

## Case 1

27-year-old, Male, Police Officer


Date	Clinical details	Description
Sept 2020	Reason for appointment + <i>Ocular History</i>	<ul style="list-style-type: none"><li>• Wants to discuss optical options for his 'lazy eye'</li><li>• Has recently changed careers into the Police force and requires good vision out of both eyes.</li><li>• Currently wearing single vision distance spectacles.</li></ul>
	<i>Unaided vision</i>	R 6/30=, L 6/24-
	<i>Spectacle refraction</i>	R -2.75 / -1.50 x 114 (6/4=) L +1.00/ -1.75 x 93 (6/15+)
	<i>Pachymetry</i>	R 417 microns, L 357 microns
	<i>Corneal tomography</i>	See over
	<i>Posterior Ocular health</i>	Unremarkable
	<i>Management</i>	<ul style="list-style-type: none"><li>• Discussed keratoconus and its natural history</li><li>• Discussed vision correction options.</li><li>• Soft contact lens for right eye. Scleral lens for left eye.</li></ul>

### Discussion questions

1. How would you describe this patient's keratoconus?
2. What refractive options would be available to this patient?
3. What other clinical investigations would you carry out for this patient?
4. Have you seen any patients similar to this case in your own clinical experience?
5. What trial contact lenses would you order?


Corneal tomography right eye

**Cornea Front**



R1: 8.52 mm  
 R2: 8.23 mm  
 Rax: 8.37 mm  
 OS: OK  
 Axis (steep): 19.8°  
 Astig: 1.4 D  
 Q-val: (Rms): 8.18  
 Rpec: 8.06 mm  
 Raxis: 7.22 mm  
 K1: 38.6 D  
 K2: 41.8 D  
 Kac: 40.3 D  
 Raxis: 7.22 mm

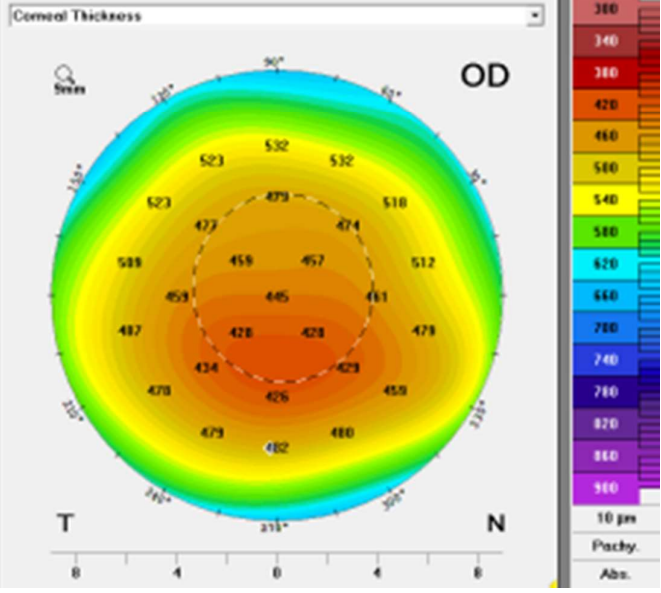
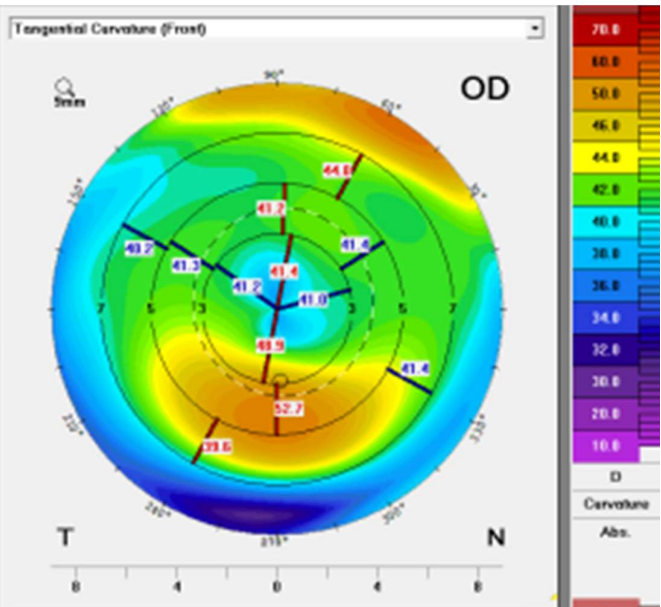
**Cornea Back**



