



2019
Practice
Development
Educational Series

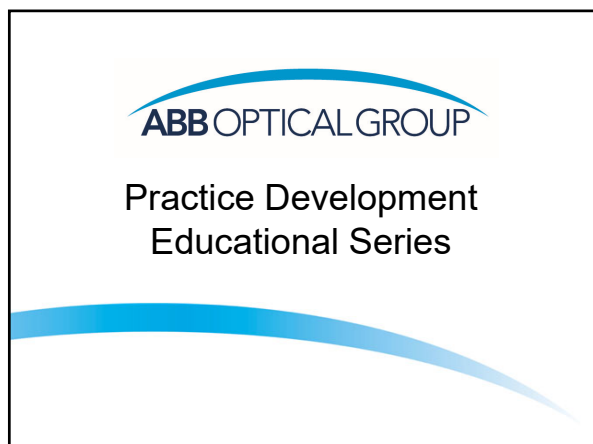
**Scleral Lens Design and
Fitting: The Basics**

Maria Walker, OD, MS, FAAO, FSLS



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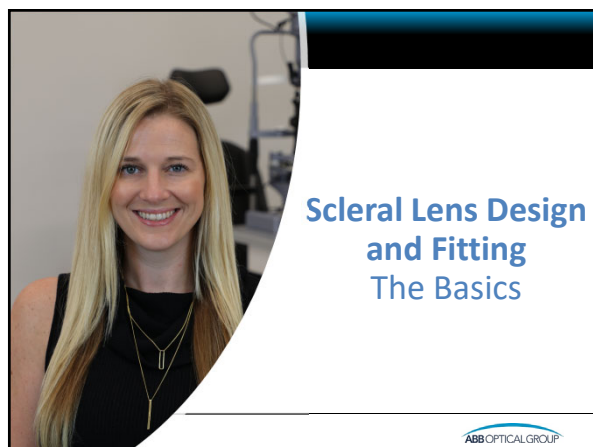
Scleral Lens Design and Fitting: The Basics



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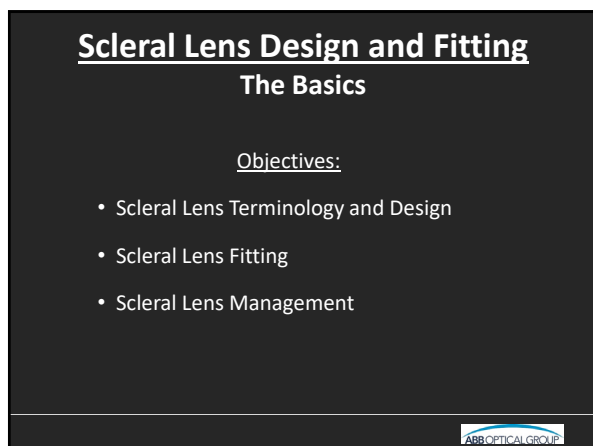
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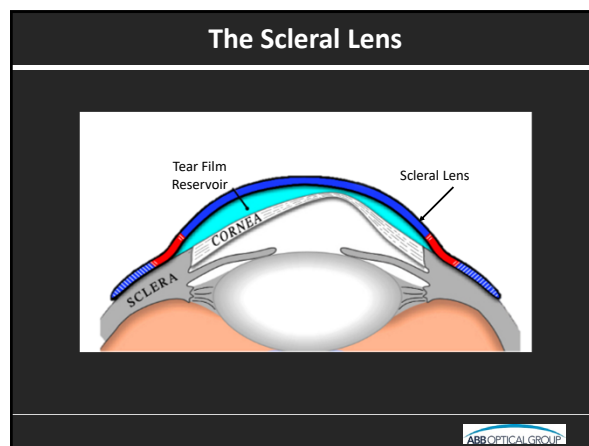
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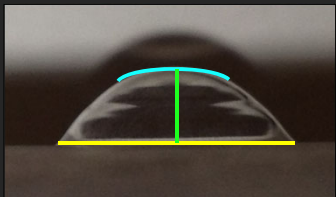
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Scleral Lens Design and Fitting: The Basics

Scleral Lens Terminology*

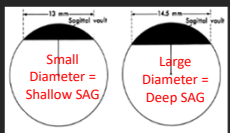
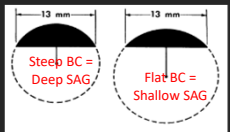
- Overall Diameter (OAD):** longest diameter of lens
- Total Sagittal Depth:** "height" of the lens from base to apex
- Base Curve (BC):** curvature of the optic zone



