

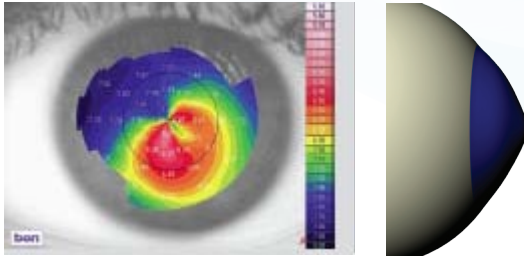
Fitting Manual Example: CENTRAL KERATOCONUS

Steep Periphery (STP)

History

Patient diagnosed with keratoconus four years previously. Wore GP lenses but became intolerant and is being evaluated for a custom soft lens for her left eye.

Identifying Corneal Shape



Central Keratoconus Steep Periphery Mild

Spectacle Rx:	+0.25 -2.75 x 105 VA 20/50
Sim Ks (D):	7.32mm x 6.78mm (46.12D x 49.75D)
Steepest curvature (Inf):	6.34mm (53.25D)
Flattest curvature:	7.93mm (42.50D)
Curvature of 'green area':	7.30mm (46.25mm)
Corneal Astigmatism:	-4.98D x 141 @ 3mm -3.48D x 143 @ 5mm

The cornea demonstrates reasonably normal K readings and a low spectacle Rx but results in a decrease of visual acuity. This is typical of mild central ectasia, as any distortion over the visual axis impacts VA. The topography has a pattern similar to low cones or Pellucid Marginal Degeneration but the central location of the steep area confirms keratoconus. The curvature of the "green" area and the flattest curvature value show that this cornea has a relatively steep periphery

Conclusion: This corneal shape is consistent with mild central keratoconus with a steep periphery.

Initial Lens Choice

While this is mild keratoconus, the cornea has a relatively steep overall profile. The suggested Initial Lens Choice for this type of cornea is 8.60mm base curve/STD.

MoRoCCo VA findings for 8.60mm base curve/STD

Lens assessed within the first 5 minutes

Movement:	More than 2.00mm post blink
Rotation:	10° clockwise and unstable
Centration:	Centered but drops to limbus on upward gaze
Comfort:	Comfortable
VA:	Over-refraction: Plano -2.50 x 135 VA 20/25+, stable after the blink

Conclusion: Lens appears to be flat based on movement, centration and rotation

Action: Try a 8.40mm base curve/STD diagnostic fitting lens

Fitting Manual Example: CENTRAL KERATOCONUS

Initial Lens Choice (continued)

MoRoCCo VA findings for 8.40mm base curve/STD

Lens assessed within the first 5 minutes

Movement:	2.0mm post blink
Rotation:	Stable at vertical position
Centration:	Centered on straight ahead and upward gaze
Comfort:	Comfortable
VA:	Visual acuity slightly clearer after the blink: Plano -2.50 x 135 VA 20/25+

Conclusion: Based on VA results this lens provides good peripheral fit but is tight centrally

Action: Order lens with 8.60mm base curve, STP1 periphery and above over-refraction

MoRoCCo VA findings for ordered 8.60mm base curve/STP1

Lens assessed within the first 5 minutes

Movement:	2.0mm post blink
Rotation:	Stable at vertical position
Centration:	Centered on straight ahead and upward gaze
Comfort:	Comfortable
VA:	20/25+

Discussion Points:

- In this case, the decision to steepen the periphery was guided by the fact that the laser mark was vertical with the 8.40mm lens and all other MoRoCCo VA fit characteristics were optimal except for vision being clearer after the blink, which indicated a slightly steep fit
- Flattening this base curve only introduces too many flat fit characteristics
- Combining the central fit of the 8.60mm lens with the peripheral fit of the 8.40mm provides the optimal fit and best visual acuity

NOTE: Do not steepen the periphery in order to tighten a fit. This may result in an improved fit inferiorly but may cause the lens to tighten over the flatter superior cornea.