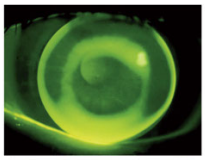
Apex™ KERATOCONUS

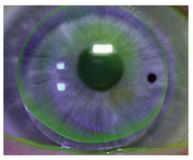
The Apex lens design for keratoconus incorporates a number of *fitting forgiveness factors* to simplify fitting the keratoconus patient. These inherent design properties are intended to aid the practitioner in managing the various topographies seen with this corneal disorder.

This new proprietary lens design is based upon the belief that those patients who are successful with gas permeable lens designs must be fitted with a lens that minimizes apical interaction, and avoids impingement of the peripheral cornea, specifically in the superior quadrant.

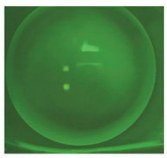
Fluorescein Pattern Interpretation



Excessive interaction at the corneal apex can lead to epithlial roughening and possible scar tissue formation.



Inferior stand off can be managed by a reduction in lens diameter. Note the close apposition of the lens edge in the superior quadrant compared to the stand off inferiorly.



An acceptable fit centers the optics of the lens over the pupil, and minimizes apical interaction.

Keratoconus Success Fitting Guidelines

The following are proven guidelines to aid in the fitting of keratoconus with X-Cel's proprietary lens design. This design has a number of inherent "fitting forgiveness factors" to aid lens performance.

OBJECTIVES:

- Maintain centration of the spherical posterior optical zone over the visual axis to maximize vision and minimize flare.
- Minimize interaction of the lens and the typically more elevated corneal apex.
- Establish a "grip" or fulcrum points along the horizontal meridian to maintain centration of the lens.
- Avoid impingement in the peripheral and mid-peripheral cornea, especially in the superior quadrant. Impingement can result in limited wear time, poor comfort, inferior lens decentration, and poor tear film replenishment during the blink that can result in epithelial breakdown.

**Consider the use of a topical anesthetic for patients who are not currently wearing GP lenses. By blocking the reflex tear mechanism, and the use of a wratten filter, a more accurate fluorescein pattern may be determined.*

STEP 1 **Select Base Curve**	• Insert the "mean" diagnostic lens (45.00D -4.00 9.3) on the eye(s) regardless of keratometry. • Apply proper amount of fluorescein and observe with a cobalt light. • If a constant "black" appearance is observed over the corneal apex, steepen the base curve until a "lightening" is observed during the blink. • If the corneal apex is vaulted or a bubble is observed trapped beneath the lens, flatten the base curve.
STEP 2 **Evaluate Diameter**	• If lens is decentered, increase lens diameter. • If proper centration is achieved and inferior edge stand off is observed, decrease lens diameter. • If poor tear exchange over the apex is observed during the blink, consider reducing the diameter.
STEP 3 **Determine Periphery**	• Three edge lift values available are steep, medium, and flat. (all lenses in the diagnostic set are medium) • If insufficient edge lift is observed, consider the next flatter edge lift value. • If excessive edge lift is observed, utilize the next steeper edge lift value.
STEP 4 **Determine Power**	• Over-refract the most appropriate diagnostic lens to determine lens power to be ordered.

Apex_Fitting_Guide-1.jpg

Lens Parameter Availability

The X-Cel Apex Keratoconus lens is manufactured exclusively in Boston® XO from Polymer Technology.

Diameter:	7.9 to 10.3
Base Curve:	40.00D (8.44) to 68.00D (4.96)
Powers:	-20.00D to +20.00D
Periphery:	Steep, Medium, Flat

Diagnostic Set Parameters

The Apex Keratoconus lens should be fit utilizing diagnostic lenses.

Standard 24-Lens Diagnostic Set Parameters:

Base Curve:	40.00D to 58.00D
Powers:	Plano to -17.00
Diameter:	8.2 to 10.0
Periphery:	Medium
Material:	Boston XO (green)

Wratten Filter included.

Additional 10-Lens Diagnostic Set Available:

Base Curve:	59.00D to 68.00D
Powers:	-17.00 to -20.00
Diameter:	8.2
Periphery:	Medium
Material:	Boston XO (green)

Bausch & Lomb Boston XO® Contact Lenses

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