Case Presentation: Latitude Scleral Contact Lens for Keratoconus Patient

Case and photos by Chawan Rasheed O.D.

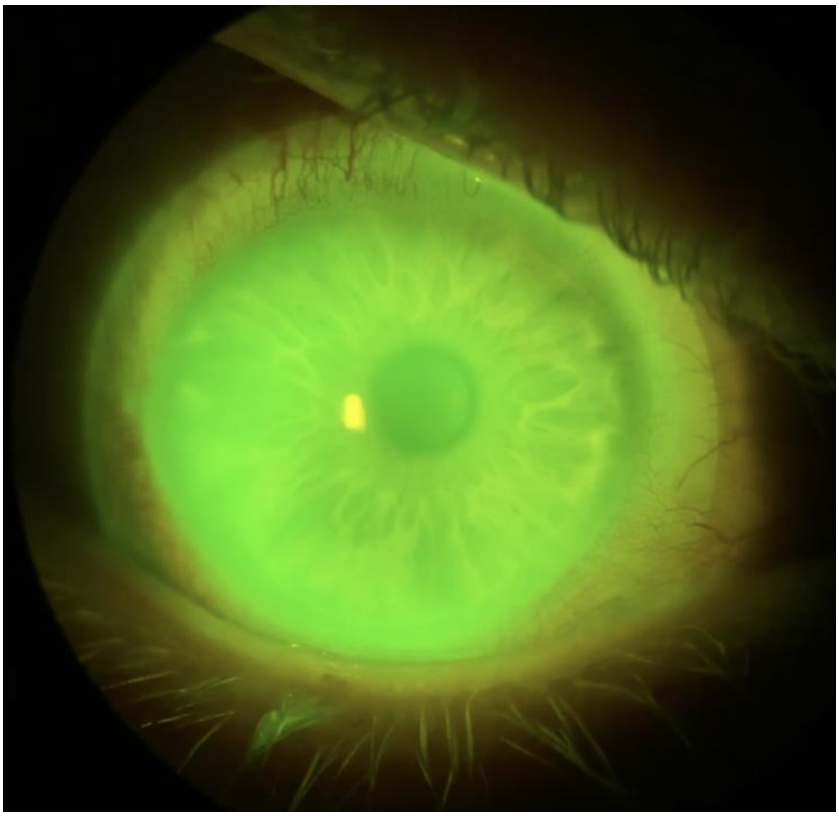
History – Patient is a 34 year-old male with keratoconus OD>OS, diagnosed at 17-years-old. He has a history of wearing scleral lenses for several years and is currently in Custom Stable scleral lenses. He denies sleeping in his lenses but does admit to approximately 17 hours of daily wear.

- Pt was switched from Custom Stable scleral lenses to a Latitude scleral lens during 2020 eye exam for a more customized fit. This case demonstrates the indication to increase lens diameter to improve the limbal oxygen supply. After consecutive reorders due to consistent fitting issues, he was eventually switched from a 17.0mm to an 18.5mm diameter Europa sclera lens (still produced by the same lab as Latitude lenses) due to inadequate limbal clearance that resulted in limbal hypoxia and corneal neovascularization.

	HVID	K Readings	Spectacle Manifest Rx
OD	12.0mm	K flat 65.2D/K steep 68.8D	-18.00-5.00x085 20/300
OS	12.1 mm	K-flat 54.9D/K steep 60.0D	-15.00-2.50x065 20/200

Classic corneal presentation of an inferior paracentral cone.

Central and superior cones are also possible, however, less common.



