"Journey of the Cataract Patient"

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Course objectives: This course will outline identification of candidates for cataract extraction, selection of intraocular lenses and post-operative care. Post-operative care will include discussion on management of potential post-operative complications with an emphasis on the optometrist's role in surgical co-management.

I. Pre-operative management
   A. Patient selection
      1. Comprehensive ocular evaluation including dilated exam
         a. BAT- determine visual impact of cataract due to induced glare
         b. Identify other ocular pathology that may limit post-operative visual outcomes
         c. PAM (pinhole with +5.0 loose lens)
      2. Determine patient readiness to proceed with surgery
         a. Document patient complaints and symptom impact of quality of life and activities of daily living
         b. Medicare guidelines
            i. VA less than 20/40
            ii. If VA better than 20/40, BAT greater than 20/40
      3. Determine expected outcomes
         a. Discuss and document possible complications that may arise due to pre-existing ocular conditions
         b. Setting patient expectations is critical
         c. Identify risk factors for intra and post-operative complications
            i. Ocular Surface Disorders- dry eye/ blepharitis
            ii. Fuch's Dystrophy- surgery may worsen endothelial dysfunction. Patient should be advised on possible need for future partial corneal transplant

iii. Prior history of herpes simplex
iv. Prior history of uveitis- inflammation should be quiet or as quiet as possible before proceeding. Consider Durezol post operatively.
v. Use of Flomax (Tamsulosin)- IFIS protocol
vi. Risk factors for weakened zonules -Pseudoexfoliation, collagen disorders such as Maran's and Ehlers-Danlos- may lead to risk of capsule rupture
vii. Peripheral retinal disorders- traction at the time of surgery may lead to increased risk of retinal break. For high risk cases a retina consult prior to the procedure may be considered.
viii. Prior refractive surgery
    a. LASIK
    b. PRK
    c. RK

B. Pre-operative clearance, IOL selection and calculations
1. IOL and surgical technique selection
    a. Laser assisted cataract surgery (femtosecond laser)
        i. Corrects up to 1.00D of corneal astigmatism
        ii. Consider toric IOL for higher degrees of astigmatism
        iii. Recommend for cases at higher risk of zonular dehiscence such as patients with pseudoexfoliation
    b. Monofocal vs multifocal IOL
        i. Consider multifocal IOL in younger patients who will lose accommodation after surgery. Counsel young patients on the loss of accommodation.
        ii. Use Multifocal with high caution in patients with pre-existing corneal or retinal pathology that may limit final visual outcomes
        iii. Discuss potential for glare and halos with multifocal IOLs; prevalence of symptoms are decreasing with new generation multifocal IOLs
        iv. Patient expectations

    c. IOL Biometry
        i. A-scan
        ii. Keratometry
        iii. +/- topography
        iv. Formulas
            a. SRK/T, Holladay, Hoffer Q, Holliday 2, Haigis, Hill, Barrett

v. Current patient refraction, if no operation planned on fellow eye consider avoiding anisometropic outcome or counsel patient on need for contact lens post op or DVO/NVO glasses

2. Medical clearance and informed consent

a. Informed consent includes documentation of risk, benefits and alternatives of procedure

b. Medical clearance typically by PCP or cardiology- will include EKG, labs

c. BMI

i. 40-50 anesthesia clearance (especially 45-50 for supine cases)

ii. >50

d. Do not need to stop anticoagulants for modern clear corneal surgery in most cases

e. Will start topical antibiotic/ NSAID drop 3 days prior to surgery

II. Day of Procedure

A. NPO after midnight the day prior

B. Brief overview of patient flow day of surgery

C. Sedation

III. Post-operative management

A. Post op medications

1. Steroid, NSAID, antibiotic- specific name varies by surgeon

a Compounded vs commercially available drops

b. "Dropless" cataract surgery pro/cons

c. Bubble sheet for patient use

B. Post-operative instructions –

1. Given verbally and written

a. Protective shield at bedtime x 1 week

b. Sunglasses given

c. No bending, lifting x 1 week

d. no water in the eye x 1 week

C. Clinical examination- assessment and expected findings

1. Day 1– assess patient comfort, VA, IOP, wound, cornea, anterior chamber, IOL position

i. expected findings

2. Week 1

a. Vision and comfort should be improving

b. Exam elements- same as day 1 but may consider diagnostic refraction for planning purposes for the 2nd eye

c. expected clinical findings

d. consider OCT macula if BCVA less than 20/40

5. Month 1

a. in uncomplicated surgery the eye should be healed

b. Ocular exam and refraction

D. Post-operative complications –

1. Early Complications
   a. Mild eyelid ecchymosis- most likely from speculum
   b. Wound leak/dehiscence
   c. Iris Prolapse/ incarceration in wound
   d. Hyphema- uncommon in small incision clear-cornea procedures; may see in combined phaco/ MIGS procedures
   e. Elevated IOP
      i. very early- retained viscoelastic
      ii. after 1 week or more likely due to steroid response
   f. Endophthalmitis
   g. Retained cortical material
   h. IOL dislocation
   i. Vitreous to wound
   j. Retinal tear/ detachment
   k. Choroidal effusion

2. Late Complications

a. increased IOP from steroid use

b. late onset endophthalmitis

c. epithelial ingrowth/downgrowth

d. posterior capsule opacification

e. cystoid macular edema

f. dry eye