

Abstract Sample

Case Abstract

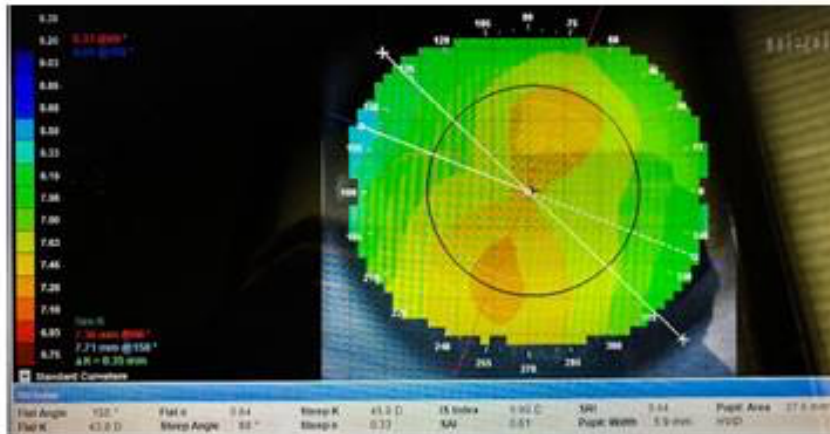
Case #: 1

Case ID:

Eye: L

Prefitting Rx: OS -5.25-2.00x158

Attach prefitting topography with brief analysis



$$\Delta K = 2.1 D$$

Limbus to Limbus Astigmatism

Δ Sagittal Height @ 8.6mm chord = 78um (since > 40um at toric back surface is needed)

Flat e = 0.64 (relatively high so we should get a good orthok effect)

Lens may decenter slightly inferior/nasal

IS/SAI/SRI all within normal range so no corneal irregularities are present

Summary of treatment design used (eg., manufacturer, custom designed, design philosophy, etc).

Custom Designed 6 Curve (7 curves including base curve) Vision Correction Orthokeratology Lenses

Manufactured by Valley Contax

Designed for moderate-high myopia combined with high limbus to limbus astigmatism

Toric Alignment Curve: To properly fit limbus to limbus astigmatic cornea

Spherical Back Optic Zone: Toric optic zone not needed

Aspheric Reverse Curve: Allows for better correction and longer hold

If additional molds were needed explain why briefly

1 additional lens was designed due to:

Center clearance was too low on initial fitting so lens was redesigned to avoid corneal touch. Optic zone eccentricity was added for better treatment and optic zone diameter was decreased to maintain the same reverse curve tear depth.

Why is this case interesting, unique or complex?

It can be difficult to fully correct a patient that has both moderately high myopia combined with high astigmatism. Due to the limbus to limbus astigmatism, the lens must be designed with a toric back surface (toric alignment curve). Due to the relatively high myopia, the lens must be designed with a smaller back optic zone diameter and increased eccentricity. There are many variables to consider to get the lens to align adequately for proper correction, along with fully correcting the high myopia and astigmatism and getting it to hold all day. This case is interesting because many practitioners would consider this out-of-range for orthokeratology and refer them for LASIK, but custom designed retainers gave this patient another option without having to pursue surgery.