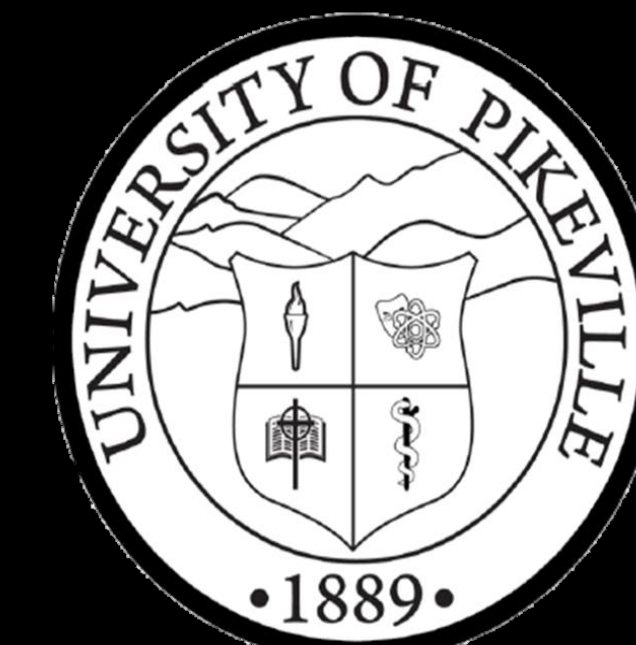




Alternative to Enhancement: Orthokeratology Fitting in a Post-LASIK Patient



REBECCA SIMMONS BROWN / KENTUCKY COLLEGE OF OPTOMETRY / REBECCASIMMONS@UPIKE.EDU MELANIE MAE PATTERSON / KENTUCKY COLLEGE OF OPTOMETRY / MELANIEPATTERSON@UPIKE.EDU
SAMANTHA MYERS, OD, FAAO/ KENTUCKY COLLEGE OF OPTOMETRY / SAMANTHAMYERS@UPIKE.EDU

Introduction

- Refractive surgery patients may have residual refractive error or regress and develop refractive error over time.
- Common options for correcting this refractive error include:
 - Glasses
 - Soft contact lenses
 - LASIK enhancement
- Orthokeratology lenses are a less common option for correcting refractive error in post-refractive surgery patients.
- This case report discusses using orthokeratology lenses as an alternative to LASIK enhancement and highlights the importance of proper patient selection and fitting in these cases.

History

- 27-year-old Caucasian female
- Chief Complaint: Blur
 - OU, but OD worsening recently
- Ocular History:
 - S/p LASIK OD 4 years prior
 - No current spectacle or CL correction
- Medical History: unremarkable

Exam Findings

Initial Visit	OD	OS
VA (sc)	20/25	20/25-
EOMs	Full and smooth	Full and smooth
Pupils	PERRL (-) APD	PERRL (-) APD
CVFs	FTFC	FTFC
Topography/Keratometry	See Figure 1	See Figure 1
HVID	See Figure 1	See Figure 1
Refraction	-0.50 -0.75 x 165	-0.25 -1.00 x 165
SLE	Intact LASIK flap	Unremarkable
IOP	11 mmHg w/ GAT @ 10:15am	12 mmHg w/ GAT @ 10:15am
DfE	Unremarkable	Unremarkable

