Lens File: Rose K2 Soft

Continuing a new series looking at specialist contact lenses, **Jennifer McMahon** describes the use of Rose K2 Soft – a new soft lens for the optical correction of the irregular cornea

Traditional management of the irregular cornea has, for many years, revolved around corneal RGP contact lenses. Soft lenses represent an excellent alternative course of management for those new to contact lens wear and those who are unable to tolerate rigid lenses.

Applications

Rose K2 Soft is used for the optical correction of the irregular cornea including keratoconus, pellucid marginal degeneration, keratoglobus and post corneal graft.

It is ideal for patients new to contact lens wear or making the transition from standard soft toric lenses to speciality lenses. Rose K2 Soft is also a valuable tool in the management of those intolerant to corneal or other rigid lenses such as sclerals, as well as those for whom other lens types are not appropriate.

Technical features

Rose K2 Soft provides for optical correction of an irregular corneal surface through the use of an aspheric back optic zone in combination with a front surface toric. The lens is stabilised by prism ballast and the design also features front-surface aberration control.

It is currently available in two materials:

- Lagado Silicone Hydrogel (three-monthly replacement); and
- Contamac 49 per cent hydrogel (6-12 monthly replacement). It is planned to offer Menicon 72 per cent hydrogel as a further option in the near future.

It is recommended that the fitting lens should be the same as the final intended material.

TABLE 1
Fitting Objectives

Feature	Objective	Notes
Back optic zone	Select the BOZR that gives the best visual acuity	For ectasic corneas the starting point should be 0.8mm to 1mm flatter than mean Ks or 3mm sim Ks For corneal grafts, PMD and post Lasik corneas start with the BOZR equal to mean Ks or 3mm sim Ks
Movement	0.5-1mm movement on blink and rapid, smooth recovery on push up test	Movement should be assessed three-five minutes after insertion
Location	Equal centration around the limbus	The lens should not drop significantly on upgaze and the vertical laser mark should be within 20 degrees of six o'clock
Periphery	Alignment on the bulbar conjunctiva	No impingement or fluting (Figure 1) should be present
Diameter	1.5mm beyond the limbus is optimum	

TABLE 2
Poor peripheral fitting characteristics

Indicators of a tight fit	Indicators of a loose fit
Bubbles trapped at limbus	Fluting at lens edge
Less than 0.5mm movement on blink	More than 1mm movement on blink
Visual acuity better immediately after blink	Visual acuity worse immediately after blink
Conjunctival indentation on removal (Figure 2)	Unstable or grossly dislocated laser mark
Reduced comfort with increasing wear time	Immediate discomfort and failure to settle

Fitting procedure

The first fitting lens is selected according to the condition (see Table 1).

The lens is applied to the eye and assessed after three to five minutes. The lens should demonstrate movement on blink of 0.5-1.0mm.

If there is excessive movement a steeper BOZR should be selected, conversely if the lens fails to move sufficiently a lens with a flatter BOZR should be tried.

Once the lens movement is within the optimum range, sphero-cylindrical over refraction should be performed and the visual potential assessed. Once an endpoint to the over-refraction is reached, the practitioner should ask the patient to squeeze the eyelids shut and report, on opening the eyes, whether the vision is better immediately then deteriorates, or whether the vision improves slowly after an initial worsening.

The former indicates that a flatter BOZR is required to achieve optimum acuity and the latter indicates that a steeper BOZR may be required.

If the lens that gives the optimum movement is not the same BOZR that yields the best acuity, then the latter should be ordered with the periphery

ROSE K2 SOFT – CASE STUDY 1

Forty-four-year-old male, Patient S
Diagnosis: bilateral keratoconus
Occupation: MoD, frequently outdoors, shift work 12 hours, plus two hours' travel time
Current status:

- Unaided: visual acuity RE: 1.075 LogMAR LE: 0.42 LogMAR
- Spectacles: does not tolerate well and prefers unaided RE: 0.36 LogMAR LE: 0.12 LogMAR
- RGP corneal lenses: fit well and give good visual acuity RE: 0.00 LogMAR LE: 0.00 LogMAR but are poorly tolerated, maximum WT 4 hours, so unable to wear for work, symptoms of 'scratchiness' is the main problem, as well as particles trapped behind the lens most likely related to working environment.

Mean corneal curvature (from topography) RE: 6.79mm LE: 7.20mm

Fitting sequence ROSE K2 Soft RE

Trial lens parameters	Fitting characteristics
8.00 : 14.80	Minimal movement after settling, uncomfortable
8.20 : 14.80	Movement 1mm after settling, comfortable, stable vertical laser mark
8.40 : 14.80	Movement 1mm after settling, comfortable, unstable rotated laser mark

Comments: the patient was so impressed with the reduction in visual distortion with the trial lens (0.80 LogMAR) that the trial lens was issued while the final lens was ordered.

