

Reducing the risk of work-related discomfort during clinical procedures

Information for Clinical Supervisors

There is evidence that undergraduate optometry students experience work-related discomfort (WRD) associated with clinical procedures¹. This document provides practical guidance to assist clinical supervisors:

- Identify postures and techniques which increase student's risk of WRD.
- Provide advice to students which will reduce their risk of experiencing WRD.

A video "Reducing the risk of work-related discomfort in the consultation room" is available at <https://thebox.unsw.edu.au/video/reducing-the-risk-of-work-related-discomfort-in-the-consultation-room1>. This video demonstrates some of the information contained in this guidance sheet. Students have been instructed to watch this prior to attending clinical classes.

1. Student comfort versus patient comfort

Although it is important that patients are comfortable during an eye examination, students tend to rate their patient's comfort as more important than their own comfort when performing clinical procedures ($p < 0.01$)¹. This has implications for the student's immediate comfort as well as for their lifetime risk of developing WRD.

If you notice a student performing a clinical technique which places them at risk of WRD, please discuss the issue with them and suggest alternative ways to perform the technique.

2. Contributing factors to WRD

Five factors which can contribute to WRD in the consultation room include:

- Twisting your torso
- Bending forward
- Bending sideways
- Stretching your arms for sustained periods
- Extending your wrist backwards

Table 1 gives examples of how these factors apply to some optometry clinical procedures.

3. Other factors which can contribute to WRD

- Students often take longer than experienced optometrists to perform clinical techniques and may adopt awkward or sustained postures for long periods of time e.g. holding their arm outstretched to gain a view of the fundus during binocular indirect ophthalmoscopy. It is important to remind students of rest breaks for their own comfort as well as for their patient's comfort.
- If students are assigned to consecutive clinics, then they may only have a short time to eat their lunch or have a break from clinical work. While it can be difficult to make students work faster, one strategy is to set a shorter deadline for completion of the consultation with the promise that they can leave the

clinic earlier and have a break (e.g. if the clinic is scheduled to finish at 1pm, instruct the student to finish the consultation by 12.30pm).

- There are several items of equipment which students personally own and need to transport to and from the clinic. Sometimes the equipment is bulky and/or heavy, and if carried incorrectly can increase the student's risk of WRD. If you notice a student adopting an awkward posture while carrying equipment, talk to them and discuss alternative strategies e.g. using a bag with wheels, using a backpack, making multiple trips instead of one trip.

4. Further information

If you require further information about WRD, email Dr Jennifer Long at j.long@unsw.edu.au

Other resources which you might find useful include:

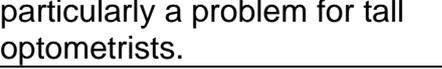
- *Optometry Australia Practice Note: Working comfortably in the consultation room: Guidance for employee, locum and sessional optometrists*, available from <http://www.optometrists.asn.au/>
(Follow the path For Optometrists-Professional Practice-Practice Notes. Log in required)
- *Optometry Australia Practice Note: Working comfortably in the consultation room: Guidance for practice owners, employers and managers*, available from <http://www.optometrists.asn.au/>
(Follow the path For Optometrists-Professional Practice-Practice Notes. Log in required)
- *Optometry Australia (NSW Branch) podcast "Consulting room comfort" (5th February 2014)*, available from <http://www.oaansw.com.au/podcasts.html>

References

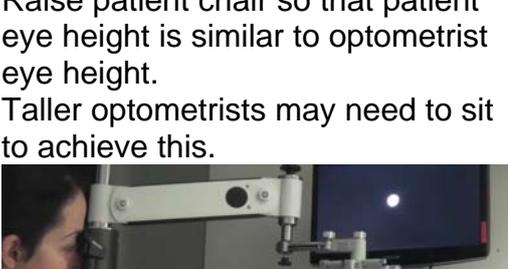
- 1 Long J, Ko Y, Lau C, Burgess-Limerick R, Stapleton F. Developing strategies for reducing work-related discomfort in optometry students. *Ergonomics Australia - HFESA 2011 Conference Edition 2011*; 11: 6 pages. Available from http://www.ergonomics.org.au/resource_library/journal

