

## The trouble with Scleral Lenses: What to do when things go wrong

Jeffrey Sonsino, O.D., F.A.A.O.  
Assistant Professor  
Vanderbilt Eye Institute  
Nashville, TN

Muriel Schornack, O.D., F.A.A.O.  
Consultant  
Assistant Professor  
Mayo Clinic  
Rochester, MN

## Disclosures

- Sonsino- none
- Schornack- none

## Outline

- Wetting Problems
- Comfort Complaints
- Lens Fit Issues
- Limited Wear Time
- Care Regimen
- Handling Issues

## Wetting Problems

- Surface treatment: plasma treatment
- Not a coating, but a surface treatment that removes lens impurities
- Plasma coated lenses can not be cleaned with abrasive solutions (like Boston Original)
- Must be shipped and kept wet

## Wetting Problems

- Surface treatment
- Practitioner and patient must wash hands with non-oily, non-lanolin soaps
- Can leave a residue

## Wetting Problems

- Manufacturing defects can produce wetting problems
- Excessive heating (friction) on front surface
- Will notice poor wetting within seconds of insertion- does not improve with cleaning

### Wetting Problems

- Underlying condition is most important factor in wetting problems
- 1) MGD/Blepharitis
- 2) Aqueous Deficiency
- 3) Anterior Segment Inflammation
- 4) Post-surgical Corneas

### Comfort Issues

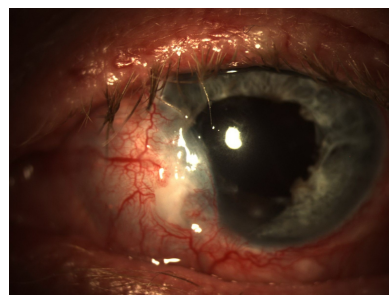
- If lens is uncomfortable immediately:
  - Edge Design
  - Solution Sensitivity
  - Application Error

### Comfort Issues

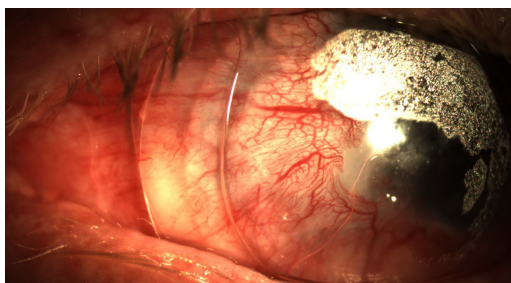
- If lens is uncomfortable after several hours of wear
  - Conjunctival impingement
  - Corneal hypoxia
  - The “toxic swamp” (credited to Dr. Rob Breece)

### Lens Fit Issues

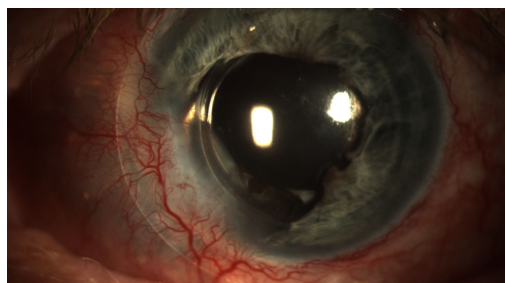
- Dislodging



### Lens Fit Issues



### Lens Fit Issues



### Lens Fit Issues

- Corneal chamber diameter

### Lens Fit Issues

- Edge lift
- Conjunctival impingement
- Sectoral variations

### Lens Fit Issues

- Accommodating irregular corneas
- Posterior lens contour

### Limited Wear Time

- Material
  - Wetting angle
  - Edema (secondary to hypoxia?)

### Limited Wear Time

- Progressive conjunctival compression

### Care Regimen

- Application
  - Avoid preservatives
  - Avoid pH balancing

### Care Regimen

- Maintaining the surface
  - Moisten Q-tip and wipe surface clean during wear
  - Use rewetting drops during lens wear
  - Remove lens and use surfactant cleaner

### Care Regimen

- Handling issues
  - Adaptive devices
  - Modified application and removal techniques

### New Directions