MONASH University

AS/NZS 4801, OHSAS 18001
OHS20309
SAI Global

COMPUTER USER GUIDELINES

May 2011

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1. PURPOSE

The purpose of these guidelines is to provide guidance for the ergonomic use of computers in accordance with the requirements of the Occupational Health and Safety Act (2004), the Occupational Health and Safety Regulations (2007), and OHSAS 18001:2007 Occupational Health and Safety Management System- requirements

2. SCOPE

These guidelines apply to staff, students, visitors and contractors at the Australian campuses of Monash University and to Monash controlled entities.

3. COMPUTER USER GUIDELINES

STEP 1: Adjust your chair	
Adjust your chair in 90 seconds (mp4 8100kb)	
Set backrest height · Move the backrest to locate the lumbar support to the curve in your lower back. · Lock the backrest into place. · Some chairs have a ratchet system to adjust the lumbar support, users may count the number of adjustment clicks to obtain the correct position.	
Set the backrest angle · Use your body weight to lean back against the backrest. Depress the control lever to enable the backrest to change angle. · Provide a full support to your back when doing computer work. · Use the chair backrest to provide different postures, eg angle back when chatting on the phone, talking to visitors, and reading. ***Note:*** Frequent posture changes encourage blood flow to different muscle groups, which helps minimise back fatigue when sitting for prolonged periods.	

Set the seat height

Option 1: With a non-adjustable desk

- Raise/lower the seat to enable the desk height to be at your elbow height.

Note:

- If you are a 'touch typist' you may sit slightly higher.
- If you are not a touch typist, you may sit slightly lower than elbow height. This helps relieve neck fatigue as you frequently look between the keyboard and monitor.
- Use a foot rest if you feel pressure under your thighs from the front edge of the seat.
- A foot rest is also useful to address lower back fatigue when sitting for long periods. Pushing your feet into the footrest helps to push your back into the angled backrest of the chair.

Option 2: With an adjustable height desk

- Lower your chair seat to rest your feet on the floor and to relieve any pressure on the underside of your thighs from the front edge of the chair.
- Lower the desk height to your elbow height when you are seated on the chair.

Note:

- See Notes from Option 1.
- If your keyboard shelf adjusts separately from the desk be careful not to create a height difference between your keyboard and mouse. This may create a 'mouse shoulder' problem by having to frequently elevate your arm to use the mouse.
- If 'mouse shoulder' is of concern, raise the keyboard to the height of the fixed desk, then follow guidance in Option 1.

STEP 2: Position your keyboard and mouse

Both these items are used frequently and are to be located on the desk in the primary reach envelope (see Fig.1)

Keyboard

- **Touch typists** should locate the keyboard close to the desk edge.
- **Non-touch typists**

Option 1

Locate the keyboard around 10cm in from the desk edge, which enables:

- o desk space to rest the hands when not typing;
- o reduced neck angle when looking between the keyboard and monitor.

Option 2

Locate the keyboard nearly a forearm's length from the desk edge. This enables the forearms to rest on the desk when not typing and to glide over the desk when typing.

Option 3

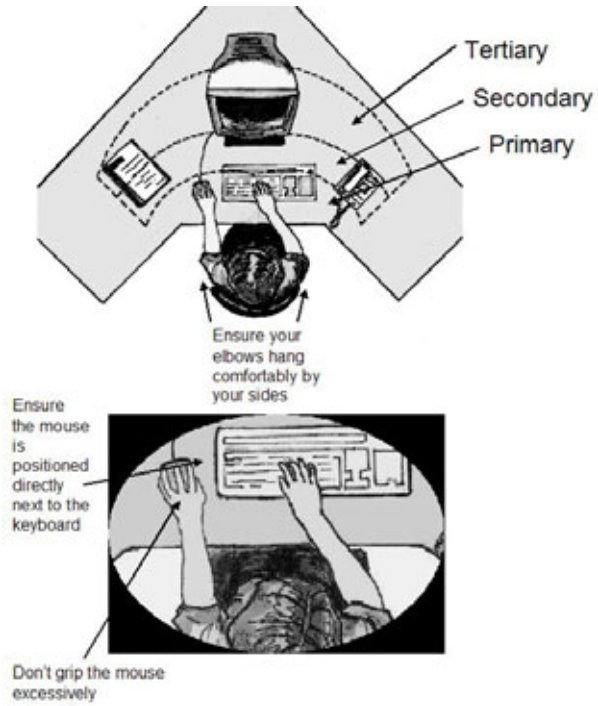
- o Locate the keyboard at forearm's length into the desk;
- o Sit close to the desk edge;
- o Stabilise forearms on the desk to relax the shoulders then "glide" them over the desk when typing;
- o Lean back into the backrest angled slightly back rather than vertical;
- o Elevate the toes onto a footrest or similar. This results in greater use of the backrest support of the chair.