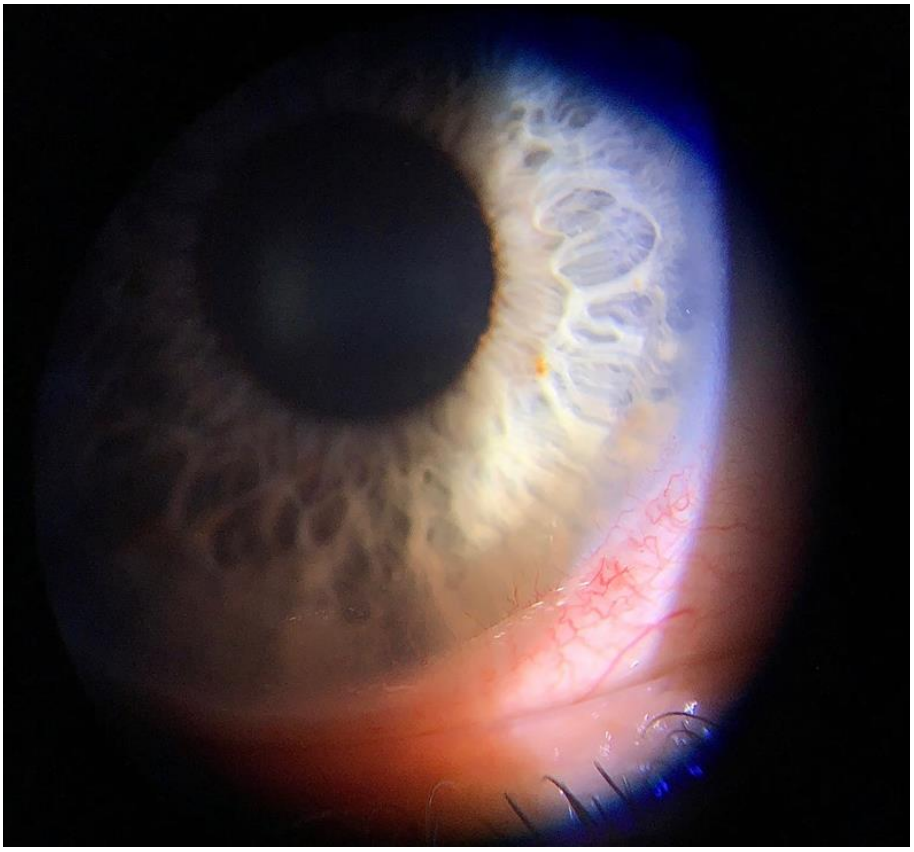
Latitude 17.0mm diameter

A combination of the widest cobalt blue beam in the slit lamp with a Wratten filter was used to observe limbal bearing from 9:30-3:30.

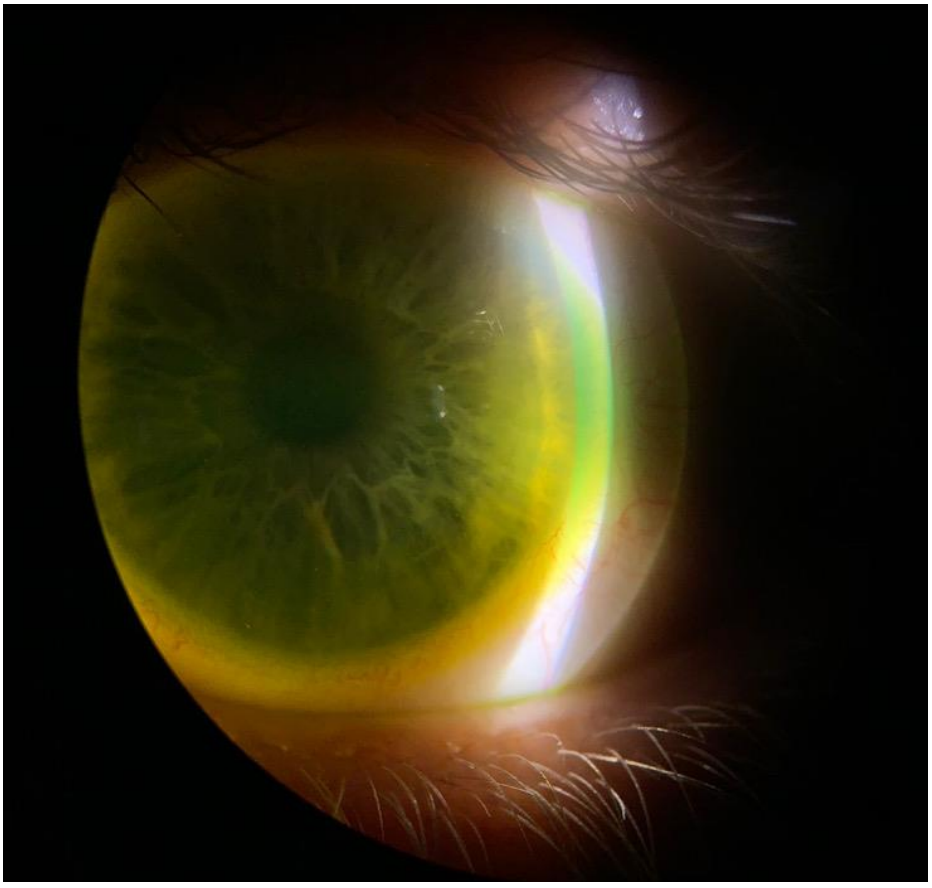
Latitude 17.0mm diameter

3+ limbal injection from 4:00-8:30 and mild corneal neovascularization superiorly that indicates limbal hypoxia 360.

Conjunctival suction infero-temporal. Focal 2+ edge lift at 8 o'clock due to sMap3D data collecting error when designing the Latitude lens.



