

Scleral Lenses for Healthy Eyes – A Collection of Case Reports by AccuLens



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Scleral lenses have a wide range of applications, and represent some of the most cutting-edge technology in contact lenses. With careful accuracy and discrimination, any practitioner can fit them successfully. One item that I have learned in my practice is that they are not limited to diseased eyes. They have also benefitted many of my patients with healthy eyes. With this series, leading contact lens practitioners will present cases that illustrate how the EasyFit and Comfort SL miniscleral lenses by AccuLens have made a profound difference in their patients' lives as well.

Fit the Healthy Eye!



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Case 4 - Flying High Again



Case Author : Greg Pientka, O.D.

Introduction: This case illustrates how the EasyFit miniscleral gas permeable (GP) lens by AccuLens can improve comfort and vision in a patient with moderate-to-high astigmatism and dry eye who had not been able to successfully wear contact lenses in the past.

History: TS is a 30 year-old flight attendant and mother whose best-corrected vision has always limited her. She was unsuccessful with soft toric contact lenses due to tremendous visual fluctuation. She sought refractive surgery, but was denied and referred to me for a specialty contact lens fit. I initially tried the SynergEyes Duette lenses. They provided adequate vision; but within a month, she discontinued them due to poor comfort and difficulties with lens removal.

Objective:

Refraction:

OD: +1.50-3.00x100 20/25-1 **OS:** +1.50-4.25x85 20/30-1

Keratometry:

43.00/45.25@017 43.50/47.00@167

Slit Lamp Evaluation:

TBUT 4 sec. OD, 2 sec. OS
Tear meniscus height less than 0.25 mm OU
Superficial punctate keratopathy, inferior cornea, OU

Contact Lens Fit:

EasyFit (AccuLens)

OD 7.85/15.0/-2.00 **OR** +2.75-1.00x92 20/25-1

OS 7.85/15.0/-2.00 **OR** +3.00-1.50x85 20/25+1

Both lenses showed good central clearance (237 u OD, 246 u OS), limbal clearance, and centration. The edges were well-positioned with no blanching of the conjunctival blood vessels.

Lens Order #1:

EasyFit Front Toric, Boston XO2

OD 7.85/15.0/+0.75-1.00x92

OS 7.85/15.0/+1.00-1.50x85

Dispensing Visit:

OR OD +0.25-1.50x105 20/20-1

OR OS +0.50-1.25x45 20/20-2

With the help of the Acculens fitting consultant, the same parameters were ordered, except with a double slab-off prism.

Lens Order #2:

EasyFit Front Toric with double slab-off prism, Boston XO2

OD 7.85/15.0/+0.75-1.00x92

OR -0.25-0.50x006 20/20-1

OS 7.85/15.0/+1.00-1.50x85

OR +0.75-1.25x85 20/25+2

Just after insertion, lens rotation was 45 degrees clockwise OD and 60 degrees clockwise OS. After 20 minutes of settling, the lenses rotated 35 and 15 degrees cw, respectively, as measured using the limbal ink dot provided by AccuLens.

After discussing the fit with the Acculens consultant, we decided to order a 1.0 mm truncation OU.

Lens Order #3:

EasyFit Front Toric with double slab off and truncation, Boston XO2

OD 7.85/15.0/+0.75-1.00x92 20/20-1

OS 7.85/15.0/+1.00-1.50x85 20/25+1

Fit:

Centration	well-centered
Movement	minimal
Bearing	none
Edge	no vessel blanching
Rotational stability	0 degrees rotation
Central clearance	246 µm OD/256 µm OS

She appreciated not having to utilize artificial tears throughout the day.

Discussion:

TS was very happy with the comfort the vision with her EasyFit scleral lenses. She has been able to wear them for over 13 hours. On the follow-up examination, all of her SPK had resolved, and as a result, the overall quality of vision improved. In addition, she appreciated not having to utilize artificial tears throughout the day, as she had with her previous soft and hybrid lenses.

She had an unusual Rx in that she has higher-than-average ATR corneal cylinder along with 1 diopter of lenticular in the OD and 1.5 diopters in the OS. Soft toric lenses would not stay in place, and even with a double slab off design (superior and inferior thin zones that allow for less lid interaction in relationship to lens rotation), the scleral lenses rotated, too. So I ordered the lenses truncated by 1 mm; that allowed the lower eyelid to aid in stabilizing the lens, and it was just what was needed.

In addition, TS not only had clinical dry eye syndrome, but also as a flight attendant, she worked in a very dry environment. Using a scleral GP lens offers two clinical advantages. First, since the lens is filled with fluid, the eye has a reservoir-like affect to keep the ocular surface hydrated. Secondly, the larger diameter scleral lenses act as a shield or barrier to protect the ocular surface.

Conclusions:

After reading this case, it is obvious why patient TS never had never found success with contact lenses before. However, with the careful measurements taken by Dr. Pientka (not to mention his persistence), he turned this contact lens failure into a contact lens success.

A company like AccuLens is a vital partner to practitioners like Dr. Pientka for a several reasons. First, its designs, such as the Easy Fit, are 100% customizable. This patient needed a front toric lens, then with double slab-off prism, then with truncation. And AccuLens' professional consultants were there helping Dr. Pientka design his custom lenses every step of the way. As Dr. Pientka stated, "You get a good feeling that they have encountered of these types of unusual situations before. They were so knowledgeable and willing to offer their help." As a result, TS has successfully reentered the work force as a flight attendant and is flying high again.

High Definition Images: Anterior Segment 5 Line Raster OD ● ○ OS

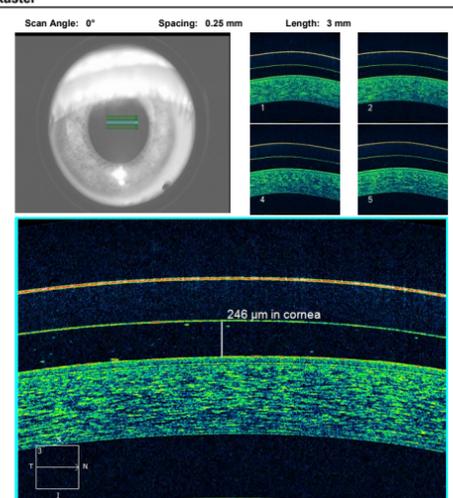


Figure 1 - OD 246 µm central clearance

High Definition Images: Anterior Segment 5 Line Raster OD ○ ● OS

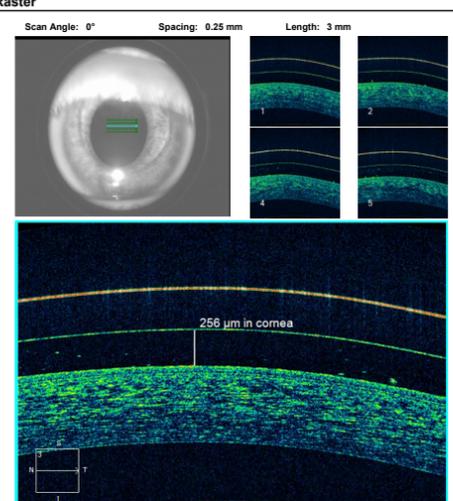


Figure 2 - OS 256 µm central clearance