Note:

Check that your typing technique does not involve:

- subtle elevation of your shoulders;
- holding your hands up with bent wrists;
- resting your wrists on the desk and angling your wrists;
- 'wrist rests' are generally not required with the modern slim line keyboards. However, some users find that they do prevent them typing with bent wrists. In these cases, they are beneficial.

Fig.1



Mouse

- The mouse should be located in the primary reach envelope.
- The elbow should remain bent when reaching for the mouse.
- Your forearm should rest on the desk when your hand is on the mouse. It should glide over the desk when using the mouse.

Note:

Your wrist should not be the contact point between your arm and desk when using the mouse.

- Try to train yourself to use the mouse with either hand.
- Learn keyboard shortcuts for 10-20 frequent mouse activities to reduce your use of the mouse.
- When primarily using the mouse, locate it directly in front of you and use your other hand for minor keyboard corrections.
- Do not continue to grip the mouse when it is not in use. Do not 'hover' your hand over the mouse, rest your hand in a comfortable position.
- Consider a shortened keyboard without the number pad to reduce stretching for the mouse

Note:

The use of a 'wrist rest' with a mouse may eliminate poor technique and outstretching of the arm, but a wrist rest is generally not required due to it encouraging lateral movement of the wrist.

STEP 3: Position your computer monitor

Option 1: Flat LCD Screen

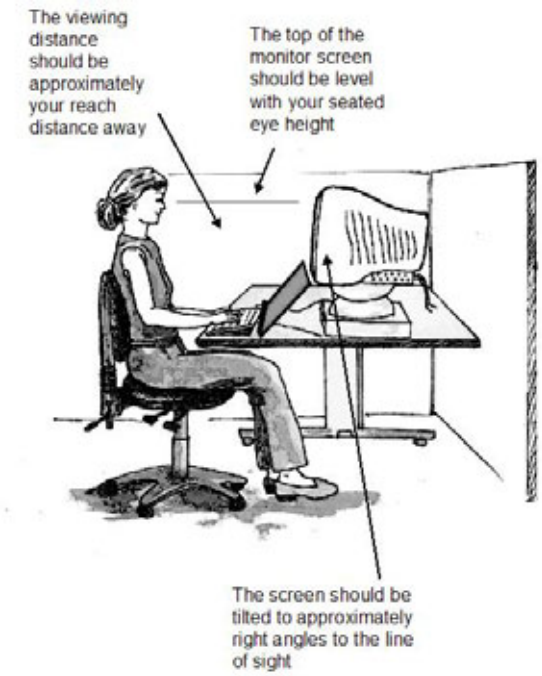
- You can locate the screen on any of the L-shaped desk surfaces that are over 750mm deep.
- Ensure the keyboard is located directly in front of the keyboard and LCD screen.
- If required, elevate the LCD screen so the top of the screen is at eye level of the user.

If using dual screens, determine the percentage use for each screen, and this will determine the positioning in order to minimise neck movement e.g. If the screens are used, at a ratio of 80-20% then the majority used screen should be in line with the user and the others slightly off-set. Alternatively purchase one wide screen and split the screen.

Option 2: Conventional CRT monitor

If you have a conventional CRT monitor:

- Locate it:
  - at the apex of an L-shaped desk, parallel with the keyboard location; or
  - on either of the side surfaces of the desk; or
  - on a rectangular desk, as long as the surface is over 900mm deep.
- Elevate the monitor until the top of the picture tube is approximately the same height as your seated eye height.
- Push the monitor back until the face of the monitor is at least a full arm's length away from your seated position. This can be slightly more if using a large monitor.