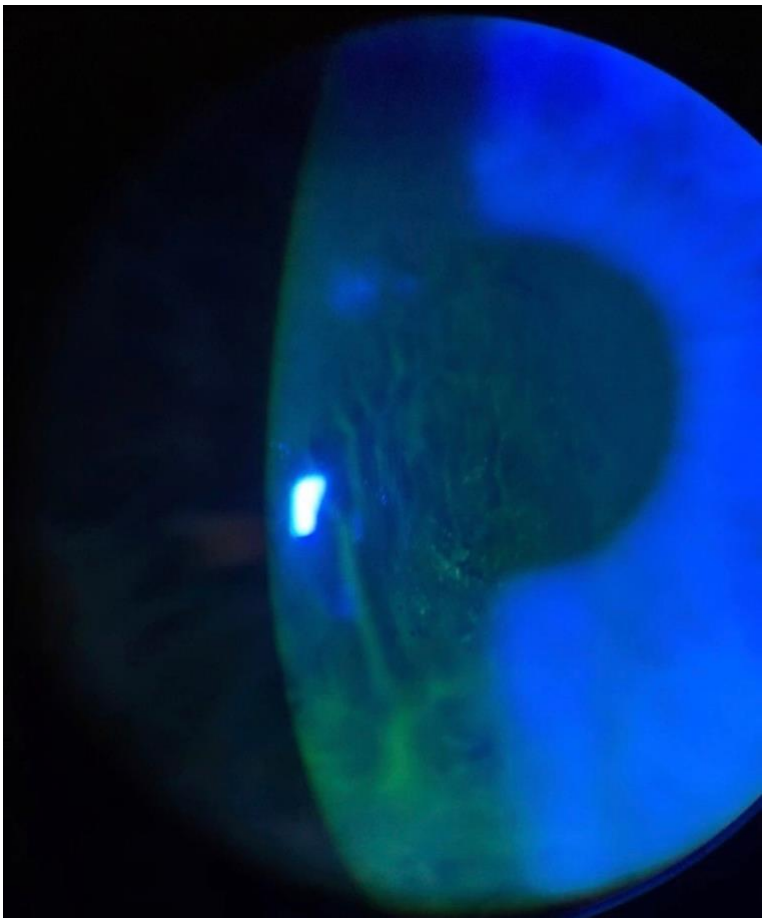
Mild conjunctival prolapse



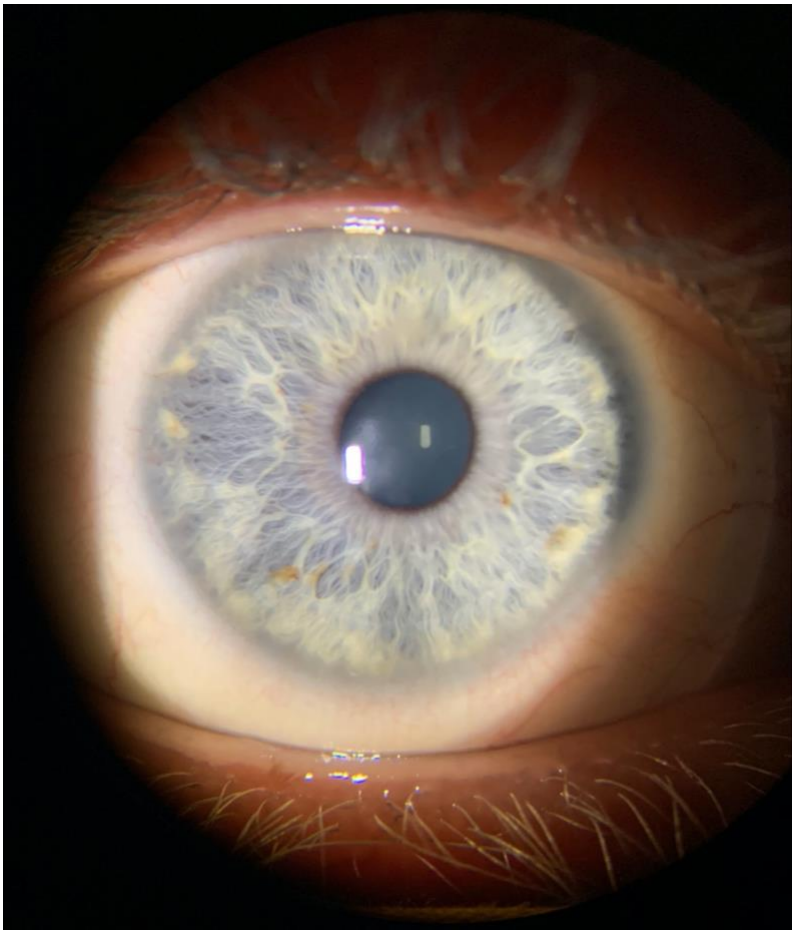
Temporal edge lift resulting in leakage into reservoir.

Unilateral leakage into reservoir

Focal blanching inferior nasal and NaFl leakage into reservoir inferiorly



Epithelial bogging after scleral lens removal



Final lens: Europa 18.5mm diameter

Significantly improved limbal clearance, oxygen supply, and injection. Regressed corneal neovascularization resulting in ghost vessels.