

Case Report:

This is why we show up every day

Barry Leonard OD

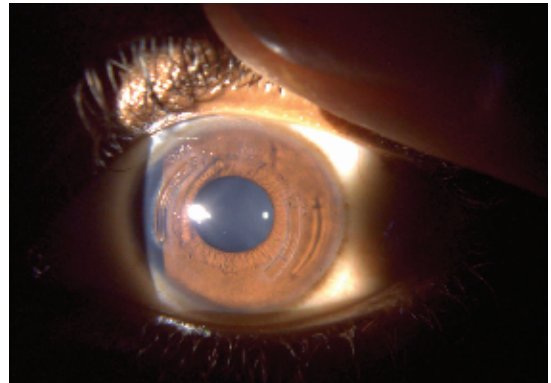
Dr. Barry Leonard is a therapeutic Optometrist with glaucoma certification and is skilled in the treatment and management of eye diseases, specialty contact lenses, corneal refractive therapy and the pre- and post-operative care of patients. He combines his clinical experience with his task as Adjunct Clinical Professor for the Western University of Health Sciences, Pacific College of Optometry and Pennsylvania College of Optometry at Salus University. He is a member of the American Optometric Association, the California Optometric Association and a member of the AOA Contact Lens and Cornea Section.



Introduction

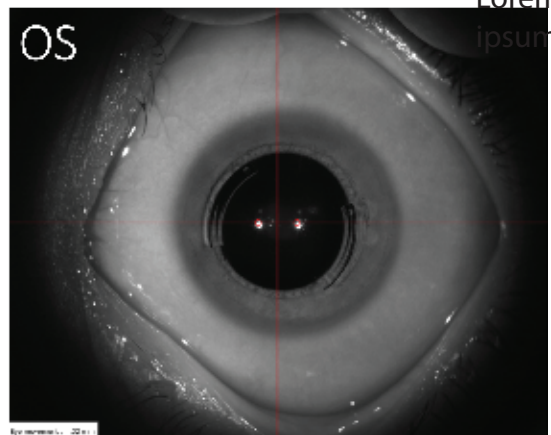
A 15-year-old male with Keratoconus travelled from Uganda with his parents for crosslinking and intrastromal corneal segments (Intacs®) to stabilize both corneas. He had never worn spectacles or contact lenses before. 3 days post op (CXL 'epi on') he presented for fitting contact lenses. Uncorrected vision:

Right eye 20/600 Pinhole 20/150
Left eye 20/100 Pinhole 20/50

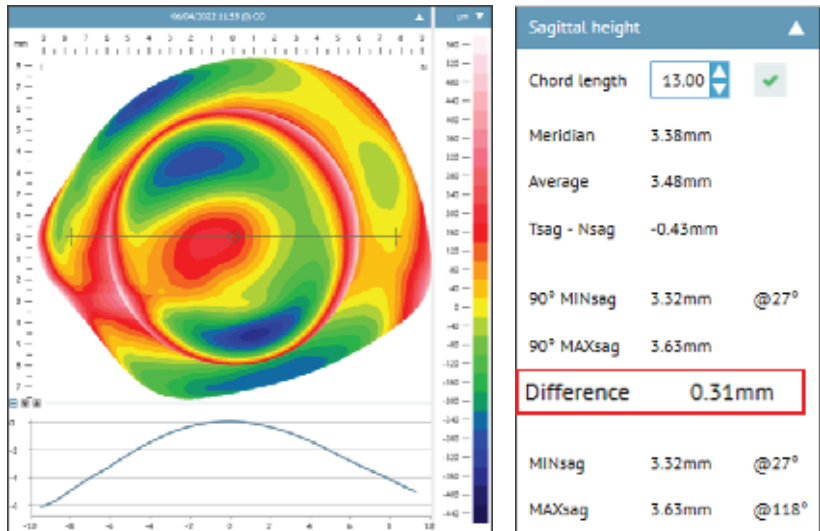


Profilometry Measurements

The Eye Surface Profiler (ESP, Eaglet Eye, The Netherlands) was used to measure the complete anterior surface of the eye (see image on the right). Corneo-scleral topography provides the ocular sagittal height at different chords to help understand the presence of scleral toricity, asymmetry, or conjunctival irregularity. Based on the data, the selection of the initial lens becomes much easier as the integrated First Lens Fit algorithms calculate the best lens for an optimized alignment on the conjunctiva.



The *Bisphere elevation map* presented a sclera with oblique toricity. When setting the chord length to 13mm, approximate initial landing point of the lens, the difference between the maximal and the minimal sagittal heights was 310 microns. Based on this data it was decided to fit a Zenlens BE (Bausch+Lomb, USA). This lens with bi-Elevation™ has two SAG values to better align the lens with the varying elevation of the limbus.

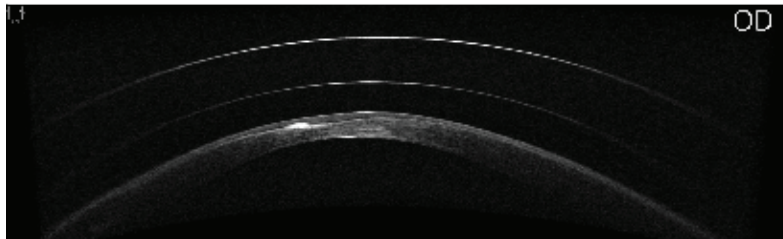


Lens Fitting

The best initial lenses were calculated using the ESP *First Lens Fit* algorithms and ordered with priority. The first lenses looked good and were dispensed. A few small adjustments were made for the second pair: the SAG was reduced by 100 microns and a planned small front toric cylinder was added to both lenses. On the Right lens, the vertical APS was steepened by 60 microns to reduce upper lid lens awareness. The final lenses ordered were:

OD BC 6.60 D17mm 5150/5450 Steep 3/Steep 5 -12.50/-0.50 x45
 OS BC 7.60 D17mm 4750/4950 Steep 3/Steep 3 -5.75/-0.50 x 136

V/A with lenses: OD 20/40+ and OS 20/20.



Conclusion

As the patient's time in the US was limited, speed was of the essence, and Profilmetry helped us identify the best lens reducing refits and time. For this patient the case was completed in under 2 weeks: uncorrected 20/600 and 20/100, now 20/20! A happy patient and very happy parents. Scleral lenses can be a life-changing solution for individuals who otherwise would not have functional vision. This is why we show up every day.