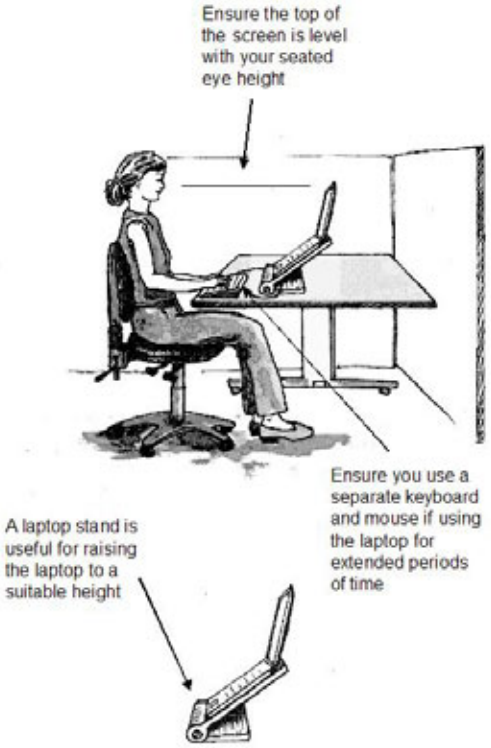
Option 3: Laptop

If you use a laptop for more than 2 hours per day, you should either:

- locate the laptop on a stand to elevate the screen to eye height. Use a separate keyboard and mouse; or
- use the laptop keyboard, separate mouse, and a separate, elevated conventional monitor; or
- use a full docking station to create Option 1 arrangements.

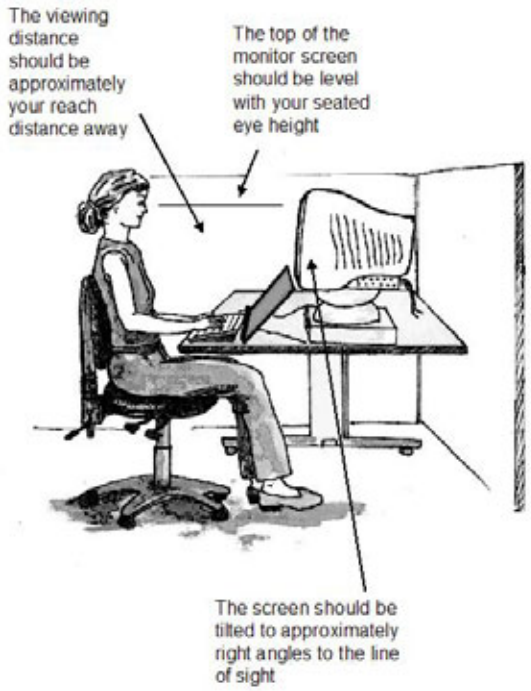
Note:

- Don't use continuously for more than 30 minutes at a time.



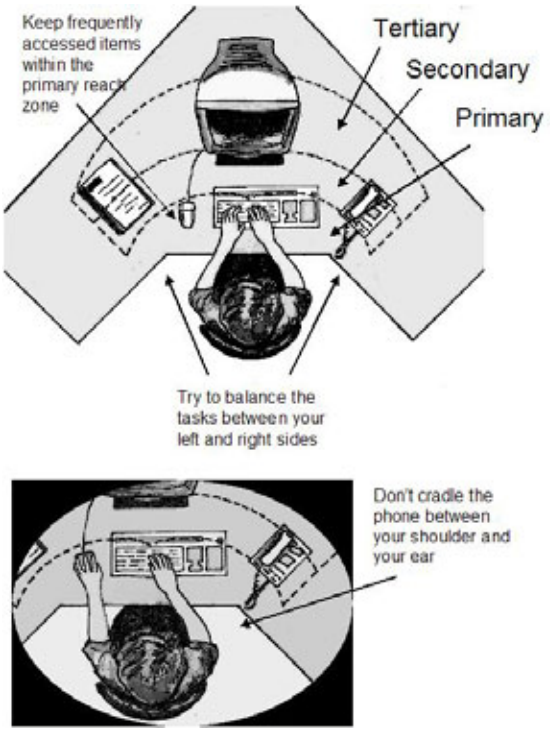
STEP 4: Position documents used with the computer

- A document holder is recommended to minimise twisting & straining of the neck muscles when referring to documents.
- Place document/s on a document holder positioned behind the keyboard, and in front of the monitor stand.



STEP 5: Positioning the telephone

- Consider locating the telephone on your non-dominant side of the computer. However, do not reach across your body to answer the phone, use your non-dominant hand.
- If the telephone is frequently used, locate it in the primary reach envelope.
- If you have frequent or prolonged telephone calls, consider using a headset.



