STUDENT INTEREST GROUP IN OPHTHALMOLOGY (SIGIO)

http://uthsc.edu/eye/sigio/
Why Ophthalmology?

Student Interest Group In Ophthalmology
SIGIO
Who Would Believe That So Small A Space Could Contain The Images Of The Universe!

Leonardo Da Vinci
1452 - 1519
“The Eye Is The Lamp Of The Body. So, If Your Eye Is Healthy, Your Whole Body Will Be Full Of Light, But If Your Eye Is Bad, Your Whole Body Will Be Full Of Darkness. If Then The Light In You Is Darkness, How Great Is The Darkness!”

(Jesus’ Words) Matthew 6:22,23 ESV
Significance of Vision Loss

- Most Patients Fear Losing Their Vision More Than Any Of Their Senses
- Quality Of Life Reduced Significantly
- Patients With Reduced Visual Acuity Have More Difficulty Participating In Their Own Medical Care
The History Of Ophthalmology

- **Code Of Hammurabi (1728 – 1686 BC)**
  - Defined Rules For Physicians – Many Dealt With The Eye
- **Egyptian Papyri (c. 1600 - 1300 BC)**
  - Many Ocular Conditions Described
- **Hippocrates (460 – 370 BC)**
  - Naturalistic Approach
- **Galen (129 – 200 AD)**
  - Cataract Surgery With Needle
Spectacle Peddler  1700s
The History Of Ophthalmology

- Helmholtz (December 1850)
  - Direct Ophthalmoscope
- Ruete (1852)
  - Indirect Ophthalmoscope
- Tonometers (1868 – early 1900s)
- Gullstrand (1911)
  - Slit Lamp
Hermann Ludwig Ferdinand von Helmholtz, MD

1821 - 1894
Inventor of the Direct Ophthalmoscope

Figure 1. Early model of the Helmholtz ophthalmoscope, 1851.
Figure 4 Juler's reflecting ophthalmoscope, 1882.

Figure 5 Juler's electric ophthalmoscope, 1886.
(Photos courtesy of Norman B. Medow, MD)
The History Of Ophthalmology

• American Ophthalmologic Society – 1864
  – First Medical Specialty Organization in the United States

• First Specialty To Have Board Certification

• Memphis, Tennessee
  – December 11, 12, 13, 1916
Why Ophthalmology?

• What is Ophthalmology?

The Medical/Surgical Specialty
That Deals With Diseases of the Eyes and Their Adnexae
Why Ophthalmology?

• Other People That Deal With The Eye
  – Optometrist (OD)
  – Optician (Make Spectacles)
  – Oculist (UK)
Why Ophthalmology?

- What Do Ophthalmologists Do?
  - Attempt To Improve The Quality Of Life For Their Patients With Ocular Defects or Disease
Why Ophthalmology?

• What Do Ophthalmologists Do?
  – Preserve Vision
  – Restore Vision
  – Comfort Patients When We Can Do Neither
How Do They Do That?

- Medical Means
- Optical Means
- Surgical Means
  - Traditional
  - High Tech
- Radiotherapy
Why Ophthalmology?

• Medical Specialty/Surgical Specialty
• Cerebral Specialty/Procedural Specialty
• Longitudinal Specialty/Single Intervention Specialty
Why Ophthalmology?

• Technical Specialty/Personal Specialty
• Acute Diseases/Chronic Diseases
• Local Specialty/General Specialty
• All Ages
Why Ophthalmology?

