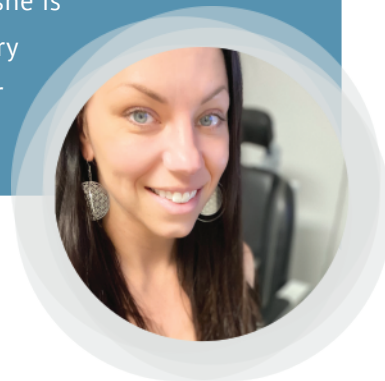


Case Report:

Using BostonSight Smart360 Technology

Sheila Morrison, OD

Dr. Morrison received her Doctorate, Masters in Vision Science with focus on scleral lenses, and Residency in Cornea and Contact Lens from Pacific University College of Optometry. She served on faculty at the University of Houston College of Optometry where she facilitated education and research in the Contact Lens and Cornea service. Now she is back in Canada where she practices at Mission Eye Care Center for Dry Eye and Corneal Disease in Calgary, is a clinical rotation site instructor for the University of Waterloo College of Optometry.



Introduction

35-year-old male with bilateral keratoconus, mild in the right eye and moderate in the left eye. Left eye is also s/p corneal cross-linking from several years ago. The patient was referred for a specialty contact lens fit for OS only.

Background

The patient was fit in 2019. At the time, using a diagnostic fitting set, it required 3 refits for a total of 4 lenses to achieve final fit. The patient had 20/25+ "unhappy vision" and was convinced he was suffering from higher-order aberrations (HOAs). There were no commercially available HOA corrective lenses available to try at this time.

Profilometry Measurement

When the patient returned in 2021, the Eye Surface Profiler (Eaglet Eye, Netherlands) and BostonSight SCLERAL's Smart360 technology were used to design a new free-form lens.

With the ESP a scan of the ocular surface was taken gathering data of the anterior ocular surface (Figure 1). Once the eye scan is transferred, Smart360 uses the corneo-scleral Profilometry data for a truly custom scleral lens fit. Utilizing Profilometry allows designing a lens that identically matches the scleral surface and evenly vaults the cornea providing the patient good comfort and vision.

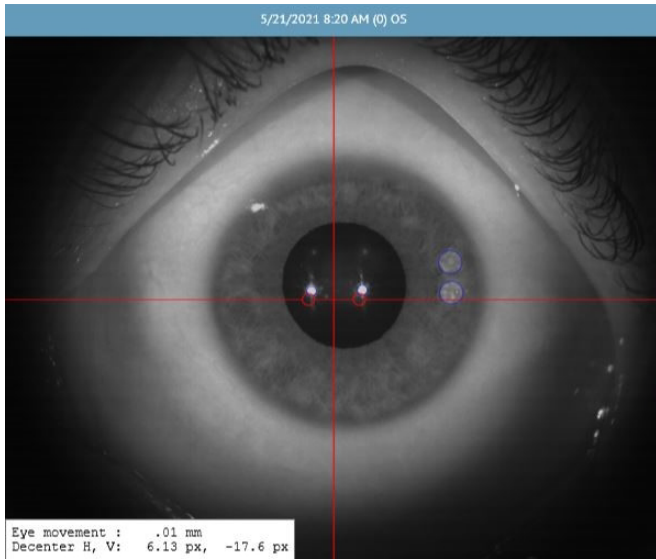
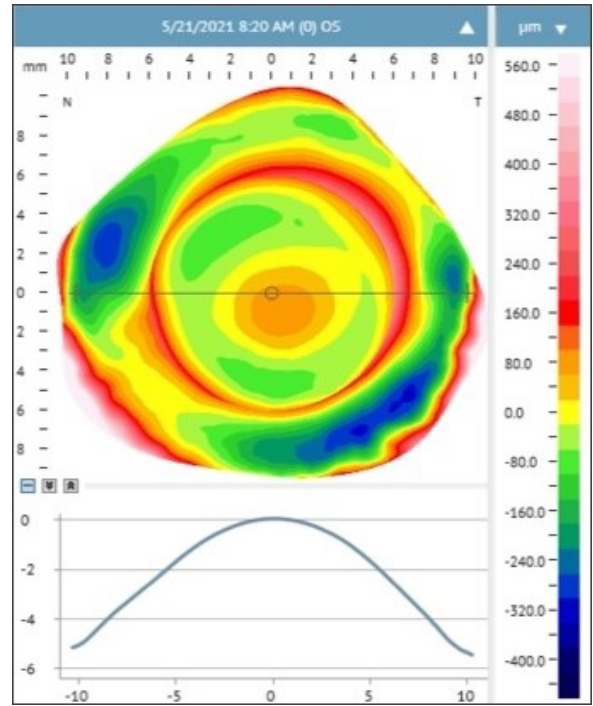
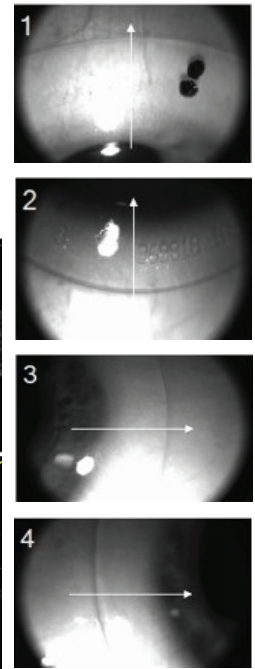
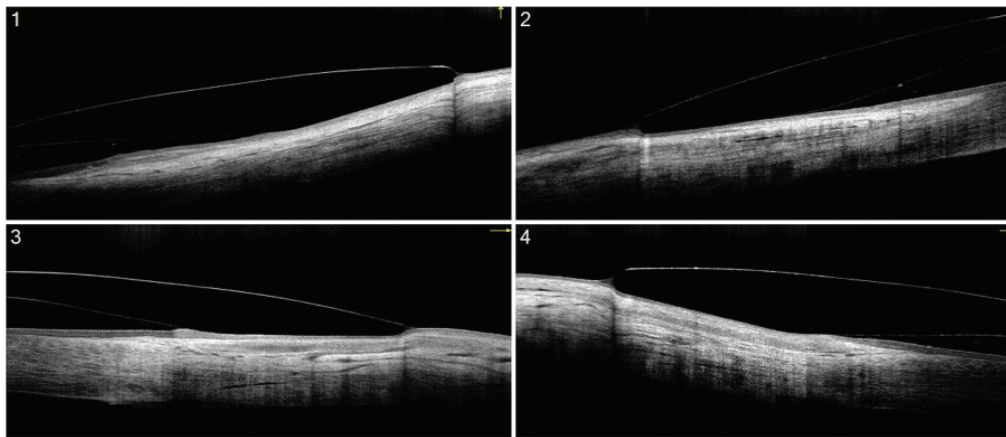


Figure 1 ESP Source image and Bisphere elevation map.



Final Lens Fit

The lens was ordered via the DirectConnect link on the ESP software, which connects to BostonSight's FitConnect software, using the base curve the patient was wearing. No changes were required to achieve the fit from the scan. The only minor changes for the final lens were a small over-refraction of -0.501.00x080 and 5deg CCW rotation. First lens OCT scan (Optovue):



Conclusion

Beautiful first lens fit. The patient specifically mentioned that the fit feels excellent and was impressed with the technology. Offering your patients Proflometry based free form scleral lenses not only impresses the patients, it also cuts down on chair time and patient visits. SmartSight HOA technology will be added soon (BostonSight).