of reflected light.
- How lights are shaded to avoid excessive glare in our line of vision.

It is your employer's responsibility to carry out checks of the quantity of lighting and to ensure the correct amount and positioning of lights is arranged. In terms of the amount of light the following guidelines are applied:

Task	Lux Level Required
For ordinary or moderately easy visual tasks e.g. average/easy computer work with documents which can be easily viewed	240 lux
For moderately difficult tasks e.g. routing office work on a computer where detail and rapid visual tasks (e.g. reading, editing etc) are undertaken	400 lux
For difficult, very detailed work where coloured graphics may be worked on (drawing offices etc) or where proof reading is carried out	600 lux

As a last resort, anti-glare screens can be placed over the screen of the PC so as to minimise its reflective capacity. If all the above options are not appropriate or don't eliminate or minimise the glare to an acceptable level your Manager will arrange for specialist advice to be sought.

## 7 Glare

Glare is another issue similar to lighting that can lead to visual fatigue, headaches and, ultimately to stress and discomfort. Glare on the screen of a PC can arise from several factors:

- The position of the screen in relation to windows behind or to the side of the operator
- The degree to which those windows can be covered or the light from them modified e.g. Venetian blinds.



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- Overhead lighting that may be poorly shaded or in a position where the angle of the PC and light make glare on the screen unavoidable.
- Reflections on glass or shiny partitions or other surfaces.
- Spot or feature lights that are able to reflect onto the screen. (common in reception areas where spot lights reflect onto a shiny object or wall or window behind the receptionist)

In all but a few of these cases it is possible to either eliminate or at least minimise the effects of glare. The following steps are recommended:

- Where possible shift the desk around until the angle of the windows no longer reflects onto the screen.
- Look at curtains that block out glare (but not natural light which may be necessary) or venetian blinds or other type of 'sun-block' curtains.
- Look at light shades or anti-glare filters for overhead lighting.
- If the lights are movable, consider moving them to a better location.
- Consider putting venetian blinds over glass or shiny partitions or, if it is appropriate consider painting them with a flat or matt paint finish.
- Consider up-lighting or other location of spot or feature lighting.
- It is also possible if reflected natural light is not able to be minimised to reduce the amount of artificial light that is being provided.

## 8 Noise

Noise is generally sound which annoys. Noise in office environments is very rarely of a level that can be hazardous to hearing. However it can be annoying when it:

- Interferes with communication.
- Distracts people when they are trying to concentrate on their work.
- Becomes repetitive or monotonous eg a copier making a large numbers of copies.

In open-plan offices, other people's conversations can be disturbing as can the loud, piercing ringing of mobile phones. In this case, everyone needs to be very conscious of the noise that they may be generating and, if it is unavoidable, try to find, a private space to conduct their conversations.

There are a number of options for dealing with noise in Offices:

- Identify noisy equipment and locate it away from spaces occupied by people who are going to be disturbed by it.
- Limit noisy activities e.g. copying, to times when minimal staff will be around.
- If there are no rooms into which copiers and other noisy equipment can be placed consider placing acoustic partitions around them.



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- Consider installing sound absorbent materials in the office, e.g. ceiling panels, dividing screens, carpets and curtains.
- Equipment with the lowest noise emission levels are the best choice.
- Excessive noise from the outside, consider installing double-glazed windows and other external noise barriers.
- Consider turning down the volume of telephones when they ring.
- Staff are advised to hold discussions in meeting rooms if they if there is a potential for disturbance.

## 9 Thermal Comfort and Air Quality

Our feelings of being comfortable in terms of temperature and humidity are very individual. Few of us share exactly the same 'tolerances' to temperature and humidity. In Offices with air-conditioning we try to find the 'middle of the range' that will suit the majority. Those whom it doesn't suit have to modify their clothing to adapt (e.g. wear more or less clothing and/or of heavier or lighter fabric).

Like all other environmental factors that can affect our ability to work well, we need to identify what and how these issues can affect us. We can ask questions such as:

Is the atmosphere:

- Too hot?
- Too cold?
- Too stuffy or humid?
- Too draughty?
- Are these conditions noticeable at any particular time of the day?

If you are experiencing problems in this area and you have already tried dealing with the issues by modifying your clothing and you think something else needs to be done, then contact your Manager.

## 10 Miscellaneous ergonomic equipment

The following section describes various items of ergonomic equipment that are not necessary for everyone but may be of assistance.

### Mouse with scroll function

For staff who work on or edit large documents or enter data for up to or for more than four hours per day, a mouse with a scroll function can be an advantage. The benefits of a scroll function are that it minimises the number of times a user has to move the mouse, and therefore their wrist, to the scroll bar at the side of the screen. The scroll function allows you to leave the mouse pointer where it is and to scroll rapidly up or down to the required place in the document without moving your hand or wrist to do so.