*Official nomenclature endorsed by the Scleral Lens Education Society

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Sagittal Depth (SAG)

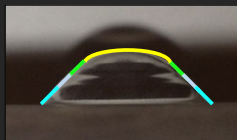
- Relationship with Diameter**

- Relationship with Base curve**


http://www.oculist.net/revision/502/prof/abbe/oculist/oculist/sagittal/sagittal.html

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Scleral Lens Terminology*

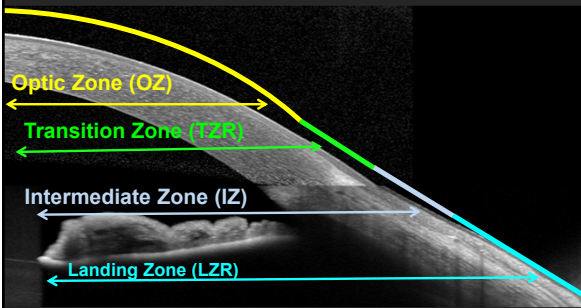
- Optic Zone (OZ):** the central zone of the lens
- Transition Zone (TZR):** peripheral to the OZ, between OZ and limbal zone
- Intermediate Zone (IZR):** peripheral to TZR, positioned over the limbus
- Landing Zone (LZR):** begins where the lens lands on the conjunctival tissue



*Official nomenclature endorsed by the Scleral Lens Education Society

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Scleral Lens Fitting Zones




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Scleral Lens Designs

- Over 20 scleral lens designs available in the US
- Optic Zones:**
 - Base curve
 - Optics: Toric, multifocal, wavefront-guided
- Limbal Zones**
 - Toric available, steep & flat
- Landing Zones:**
 - Toric, quadrant, and customized

Choose a few designs and become an expert:

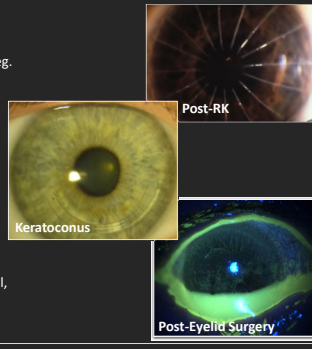
- 2-3 different diameters
- At least 1 multifocal design
- At least 1 customizable landing zone



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Scleral Lens Indications

- Irregular astigmatism**
 - Keratoconus / Pellucid Marginal Deg.
 - Post Corneal Transplant
 - Post Radial Keratectomy (RK)
 - Post LASIK/PRK
 - Post Intacs
 - Corneal Scarring
- Ocular surface protection**
 - Post surgical
 - Ocular surface disease (OSD)
- Other**
 - High Rx, amblyopia, myopia control, prosthetics, aphakia, and more...



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Scleral Lens Design and Fitting: The Basics

Scleral Lens Exam Sequence

- Visit 1: Baseline & Fitting
- Visit 2: Dispense & Education
- Follow-up: 1 week, 1 month, 6 months (year 1)
- 6mo - 1 year f/u on all pts




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Baseline Exam

- Step 1: Evaluate disease state
 - Scarring
 - Neovascularization
 - Corneal staining
 - Fibrosis

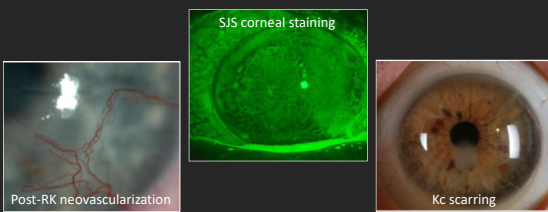


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Baseline Exam

- Step 1: Evaluate disease state
 - Staining: Cornea & Conjunctiva
 - Eyelid health
 - Other: glaucoma? cataracts?

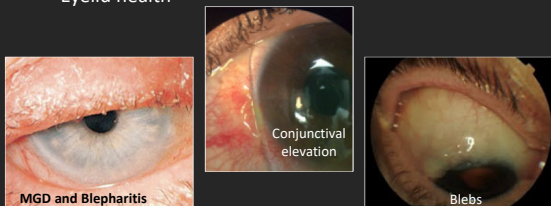


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Baseline Exam

- Step 2: Diagnostic Fitting
 - Starting lens: base curve or SAG selection
 - Equipment needed?




