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Take your scleral fitting to a higher plane.

Zenlens™ scleral lens, co-designed with Jason Jedlicka, OD, fully vaults the cornea and allows you to fit a wide variety of corneal shapes and sizes using a single fitting set and fitting philosophy. It offers you:

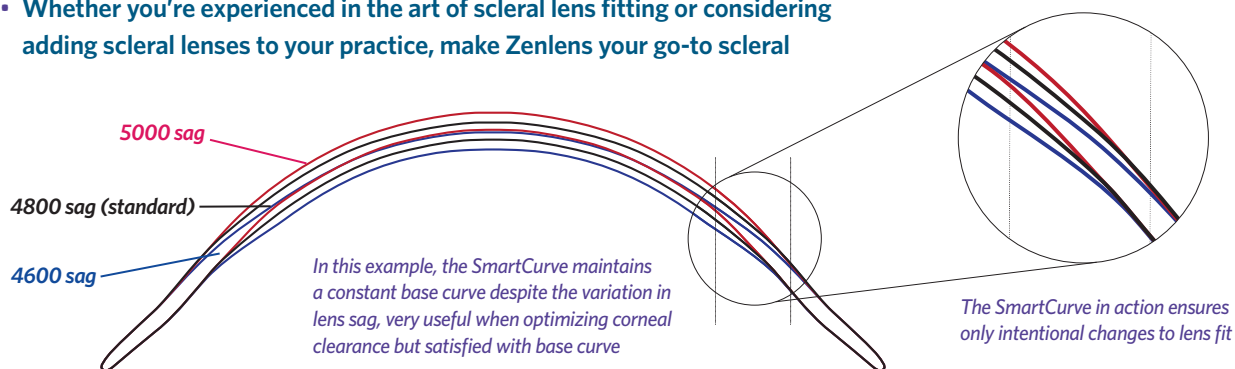
- Lens diameters of 16.0 mm and 17.0 mm—appropriate for a wide range of corneal sizes
 - Prolate and oblate designs to fit a wide range of corneal shapes
- SmartCurve™ technology: modify only the parameter you want, not the ones you don't
 - Custom design options to fine-tune optics and physical fit
- A comprehensive 28-lens diagnostic set for efficient fitting
 - Featured in Boston XO® Materials with a Dk of 100;
also available in Boston XO₂® with a Dk of 141



Delivering Targeted Fitting

Key to the power of Zenlens is the ability to zero in on only the parameter modifications you need to make. When a parameter modification is made, the Zenlens™ scleral lens with the SmartCurve™ design automatically engages to ensure all other design attributes remain consistent.

- **Allows you to focus on only the parameter requiring modification (effective sag, base curve, limbal clearance curve or APS peripheral curves)**
 - *Especially convenient when best fit Dx lens requires sag modification, as the BC remains constant so your over-refraction remains valid*
- **The SmartCurve will simplify your scleral fitting**
- **Whether you're experienced in the art of scleral lens fitting or considering adding scleral lenses to your practice, make Zenlens your go-to scleral**



Power Determination

Once the lens demonstrates acceptable central vault and limbal clearance, and the sclera has been assessed for adjustments to the peripheral curve system, an over-refraction should be done to determine final power and whether lens flexure exists.

Flexure Control

If a spherocylindrical over-refraction is found, keratometry or topography over the lens may be helpful to ensure that flexure is the cause for the over-refraction. In this instance, an increase in lens thickness will help to reduce flexure (Flexure Control Factor).

If the lens demonstrates significant compression or lift in one meridian, a lens can be ordered with toric scleral alignment curves to aid in the fit. Please contact Alden Optical Consultation for assistance with these types of requests.

Cylinder Control Options

If cylinder is present in the over-refraction, use keratometry or topography to check lens for lens flexure.

| IS THE LENS FLEXING? | IS THE LANDING ZONE ALIGNMENT UNIFORM IN THE PRIMARY MERIDIANS? | SOLUTION |
|----------------------|---|--|
| Yes | Yes | Request Flex Control Factor of 1 Adds 100 microns of thickness |
| Yes | No | Request Toric APS Flatten or steepen APS by different amounts in each meridian |
| No | Yes | Request Front Toric Rx Design Offers dual elliptical stabilization |
| No | No | Request Toric APS Check axis orientation of the flat meridian (marked with dots). Perform new OR if cylinder is still present; order front toric design with toric APS |



Standard or Custom, You'll Get the Fit You Need

While the Zenlens™ lens can be customized to nearly any parameter, fitting within the standard parameters should be adequate for the vast majority of patients. Toric peripheral curves, customized center thickness, flexure controlling profiles, and front toric Rx's can also be ordered when needed.

