

Title: Refractive surgery options in 2017

Goals: After attending this case based presentation, participants will be able to better evaluate patients to determine eligibility for appropriate refractive procedures. The participants will better understand the risks, benefits and alternatives as well as advantages and disadvantages of each refractive procedure. Post-operative care and follow up discussed.

- I. Case #1: 22yo -12 diopter myope presenting for evaluation for refractive surgery options. Normal exam findings. Normal healthy cornea.
 - a. Options discussed including pros/cons of each:
 - i. No treatment – continued contact lens or spectacle correction
 - ii. Implantable collamer lens (ICL)
 - iii. Laser refractive surgery

- II. Case #2: 50yo +3 diopter hyperope presents for evaluation for refractive surgery options. Not tolerating contact lens wear. Normal exam findings. Normal healthy cornea.
 - a. Options discussed including pros/cons of each:
 - i. No treatment – continued spectacle correction
 - ii. Laser refractive surgery
 - iii. Clear lens exchange

- III. Case #3: 35yo -3.00 diopter myope presenting for evaluation for refractive surgery options. Normal exam findings. Cornea findings reveal thin cornea with posterior elevation abnormality suspicious for forme fruste keratoconus.
 - a. Options discussed including pros/cons of each:
 - i. No treatment – continued contact lens or spectacle correction
 - ii. Crosslinking, then PRK laser treatment
 - iii. ICL

- IV. Case #4: 30yo -17 diopter myope with mild astigmatism presenting for evaluation for refractive surgery options. Normal exam findings. Normal healthy cornea.
 - a. Options discussed including pros/cons of each:
 - i. No treatment – continued contact lens or spectacle correction
 - ii. ICL with staged laser refractive surgery (PRK) for residual myopic astigmatism

- V. Case #5: 21yo -10myope with traumatic cataract in one eye presents for surgical options
 - a. Options discussed including pros/cons of each:
 - i. Cataract surgery with continued contact lens wear in fellow eye
 - ii. Cataract surgery with laser refractive surgery in fellow eye.

- iii. Cataract surgery with ICL placement in fellow eye.
- VI. Discussion of excimer laser treatment (LASIK and PRK)
- a. Discussion of candidacy for laser (FDA approval for Allegretto laser)
 - i. Approved to treat myopia up to -12.00 sphere and -6.00 cylinder
 - ii. Approved to treat hyperopia up to +6.00 sphere and +5.00 cylinder
 - iii. Video demonstration of PRK and LASIK
 - iv. Discussion of risks of procedure
 - 1. Glare and Halos <5%
 - 2. Dry eye
 - 3. Regression
 - 4. Ectasia
 - 5. PRK specific complications
 - a. Haze and poor wound healing
 - 6. LASIK specific complications
 - a. Flap related complications intra and post-op will be discussed.
 - b. Diffuse lamellar keratitis (DLK)
 - c. Central toxic keratitis (CTK)
 - v. Post-operative care discussed
- VII. Discussion regarding ICL procedure
- a. History of ICL development briefly discussed
 - i. Review of FDA data
 - b. Discussion of ideal candidates (FDA approval)
 - i. Approved to treat myopia -3.00 to -14.5 diopters
 - ii. Approved to “reduce” myopia -15.0 to -20.0 diopters
 - iii. Ages 21 to 45 years
 - iv. Anterior chamber depth of 3mm or greater
 - v. Healthy endothelium (approved cell count dependent on age)
 - vi. No cataract
 - c. Video demonstration of ICL surgery
 - d. Discussion of risks of procedure
 - i. Pupil block glaucoma 0.4%
 - ii. Lens sizing error
 - 1. To large (pupil block)
 - 2. To small (crystalline lens touch)
 - iii. Glare and Halos
 - iv. Significant cataract formation 1.4%
 - v. Retinal detachment 0.6%
 - e. Post-operative care discussed
- VIII. Discussion regarding clear lens exchange
- a. Appropriate patient selection

- i. Ideal candidates are in presbyopic age range
 - ii. Hyperopes
 - iii. Myopes
 - 1. Considerations of risk of retinal detachment in axial myopes discussed.
- b. Video demonstration
- c. Discussion of risk of procedure
 - i. Infection (endophthalmitis)
 - ii. Retinal detachment
 - iii. CME
- d. Post-operative care discussed

IX. Time allotted for question and answer