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Scleral Lens Application

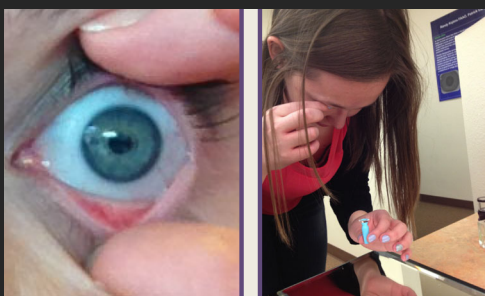


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Scleral Lens Application

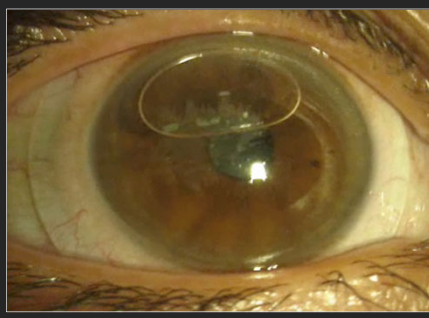
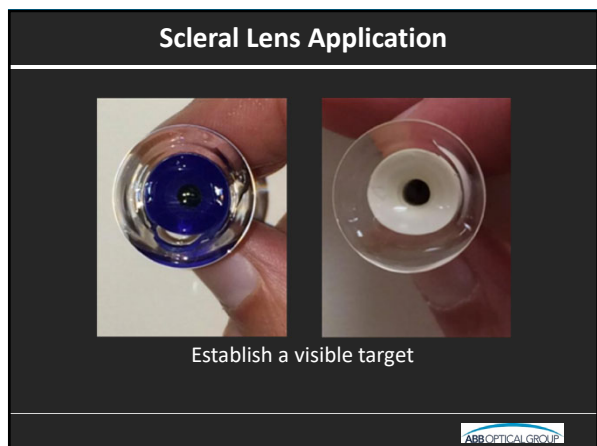