Exam Findings

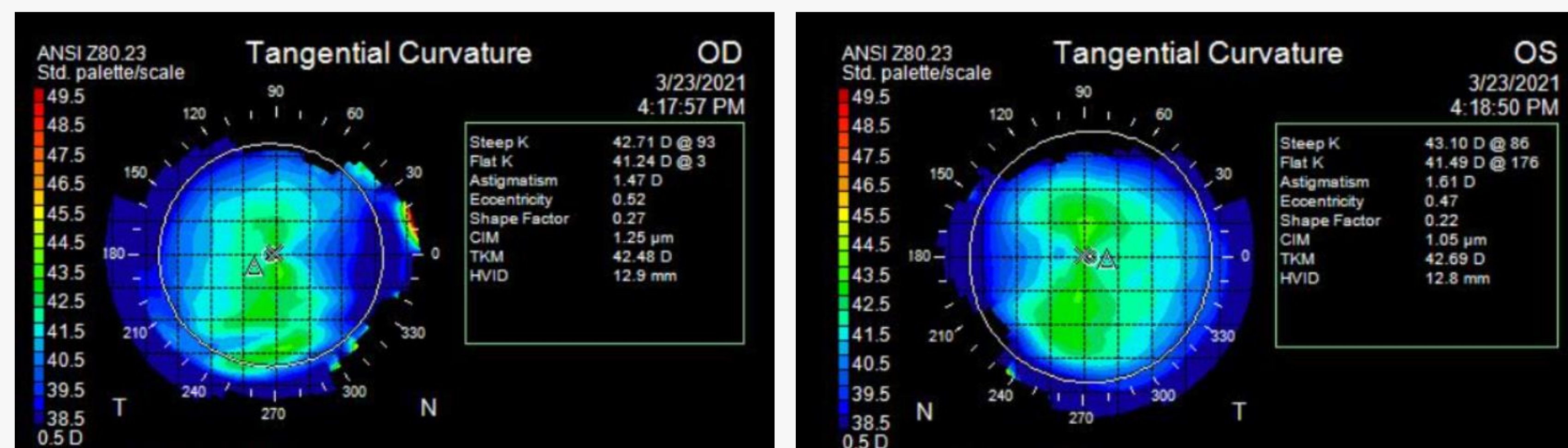


Figure 1: Baseline tangential topographies and HVID OD (left) and OS (right).

	OD	OS	
Initial Lens Parameters	Euclid Emerald, BC: 8.28, Diam: 10.6, Power: +0.75 D	Euclid Emerald, BC: 8.28, Diam: 10.6, Power: +0.75 D	
Final Lens Parameters	Euclid Emerald, BC: 8.28, Diam: 11.0, Power: +0.75 D	Euclid Emerald, BC: 8.28, Diam: 11.0, Power: +0.75 D	
	Dispense Visit	1-Day Follow Up	1-Week Follow Up
Visual Acuity (sc)	20/25 OD, 20/25- OS	20/20 OD, 20/20 OS	20/15 OD, 20/15 OS
Topography	Not performed	Central flattening, near-complete ring of midperipheral steepening	Central flattening, complete ring of midperipheral steepening
SLE of Lens	Well-centered bull's eye pattern OU <i>(See Figure 2)</i>	Not assessed	Not assessed
Treatment/Plan	Lens wear qhs OU for ≥6 hours, clearcare	Lens wear qhs OU for ≥6 hours, clearcare	Lens wear qhs OU for ≥6 hours, clearcare
	1-Month Follow Up	Lens Exchange	1-Week Follow
Visual Acuity (sc)	20/15 OD/ 20/15 OS	20/15 OD, 20/15 OS	20/15 OD, 20/15 OS
Topography	Central flattening, complete ring of midperipheral steepening	Central flattening, complete ring of midperipheral steepening	Central flattening, complete ring of midperipheral steepening <i>(See Figure 3)</i>
SLE of Lens	Not assessed	Well-centered bull's eye pattern, not obstructing limbus	Not assessed
Treatment/Plan	Pt complains of lenses dislodging off of cornea during sleep, continue lens wear but order new lenses with increased diameter.	Dispense new lenses, lens wear qhs OU for ≥6 hours, clearcare	Patient reports lenses no longer dislodge off cornea during sleep, continue lens wear qhs OU for ≥6 hours, clearcare, FU in 3 months

