

# SUCCESSFUL KERATOCONUS FITTING WITH THE KERASOFT IC LENS

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CASE STUDY

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Traditionally, contact lens practitioners have relied on gas permeable (GP) contact lenses to correct vision for patients with keratoconus. With advances in lens material and lathing techniques, however, soft lenses are a viable new option. One of the more recent advances in soft lenses is Bausch + Lomb KeraSoft IC, a silicone hydrogel lens designed specifically for keratoconus and other corneal irregularities. During my cornea and contact lens residency at Pacific University College of Optometry, which was a clinical testing site for KeraSoft IC, I had the opportunity to work with this lens. The following case demonstrates its utility.

## ADVANCING ECTASIA

A 35-year-old man with bilateral, asymmetrical keratoconus came to our clinic for a contact lens refit. The ectasia in his right eye was successfully managed by a conventional silicone hydrogel toric lens. The more advanced ectasia of the left eye had been managed with a custom silicone hydrogel toric soft lens, but the ectasia had advanced to the point where the patient was experiencing blurry vision and discomfort. He had stopped wearing his left lens.

Entering acuities were 20/20 OD with the habitual lens and 20/200 OS uncorrected (pinhole acuity 20/50 OS). Slit lamp examination of the right eye revealed mild ectasia with no corneal scarring. The left eye showed moderate inferior ectasia with mild scarring. Corneal topography of the right eye revealed mild inferior steepening with associated superior flattening. Topography of the left eye showed moderate inferior steepening with associated superior flattening (Figure 1). The difference display showed a 2.10D increase in ectasia in the left eye compared with topography from 1 year ago (Figure 2).

The topography of the patient's left eye best matched the "decentered/low cone" image in the KeraSoft IC Fitting Guide, which recommends a standard-periphery diagnostic lens with an 8.40 mm base curve for this type of cone. Within 5 minutes of lens application, I evaluated the fit using the Movement-Rotation-Centration-Comfort-Visual Acuity (MoRoCCo VA) protocol. I found excessive (>2.0 mm) lens movement and erratic rotation on blink, indicative of a flat fit. To achieve a steeper fit, I selected the same lens design with an 8.20 mm base curve. This lens satisfied the MoRoCCo criteria, with 1.0 mm vertical movement post blink, minimal and stable rotation, good centration and excellent comfort. After allowing the lens to settle on the eye for 20 minutes, I performed an overrefraction. Stable 20/25 vision was achieved with a spherocylindrical overrefraction of +2.50 -6.00 x 095. I ordered this lens with a prescription of +2.50 -6.00 x 102.

At the dispensing visit, the ordered lens showed exactly the same fitting characteristics as the diagnostic lens. After confirming the patient was comfortable with lens application and removal, I dispensed the lens.

At the follow-up visit 2 weeks later, the lens behaved much like a conventional soft toric lens and met all MoRoCCo VA criteria. Visual acuity was 20/20, with plano overrefraction. The patient reported excellent comfort with no lens awareness, which allowed him to wear the lens for 14 hours a day. He said his vision was sharp and stable, and he enjoyed the associated improvement in depth perception.

## COMFORTABLE VISION, FITTING EASE

This case is an excellent example of how KeraSoft IC lenses provide stable, clear vision without sacrificing comfort. By using a soft lens, we eliminate the initial lens awareness and adaptation period often associated with GP lenses. In addition, the silicone hydrogel material offers the benefits associated with increased oxygen permeability, which is especially important for patients with high refractive errors.

This case also demonstrates the ease of fitting KeraSoft IC lenses. The diagnostic set and fitting guide together provide an efficient fitting system. In fact, by using corneal topography, closely following the fitting guide and allowing adequate time for

the lenses to settle prior to overrefraction, many practitioners can achieve an optimal fit in one visit. The benefits to patients and practitioners make KeraSoft IC a desirable lens option for patients with keratoconus and other corneal irregularities.

**BIOGRAPHY**

Dr. So is in private practice in Vancouver, British Columbia, Canada.