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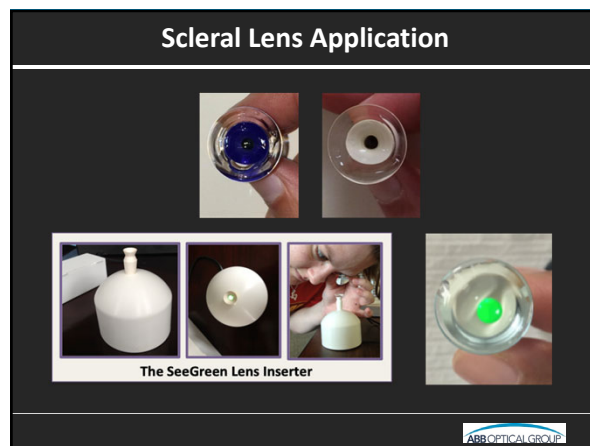
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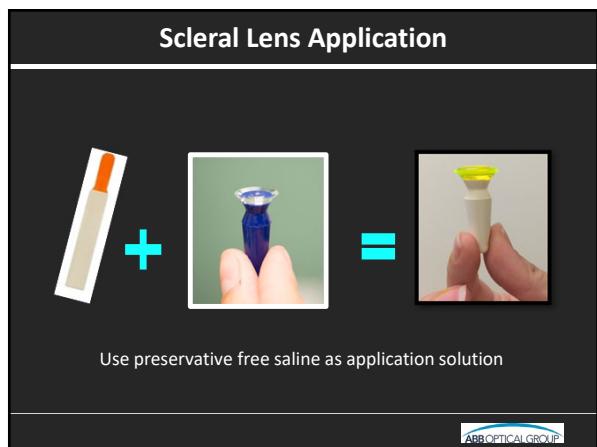
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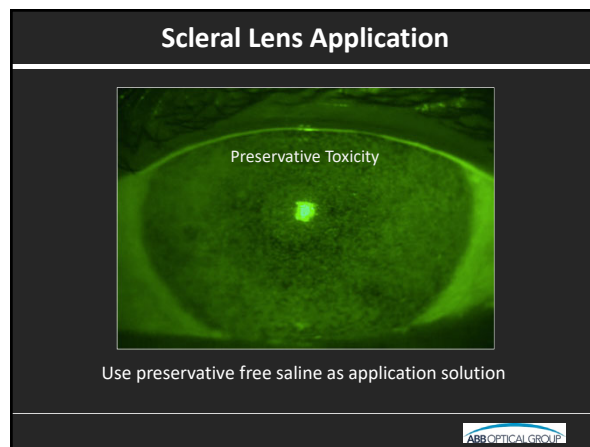
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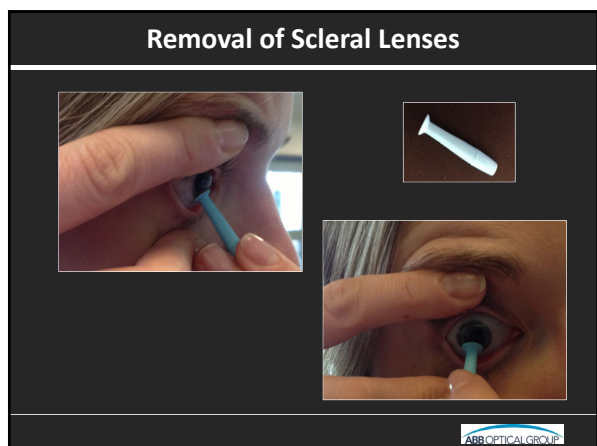
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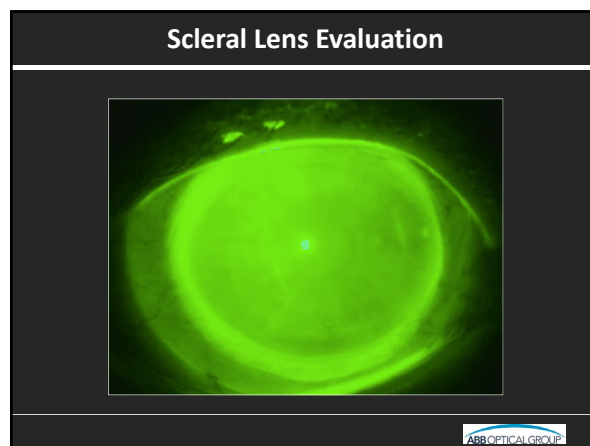
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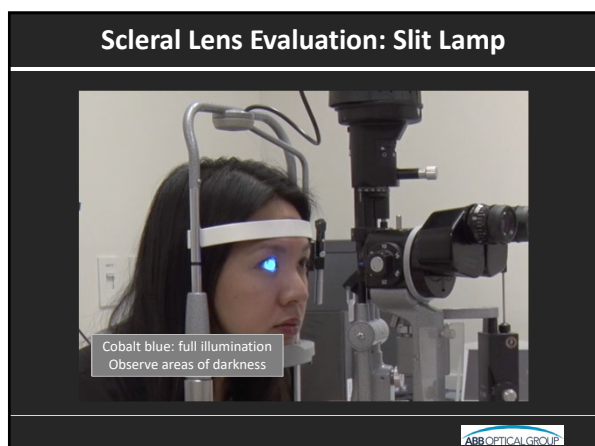
