

CASE REPORT: Dryness, Deposits, & Dismay

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CASE HISTORY:

A 45-year-old Caucasian female presented to the clinic stating she wanted to be able to wear contact lenses full-time. She had a secondary complaint of dryness that was exacerbated by wearing contact lenses. At the time of the initial visit, the patient was wearing daily disposable soft contact lenses (SCLs) only for certain occasions.

Pertinent medical history included seasonal allergies in which she was taking loratadine 10mg by mouth once daily, as well as ketotifen fumarate 0.035% in each eye twice per day. She tried many different types of contact lenses in the past, including: corneal gas permeable, monthly and daily disposable SCLs, and scleral contact lenses (ScCLs).

Ocular history included high myopia with a previous retinal detachment OS, cryopexy OU, and a scleral buckle OS. Her best corrected visual acuities with glasses were 20/25+2 in each eye. The patient wore glasses 70% of the time but stated that was increasing due to discomfort and dryness with contact lenses.

EXAMINATION:

Subjective Refraction		Vertex to Corneal Plane (12mm)
OD: -11.00 -1.00 x 095		OD: -9.75 -0.75 x 095
OS: -12.00 sph		OS: -10.50 sph
Keratometry OD:		
OD: 43.64/44.51 @ 090 OS: 43.47/44.40 @ 080		
Diagonal visible iris diameter (DVID) OU: 11.76mm		
Anterior Segment Health:		
OD		OS
Clean, no lid wiper staining	Lids	Clean, no lid wiper staining
Trace injection UL & LL	Palpebral conjunctiva	Trace injection UL & LL
No injection or staining	Bulbar conjunctiva	No injection or staining
Clear, no fluorescein or lissamine staining	Cornea	Clear, no fluorescein or lissamine staining
Slightly decreased tear meniscus	Tear film	Slightly decreased tear meniscus

A non-invasive tear evaluation was performed at the initial visit. The findings from the scan (**Figure 1**) showed a first tear breakup at 6.12 seconds and an average breakup across the cornea of 6.21 seconds.

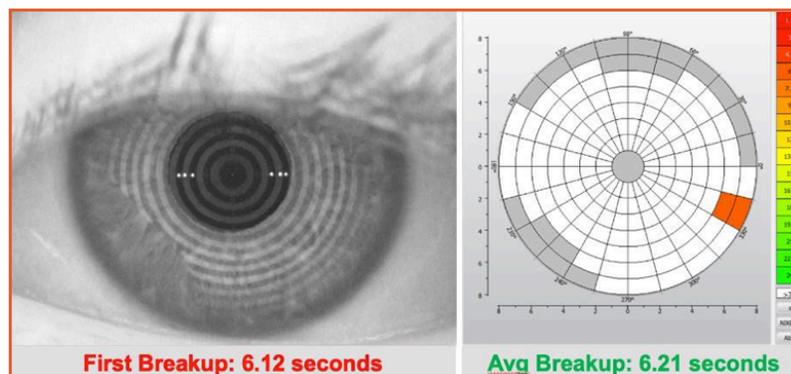


Figure 1: Non-invasive tear evaluation at initial visit

The patient was fit in a scleral contact lens with a diameter of 16.50mm and a sagittal depth of 4,000 micrometers in each eye. With an over-refraction, the patient was able to see 20/15 OD and 20/20 OS. Inspection of the fit revealed 200 micrometers of central corneal vault in each eye, slight inferior/temporal decentration in each eye, and nonwetting surface on each of the lenses. A pair of new scleral lenses was ordered based on the fitting visit to incorporate appropriate fit and vision. Due to the inherent wetting issues upon fitting and the patient's previous experiences with gas permeable lenses, these scleral lenses were ordered with Tangible® Hydra-PEG® coating.

FOLLOW-UP:

In their follow-up visit, the patient was still seeing 20/15 OD and 20/20 OS and the fit showed central corneal clearance of 200 micrometers in each eye with slight inferior/temporal decentration. The surface of each lens showed no signs of nonwetting and the results of the non-invasive tear evaluation (**Figure 2**) demonstrated a first breakup of 17.46 seconds, with an average breakup of 20.36 seconds on the surface of the lens.

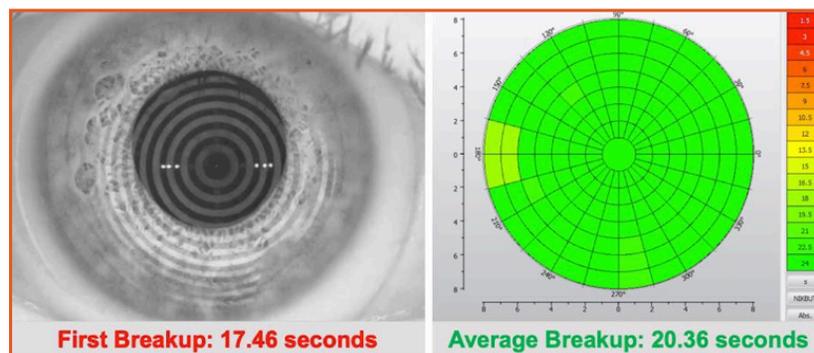


Figure 2: Non-invasive tear evaluation at dispensing visit

The patient returned after six months of wearing the new scleral lenses and stated complete happiness. She described her comfort as a 9 out of 10, stated she wore the lenses almost every day without any dryness or discomfort, and noted her vision was the sharpest she'd ever had in glasses or contact lenses. Evaluation of the lens showed a clean lens surface and adequate fit corresponding with previous visits. A non-invasive tear evaluation demonstrated a first breakup of 6.50 seconds and an average breakup of 17.44 seconds on the surface of the lens.

DISCUSSION:

This case demonstrates the significant improvements to vision and quality of life that can be made by using the advanced tools and technologies in fitting and managing our patients. Simply adding Tangible® Hydra-PEG® allowed this patient to go from part-time to full-time contact lens wearer without any discomfort. It is important to remember that clear communication with the laboratory consultants on exam findings can help effectively troubleshoot issues that arise during the fitting process.