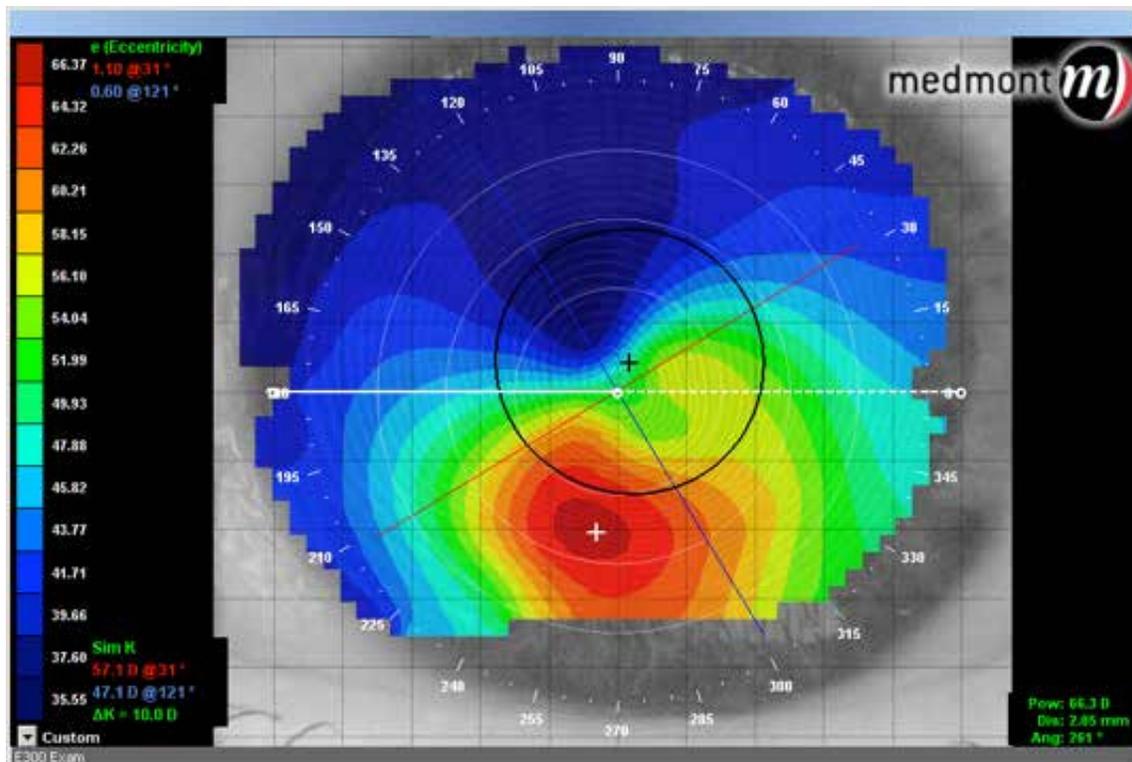


Figure 1. Axial power map OS

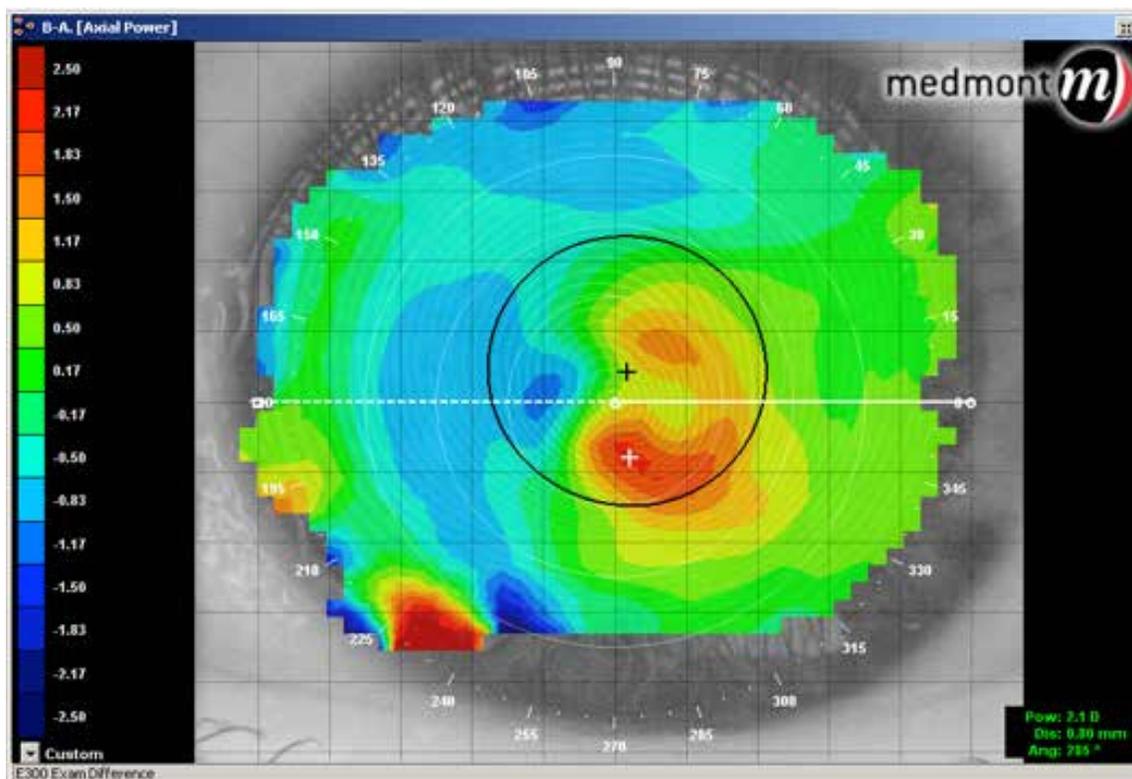


Figure 2. Difference display showing 2.10D increase in ectasia OS.