STEP 6: Safe work practices

- Remember that your muscles need regular movement to generate good blood flow. Sitting for long periods is not good for your health.
- Change postures frequently and stand up, preferably every 30 minutes.
- Short breaks more often are better for your body than longer breaks less often.
- 'Listen to your body'. If your muscles are feeling fatigued, stop the activity and stretch. This generates blood flow and avoids a build up of fatigue.
- Remember, your muscles tense when you are feeling stressed and can also feel fatigued. Take control of your activities to avoid the stress factors that produce muscle fatigue.
- Roles that involve prolonged static positions and or repetitive tasks should be modified where possible. A risk assessment using the Monash University Risk Management Program (pdf 385kb) should be conducted to identify hazardous tasks and to determine appropriate controls.

4. EXERCISES FOR OFFICE BASED WORKERS

STOP, S-T-R-E-T-C-H AND CHECK!

- **Stop if you feel discomfort when performing an action. Discuss with your treating doctor.**
- Do a few of these exercises a few times every day.
- Dots show the muscles that you are exercising.
- Make sure you relax and perform them gently.
- Hold the stretch or repeat as indicated on the diagram.
- Do not over-stretch.
- Remember to do each side.

While you are exercising, read the notes alongside each instruction and consider whether your workstation is adjusted to suit you.

NECK

Exercise 1: Head rolls

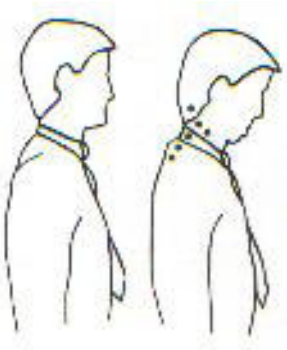
Gently lower ear to shoulder and hold for 10 seconds. Slowly roll chin to chest and up to other shoulder and hold for 10 seconds. Repeat several times and be careful not to extend your neck back too far.

Exercise 2: Head turns

Turn head slowly to look over left shoulder and hold for 10 seconds. Turn head the other way and hold for 10 seconds. Repeat several times.

Exercise 3: Chin tucks

Raise the head to straighten the neck. Tuck the chin in and upwards creating a double chin. This also results in a forward tilt of the head. Hold for 10 seconds and repeat several times.



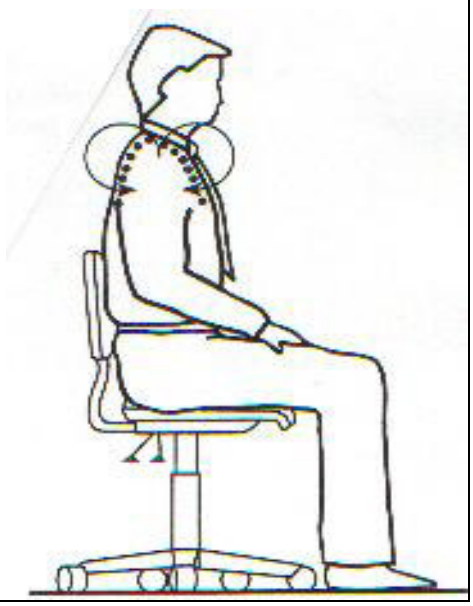
Check neck posture

- Position the top of your screen at eye level.
- Use a document holder directly beside or below the screen – it saves you looking down.

SHOULDERS

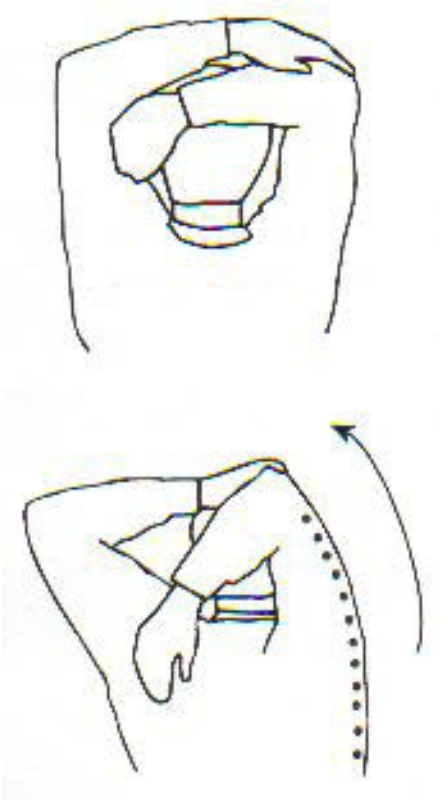
Exercise 4: Shoulder rolls

Circle shoulders forward several times, then backwards. Repeat 3 to 5 times.



