EMERITUS

VITRECTOMY LAB HANDOUT

Lisa Brothers Arbisser, MD
Adjunct Associate Professor Moran Eye Center University of Utah
No financial interest

SKILLS TRANSFER FACULTY

- Lisa B. Arbisser, MD*
- Lorenzo Cervantes, MD
- Steve Charles, MD
- Deepinder K. Dhaliwal, MD, L.Ac
- John F. Doane, MD
- Ricardo G. Glikin, MD
- Harry B. Grabow, MD
- Roopinder Grewal, MD
- Pankaj Gupta, MD
- Warren E. Hill, MD
- Michael J. Howcroft, MD, FACS
- Cathleen M. McCabe, MD
- Anita Nevvas-Wallace, MD
- Brice R Nicholson, DO
- Mauricio A. Perez, MD
- Steven G. Safran, MD
- P. Dee G. Stephenson, MD
- Stuart Stoll, MD
- Richard Tipperman, MD
- Steven D. Vold, MD
- Robert J. Weinstock, MD

*lead instructor

INDUSTRY PARTNERS

- Abbott Medical Optics
- Accutome Inc.
- Alcon Laboratories
- Aurora Surgical
- Bausch + Lomb
- Carl Zeiss Surgical, Inc.
- Crestpoint/MANI
- Dutch Ophthalmics
- Epsilon USA
- FCI Ophthalmics
- ForTec Medical
- Frontier Vision
- Gulden Ophthalmics
- HumanOptics
- LENSAR
- MST – Microsurgical Technology
- Mastel Precision
- New World Medical
- NoIR Laser Co.
- Oasis Medical, Inc.
- Ophtec USA, Inc.
- Rhein Medical, Inc.
- Rumex International Co.
- Sightpath Medical Inc.
- SimuEYE

Facilitators

Stellar Meetings & Events
- Bonni Scepkowski
- Nancy Rankin, RN
- Heath Miller
VITRECTOMY INSTRUMENTATION

- Calipers
- MVR blade or trocar cannula system
- Angled infusion cannula
- Vitreous cutter
- Triamcinolone acetonide (Triessence on label)
- Dispersive viscoelastic
- Sclerotomy plugs and forceps
- Non-irrigating vectis
- Arbisser nuclear spears

VITRECTOMY PARAMETERS

- ALWAYS CUT BEFORE SUCK
- Select Settings to Reduce Vitreoretinal Traction
  - Highest Cut Rate Available (450-5000)
  - Flow Rate 20 ml/min (15 for 23g)
  - Lowest Vacuum Producing Vitreous Removal 150-250 mm hg (350-500 for 23g) panel setting not linear (depends on presence of OVD) *
    - Raise bottle to create normotension*

  *Alcon Centurion: vacuum stays linear with IOP set to 25

Less Vacuum/Flow = Less Traction

ANTERIOR INCISION

- Biaxial (separate sleeve from vitreector shaft)
- Irrigation through sideport
- Never use primary coaxial incision site
- Make new paracentesis to fit bare vitreector shaft using original sideport for irrigation
- Hold steady tilted below posterior capsule
- ANTICIPATE REPEAT PRESENTATION

STANDARD PARS PLANA INCISION

- Make fornix based flap in quadrant
- 3.5 mm from limbus enter with MVR
- Aim at optic nerve
- Visualize in pupil; penetrate completely
- Use sideport for irrigation (prime tubing)
- Insert vitreector and visualize in the pupil
- Use plug when withdrawing vitreector
- Direct sclerotomy of any gauge needs suture
**SUTURELESS PARS INCISION**

- Firm eye with sutured incisions PRN
- 23g or 25g trocar cannula system
- Non-coincident conjunctival and scleral puncture
- Scleral tunnel parallel to limbus 3.5 mm back
- Turn to puncture towards optic nerve driving trocar and cannula through sclera
- Remove trocar and leave cannula for vitrector insertion
- Use plug when withdrawing vitrector
- Point pressure trocar or applicator tip to close

**VITRECTOMY PROCESS**

- Secure primary wound if no vitreous loss
- Fill globe with OVD to firm if loss
- Always visualize the port when cutting
- Petal to the metal to establish removal of vitreous at lowest vacuum possible*
- Get normotensive globe by raising bottle*
- Remove all vitreous from anterior chamber to below capsular plane
- At endpoint (Triessence confirmed) stop suction continue to cut as instrument is withdrawn
- Stop irrigation just before exiting

*exception: Alcon Centurion

**VITRECTOMY LAB PROCEDURE**

- 1. Practice trocar system insertion on whole globes, remove cataract quickly (if not aphakic)
- 2. Using aphakic globes, break hyaloid, instill dilute Triessence to identify vitreous
- 3. make CCI for vitrector do vitrectomy
- 4. Measure and make sclerotomy incision do vitrectomy
- 5. Understand and play with machine settings
- 6. if time permits try spears

*exception: Alcon Centurion

THANK YOU FOR YOUR ATTENTION GET CUTTING!

[www.Eyetube.net/unplanned-vitrectomy](http://www.Eyetube.net/unplanned-vitrectomy)
drlisa@arbisser.com