Rush University/Illinois Retina Associates
Vitreoretinal Surgery Fellowship

Goals of the Fellowship

Medical Retina Diagnosis and Therapy

Fellows will be expected to become proficient in the following:

Clinical Skills:
- Indirect ophthalmoscopy
- Scleral depression
- Fundus contact lenses
- 78D and 90D
- Slit lamp examination

Diagnostic Tools:
- Angiography:
  - Fluorescein and ICG
  - Digital and film based
- Ultrasonography:
  - Dynamic B scan
  - Exposure to 3D U/S
- OCT
- ERG
- CT/MRI
- Visual Fields

Diabetic Retinopathy

Classification
- Mild-Moderate
- SNPDR vs. VSNPDR
- Screening strategies
  - Telemedicine
Diabetic macular edema
- Focal vs. Diffuse
Management:
- Laser focal vs. grid
- Laser techniques
- Emerging therapies
  - Periocular and intraocular steroids
  - Vitrectomy
  - Systemic medical therapy
Proliferative Diabetic Retinopathy
Management:
- PRP laser techniques
  - Use of various lenses
    - Rodenstock
    - Goldmann 3 mirror
    - Super Quad 160
**Age Related Macular Degeneration**

**Dry**
- High risk features
- Laser for drusen; CNVPT, CAPT
- Multivitamin usage: AREDS

**Exudative**
- Angiographic classification
  - Classic vs. type 1 or 2 Occult CNVM
- ICG features
- Management
  - >50% classic: Visudyne therapy
  - Minimally Classic and Pure Occult
    - VIM/VIO
    - TTT
    - Intravitreal steroids
    - Radiation, Rheotheraphy, etc.

**Retinal Vascular Occlusive Disease**

**Branch Retinal Vein Occlusion**
- BVOS
- Laser techniques
- Emerging therapies

**Central Retinal Vein Occlusion**
- Medical evaluation and work-up
- CVOS
- Laser treatment
- Emerging therapies

**Arterial occlusion**
- Medical evaluation and work-up
- Treatment

**Peripheral Retina Disease**

**Diagnostic skills:**
- Indirect ophthalmoscopy with scleral depression
- Contact lens evaluation peripheral retina
  - Goldman 3 mirror lens
  - Super Quad 160 wide field lens

**Peripheral retinal anomalies**
- Peripheral retinal degenerations
  - Lattice degeneration
  - Paving stone degeneration
  - White with and without pressure
  - Cystic tufts
  - Meridional folds
  - Retinoschisis
  - Retinal breaks

**Infectious Retinitis**

**Diagnostic skills**

**Management**
Toxoplasmosis
Herpetic retinitis
Acute retinal necrosis
PORN
CMV retinitis
Histoplasmosis
Toxocariasis

Pediatric Retina
Retinopathy of Prematurity
Screening programs
Classification
Management Threshold ROP
Indirect laser vs. Cryo
Surgical management
Stage 4 or 5 ROP RD
Toxocariasis
Persistent Fetal Vasculature
FEVR
Norrie’s Disease
Juvenile Retinoschisis

Surgical Retina Management:
Retinal Detachment
Classification: Exudative vs. Tractional vs. Rhegmatogenous
Rhegmatogenous RD
Localization of retinal breaks
Drawing of configuration
Surgical decision making
Pneumatic retinopexy
Scleral buckle
Vitrectomy
Surgical Skills
Pneumatic retinopexy
Intraocular gases
Kinetics
Complications
Retinopexy
Cryopexy
Indirect laser
Scleral buckle
Options for elements
Encircling vs. Radial
Drainage vs. nondrainage
Cryopexy
Management of complications
Vitrectomy
3 port pars plana vitrectomy
Vitreous base dissection
Air fluid exchange
Endolaser photocoagulation
Complicated Retinal Detachment
- Proliferative Vitreoretinopathy
- Classification
- Pathophysiology
- Management:
  - Membrane dissection
    - Use of forceps, pics, scrapers
  - 1- vs. 2-handed dissection
- Illumination options
- Wide field viewing
- Use of Perfluorocarbon liquids
- Use of Silicone oil

Diabetic Tractional Retina Detachment
- Management
  - Dissection techniques:
    - En Bloc vs. Segmentation vs. Delamination
    - Viscodissection
    - Automated vs. manual scissors

Macular Surgery
- Macular hole surgery
- Indications
- ILM removal techniques
- ICG staining
- Gas tamponades
- Positioning regimens
- Postoperative complications
- Epiretinal membrane
  - Dissection techniques
  - Complications

Endophthalmitis
- Diagnosis
  - Endogenous vs. Postoperative
- Management
  - EVS study
  - Tap and inject vs. Vitrectomy
  - Antibiotic pharmacology
  - Use of steroids

Management of Lens Complications
- Retained lens fragments
- Dislocated/subluxed IOL
- Insertion of secondary IOLs
  - ACIOL vs. Sulcus Sutured IOL

Evolving Surgical Techniques
- BRVO – sheathotomy
- CRVO – radial neurotomy
- ARMD – translocation surgery, displacement of subretinal hemorrhage
Retinal implants