

Troubleshooting Scleral Contact Lens Fits
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Course Description

This 50-minute presentation is a lecture format where the management of clinical signs and complications that may be observed during scleral lens fitting are discussed. The instructor will provide fitting experience using scleral lenses.

Course Learning Objectives

1. To provide participants with knowledge and training of scleral contact lens fitting
 2. To provide participants with knowledge and training of scleral contact lens management of a wide range of medical conditions
 3. To provide participants with fitting guidelines and problem-solving tips that can be applied to the practice of participants.
- A. Scleral lens indications
- a. Regular cornea patients
 - i. Presbyopes
 - ii. High refractive error
 - b. Irregular cornea patients
 - i. Primary and secondary corneal ectasias
 - ii. Post-surgical/refractive
 - c. Ocular surface disease
- B. The 1-2-3s of Fitting
- a. Completely bridge over the cornea and limbus
 - i. Photographs illustrating corneal clearance
 1. Excessive corneal clearance
 2. Adequate corneal clearance
 - a. Around 200um to minimize corneal hypoxia
 3. Corneal touch
 - ii. Tips to achieve adequate corneal clearance
 1. Compare to scleral lens center thickness
 2. Account for scleral lens settling
 3. Ideal to assess fit after 30 minutes of in office wear
 - iii. Photographs illustrating limbal clearance
 1. Excessive limbal clearance
 - a. Limbal microcystic edema
 2. Adequate limbal clearance
 - a. Around 60um to minimize corneal hypoxia
 - b. Difficult to assess when less than 40um thick
 3. Limbal touch
 - a. Compression ring or limbal staining

- iv. Tips to achieve adequate limbal clearance
- b. Provide an adequate “landing” on the sclera
 - i. Photographs illustrating scleral landing
 - 1. Scleral impingement
 - a. Arcuate edge staining on conjunctiva
 - 2. Haptic compression
 - a. Blanching of conjunctival blood vessels
 - b. Rebound injection post scleral lens removal
 - 3. Edge lift
 - a. May cause late forming bubbles
 - b. May increase rate of chamber debris
 - 4. Adequate haptic alignment
 - ii. Tips to achieve adequate haptic alignment
 - 1. Heel vs toe effect
 - 2. Toric haptics, especially if scleral lens OAD is greater than 15.0mm
 - 3. Account for scleral lens settling
 - 4. New scleral mapping technologies
- c. Ensure adequate tear flow under the lens
 - i. Tear exchange limited to 0.2% per minute
 - ii. Takes more than eight hours to replenish the bowl under a scleral lens
 - iii. Tear exchange may be hindered by excessive or inadequate corneal clearance

C. Case histories

Several photographic histories will be presented and will be selected from a large collection of cases including

- 1. Cases of patients with various ocular conditions, such as:
 - i. Corneal ectasia
 - 1. Keratoconus
 - 2. Pellucid marginal degeneration
 - 3. Post-LASIK ectasia
 - 4. Keratoglobus
 - ii. Post-surgical
 - 1. Post-PKP
 - 2. Post-RK
 - iii. Corneal scarring
 - 1. Infection
 - 2. Trauma
 - 3. Chemical burn
 - iv. Ocular surface disease
 - 1. Exposure keratopathy
 - 2. Sjogren’s Syndrome
 - 3. Stevens Johnson Syndrome
 - 4. Grave’s Disease