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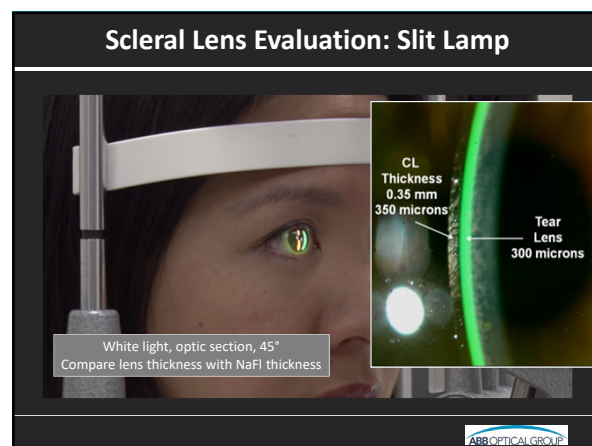
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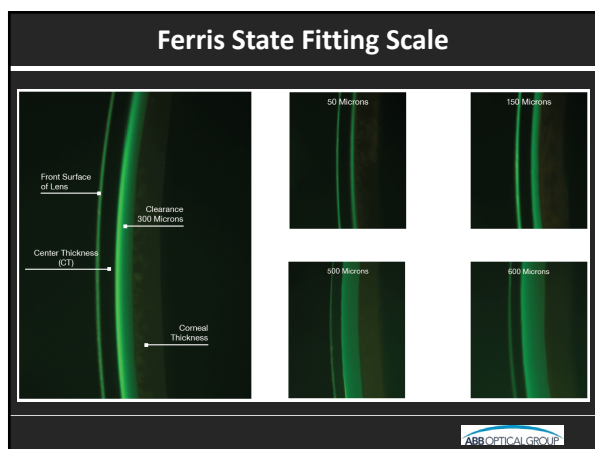
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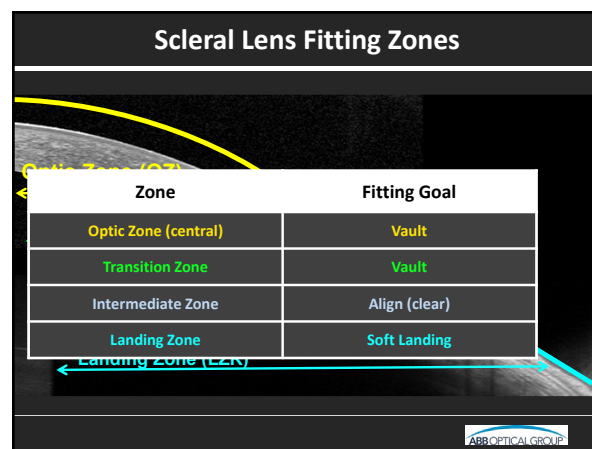
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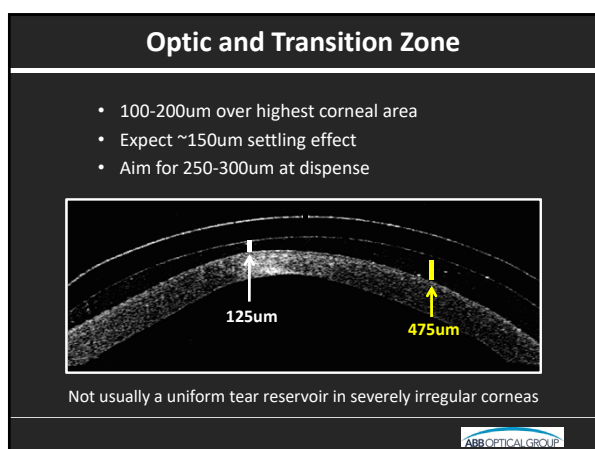
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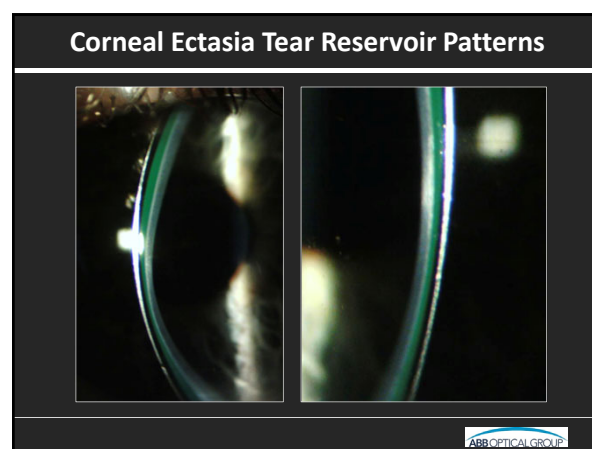
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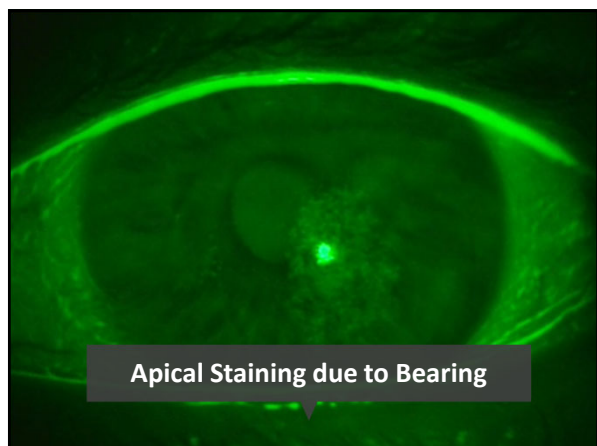
