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Title: Scleral Lens Fitting Basics to Advanced Problem-Solving: Indications and Contraindications

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Description: This presentation aims to introduce scleral lens design and application to the primary care optometrist. He or she will learn scleral lens fitting basics and gain knowledge on how to identify and troubleshoot common complications encountered when fitting scleral lenses. Primary indications for scleral lens fitting in modern day optometry will also be outlined as well as relative contraindications. It focuses on the use of real cases and patient photographs in order to illustrate the immediate benefits, both visual and non visual, obtained with scleral lenses. The attendees will learn about the history of scleral lenses, their present day uses and new technologies and research impacting the future of scleral lenses.

Learning Objectives
At the end of this talk the attendee will be able to:

1. Understand basic fitting techniques and technologies for scleral lenses
2. Avoid common complications and fitting errors with scleral lenses
3. Understand the indications and uses for modern day scleral lenses in ocular surface disease and corneal ectasia
4. Have the knowledge and training of scleral contact lens fitting and management of a wide range of medical conditions
5. Understand various advanced fitting applications used in scleral lens customization.
6. Be able to apply guidelines and problem-solving tips to their practice.

Outline

Introduction:

- A brief history of scleral lenses
- Scleral lenses? What are they
    - Corneal lenses
    - Corneoscleral lenses
    - Scleral lenses
- Scleral lens zones
    - The Optic Zone
    - The Transitional (Limbal) Zone
    - The Haptic (Scleral Landing) Zone

- How do scleral lenses work?
    - Corneal clearance
    - Limbal Clearance
    - Scleral Landing

- Corneal Sagittal Height
- Indications for scleral lenses
    - Visual Improvement
        - Primary Corneal Ectasia
        - Secondary Ectasia
    - Ocular Protection and Visual Restoration
    - Lid/Orbit disorders
    - Refractive correction/normal cornea

- Advantages of scleral lenses
    - Risk vs benefit ratio

- Comparison of scleral lenses with other types of lenses
    - Scleral lenses vs GP lenses
    - Scleral lenses vs hybrid lenses
    - Scleral lenses vs piggyback lenses

- How to fit scleral lenses
    - A 5 step fitting approach
        1. Diameter
        2. Apical clearance
        3. Limbal clearance
        4. Scleral landing zone
        5. Over-refraction

- Conditions needing caution during scleral lens use
    - Corneal endothelial abnormalities
    - Fuch's Endothelial Corneal Dystrophy
    - Glaucoma
        - Intraocular pressure
        - Location of drainage devices
        - Blebs

- Scleral asymmetry
    - Toric haptics
    - Multi-meridians
    - Quadrant specific haptics
    - Mold/impression technology
    - Scleral topography

- **Scleral Lens Technologies**
    - Lens materials, treatments, coatings
    - Lens Diameters
    - Lens parameters and built-in technology
        - Power
        - Toric
        - Multifocal

Scleral Lens Complications

- A brief overview of various problems encountered by patients and practitioners with scleral lenses

Scleral Lens Research

- New discoveries
- Remaining questions
- Current research

Clinical cases

- Scleral lenses in Keratoconus
    - Case presentation

- Scleral lenses in Pellucid Marginal Degeneration
    - Case presentation

- Scleral lenses following refractive surgery
    - RK/AK
        - Case presentation
    - LASIK

        - Case presentation
    - Intacs
        - Case presentation

Fitting scleral lenses in Non-Ectasia Cases

- Corneal scarring
    - Case presentation

- Dry Eye Syndrome
    - Dry Eye Sydrome with Sjogren's Disease
        - Case presentation
    - Dry Eye Syndrome non Sjorgren
        - Case presentation
    - Neuropathic Dry Eye Syndrome
        - Case presentation
- Corneal degeneration
    - Case presentation

- Pediatric cases
    - Case presentation

END