Pars Plana Vitrectomy (PPV) Indications

- Macular Disease
- Retinal Vascular Disease
- Rhegmatogenous Retinal Detachment
- Endophthalmitis
- Cataract Surgery Complications
- Trauma
- Miscellaneous Conditions

PPV

- Pre-Op exam
  - Criterion for Surgery
- Intra-operative Issues
  - Basics of Surgery (video clips)
  - No Suture Technique
- Post-operative Care and Comanagement
  - Retina vs. Cataract Surgery!
- Complications
- Prognostic Markers and Outcomes!

PPV Complications

- Cornea
- Inflammation
— Glaucoma
  — Erythroclastic (Hemolytic)
— Vitreous Substitute Related
  — Air, Gas, Silicone (Pupillary Block vs. chronic), Perfluoro-N-Octane (PFO)
  — NVI and NVG
  — Silicone
— Endophthalmitis
— Retinal
  — CME
  — Vascular Occlusion
  — RT or RRD, Proliferative Vitreoretinopathy (PVR)
  — Non-Rheg RD
— Choroidal Detachment (non vs. hemorrhagic)
— Hemorrhage
— Cataract
— Suture Related

**VMT and EMM**

— Pre-Op Exam
  — Photo and OCT
  — FA (Not necessary unless...)
  — Non-Urgent Referral
— Surgery Criterion
  — Symptoms (e.g., metamorphopsia)
— Prognostic Markers
  — Pre-op VA
  — Duration
  — Other Coexisting conditions
— Post of Issues and Follow-up
Patient Education and Expectations

Recovery

Outcome

Macular Hole

Pre-Op Exam

Surgery Criterion
  - Full Thickness Macular Hole
  - Partial Thickness Macular Hole
  - Patient’s Physical Limitations

Prognostic Markers
  - MH Size
  - Duration
  - Patient’s Compliance to Head-down Position
    - Patient’s with gas should avoid nitrous oxide anesthesia and high elevation (e.g., flying)
  - Other Coexisting conditions
    - Traumatic MH

Post-op Care and Follow-up

Persistence, Recurrence, Re-Op

Retinal Vascular Disease

Diabetic Retinopathy, Retinal Vein Occlusion, Sickle Retinopathy, etc.

- Vitreous Hemorrhage
- Traction Retinal Detachment
- Macular Edema
- Iris Neovascularization
Vitreous Hemorrhage

- Indications
  - Timing (Urgent vs. Elective Criteria)
  - Patient Consideration (binocular vs. monocular, primary vs. recurrent heme, general health, etc.)
  - In Absence vs. Presence of TRD a/o RRD
    - Importance of diagnosis (Ultrasound if no adequate retinal view)
  - In Absence vs. Presence NVI
  - Monocular Patient (good eye involvement)
  - Post-op Care and Issues

Traction Retinal Detachment

- Indications
  - Macular Vs. Extramacular
- Scissor and Cutter Delamination
- Post-operative Issues

Macular Edema

- Indication
  - Non-responsive to conventional therapy

Retinal Detachment

- Categories of Retinal Detachment
  - Tractional, Rhegmatogenous, Serous
  - RRD
    - Acute vs. Chronic
- Retinoschisis vs. Retinal Detachment
  - PVD
    - W/ or W/O preexisting factors
Management Strategies for Retinal Holes and Tears and other degenerative risk factors (with and Without RRD)
  o Referral timeline
  • Retinopexy with and without retinal re-attachment

**RRD Referral and Treatment timeline**

- Duration of symptoms
- Status of the Macula

**RRD Treatment options**

- Location and extend of RRD
- Location and number of RTs
- Lens status
- Pre-existing conditions

**(RRD) Pneumatic**

- Indications: Superior RRD, (One RT, 10-2 o’clock)
- Cryopexy vs. laser

**(RRD) PPV**

- Indications
- Vitreous Substitutes (Indications, Pros- Cons-)
  o Air
  o Gas (SF6, C3F8)
  o Perfluoro-N-Octane (PFO)
  o Silicone
- Endolaser photoagulaiton (EPC)

**RRD-GB**

**Inferior RRD**

- Scleral Buckle
  - Pros and Cons
- PPV, Gas, Silicone, PFO

**Proliferative Vitreoretinopathy (PVR)**

- Diagnosis and Management
Inoperable RD

Vitreous Opacities and Asteroids

- Usually no impressive symptoms
- Not indicated unless
  - Obscuring view or treatment of coexisting pathology

PPV and Cataract Surgery Complications and IOL Dislocation

- Capsular Rupture
  - High risk for, CME, endophthalmitis, retained cataract fragment, vitreous traction, RD, displaced IOL position.
  - Dropped nucleus
- Dislocated IOL

Pars Plana Lensectomy (PPL)

- Complicated Cataract
  - Loose zonules

Endophthalmitis

- Endophthalmitis Vitrectomy Study (EVS)
  - Routine, immediate vitrectomy not necessary for patient with better than LP vision (worse than HM)
- Immediate Tap and Inject broad spectrum antibiotics

Vitritis

- Diagnostic vitrectomy for cases unable to identify etiology
- Severe enough compromising vision

Trauma

- Work and home-related
- MVA
- Fireworks and gun related
Recreational activities
- Immediate PPV should be avoided unless certain IOFB
- External injury clues
- Inferior location
- No View of fundus
  - X-ray or CT orbit (no MRI)