

Scleral Lenses in Children: What to Expect and How to Make it Work

1. Review- Major indications for scleral lens fitting in kids
 - a. Traumatic eye injury, corneal scarring
 - b. Pediatric Keratoconus
 - c. Pediatrics Ocular surface disease
 - d. Pediatric Aphakia
2. Types of scleral lenses
 - a. Preformed sealed vs Fenestrated/FLOM lenses
 - b. Initial selection:
 - i. Base curve vs. Sagittal depth selection
 - ii. Diameter selection
 - iii. Peripheral curve system: Axial lift vs radial curve based
 - iv. Material selection
3. What makes scleral lens fitting in kids more challenging
 - a. Exam room setup
 - b. Chair time
 - c. Extended trial set parameters
 - d. Patient/Caretaker acceptance and handling
 - e. First lens insertion tips
4. Indications requiring special attention
 - a. Progressive keratoconus.
Pediatric keratoconus is more aggressive a special attention will be given to:
 - i. Proper progression monitoring and necessary imaging
 - ii. Pediatric Corneal Cross-linking (CXL) decisions and complications
 - iii. The complexity of scleral lens fitting shortly after CXL in light of the necessity for timely vision rehabilitation
 - iv. Acute hydrops management and scleral lens fitting thereafter
 - b. Post Pediatric Keratoplasty
 - i. Penetrating vs lamellar
 - ii. most physiological fit
 - iii. appropriative lens design and materials selection

- c. Pediatric Ocular Surface Disease (OSD)
 - i. Corneal anesthesia and Neurotrophic Keratitis
 - ii. Graft vs. Host Disease
 - iii. Blepharokeratoconjunctivitis and Eye Lid Disease
- 5. Scleral Lens management of Aphakia/Pseudophakia and other refractive conditions
 - a. Visual rehabilitation
 - b. Amblyopia co-management
 - c. Emmetropization strategies
- 6. Ocular complications of Therapeutic Scleral Lenses in eyes with OSD
 - a. Epithelial complications (abrasions, hypertrophy, etc.)
 - b. Blepharoconjunctivitis
 - c. Hypoxia/Corneal edema
 - c. Rebound inflammation
 - d. Corneal Ulceration management
 - i. sterile ulceration
 - ii. microbial keratitis
- 7. Fit-related complications
 - a. lens suction
 - b. limbal compression
 - c. scleral alignment
- 8. Scleral Lens Failures
 - a. Emotional/Psychological burden. Patient vs Caretaker
 - b. Complications – know when to withdraw
 - i. Corneal graft complications
 - ii. Ocular surface inflammatory condition
 - iii. Scleral lens intolerance
- 9. Special attention will be given to scleral lens fitting in populations with special needs
 - a. Down syndrome and Keratoconus
 - b. Developmental delay (after brain surgery, autism, etc.) with coexisting corneal findings

