Office Ergonomics
A guide for employees

This booklet has been developed as a guide to assist in the prevention of muscular discomfort and strain that can sometimes be associated with computer use.

The information provided in this booklet can be applied both at work and at home. It contains some tips for managing workloads and describes how to set up your workstation and how to set up your chair to help you achieve and maintain good posture and a safe work environment.
Recommended sitting posture and workstation position for keyboard users

Workstation Tips

- **Adjust the height of the work surface and/or chair** so that the work surface (i.e. home row of keys) are in line with your hands and forearms (elbows should be at least 90 degrees and held beside the trunk).

- The **wrists** should be held in a neutral or straight position. Prolonged downwards or upwards bending can lead to injury.

- When referring to a source document, use an **adjustable document holder**. Place the holder near the screen in a position that minimises the risk of twisting or bending the head. This will help prevent strain on the neck and back.

- Your **screen** should be at a distance that allows you to focus easily. Usually this is within an arm’s length, with the top of the screen at eye level.

- Position workstations so that **glare and reflections** from overhead lights, windows and other light sources are minimised. Where this is not possible, an anti-glare filter placed over the screen may be helpful (however, the filter may affect clarity of the screen image). Keep screen and filter clean.

- Rearrange your **work top layout** so that materials and tools you use often are located within comfortable reach.

Vary your posture regularly and take a break from sitting every 30 minutes. It is also recommended that you alternate keyboard work from other duties.

- Keep frequently used items (e.g. pens, telephone, calculator) within easy reach.

- Avoid leaning below desk level to retrieve items.

- Avoid stretching up over desk from a sitting position to retrieve files.

- Change posture regularly – organise your day to perform a variety of tasks.

- Avoid neck flexion and leaning over your work. A slope board or large A4 file can be used to reduce neck flexion.
You and Your Chair

Incorrectly adjusted ergonomic chairs and work stations can lead to neck, back and overuse injuries. It is essential to know your chair and adjust it to fit you. Find out what all your chair’s controls actually do and adjust them often to suit your needs.

The ideal chair should have:

• A comfortable backrest that can be adjusted up and down and to an angle of between 90 and 100 degrees while you sit
• An adjustable seat height
• No arm rests
• A five star caster base for stability
• Swivel action
• A seat with a rounded front edge and breathable fabric

Chair Checklist

<table>
<thead>
<tr>
<th>Chair Checklist</th>
<th>Chair Tips</th>
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<tbody>
<tr>
<td><strong>Adjust chair height</strong> to keep your knees level with, or slightly higher than, your hips and to allow you to work with elbows bent to approximately 90 degrees. If this height does not allow you to rest your feet firmly on the floor, use a foot rest.</td>
<td><strong>When using a keyboard or writing</strong>, an erect sitting position is recommended. When reading or writing for prolonged periods, try tilting your work surface up to 10 degrees or so.</td>
</tr>
<tr>
<td>If whilst working your shoulders are elevated and your elbows span sideways, your chair is too low, or the work surface too high. If your elbows are at an angle greater than 90 degrees and you need to tilt your head and shoulders forward, your chair is too high or the workstation is too low.</td>
<td><strong>When using a telephone or listening to a speaker</strong>, a light backwards leaning position is usually preferred.</td>
</tr>
<tr>
<td><strong>Adjust the backrest</strong> so that it rests against the small of your back – it is surprising at what a difference a centimetre up or down makes. Keep your bottom well back in the chair and relax your back against the backrest as you work.</td>
<td></td>
</tr>
<tr>
<td><strong>Avoid using chairs with arm rests.</strong> They tend to encourage you to slump sideways and they prevent you moving the chair close to the desk or workbench.</td>
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</table>
Computer Mouse Use

- Position the mouse at the same level as your keyboard. Avoid reaching over the keyboard to use your mouse.
  - Work with your shoulder relaxed.
  - Keep your arm close by your side.
  - Hold your elbow at about a 90 degree angle.
  - Keep your wrist in a straight or neutral position.
- Lightly supporting your forearm on your desk can help you keep your shoulder relaxed.
- Do not twist or move your wrist from side to side, or up and down when working.
- Keep your hand relaxed. Do not hold your pointing device with a tight grip.
- When not using the pointing device, let it go.
- Keep your fingers relaxed. Do not hold your fingers above the activation buttons when using the point device.
- Keep your thumb relaxed. Do not keep your thumb in a bent position when using the pointer.
- Avoid excessive thumb movements to operate a trackball. Use your fingers to spread the workload.
- Consider alternating hands if you are a high volume user. But, use caution when switching hands, and make sure the device is adjusted for the hand you are using. Give yourself time to get used to it.
- Consider reducing mouse use by using keyboard shortcuts, and, by creating desktop shortcuts to access regularly used files and folders (see the Injury Management website for more information)
- Wrist rests can help to maintain neutral postures and pad otherwise hard surfaces. However, the wrist rest should only be used to rest the palms of the hands between keystrokes. Resting on the wrist rest while typing is not recommended. Avoid using excessively wide wrist rests, or wrist rests that are higher than the space bar of your keyboard.

Laptops

It is recommended that laptop computer use be restricted to short periods of time. If using for long periods (i.e. over 2 hours) then it is recommended that the laptop be used with an external keyboard, mouse and monitor. Alternatively the laptop screen can be placed at the correct height (i.e. top tool bar at eye level) by using a laptop riser. All other postures and movements are as for normal computer use.
Back Care

There are three natural curves in your spine: cervical, thoracic and lumbar. Correct posture maintains all three curves, preventing undue stress and strain by ensuring your body is in its proper alignment and distributing body weight evenly. Incorrect posture places stress on the muscles in the back, neck and upper shoulders, eventually resulting in musculoskeletal strain and subsequent discomfort and pain. When awkward postures are repeated or held for extended periods of time the risk of injury is increased.