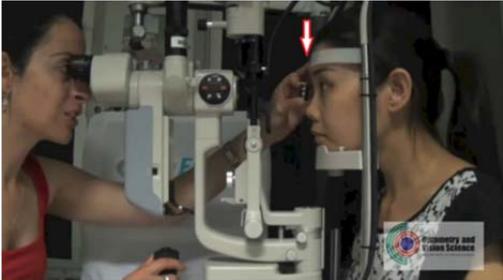
Table 1. Optometry clinical procedures and common postures which can contribute to WRD. Please note: this is not an exhaustive list - you may observe other procedures which you can discuss with students.

Posture which can contribute to WRD	Example of clinical procedure when this can occur	Remedy
Twisting the torso	<p>Twisting in chair to speak with patient when writing notes for a patient history.</p> 	<p>Change orientation of record card on desk to reduce torso twist.</p> 
Twisting the torso	<p>Twisting in chair to speak with patient when using the computer for a patient history.</p>  <p>NOTE: The orientation of the computer and keyboard in the following photograph is appropriate if the optometrist is typing reports for extended periods of time.</p> 	<p>Change the orientation of the keyboard and monitor on the desk to reduce torso twist.</p> 

Posture which can contribute to WRD	Example of clinical procedure when this can occur	Remedy
Twisting the torso	Sitting with legs 90 degrees to torso (i.e. in a “modesty pose”) when performing slit lamp, seated refraction or when using hand held equipment. 	Sit with legs in a less twisted posture 
Bending forward	Standing when looking through the slit lamp eyepieces 	Sit when using the slit lamp 
Bending forward	Patient chair is too low e.g. when using direct ophthalmoscope or Perkins tonometer. 	Raise the patient chair 
Bending forward	Patient height is too low for standing refraction. This is particularly a problem for tall optometrists. 	Raise the patient chair height or consider seated refraction. 

Posture which can contribute to WRD	Example of clinical procedure when this can occur	Remedy
Bending forward and sideways	This is particularly a problem for tall optometrists when trying to view the superior fundus during Binocular Indirect Ophthalmoscopy	Recline the patient chair for a view of the superior fundus 
Bending sideways	To reach controls on the chair and stand	Bend the knees and reach forward 
Extending the wrist backwards	Using a touch screen when inputting information 	Adopt a more neutral wrist posture (i.e. not flexed backwards) 
	Extending the wrist backwards can also occur when using electronic refractor interfaces.	Or if the device allows, adjust the screen tilt so that the wrist does not need to extend backwards.

Posture which can contribute to WRD	Example of clinical procedure when this can occur	Remedy
Arms outstretched for prolonged periods	Refraction, especially if only working on one side of the patient	Consider working bilaterally i.e. stand on right side of patient when refracting right eye and left side of patient when refracting left eye
		
	NOTE: This applies to both standing and seated refraction.	
Arms outstretched for prolonged periods AND bending sideways /twisting torso	Retinoscopy, especially if the patient height is too low.	<p>Other points to consider:</p> <ul style="list-style-type: none"> - Stand closer to the patient (without touching them!) to minimize reach - Stand facing the patient to minimize twisting your torso.
		<p>Raise patient chair so that patient eye height is similar to optometrist eye height. Taller optometrists may need to sit to achieve this.</p> 

Posture which can contribute to WRD	Example of clinical procedure when this can occur	Remedy
<p>Arms outstretched and unsupported for prolonged periods</p>	<p>Holding a funduscopy or gonioscopy lens with the arm unsupported. Epilation with the arm unsupported.</p> 	<p>Consider supporting the elbow with an object such as the lens case or tissue box, or using the fingers as an anchor on the slit lamp forehead rest.</p> 
<p>Arms raised above shoulder height for prolonged periods</p>	<p>Refraction, retinoscopy, using hand held equipment.</p> <p>The risk of discomfort is compounded when:</p> <ul style="list-style-type: none"> • The arms are outstretched • The hand or wrist is held in an awkward posture • Twisting the wrist or hand • The task requires a steady hand position or fine motor control. 	<p>Stand instead of sit OR raise patient chair height.</p>