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## Document holder

When referring to documents while we work it is quite common to see people leaning over a document placed on the flat surface of their desk. This can place a great deal of stress and strain on the muscles of the neck and shoulders. Some fit to the monitor, while others sit on the desktop. There is a wide range of different types of copy holder, one of which will meet most people's needs. They also come in A3 and A4 sizes to hold different types of documents.

## Footrest

A footrest is needed by workers who cannot adjust their desk to their height, have to raise the height of their chair so that they can obtain the correct posture; in doing so their feet are not able to sit flat on the floor. Footrests are then used as support under the feet and legs. It is important, that if you have decided that you should have a footrest that you remember to use it when at your workstation. If you push it out of the way or do not use it you could experience excessive pressure on the backs of your thighs which could lead to diminished blood circulation to the lower legs and feet.

## Headphones

Staff who are continuously answering phones, if a traditional desk phone is used are required to bend and stretch to pick up the receiver numerous times each day. Depending on where the phone is able to be placed this may create a considerable amount of repetitive stretching. Headphones are an ideal solution.

There is a wide variety of headsets on the market so it will be important to trial several till you find the correct one for you that feels comfortable. Once you have selected the one with the right 'fit' ensure that you adjust the volume level so that is not too loud or too soft.

Maintenance is important with headsets as the enclosed space behind the soft cover of the ear-piece can become dirty. Clean it regularly. It is advisable to never allow another person to use your headset as this can lead to the possibility of the transfer of various infections.

## 'Portable desk extensions "lozenges"'

These are small, modestly priced (eg < \$50) portable surfaces that bridge the work area of an "L shaped" desk. They allow the user to gain a little more space in an L shaped or curved L shaped workstation. A lozenge also provides a straight-edged surface on which to place the keyboard. Subsequently it can increase comfort by making it easier for the user to maintain the keyboard at the right angle relative to the monitors.

## Monitor risers

A common shortfall of computer monitors, is that even when they claim to be height adjustable, their adjustment range is limited. This has led to the common practice of workers raising their



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monitor by placing books or reams of paper underneath their monitors. A more elegant alternative to this is to purchase a monitor riser. If you use dual monitors, you will need to purchase risers for both monitors.

## Sit stand desks

Sit stand desks are becoming popular however they are expensive and their high price tag means they are not commonplace. Although everyone can benefit from sit / stand flexibility, the most realistic solution is for individuals to take regular breaks through the day.

# 11 Rest Breaks

People are different in their need to take rest breaks from their work, however it is important that, given that you are allowed to take them, that you take and enjoy morning and afternoon teas and the lunch break. If you work in an office environment and at a computer it is very important that you use these breaks to move around and get the blood circulating again. Take a walk if you can and get some fresh air.

During periods of intense work of your desk it has also been found to assist in preventing MSD that staff stop every 25 minutes or so and take a short, five minute break. Do something else while you are not working on the computer or task. It is important to use another range of muscles. If you cannot stop after 25 minutes make sure you stop at 50 minutes and take a ten-minute break.

# 12 Exercises

If you are able to and wish to really maintain good posture you can undertake a range of fairly unobtrusive exercises while either seated or standing beside your desk. These exercises are outlined in WorkCover NSW Guide 1319 "Health and Safety in the Office" 2004 which is available to you through Workcover website.

If you do not feel comfortable performing these exercises and you wish to take a ten minute break then make sure that you do a range of other physical tasks which use different muscles than those which you use when keying. Such tasks can involve filing, cleaning up your office or general work area, going for a short walk around the office etc.

While we want to minimise hazardous stretching and reaching it is important to remember that your body was not designed to be held in a static position for too long (try holding your arm horizontally from your body for as long as you can and see what it feels like!). We also do not think as clearly when we sit for long periods; our breathing can become shallower and our circulation slows down and we can get stiffness and soreness in our muscles. Movement is essential to the body. Use every opportunity to keep yourself flexible. Check your posture out every so often and see if you can detect any pressure points or other areas of soreness. If you find one or two- then it's probably time for a break.



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For any additional guidance, support or assistance to address what you may feel to be a problem, first talk to your immediate manager. If they need help, your Manager will seek further assistance from outside sources.

## 13 Self-assessments

Every worker should conduct a self-assessment at least once annually, or whenever they change chairs or desks. Self-assessment should be recorded on the [Workstation ergonomic self-assessment checklist](#) and any additional equipment requested to the person's manager.

## 14 Records & references

- Worksafe Victoria Officewise guide to health and safety in the office 2006

## 15 Associated Forms

- 29.1 Workstation ergonomic self-assessment checklist

*Whenever this procedure is revised, the sponsor of this procedure will review the above forms, to determine whether the changes made to the procedure impact the forms. If changes are required, the sponsor must also make the appropriate revisions to the forms.*

## 16 Appendices

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