Final lens RE: 8.20 : 14.80 : Plano / -4.50 x 60 visual acuity 0.10 LogMAR

Fitting sequence ROSE K2 Soft LE

Trial lens parameters	Fitting characteristics
8.60 : 14.80	Movement 1mm after settling, comfortable, vision better immediately after blink
8.80 : 14.80	Excessive movement, slightly less comfortable, slightly unstable laser mark but vision more consistent
8.80 : 14.80 with reduced edge lift 1 step	Movement 1mm after settling, comfortable, stable vision

Comments: no cylindrical power was required on over-refraction.

Final lens LE: 8.80 : 14.80 : +2.00 visual acuity 0.00LogMAR

Summary

Patient S presented with poor tolerance of spectacles due to distortion and of corneal RGP lenses because of his working environment. Rose K Soft lenses were fitted successfully to both eyes. The patient is able to achieve a wearing time of 13 hours, which allows him to wear them for critical visual tasks at work. He finds the lenses extremely comfortable and the improvement in his visual quality dramatic.

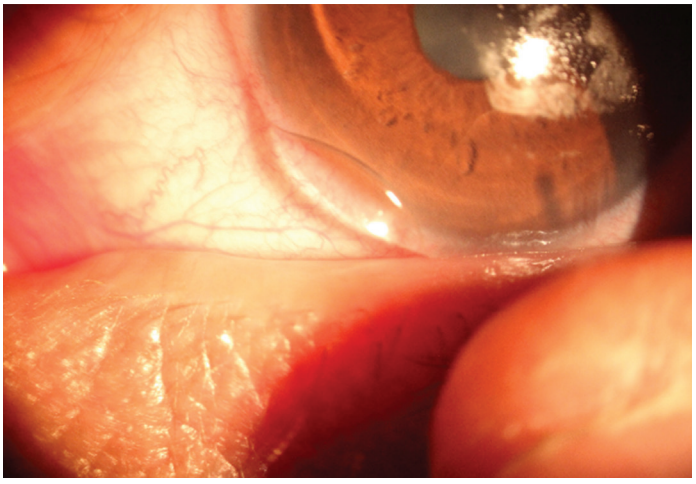

Figure 1 Fluting

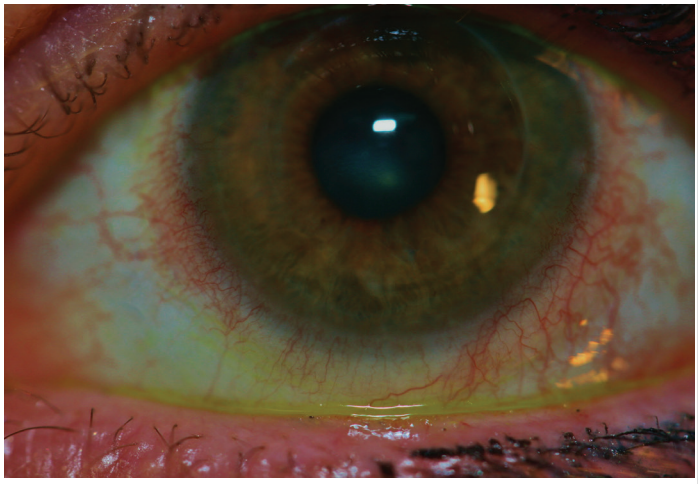

Figure 2 Congestion of vessels after removal of tight-fitting lens

adjusted to achieve the fitting characteristics of the former. See Table 2 for a summary of fitting assessment.

It is recommended NOT to proceed with fitting Rose K2 Soft if the visual acuity with the optimum BOZR trial lens in situ and over- refraction in place is not satisfactory for the patient's requirements.

Parameter range

- **BOZR:** 7.40 to 9.00 (0.20 steps)
- **Diameter:** Standard 14.80mm (14.30 to 15.30 in 0.1mm increments)
- **Power:** -30.00D to +30.00D (0.25D steps)
- **Cylinder:** -0.25 to -10.00 (0.25 steps), Axis 0-180 (1° increments)
- **Centre thickness:** Standard 0.35mm (0.25 – 0.60mm in 0.01 steps)
- **Edge lifts:** Standard (0), Increased (+1) Double increased (+2), Decreased (-1), Double decreased (-2)

Also available with asymmetric corneal technology (ACT) quadrant specific steepening.

- Rose K2 Soft is supplied in the UK by David Thomas Menicon

- **Jennifer McMahon** is optometry lead at Great Western Hospitals NHS Foundation Trust. She has no financial interest in the product described above