Standard Parameters

| | |
|--|---|
| Sagittal Depth Range: | 3200 to 6700 in 10 micron steps (fully customizable) |
| Diameter: | 16.0 mm and 17.0 mm |
| Powers: | +20.00 D. to -20.00 D. |
| Advanced Peripheral System (APS): | Steep-10 thru Steep-1, Standard, Flat-1 thru Flat-10 (in 30 micron increments) |
| Options: | Toric Peripheral Curves (Dx set contains 4 Toric APS lenses) Flexure Controlling Profile Custom Center Thickness Front Toric Rx MicroVault—call for information |
| Recommended Material: | Boston XO® (Boston XO ₂ ® on request) |

BAUSCH + LOMB
Boston
Materials



Diagnostic Set Configuration

| PROLATE | 16MM | Z-1 4200 SAG 8.20 BC | Z-2 4500 SAG 7.60 BC | Z-3 4800 SAG 7.10 BC | Z-4 5100 SAG 6.70 BC | Z-5 5400 SAG 6.40 BC | Z-6 5700 SAG 6.10 BC | TORIC PCs |
|---------|------|-------------------------------------|-------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|-----------|
| | 17MM | Z-7 4300 SAG 9.20 BC | Z-8 4600 SAG 8.40 BC | Z-9 4900 SAG 7.80 BC | Z-10 5200 SAG 7.30 BC | Z-11 5500 SAG 6.90 BC | Z-12 5800 SAG 6.60 BC | |
| OBLATE | 16MM | Z-13 4100 SAG 10.00 BC | Z-14 4400 SAG 9.50 BC | Z-15 4700 SAG 9.00 BC | Z-16 5000 SAG 8.50 BC | Z-17 5300 SAG 8.00 BC | Z-18 5600 SAG 7.50 BC | TORIC PCs |
| | 17MM | Z-19 4200 SAG 10.90 BC | Z-20 4500 SAG 10.30 BC | Z-21 4800 SAG 9.70 BC | Z-22 5100 SAG 9.10 BC | Z-23 5400 SAG 8.50 BC | Z-24 5700 SAG 7.90 BC | |

Lens Design Selection

Select lens diameter based on corneal diameter measurement or estimation:

- For smaller corneas (11.7 mm or smaller), the 16.0 mm design is recommended
- For larger corneas (11.8 mm or larger), the 17.0 mm design is recommended

Select the lens design based on corneal shape or indication:

- Choose the prolate design for keratoconus or normal corneas with ocular surface disease
- Choose the oblate design for post graft, post refractive surgery, or corneal marginal degenerations

Initial Diagnostic Lens Selection—Prolate Design

- For normal corneas or mild keratoconus, choose the 4500 (16.0 mm) or 4900 (17.0 mm) SAG
- For more advanced keratoconus, choose a deeper SAG (4800 – 5500)

Initial Diagnostic Lens Selection—Oblate Design

- For post refractive surgery corneas without ectasia, choose the 4400 (16.0 mm) or 4500 (17.0 mm) SAG
- For post refractive surgery corneas with ectasia or for typical corneal grafts, choose the 4700 (16.0 mm) or 4800 (17.0 mm) SAG
- For deep corneal grafts, choose the 5000 (16.0 mm) or 5100 (17.0 mm) SAG

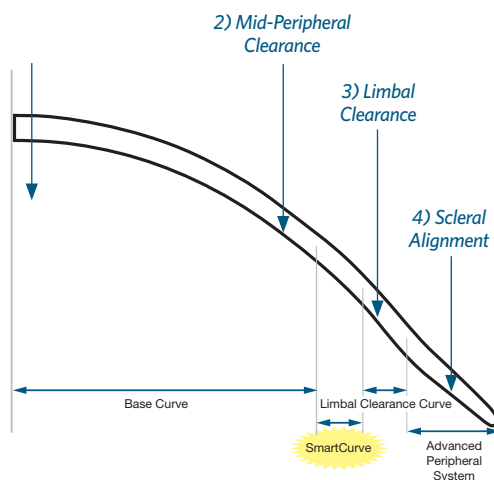
Apply the lens filled with non-preserved saline solution and fluorescein to the eye with the patient's head turned directly toward the ground.
If needed, a lens insertion tool may be utilized.

