

TRANSLATING DESIGN MULTIFOCAL GAS PERMEABLE CONTACT LENSES FOR PRESBYOPIA CORRECTION



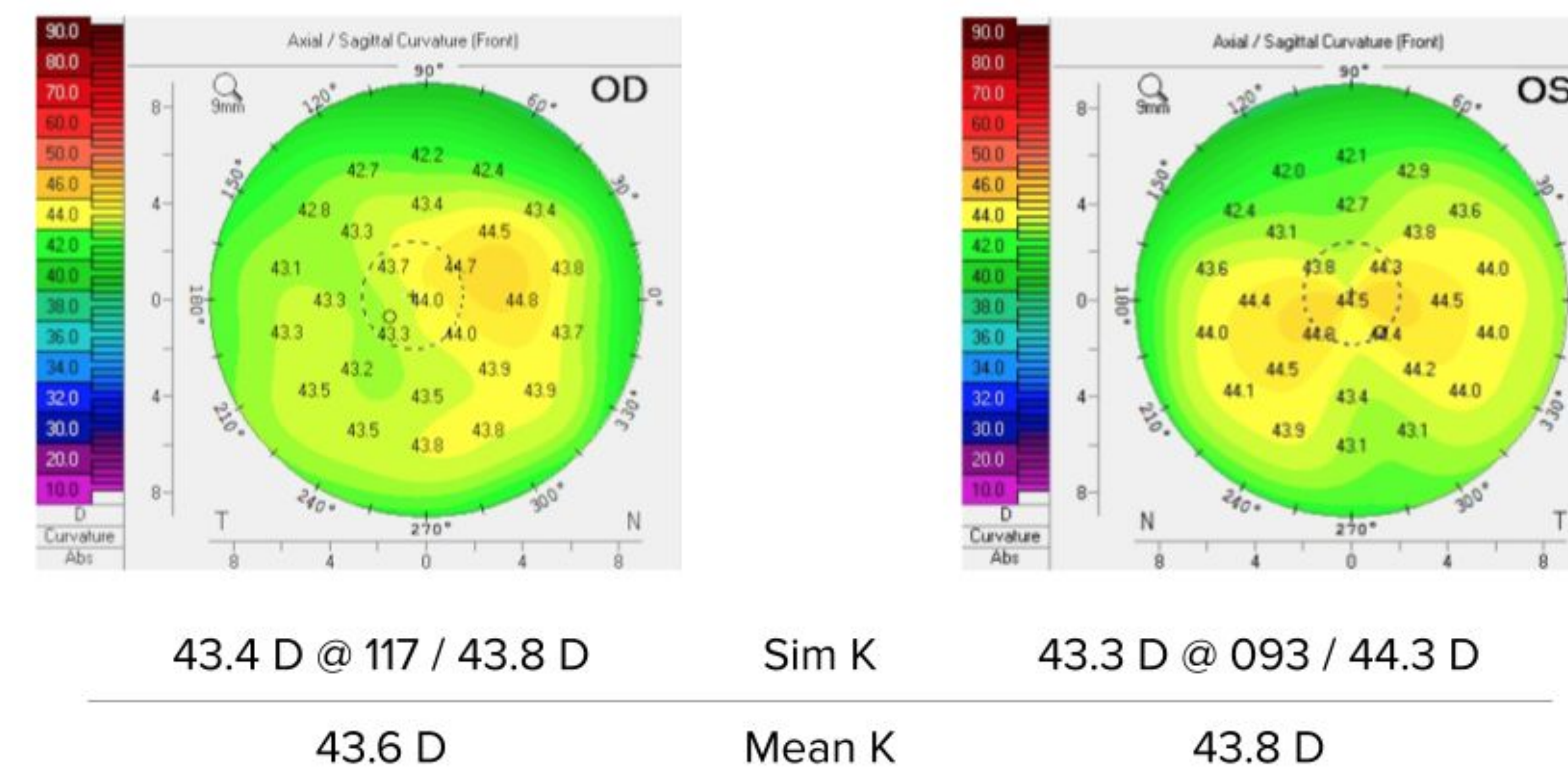
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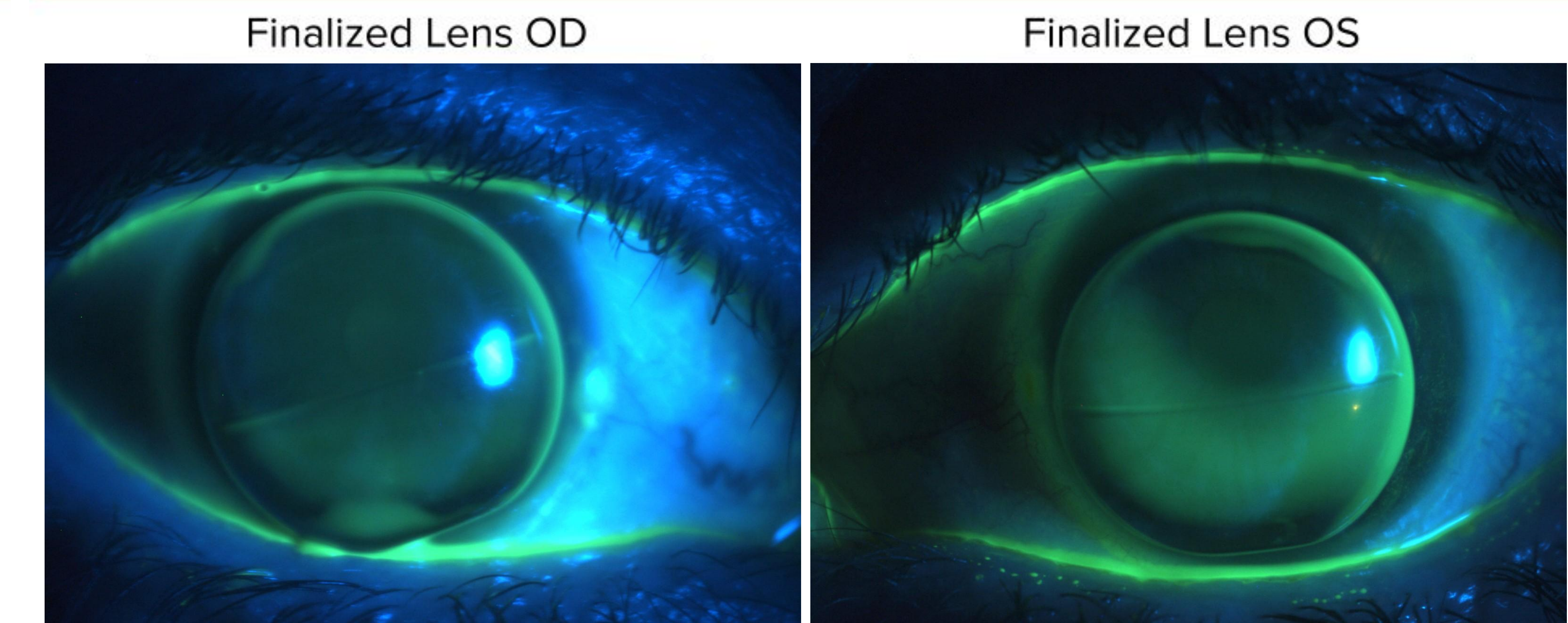
Introduction