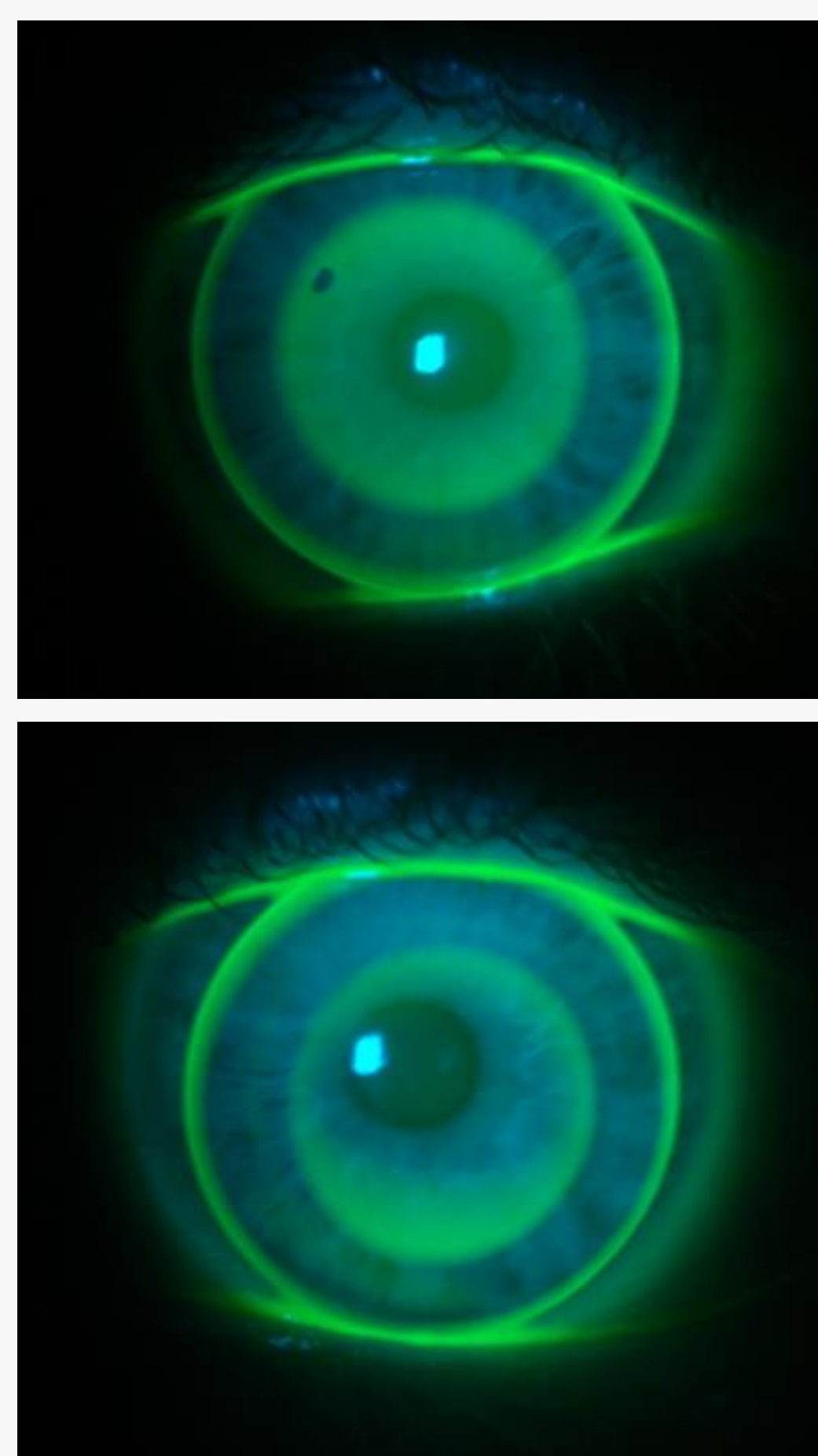


Figure 2: SLE photos of initial orthokeratology lenses OD (top) and OS (bottom).