Assessment of Lens Fit

There are 4 components to a successful scleral lens fit, and the Zenlens is no different:

- 1) **Proper Central Vault**
Adjust Lens SAG
- 2) **Mid-Peripheral Clearance**
Adjust Base Curve
- 3) **Limbal Clearance**
Adjust Limbal Clearance Curve
- 4) **Scleral Alignment**
Adjust Peripheral Curve (APS)
including possible Toric APS

1) Central Vault



1) Central Vault

The Dx lens should exhibit roughly 300-400 microns of initial central clearance. If the clearance is inadequate or there is central touch, apply the next deeper lens from the diagnostic set. The diagnostic lenses are 350 microns thick, so this can be used as a guide. If needed, lenses can be ordered with custom SAG values.

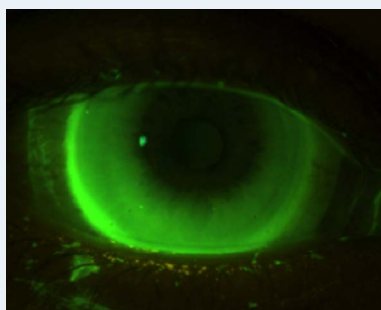


Figure 1: Unacceptable central touch

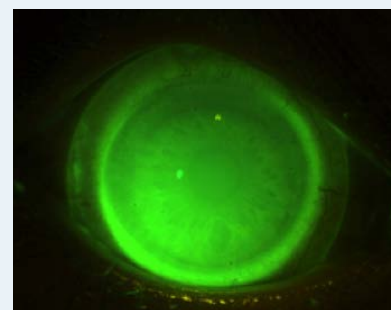


Figure 2: Central clearance

Once central clearance is observed, use SLE cross-section view to determine the amount of clearance, as shown below:

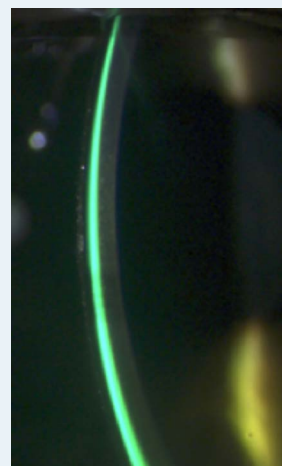


Figure 3: 4600 SAG lens with roughly 200 microns of vault

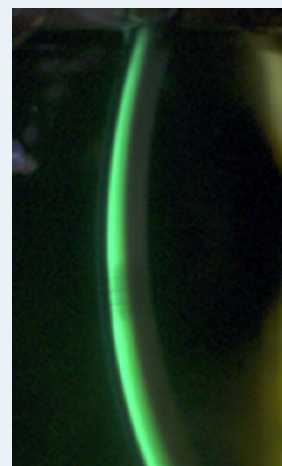


Figure 4: 4900 SAG lens with roughly 500 microns of vault

If you feel the ideal vault is between these two lenses, a lens with 4750 SAG could be requested.

2) Mid-Peripheral Clearance

Assess as part of troubleshooting—see back page.

3) Limbal Clearance

The lens should also exhibit clearance beyond the limbus. If a lens does not demonstrate full limbal clearance, either move to a larger diameter or ask for an increased limbal clearance as a custom parameter when ordering.

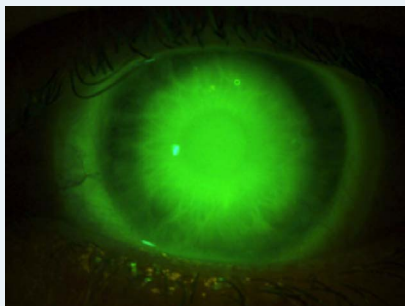


Figure 5: Unacceptable limbal bearing

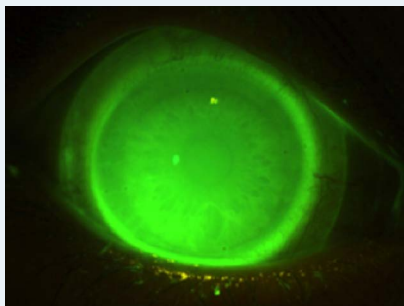
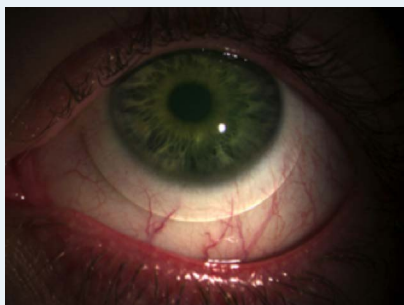
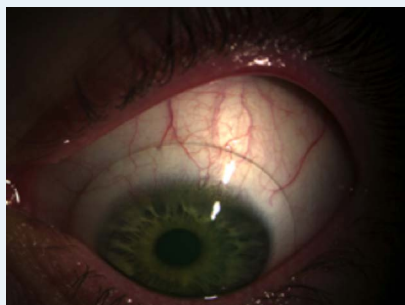


Figure 6: Clearance that extends beyond limbus with larger diameter lens

4) Scleral Alignment

All diagnostic lenses come in a standard peripheral curve system. If the lens is too tight (causing blanching in a significant area of the lens), the lens can be ordered flatter or steeper. Choosing the peripheral curve system is based upon just how tight or loose the curves are.