Exercise 5: Shoulder stretch

Stretch arm above head, cradle elbow with hand and gently pull elbow behind the head.
Hold for 10 seconds and repeat several times.



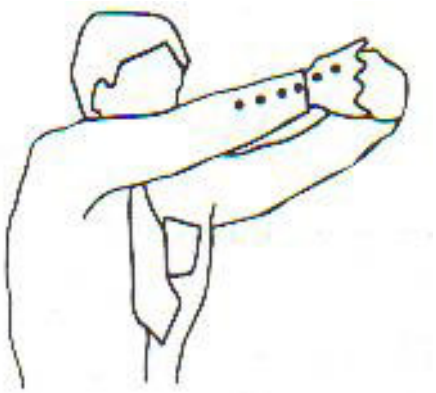
Check shoulder posture

Relax your shoulders and rest your hands on your lap. Bend your elbows to 90 degrees and check the height of your finger tips against your current work height. If the work (keyboard or desk) is higher than your hands you may be hunching your shoulders unnecessarily. If so, try and raise your chair height or lower your desk height and try and relax your shoulders while working.

WRIST, HANDS AND ARMS

Exercise 6: Wrist stretch

Interlace fingers, palms outward, and straighten arms in front. Hold for 10 seconds and repeat several times.



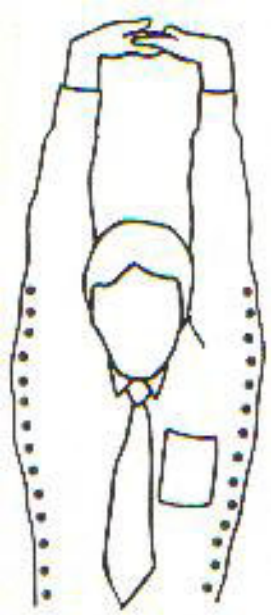
Check hand and wrist posture

- ¾ While keying keep your wrist straight while your fingers are suspended over the keyboard.
- ¾ Keep elbows at keyboard level. This may mean adjusting the desk or chair height.
- ¾ Don't rest your wrists on the desk or keyboard while keying. Keep hands suspended.
- ¾ Rest on the desk between periods of keying.

UPPER AND LOWER BACK

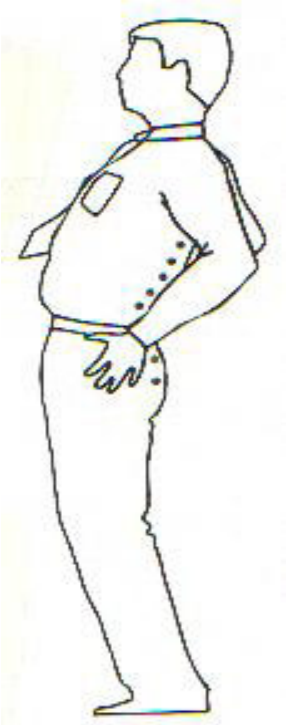
Exercise 7: Upper and lower back stretch

Interlace fingers and turn palms upward above head; straighten arms, then slowly lean slightly from side to side.
Repeat movement several times.



Exercise 8: Back arching

Stand up. Support lower back with hands and gently arch back. Gently arch back and hold for 5 to 10 seconds.
Repeat as often as is needed.



Check back support

- ¾ Sit well back in your chair. If your feet need support, use a foot rest.
- ¾ Adjust the back rest on your chair to support your lower back.

LEGS

Exercise 9: Foot rotation

Hold onto the chair with hands either side. Straighten leg and lift foot a few centimeters off the floor. Rotate foot and ankle both ways (point toes up) and extend (point toes down). Repeat several times per foot.

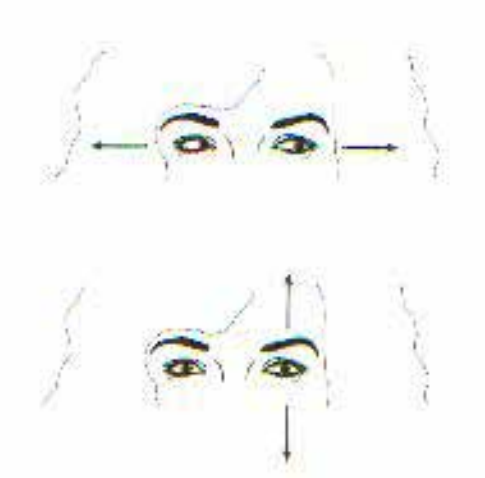
Check leg comfort

- ¾ If the seat of your chair is digging into the back of your thighs, check that it is not too high or that it is not tilted backwards.
- ¾ If the seat is too high, lower the chair and desk or use a foot rest to support your feet.
- ¾ Check the tilt of the seat and, if necessary, adjust it to a horizontal position.