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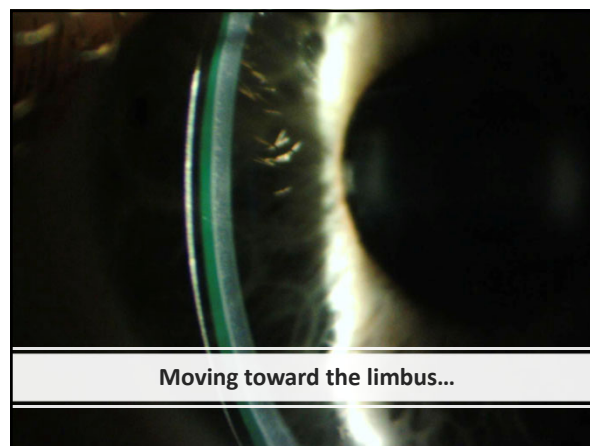
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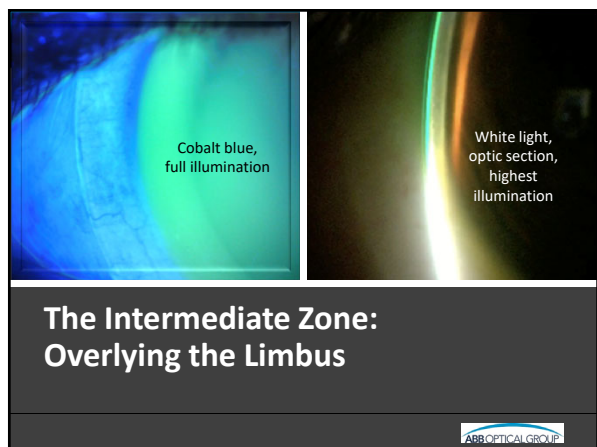
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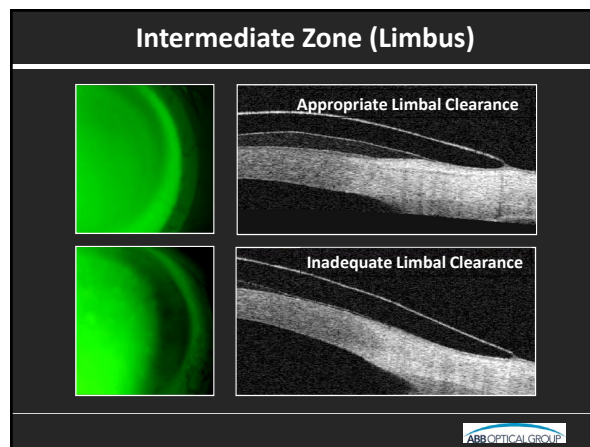
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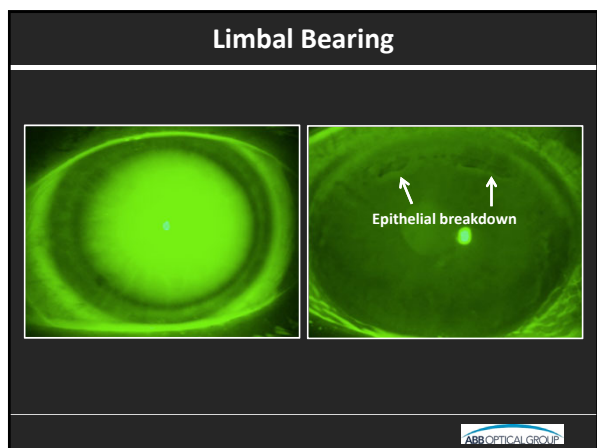
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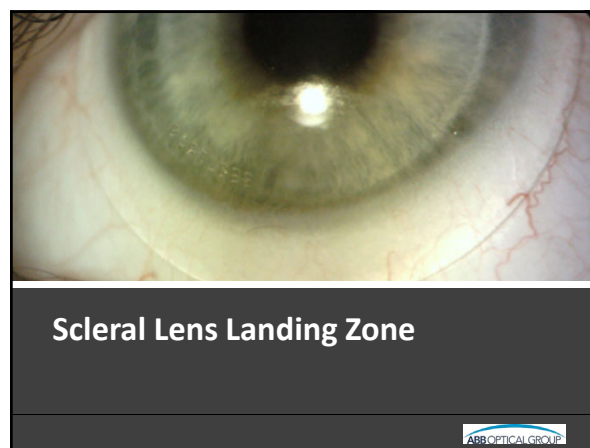
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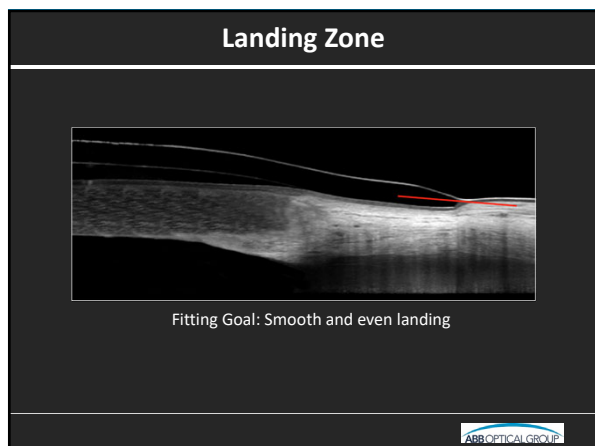