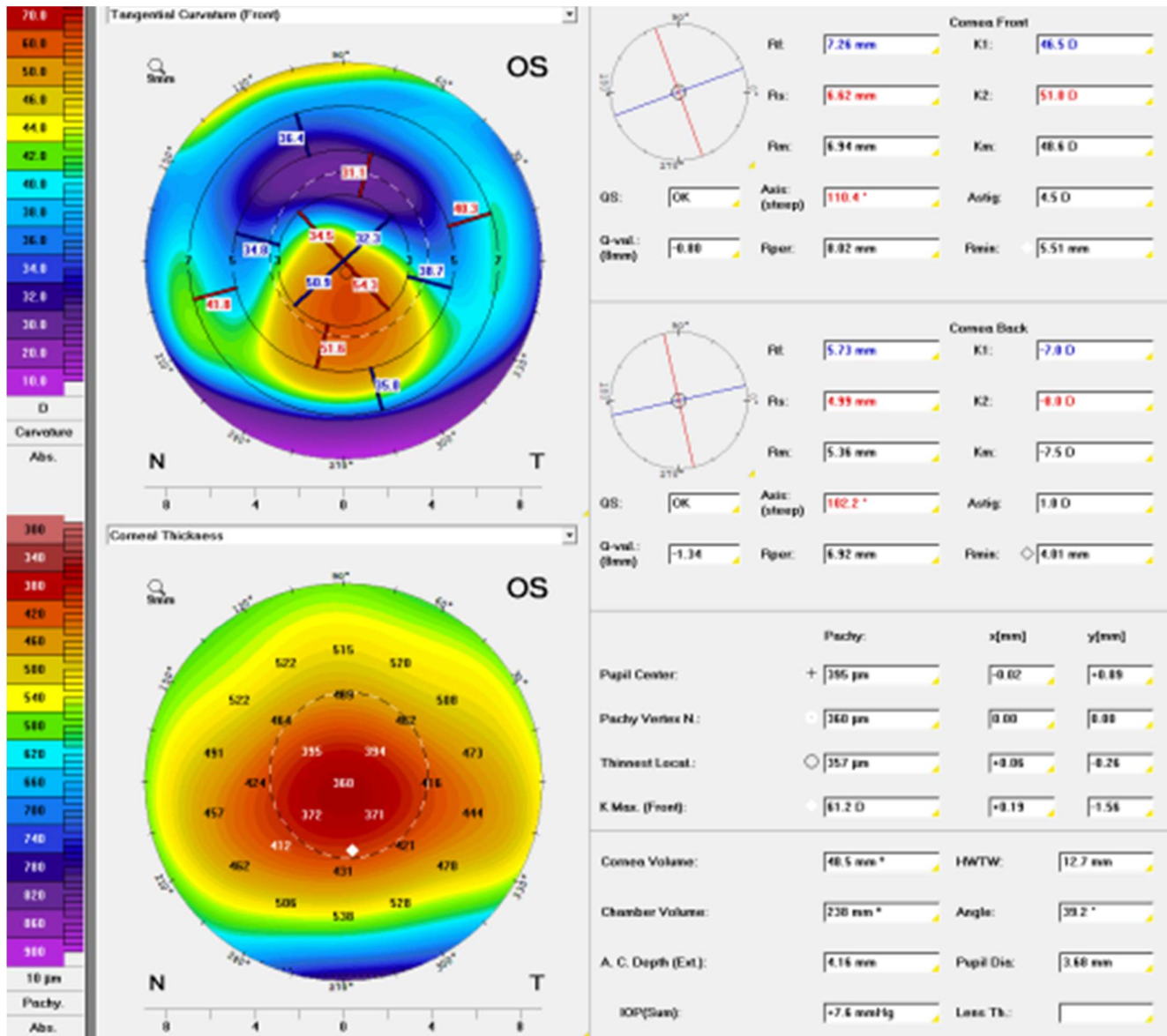
R1: 7.93 mm  
 R2: 7.33 mm  
 Rax: 7.58 mm  
 OS: OK  
 Axis (steep): 11.4°  
 Astig: 0.4 D  
 Q-val: (Rms): 8.47  
 Rpec: 6.75 mm  
 Raxis: 5.81 mm  
 K1: 5.1 D  
 K2: 5.5 D  
 Kac: 5.3 D  
 Raxis: 5.81 mm

	Pachy:	x(mm)	y(mm)
Pupil Center:	+ 448 µm	+0.12	+0.14
Pachy Vertex N.:	445 µm	0.00	0.00
Thinnest Locat.:	417 µm	+0.06	-1.43
K Max. (Front):	46.8 D	-0.13	-3.85

Cornea Volume:	49.3 mm <sup>3</sup>	HMW:	12.7 mm
Chamber Volume:	243 mm <sup>3</sup>	Angle:	46.7°
A. C. Depth (Ext.):	4.94 mm	Pupil Dia:	3.66 mm
ICP(Sun):	+4.2 mmHg	Lens Th.:	