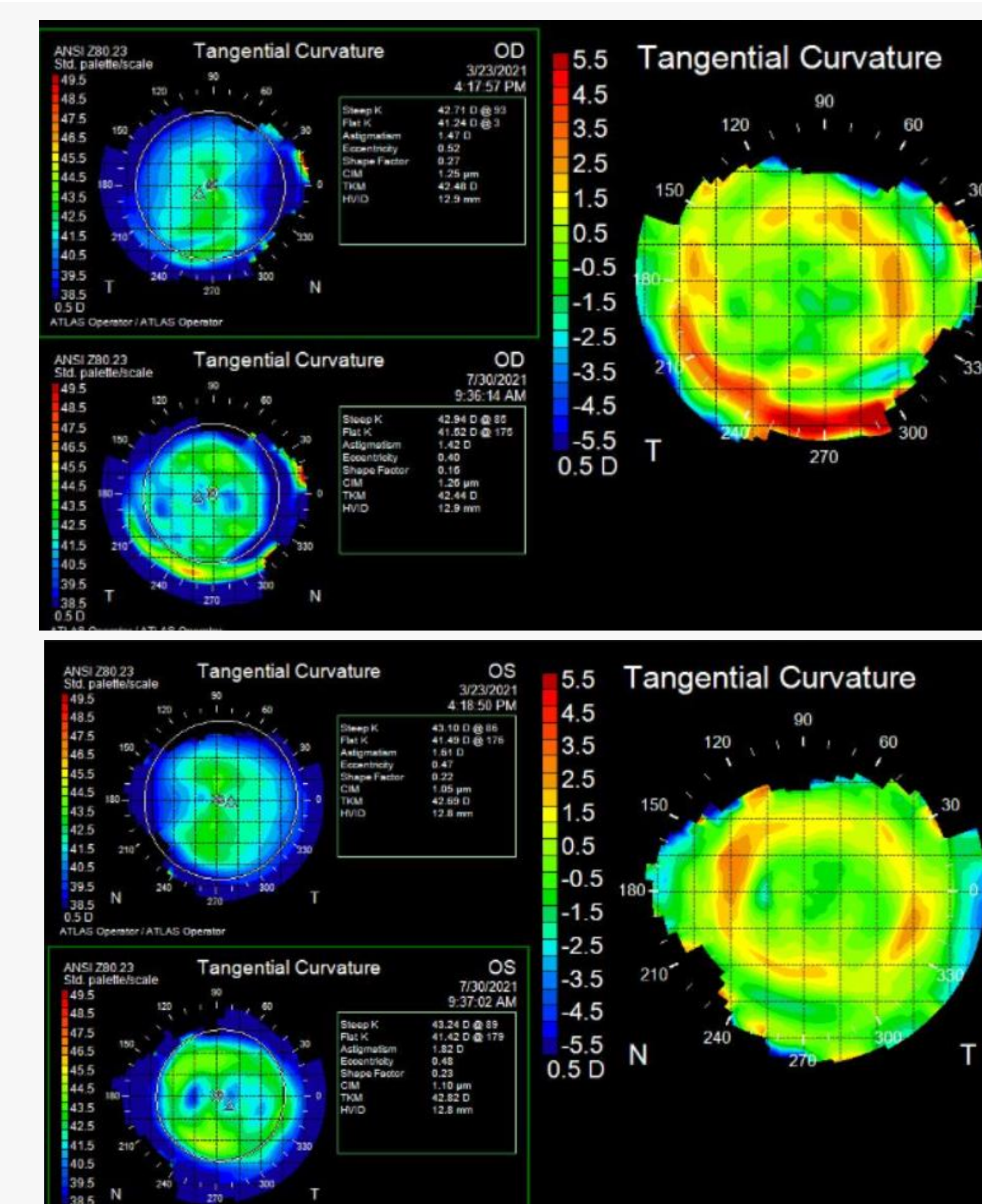


Figure 3: Final tangential topographies with difference maps OD (top) and OS (bottom).

Discussion

- Orthokeratology lenses are a great alternative to LASIK enhancement in patients that want freedom from glasses but do not want another ocular surgery.
- Determining whether or not your post-refractive surgery patient is a good orthokeratology candidate is paramount:
 - Uncomplicated surgical history
 - BCVA 20/20
 - No significant corneal irregularity
 - Ks between 40-46 D
- Special care should be taken in fitting post-refractive surgery patients in orthokeratology lenses to maintain ocular health.
 - It is recommended to wait at least 1-year post-op before fitting GP lenses.
 - Fitting process may take longer due to oblate nature of the post-refractive surgery cornea.
 - Strive for ideal fit to avoid potential LASIK flap and interface complications.
 - Monitor more frequently.

Conclusion

- This case demonstrates that orthokeratology lenses are a safe and effective alternative to LASIK enhancement.
- Proper patient selection and special care during the fitting process are vital in order to achieve a successful, healthy fit and a satisfied patient.

References

- Euclid Systems Corporation. (2016). *Euclid Emerald Fitting Guide*. Sterling, VA; Euclid Systems Corporation.
- Kojima, R., & Ho, C(2016). Fitting Ortho-K Lenses Post-PRK or Post-LASIK The when and how of orthokeratology after refractive surgery. *Contact Lens Spectrum*, May 2016(31), 40-43.