

Fitting Manual Example: REFIT FROM GP

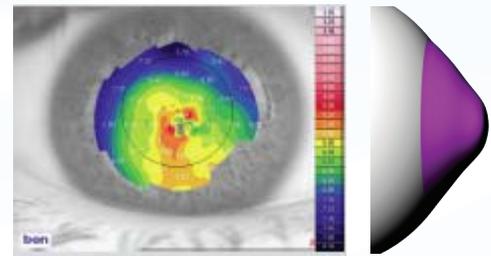
Flat Periphery (FLT)

History

Patient is unable to wear GP lenses after 18 years. The practitioner explained that it might take several months for the cornea to return to its natural ectasia. GP lens has power of -12.50D (VA 20/30) with central touch and with resultant punctate staining.

Identifying Corneal Shape

Spectacle Rx:	-10.00 -1.50 x 103 VA 20/80
Sim Ks (D):	5.93mm x 5.58mm (57.00D x 60.50D)
Steepest curvature (Inf):	5.93mm (57.00D)
Flattest curvature:	7.70mm (43.75D)
Curvature of 'green area':	6.47mm (52.12D)
Corneal Astigmatism:	-3.50 x 162 @ 3mm -2.59 x 165 @ 5mm



Central Keratoconus Flat Periphery Moderate

The spectacle refraction, spectacle VA, and K readings all suggest a moderate central keratoconus. Topography demonstrates there might be peripheral flattening, as did observation of the corneal profile. Possibly long term GP wear has caused changes in corneal topography with full peripheral information unable to be obtained.

Conclusion: Corneal shape is consistent with moderate central keratoconus.

Initial Lens Choice

For central ectasias, the Initial Lens Choice suggestions are the 8.60mm base curve/STD, 8.20mm base curve/STD or 8.00mm base curve/FLT2 lens. If there is any doubt on the peripheral corneal shape, start with the 8.00mm base curve/STD lens.

MoRoCCo VA findings for 8.60mm base curve/STD

Lens assessed within the first 5 minutes

Movement:	Very little movement and air bubble at nasal, inferior position
Rotation:	15° clockwise and stable on straight ahead and upward gaze
Centration:	Centered
Comfort:	Comfortable
VA:	Over-refraction: -11.50 -1.00 x 180 VA 20/40, clearing after the blink

Conclusion: The stable rotation indicates the lens is a tight fit and the position of the bubble suggests it is tight at the periphery, rather than centrally. This confirms the suspicion that the peripheral cornea is relatively flat compared to the central area.

NOTE: The bubble disappeared after 10 minutes wear. As up to 10° rotation is acceptable for a good fit, the clue that the lens was tight in the periphery may have been missed if the lens had not been assessed within 5 minutes.

Action: Remove lens and insert the 8.20mm base curve/FLT2 lens from the diagnostic fitting set.

Initial Lens Choice

MoRoCCo VA findings for 8.20mm base curve/FLT2

Lens assessed within the first 5 minutes

Movement:	3.0mm post blink. No bubble in the periphery
Rotation:	Stable at vertical position
Centration:	Decentered 0.50mm downward on straight ahead gaze/upward gaze
Comfort:	Some edge awareness
VA:	-11.50 -1.00 x 180 VA 20/30, slightly worse after the blink

Conclusion: Fit and acuity is improved. However, decentration, comfort and vision demonstrates the lens is now slightly flat.

The next course of action is to fit tighter centrally, keeping the periphery as FLT2.

Action: Order an 8.00mm base curve/FLT2 plano diagnostic fitting lens.

MoRoCCo VA findings for 8.00mm base curve/FLT2

Lens assessed within the first 5 minutes

- Movement:** 2.0mm post blink
- Rotation:** Stable at vertical position
- Centration:** Centered in straight ahead and upward gaze
- Comfort:** Comfortable
- VA:** With same over-refraction 20/30+, stable after blink

Conclusion: Optimal fit achieved

Action: An 8.00mm base curve/FLT2 lens is ordered with a power of -10.00D for the patient to use while the cornea returned to its natural ectasia.

Follow Up

The patient was assessed three months later, reporting that her vision had fluctuations but now seemed more settled. Topography showed a generalized flattening of the cornea.

Central K readings were now 6.16mm (54.75D) x 6.00mm (56.25D) and the flattest part of the topography is now 8.50mm (39.75D).

MoRoCCo VA findings with patient's own 8.00mm base curve/FLT2: -10.00D

- Movement:** 0.5mm post blink
- Rotation:** 5° clockwise
- Centration:** Centered
- Comfort:** Comfortable
- VA:** 20/40, clearer after the blink

Conclusion: This lens is a tight fit

Action: Insert an 8.20mm base curve/FLT2 diagnostic fitting lens

MoRoCCo VA findings for 8.20mm base curve/FLT2

Lens assessed within the first 5 minutes

- Movement:** 1.5mm post blink
- Rotation:** Stable at vertical position
- Centration:** Centered
- Comfort:** Comfortable
- VA:** Over-refraction: -13.50 -2.00 x 40 VA 20/30+, stable after blink

Conclusion: Optimal fit achieved

Action: Lens ordered with power -11.50 -1.75 x 40 (over-refraction vertexed to the cornea)

Discussion Points

Refitting from a GP to a KeraSoft IC lens may result in either corneal steepening or flattening

- During the refitting process, it is often best to provide a spherical lens
- This avoids the visual disturbance of a changing astigmatism correction
- It is easier to assess over-refraction
- Change the power of the KeraSoft IC lens when sure that the cornea has returned to a stable shape

