

Using Smart360 and Eaglet ESP to design a BostonSight SCLERAL lens for keratoconus



CASE STUDY

BACKGROUND

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. He was referred for a specialty contact lens fit for OS only.

SCLERAL LENS FITTINGS

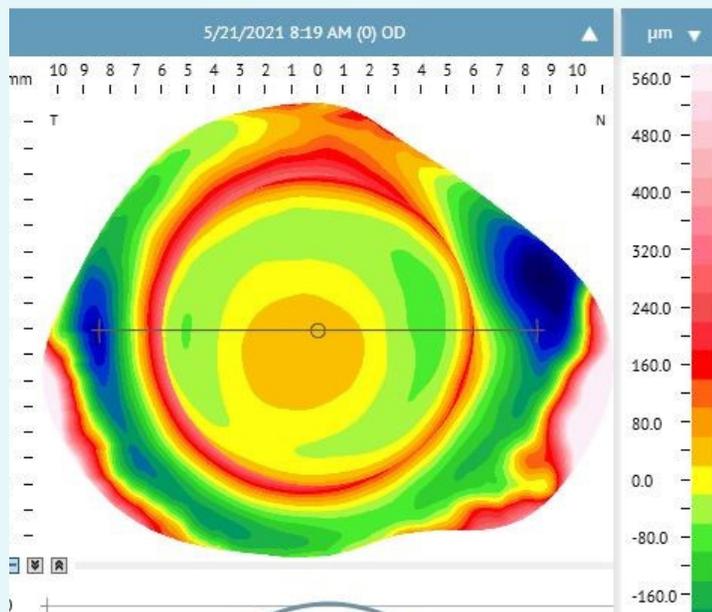
2019: I required three lens re-makes for a total of four (4) lenses manufactured required to achieve a final fit using a diagnostic fitting set. The patient had 20/25+ "unhappy vision". He was also convinced he suffered from higher-order aberrations (HOAs). There were no commercially available HOA corrective lenses available to try at this time.

2021: I used Eaglet ESP and BostonSight SCLERAL Smart360 to design a free-form lens.

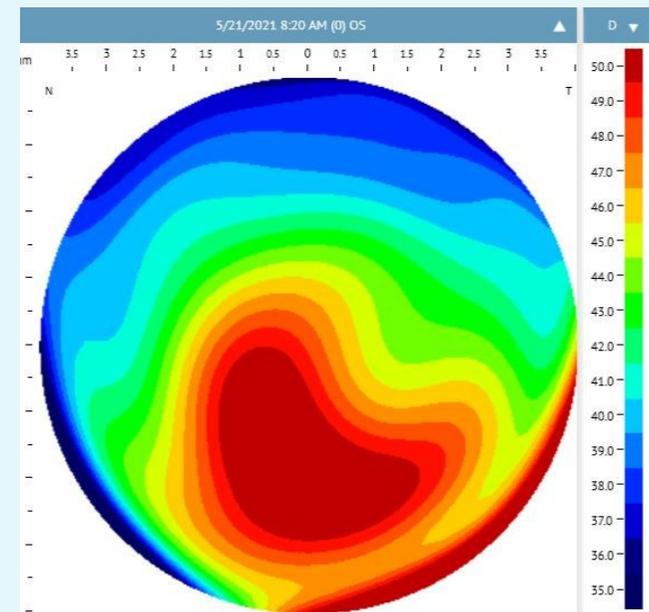


Dr. Sheila Morrison
Mission Eye Care

OD



OS



SCLERAL LENS FITTINGS

2021, continued: In addition, I used the patient's prior habitual base curve and power. No changes were required to achieve the fit from the scan.

I added small over-refraction of -0.50-1.00x080; 5deg CCW rotation.

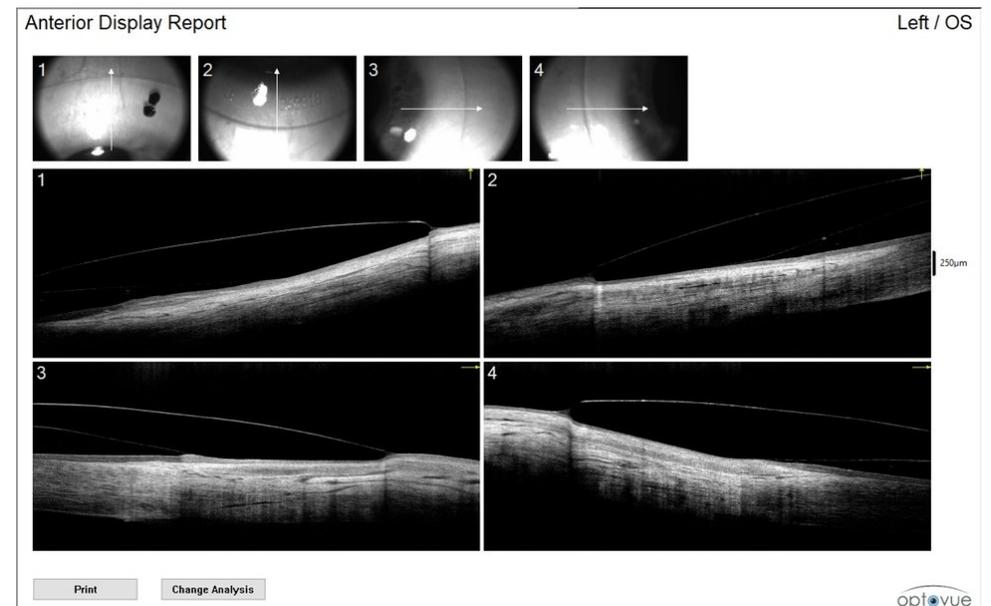
With these minor changes, the lens was final.



First lens optical coherence tomography (OCT) scan.

RESULTS

Beautiful first lens landing. The patient specifically mentioned that the fit feels excellent and was impressed with the technology. We will be adding SmartSight HOA technology soon.



Dr. Shelia Morrison is a myopia control and scleral lens specialist at Mission Eye Care in Calgary, Alberta, Canada. She has expertise in contact lens fitting for patients of all ages and eye conditions including medically necessary lenses for infants, scleral lenses for keratoconus or severe dry eye, and orthokeratology (OrthoK) for myopia control. She served on the faculty at the University of Houston College of Optometry as a clinical instructor for the myopia control clinic and as chief of the Contact Lens and Cornea clinic at the University Eye Institute.