Corneal tomography left eye

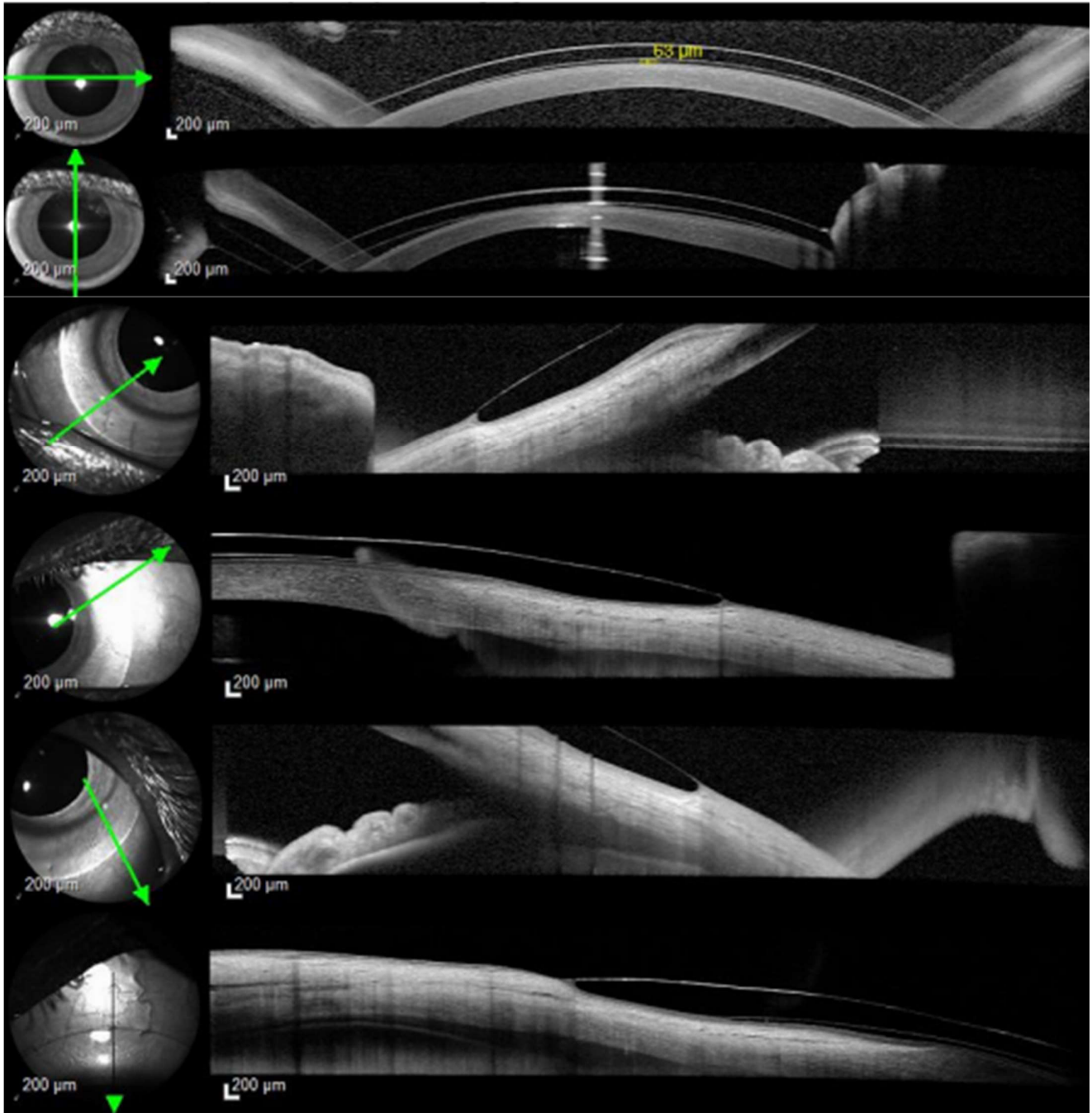


Date Clinical details Description	
Sept 2020 Reason for appointment +	• Scleral lens fitting for left eye
Ocular History	
Trial lens Right eye: Acuvue Moist	
	-3.75/-0.75x110
	Left eye: EyeSpace trial lens 2
	7.90/ 3900/ 39/ 17.50 (flat axis)
	7.90/ 4050/ 40/ 17.50 (steep axis)
	BVP = -2.00D
	Note: lens parameters written in following notation
	BOZR (mm)/ SAG@15mm (microns)/ SLZ (°)/ Diameter (mm)
Refraction over lens on	R plano (6/5)
eye	L +1.25DS (6/5=)
OCT of trial lens	• See over

**Discussion questions:**

1. How do you go about selecting a scleral trial lens?
2. Which parameters of the trial lens do you need to assess to calculate the final lens?
3. What would you adjust from the trial lens fit?

OCT of trial lens



Date	Clinical details	Description
Oct 2020	Reason for appointment + Ocular History	• Scleral lens delivery
	Refraction over lens	<p>Lens parameters Left lens:</p> <p>7.6/ 4150/ 38/ 17.5</p> <p>BVP = -3.00D</p> <p>Note: lens parameters written in following notation BOZR (mm)/ SAG@15mm (microns)/ SLZ (°)/ Diameter (mm)</p>
	OCT of lens	See below

