

Worst Case Scenarios: Transforming Challenges Into Success With Specialty Contact Lenses

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This lecture provides case-based learning to dive into the challenging and often complex scenarios encountered in specialty lens fitting. Gain insights into identifying, managing, and resolving challenges, with advanced fitting techniques and troubleshooting strategies to improve patient outcomes.

Learning Objectives

1. Identify solution options when fitting scleral lenses
2. Learn different handling techniques for scleral lenses
3. Learn how to identify advanced contact lens options to slow the progression of myopia
4. Review complex cases and outcomes using multiple modalities of contact lenses
5. Review strategies to identify vision loss
6. Learn the importance of imaging and the use of specialty contact lenses

Case 1

- A. 14 year old young lady
 - a. Increasing myopia since 2016
 - b. Attempted soft MF, OK, mfGP lenses
 - c. Dropped out of all treatments due to discomfort or reduced vision
 - d. Has increased in cylinder by 3D in this time period
 - i. Evaluate topography for keratoconus
 - e. February 2023 attempted scleral lens with 2mm central zone with +2.00 add.
 - i. Patient likes vision and comfort
 - f. September 2023 has progressed 0.08mm OD and 0.35mm OS with new lenses
 - i. Order lenses with 2.0mm zone and +3.00 add
 - ii. Add atropine
 - g. Allowing of axial length thereafter
 - h. When should we consider a patient a lost cause for myopia treatment?
 - i. What advanced options can be used to slow the progression of a patient?
 - j. When can we add additional treatment and when should we change the primary treatment?
 - k. How to keep patients and parents motivated.

Case 2

- A. Postkeratoplasty (PKP) Glaucoma
 - a. Risk Factors
 - i. Pre-operative
 - ii. Intra-operative
 - iii. Post-operative
 - b. Challenges in Diagnosis/management with PKP
 - i. Unreliable IOP measurements
 - ii. Visual field may be difficult d/t poor vision
 - iii. Disc assessment accuracy may depend on graft clarity
 - iv. Angle assessment variable
 - v. BCVA may require contact lenses that are contraindicated
 1. risk versus benefit discussion
 - c. Glaucoma structures & treatment - used to increase aqueous outflow (brief)
 - i. Decrease resistance to outflow

- ii. Create new outflow channel
- iii. Target ciliary body
- B. Case Series Rapid Fire (great to worst-case outcomes) - PKP Glaucoma
 - a. 65 year old female
 - i. Ocular History
 - 1. PKP
 - 2. Large superior filtering bleb
 - ii. Contact Lens History
 - 1. Soft
 - 2. Scleral
 - 3. Corneal GP
 - iii. Complication & Management
 - 1. Superior edge of corneal GP bumps bleb
 - 2. Lens modifications to alleviate contact
 - a. prism ballast
 - b. steepen to pull down
 - c. notch
 - b. 44 year old male
 - i. Ocular History
 - 1. PKP
 - 2. Severe Glaucoma
 - ii. Contact Lens History
 - 1. corneal GP
 - 2. Hybrid
 - iii. Complication & Management
 - 1. IOP Spike
 - 2. Ahmed Valve placement
 - 3. Impression driven lens
 - 4. consideration of notch versus free-form scleral
 - 5. appropriate follow-up schedule
 - c. 56 year old male
 - i. Ocular History
 - 1. PKP
 - 2. Ahmed Valve
 - ii. Contact Lens History
 - 1. corneal GP
 - 2. scleral
 - iii. Complication & Management
 - 1. Tube erosion
 - 2. Surgical repair
 - 3. Patient education
 - 4. Best practices for co-management

- A. 53 year old male with Bilateral advanced Keratoconus
 - a. Ocular & Medical History
 - i. Keratoconus
 - 1. Diagnosis from a lasik center
 - ii. Dry Eyes
 - iii. Cataracts Starting
 - iv. Medications
 - v. Crosslinking OD performed only
 - b. Reason for Referral
 - i. Keratoconus vision evaluation
 - ii. Referred by OMD
 - c. First Round of Treatment
 - i. Glasses wanted and corrected well
 - ii. Monitoring him and his family
 - iii. OMD also monitoring
 - d. Second Round of treatment
 - i. Vision decreased OD causing HA's
 - ii. Fit with Scleral Lenses
 - iii. Hurdles overcome - I/R was a struggle
 - e. Third Round of treatment
 - i. Stops Scleral Lenses
 - ii. Cataracts Advance
 - iii. Refers for surgery - price is too high and scared
 - iv. Disappears for years
 - f. Fourth Round of Treatment
 - i. Returns years later with no vision OD
 - ii. Ocular Retinal Health is fine
 - iii. Corneal issue
 - iv. Topos and Ocls to show problems
 - v. Corneal rupture
 - vi. Emergency visit to repair cornea - corneal glue
 - vii. Corneal Transplant
 - g. Fifth Round of treatment
 - i. Vision is great post corneal transplant
 - ii. Back to glasses with great vision ou
 - h. Sixth Round of treatment
 - i. Returned 2 months later
 - ii. Unexplained vision loss - HM OD
 - iii. Ocular Retinal Health is fine
 - iv. Corneal issue
 - v. How to identify the problem
 - vi. Transplant tilted
 - vii. Scleral lens to the rescue
 - i. Worst case scenarios multiple times with one case

- j. How to solve and how thinking outside the box helped identify the problem to help with the solution

Case 4

- A. 55 year old with Sjögren's
 - a. History of scleral lens wear
 - i. Discontinued due to blurry and foggy vision and scleral lenses were a hassle
 - b. Ocular history
 - i. Severe dry eye disease
 - ii. Meibomian gland dysfunction
 - iii. Demodex blepharitis
 - iv. Mild cataracts
 - v. Tried multiple therapies without success
 - c. Applied scleral lenses
 - i. Front surface fogging
 - ii. Mid-day fogging
 - iii. Difficulty with scleral lens handling
 - d. Troubleshooting
 - i. Manage ocular surface disease
 - 1. In office thermal expression
 - 2. perfluorohexyloctane ophthalmic solution
 - 3. lotilaner, 0.25%
 - 4. commercial warm compress
 - 5. Omega fatty acids
 - ii. Reviewed handling
 - 1. Application with plunger vs finger technique
 - a. Demonstrate patient positioning
 - b. Suction vs non-suction
 - c. Demonstration to various scleral lens application tools that may benefit patients
 - 2. Removal technique
 - a. Plunger
 - b. Importance of decentered plunger placement
 - c. Hands/finger
 - iii. Reviewed solutions
 - 1. Application solutions
 - a. FDA approved solutions
 - i. Lacripure
 - ii. ScleralFil
 - iii. Nutrifill
 - iv. Vibrant Vue
 - b. Off label non-preserved 0.9% sodium chloride solution
 - c. Preservative free artificial tears

- d. Artificial tears with higher viscosity
 - 2. Disinfection solutions
 - a. Hydrogen peroxide solutions
 - b. Scleral lens compatible cleaning solutions
 - c. Additional cleaners
- iv. Surface treatments
 - 1. Plasma
 - 2. Tangible Hydra-PEG
 - 3. Tangible Boost
- v. Result
 - 1. Improvement in front surface fogging and mid-day fogging
 - 2. Able to apply and remove scleral lenses
 - 3. Successfully able to wear lenses the entire day