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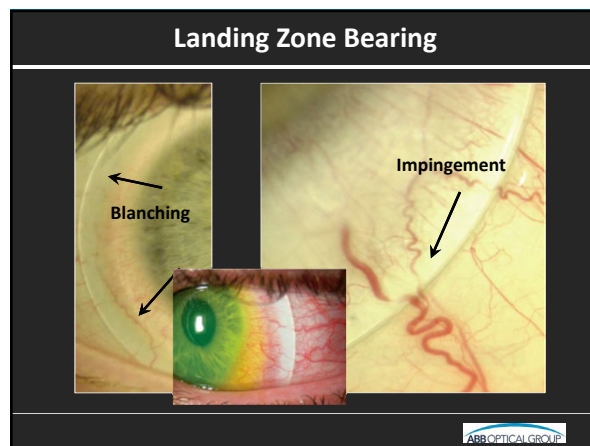
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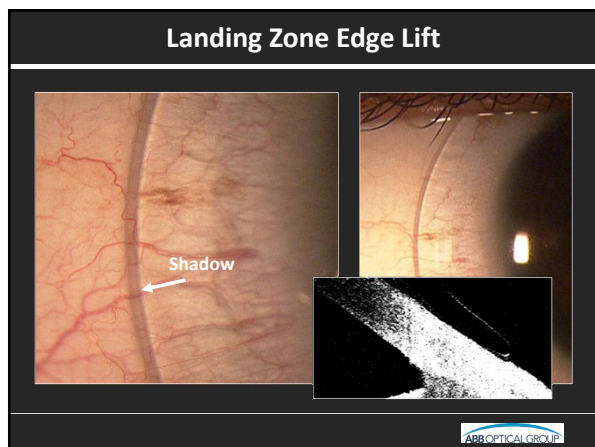
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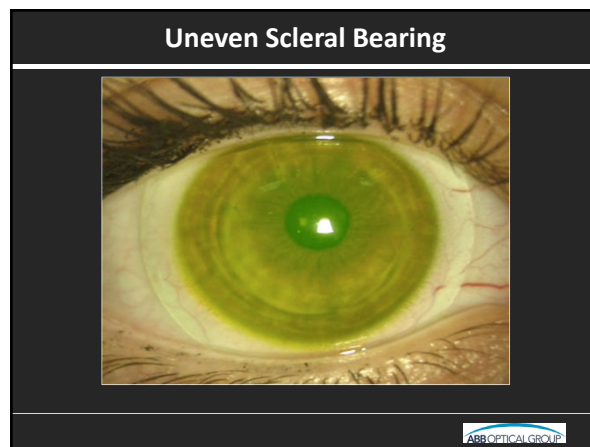
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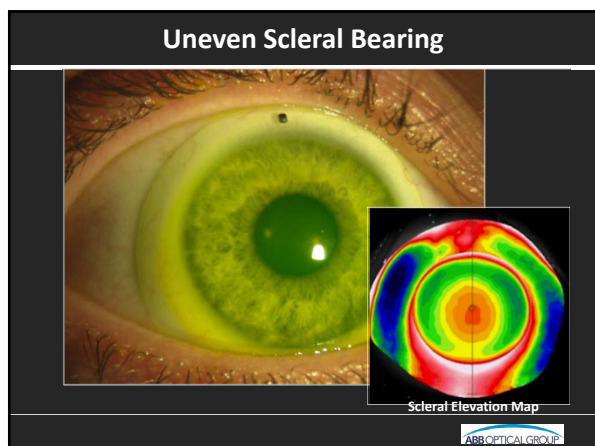
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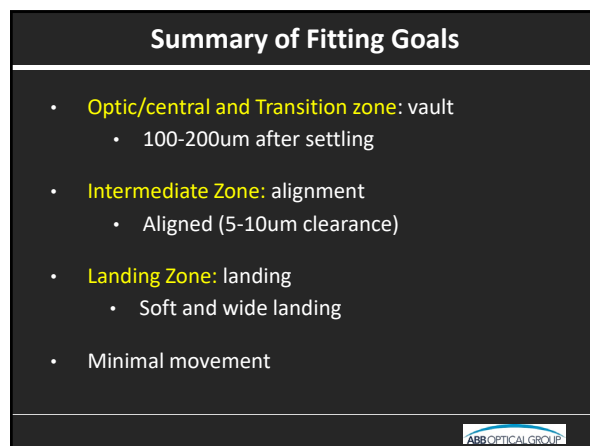
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Scleral Lens Design and Fitting: The Basics