EYES

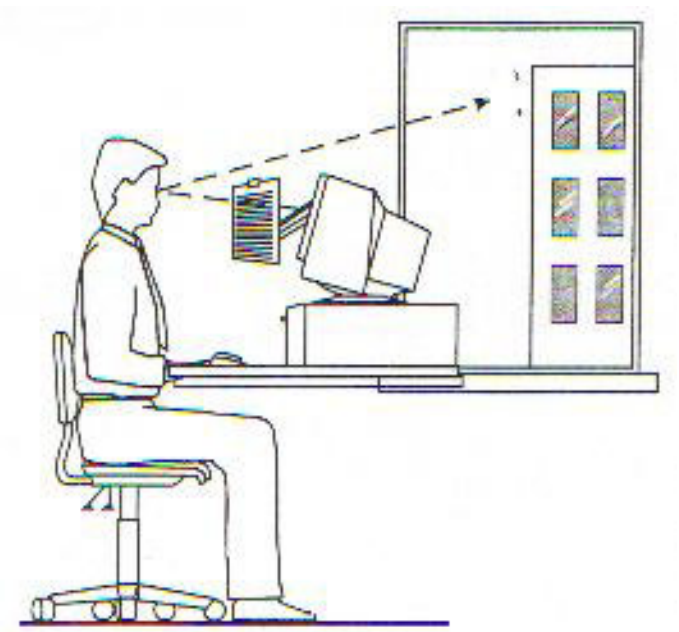
Exercise 10: Eye exercise

Sit up straight, face forward and repeat this sequence several times without moving head.
Look up, then down. Look left, then right.



Exercise 11: Visual rest

Look up and away from the screen; focus on a distant object (more than 3 metres away). For example, look out of the window or at a picture on a far wall.
Shift vision back to screen and refocus.



Check eye comfort

- ¾ Is there enough light falling on your documents?
- ¾ Do windows or light fittings cause glare or reflection on the screen? If so, try turning the screen or blocking the path of the light.
- ¾ Use a screen with a light background when working with text. Software with a light background for text is more comfortable for the eyes.

5. FURTHER INFORMATION

If you have any further ergonomic issues:

- Refer to the video Adjust your chair in 90 seconds (mp4 8100kb)
- Consult ask.monash – frequently asked questions
- Ask your safety officer to assess the ergonomics of your workstation
- If your safety officer is unable to assess the ergonomics of your workstation or requires further advice or assistance, contact your local OHS&E Consultant, who will provide an ergonomic assessment of your work area. Staff or postgraduate students with specific medical concerns may be referred to the Occupational Nurse Consultants or the Occupational Health Physician.

6. RECORDS

Record to be kept by	Records	To be kept for:
Academic/administrative unit/ controlled entity	Ergonomic assessments	5 years
	Risk assessments	3 years or until reviewed
Occupational health and safety branch	Ergonomic assessments	5 years
Occupational health and safety health team (confidential files**)**	Medical consultation records	Indefinitely

7. ACKNOWLEDGEMENTS

- Guidelines prepared for Monash University by David Caple, Director, David Caple & Associates Pty Ltd
- The exercises have been taken from 'Officewise - A Guide to Health and Safety in the Office' (October 2001, 2006) with permission of the Ergonomics Unit, WorkSafe Victoria

8. REFERENCES

Legislation

Occupational Health and Safety Act 2004 (Vic)
Occupational Health and Safety Regulations 2007 (Vic)
DDA (Disability Discrimination Act) Guideline On The Application Of Premises Standards 2011

Australian and international standards

AS/NZS 4801:2001 Occupational Health & Safety Management Systems – specifications with guidance for use.
OHSAS 18001:2007 Occupational Health & Safety Management Systems – requirements.

Monash University OHS Documents

Monash University documents are available from the Occupational Health and Safety website www.monash.edu.au/ohs

Computer workplace design guidelines (pdf 243kb)
Procedures for OHS Consultation (pdf 137kb)

WorkSafe Victoria documents

Officewise - A Guide to Health and Safety in the Office (October , 2006)