Segmented, translating gas permeable (GP) lens designs offer patients freedom from spectacle wear, whether to meet their visual and lifestyle needs or for purely cosmetic purposes. The optics of the lenses are separated into two distinct zones: distance vision above the segment line and near vision through the segment portion, in contrast to other multifocal options which employ a concentric design. Patients who are highly motivated and have greater visual demands through contact lenses are excellent candidates for translating design GP lenses due to the high level of customization available in lens parameters. In presbyopic patients, inferior lid position is important for proper orientation and lens movement. [1] This case report highlights important considerations in prescribing multifocal GP contact lenses for normal, healthy corneas in the absence of ocular surface disease.

Pre-fit Corneal Topography



Finalized Lenses



Case Report

A 48-year-old Caucasian female presented to the Eye Care Institute for a specialty contact lens fitting following a recent comprehensive eye examination, complaining of moderate blur at all distances and a history of non-adaptation to both monovision soft toric contact lenses and soft toric multifocal contact lenses.

Measurements used and subsequent follow up protocol

Baseline refraction, keratometry, lid position, and corneal topography were also obtained. The patient was fit with TruForm Solitaire® Thin Multifocal Front Surface Toric GP contact lenses and returned every 2 to 3 weeks over 3 months for follow-up until the final prescription was dispensed. Over-refraction, slit lamp examination and topography were repeated at follow-up visits.

Slit lamp examination revealed excessive nasal rotation of the lens in the right eye, despite the truncated design. Lid position is crucial in determining whether an aspheric, concentric or translating design will be successful for the patient. [1] After accounting for the malpositioning of the right lower lid by increasing the overall diameter, increasing the segment height, and adding additional prism to the truncation in the right lens, the patient reported stability of vision in both eyes at distance and near.

Lenses Ordered & Fit Evaluation

	OD	OS
MANUFACTURER	TruForm	
SERIES / TYPE	Solitaire Thins Multifocal Corneal GP	
BASE CURVE	7.8	7.8
POWER	-0.75 -1.25 x 055	-1.50 -0.75 x 075
DIAMETER	10.2 / 9.9	9.8 / 9.5
ADD	+2.00	+2.00
COLOR	GREY	BLUE
MATERIAL	Optimum Extra	Optimum Extra
TX/COATINGS	Tangible Hydrapeg	Tangible Hydrapeg
OTHER	Seg height: 4.7 1.75 PD x 090	Seg height: 4.5 1.75 PD x 090

Fit Evaluation

OU:

- good comfort and vision
- apical alignment
- mid-peripheral alignment
- adequate edge width and clearance

Discussion

As the patient was correctable to 20/20 at baseline in each eye with progressive spectacle lenses and 20/20 with front surface toric GP lenses in the right eye and left eye, respectively, stable vision was expected. Yet the patient complained of occasional halos and awareness of the segment line in addition to unstable vision.

A series of minor adjustments over a period of several weeks ultimately resulted in more stable, crisp vision. Theoretically, eye care providers would expect similar lid-lens interaction between the two eyes of a healthy patient. Clinically, however, addressing the seemingly insignificant asymmetry in lower lid laxity and position may increase success of correcting internal astigmatism and presbyopia. In addition, unconventional options such as unequal diameters between the two lenses may be explored even in patients with normal, healthy corneas.

References

1. Ensley, Robert and Miller, Heidi. "Don't Forget to Check the Lids." Review of Cornea and Contact Lenses, 15 Oct. 2016, www.reviewofcontactlenses.com/article/dont-forget-to-check-the-lids.
2. Quinn, Thomas G. "Front Surface Toric RGP's." Contact Lens Spectrum, 1 May 1996, www.clspectrum.com/issues/1996/may-1996/front-surface-toric-rgps.