Lens Ordering

- Diameter
- SAG and/or Base Curve
- Intermediate (Limbal) curve
 - Steep, flat
- Landing Zone
 - Steep, flat, toric, quad specific, custom edges (notches, vaults)
- Power
 - Toric, multifocal
- Material, color

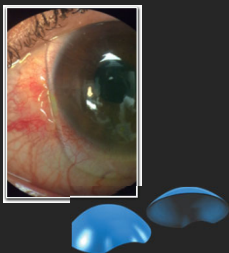


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Scleral Lens Dispense Visit

- Application and evaluation of lens fit
- SCOR - don't go crazy! Patients often have minor visual complaints that will go away after adaptation...
- Patient training
 - Very short visit or very long visit
 - Dependent on patient proficiency with application and removal

Tip: Dispense anything that is mediocre or better!

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Follow-Up Examinations

- 1) Subjective evaluation (comfort, vision)
- 2) Evaluation of lenses on eye
 - SCOR
 - Fit evaluation (OCT, imaging optional)
 - Tear Exchange
- 3) Removal of lenses
 - Cornea: check IOP, edema, staining, scarring
 - Conjunctiva: impression rings, hyperemia, staining
- 4) Follow-up on patient education

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Evaluating Tear Exchange

- Follow-up in the afternoon
- Apply NaFl near lens edge prior to removal
- Assess tear inflow and tear mixing


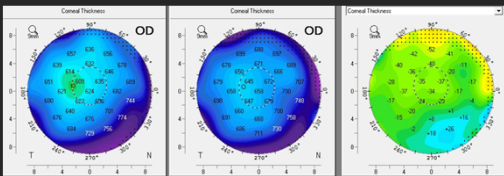


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Monitoring Ocular Surface Health

- Global pachymetry & IOP immediately after lens removal
- Baseline readings are essential



34 um central swelling
5.2%

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Monitoring Ocular Surface Health

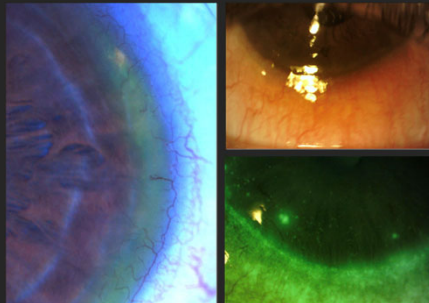


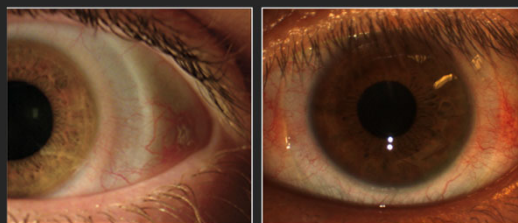
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Observations of Landing Zone Post-Removal



Impression Rings:
Are they always bad?
Can we eliminate them?

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Observations of Landing Zone Post-Removal



Is this okay?

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Follow-Up Examinations

- 1) Finalize Fit
- 2) 1mo to 6mo f/u (dependent on how many fit visits required in the beginning)
- 3) All scleral lens patients followed every 6-12 months for management of fit and underlying disease

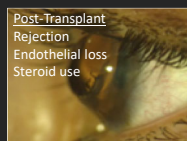
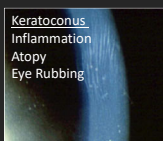
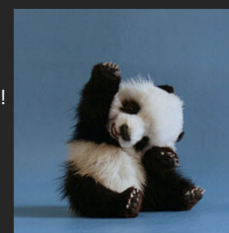


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Thank you for your attention!

More Questions??



Email: mkwalker@central.uh.edu

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Your Source for
Specialty Contact Lenses

Presented by:

Andy Jackson, Director, Specialty Lenses

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IOD FLEXFIT	IOD	EUROPA	Jupiter Scleral
DYNA Scleral	DYNA Semi-Scleral	INFINITY SCLERAL	ROSE K2 XL
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