When Performing Written Tasks

- Organise your time so that you are not sitting for long periods in a static posture.
- Take regular stretch breaks or alternate writing tasks with other non sedentary duties.
- Consider the pen/pencil you are using e.g. soft lead pencil or free flowing pen, thicker circumference or pen/pencil grips to reduce hand muscle fatigue.
- Be aware of your posture – especially your hands, wrists, shoulders and neck.
- Ensure your back is well supported at the correct height (as for setting up your workstation).
- All items should be placed within your optimum reach section to avoid over reaching, twisting or turning.
- Place your work onto a slope board or an A4 file to bring the work closer to you.

Lighting and Vision

Lighting for computer/desk work should be considered, as improper lighting can cause problems with eye strain, headaches and general fatigue.

- Alter the position of the monitor to avoid glare/reflection on the screen.
- It is important to rest your eyes periodically. Look up and away from the screen and focus on a distant object (more than 3 metres away). Shift vision back to your work and refocus.
- Include some eye exercises in your regular stretching regime.
## Aches and Pains at Work

Many aches and pains can be relieved by changing your working posture or work patterns. The following tips may help to make you more comfortable.

<table>
<thead>
<tr>
<th>Body part fatigued</th>
<th>Common contributing factors</th>
<th>What can you try</th>
</tr>
</thead>
<tbody>
<tr>
<td>Back of neck</td>
<td>Looking down at documents or keyboard</td>
<td>Use document holder. Improve your keyboard skills. Check monitor height.</td>
</tr>
<tr>
<td>Side of neck</td>
<td>Looking to one side</td>
<td>Locate documents and screen directly in front of you.</td>
</tr>
<tr>
<td>Top of shoulders, outside or front of shoulders</td>
<td>Keyboard too high, arms unsupported</td>
<td>Raise chair, use footrest, rest palms on front of desk, reduce desk height (if adjustable).</td>
</tr>
<tr>
<td>Lower back</td>
<td>Inadequate lumbar support</td>
<td>Adjust back rest height and angle to give firm support, remove arms from chair, remove obstructions under desk (e.g. drawers).</td>
</tr>
<tr>
<td>Upper back</td>
<td>Twisted posture</td>
<td>Sit straight on, locate documents, screen and keyboard in front of you.</td>
</tr>
<tr>
<td>Right/left arm or shoulder</td>
<td>Arm outstretched unsupported</td>
<td>Move mouse closer, use single surface desk.</td>
</tr>
<tr>
<td>Left/right arm, shoulder or neck</td>
<td>Reaching for telephone or cradling telephone on shoulder</td>
<td>Bring phone closer. Use headset or speaker phone.</td>
</tr>
<tr>
<td>Leg discomfort, swollen feet</td>
<td>Underside of thighs compressed against chair seat</td>
<td>Use footrest or reduce desk and chair height.</td>
</tr>
<tr>
<td>Headaches</td>
<td>Posture, visual problems, noise, stress, glare, work load</td>
<td>Rearrange work area; re-direct traffic; screen filter; close blinds; shut door; vary tasks; take micro pauses; smooth out work flow; reduce time on computer; eye test.</td>
</tr>
<tr>
<td>Eye fatigue, temporary short sightedness</td>
<td>Visual problems, screen too close, poor image quality, glare, screen reflections</td>
<td>Rearrange work area; screen filter; close blinds; vary tasks; take micro pauses; eye test.</td>
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Office Stretches

- Try to stretch after spending periods of time in static positions (i.e. carrying, driving, sitting).
- Try to stretch after completing repetitive movements (i.e. lifting, collating, marking).
- Break up tasks by alternating heavy work with other work tasks which don’t require repetitive movements or maintained postures.
- Take regular stretching breaks (a few minutes every hour).
- Hold stretches for 10 seconds.
- Stretches should feel comfortable. If you do feel discomfort or pain, discontinue and consult your doctor/physio.

**Upper back stretch**
Place hands behind your head and open your elbows to the side as far as you can.

**Shoulder stretch**
Stretch arm across front of body, cradle elbow with hand and gently pull elbow towards opposite shoulder. Avoid twisting.

**Lower back stretch**
Support lower back with hands and lean backwards while lifting chest. Relax and return to starting position.

**Shoulder stretch**
Stretch arm above head, cradle elbow with hand and gently pull elbow behind head.

**Chest stretch**
Grasp hands behind back, push chest out and push arms upwards and backwards.

**Neck stretch (Pendulum)**
Lean left ear towards your shoulder without moving your shoulder. Repeat with right.
**Wrist stretch**

Standing with your arms down in front of you make a soft, loose fist with your right hand. Keeping your elbow straight, bend the wrist and fingers so this hand is within your left hand and you can feel a stretch in the front of the forearm – count to 10. Change arms and repeat 3 times with each hand.

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Department of Consumer and Employment - Government of Western Australia, Occupational Overuse Syndrome Keyboard Operators: Reducing the risk

Pause Gymnastics Participants Handbook, Amanda Gore and David Tasker: CCH Australia Ltd

Ergonomics in Australia

CRS Rehab Services, Commonwealth Rehabilitation Service

**Injury Management Website - Charles Sturt University**