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Ampleye brings Keratoconic Patient with Chronic Ocular Allergy back to CL Wear

by Ryan McKinnis, OD

The Ampleye scleral lens is a prime option for those patients with corneal ectasia. Based on research conducted at Pacific University, this four-curve scleral lens design comes standard with 150 microns of peripheral curve toricity. Each of the four curves can be altered to improve the fitting relationship as the practitioner deems appropriate. For those desiring an extended fitting set, additional trial lenses are available with spherical peripheral curves. Since its introduction, I have found the Ampleye lens to perform admirably. Below is one such example.

History: A 34 year old female presents on referral from a refractive surgery center. The patient reports being diagnosed with keratoconus nearly twenty years prior. Her right eye was affected significantly more than her left eye. While initially successful with soft toric contact lenses, the patient required corneal rigid gas permeable lenses by her early twenties. She reported an inability to tolerate the rigid gas permeable lenses during the spring allergy season and had fully discontinued lens wear two years prior due to chronic ocular irritation. The patient also underwent corneal collagen cross-linking to stabilize her keratoconus nine months prior to seeking care in our office. Given her past experiences and in light of her desire to improve her vision it was mutually agreed upon to fit the patient into a scleral design.

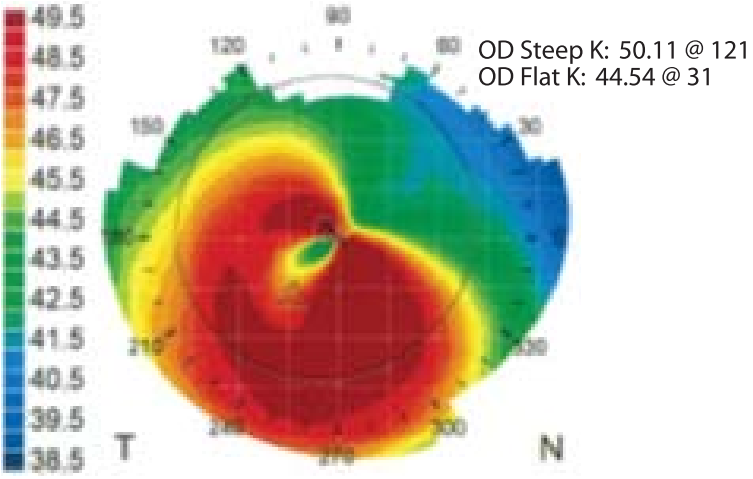
Exam Data:

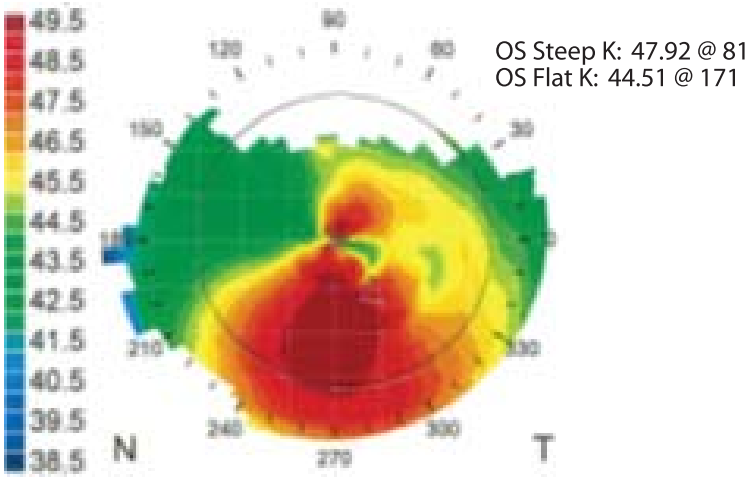
Entering Uncorrected Visual Acuity	OD: 20/60 OS: 20/60
Manifest Refraction -1.25 -6.75 x 047 -1.25 -3.25 x165	OD: 20/40 OS: 20/30

Ampleye Data:

Eye	Sag	BC	Dia	Rx	SLZ	VA
OD	4400	8.04	16.5	+0.25 DS	-1.0 Flat (Spherical)	20/20
OS	4200	8.04	16.5	+1.25 DS	-1.0 Flat (Toric)	20/20-1

The patient returned for a six week follow-up reporting stable and consistent vision. Entering VA's with the lenses in place were 20/20 OD and 20/20-1 OS. She was able to wear the lenses for 12-14 hours





per day. Upon removal of the lenses there was no indication of any further settling into the conjunctival surface, and there was no evidence of corneal or conjunctival staining present. Overall, the patient was immensely satisfied with the improvement in her vision as well as the comfort achieved with the Ampleye lenses.

Discussion:

The beauty of the Ampleye extended fitting set is the ability to troubleshoot issues related to the need for toric haptic curves at the time of the initial visit rather than estimating. For the above patient initial lenses were chosen with spherical peripheral curves. The right lens aligned 360 degrees with the conjunctiva but exhibited slight conjunctival impingement. The final lens was ordered with flatter Scleral Landing Zone (SLZ) to alleviate the impingement. The initial left lens showed sectorial injection along the vertical meridian with the spherical lens in place. This lens was replaced with a lens from the fitting set with an identical base curve and sagittal depth but with 150 microns of toricity incorporated into the haptic curves. This particular lens aligned 360 degrees with the conjunctiva. The final lens was ordered with a flatter SLZ as well to alleviate a small amount of conjunctival impingement.

As we are better able to image the scleral contour using optical coherence tomography and sclero-corneal topographers it is remarkable how asymmetric the scleral shape can be between fellow eyes. It is impossible to predict the necessary toricity of one eye based off the needs of the other, which has left practitioners hesitant to incorporate toric peripheral curves, resulting in less than ideal fitting relationships between the large scleral lens and the globe and decreased comfort for the patient.

Because the Ampleye advanced trial set has both spherical and toric trial lens options available, it is now easier than ever to more closely match the the best possible lens to the needs of each individual eye.

Conclusion:

The Ampleye fitting process is direct and easy to follow. The flexibility and versatility of the design has proven to be ideal in managing the irregular cornea patient. Backed by the experience inherent with products from Art Optical, Ampleye can be a game-changer for your patients and your practice moving forward.

Addendum from Art Optical Contact Lens, Inc.

Dr. McKinnis approached this fit using the philosophy of starting with a spherical diagnostic scleral lens and converting to a toric haptic periphery when the spherical lens evaluation indicated the need to do so. Based on studies at the Pacific University College of Optometry (data on file at Art Optical) indicating that up to 90% of scleras are toric in nature, Art Optical recommends starting all diagnostic fits with a toric haptic trial lens and only converting to a spherical periphery when indicated. The use of the toric haptic periphery will reduce chair time, improve first fit success and eliminate the need for prism ballast when a front surface cylinder is required.

Ampleye's standard 9 lens diagnostic set includes a 150 um toric haptic in all 9 lenses.

Dr. McKinnis graduated with highest honors from Pennsylvania College of Optometry at Salus University and completed a residency in Ocular Disease. He is a member of the Ohio Optometric Association and the American Optometric Association. He works at Cleveland Eye Clinic where he manages a large base of irregular cornea patients. In his spare time, Dr. McKinnis enjoys watching sporting events and spending time with his wife, Heather, and his two young children.