If significant edge compression or lift is in one meridian, but the final power, SAG and LCC adjustments are optimized then select the Toric APS Dx lens using the same shape and diameter as the optimal trial. The Toric APS Dx lens aids in assessing scleral alignment and lens rotation (clearance will likely be excessive). Apply Toric APS Dx lens and settle for 5 minutes. The Flat meridian (Flat 3) has lines drilled, and the black dot that marks the Steep APS meridian (Steep 3). The flat meridian may not always be horizontal, determine the angle of rotation using the drilled lines. Evaluate the scleral alignment of each meridian independently and adjust APS accordingly. This information can then be incorporated with the optimal fit diagnostic lens parameters previously obtained to complete the fitting process.

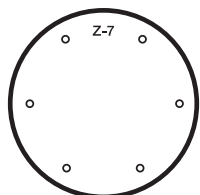


Figures 7 and 8: Good Scleral Alignment in all meridians

APS Peripheral curve system options:

Steep-10 thru Steep-1 • **Standard** • Flat-1 thru Flat-10 (in 30 micron increments)
Toric peripheral systems are also available

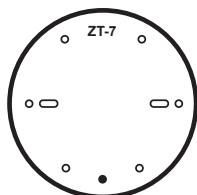
Lens Markings



Dx Lenses

- Six evenly spaced drilled dots at the beginning of the landing zone

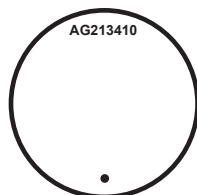
Laser-etched Dx number for positive ID



Toric APS Dx Lenses

- Six drilled dots at LCC
- Two drilled lines at 0 and 180 meridian
- Drilled black dot at 270 base

Laser-etched Dx number for positive ID



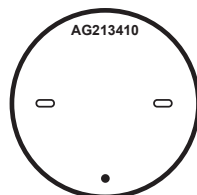
Standard

- Drilled black dot on right lens OD (shown)
- No dot OS
- Laser-engraved ID



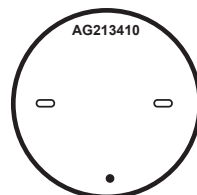
Toric APS

- Two drilled lines at horizontal PC meridian will align to the horizontal meridian of sclera
- Drilled black dot at 270 base OD (shown)
- Two drilled black dots at 270 base OS
- Laser-engraved ID



Front Toric

- Two drilled lines at 0/180 meridian
- Drilled black dot at 270 base OD (shown)
- Two drilled black dots at 270 base OS
- Laser-engraved ID



Toric PCs w/ Front Toric

- Two drilled lines at horizontal PC meridian will align to the horizontal meridian of sclera
- Drilled black dot at 270 base OD (shown)
- Two drilled black dots at 270 base OS
- Laser-engraved ID

Troubleshooting

| PROBLEM | POSSIBLE SOLUTIONS |
|---------------------------------------|--|
| Bubbles under lens | <ul style="list-style-type: none"> • Reinstruct on proper application • Check for edge lift in one or more quadrants; may require toric or steeper APS • Reduce vault, if possible |
| Blanching/Redness | <ul style="list-style-type: none"> • May need to flatten APS • If occurring in opposing meridians, consider toric APS |
| Excessive mid-peripheral clearance | <ul style="list-style-type: none"> • Steepen base curve |
| Excessive plus power | <ul style="list-style-type: none"> • Steepen base curve |
| Insufficient mid-peripheral clearance | <ul style="list-style-type: none"> • Flatten base curve |
| Excessive minus power | <ul style="list-style-type: none"> • Flatten base curve |
| Limbal bearing | <ul style="list-style-type: none"> • Order with increased limbal clearance • Go to larger lens diameter |
| Debris/Clouding under lens | <ul style="list-style-type: none"> • Typically occurs with flat edge in the superior quadrant; steepen PC or go to toric PC • Check for excessive corneal or limbal clearance |
| Poor wetting | <ul style="list-style-type: none"> • Try rubbing GP conditioner on lens for 30 seconds, then rinse off and apply saline • Address lid hygiene issues |
| Poor vision | <ul style="list-style-type: none"> • Ensure proper Rx and lens surface is clean • If cylinder is present in the over-refraction, refer to the Cylinder Control Options section on the inside of this card |



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