- How to Become An Ophthalmologist
  - MD Degree
  - Internship (PG - 1)
  - Residency (PG - 2,3,4)
  - Optional Fellowship (Subspecialty Training) PG - 5, 6?
Practice of Ophthalmology

- Comprehensive Ophthalmology
- Subspecialties
- Private Practice
- Academic Practice
- Government Practice
- Research
Subspecialties of Ophthalmology

- Cornea/External Diseases
- Glaucoma
- Neuro-Ophthalmology
- Oncology
- Ophthalmic Pathology
Subspecialties of Ophthalmology

- Pediatric Ophthalmology
- Plastics/Reconstructive
- Refractive
- Retina
- Uveitis
Ophthalmologists Love “Toys”
An Ophthalmologist’s Toys

- Refractor (Phoropter®)
An Ophthalmologist’s Toys
Slit Lamp
An Ophthalmologist’s Toys

- Ophthalmoscopes – Direct, Indirect
An Ophthalmologist’s Toys

- Cameras
  - External
  - Slit Lamp
  - Fundus
  - Video
  - Microscope
Fig. 11-3. Recipient bed is trephined using a new disposable trephine blade.
Fundus Camera (Digital)
An Ophthalmologist’s Toys

• Microscope
An Ophthalmologist’s Toys

- Lasers
  - Therapeutic – Argon, YAG, CO₂
  - Refractive Surgery – PRK, LASEX
- Optical Coherence Tomography (OCT)
- Ultrasonography – A, B, UBM
- Heidelberg Retinal Tomograph (HRT)
- GDX
- Visual Field Instruments
• Glaucoma
• Retinal Tears
• Diabetic Retinopathy
• Central Retinal Vein Occlusion
• Post-Cataract (YAG)
Optical Coherence Tomography (OCT)
Ultrasonography

A-Scan

B-Scan

UBM
Threshold Perimetry
Medical Treatments

- Topical Medications
  - Lubricants
  - Antibiotics
  - Anti-Inflammatory Drugs
  - Glaucoma Drugs
  - Anti-Neoplastic Drugs
Medical Treatments

• Systemic Medications
  – Antibiotics
  – Anti-Inflammatory Drugs
  – Anti-Neoplastic Drugs
  – Anti-Glaucoma Drugs
Radiation Therapy

- Brachytherapy
  - Choroidal Melanoma

- External Beam Radiation

125I Plaque

24 mm Plaque
18 mm Plaque

External Beam Radiation
Other Forms Of Therapy

- Cryotherapy (Cold)
  - Glaucoma
  - Tumors
  - Retinal Tears
  - Retinal Detachment

- Diathermy
  - Tumors
Optical Treatments

Glasses

Contact Lens

Low Vision Aids
Selected Surgical Treatments

- Cataract Extraction
- Glaucoma Filtering Procedure
- Penetrating Keratoplasty (Corneal Transplant)
- Muscle Surgery
- Excision of Lid Lesion, Reconstruction
- Orbitotomy (Explore Orbit)
- Retinal Detachment Surgery
- Refractive Surgery
Press Button to
Play Video Of
Extracapsular Cataract Extraction
Full Time Faculty Members

• James C. (Chris) Fleming, MD, FACS
  – Chair, Department of Ophthalmology
  – Oculoplastics, Reconstructive, Orbit

• Barrett G. Haik, MD, FACS
  – Director, Hamilton Eye Institute
  – Oncology

• Natalie C. Kerr, MD, FACS
  – Residency Program Director
  – Pediatric Ophthalmology
Full Time Faculty Members

- Matthew W. Wilson, MD, FACS
  - Oncology, Ophthalmic Pathology
- Mary Ellen Hoehn, MD
  - Pediatric Ophthalmology
- R. Christopher (Chris) Walton, MD
  - Chief, Ophthalmology, VAMC; Uveitis
- Edward Chaum, MD, PhD
  - Retina
- Jorge Calzada, MD (Part - Time)
  - Retina
Full Time Faculty Members

- Sarwat Salim, MD
  - Glaucoma
- Elliott Kanner, MD, PhD
  - Glaucoma
- Thomas J. O’Donnell, MD
  - Neuro-Ophthalmology, Low Vision
- Andrew Lawton, MD (Part – Time)
  - Neuro-Ophthalmology
- John Freeman, MD (Part – Time)
  - Cornea/External Diseases
Full Time Faculty Members

- Ralph S. Hamilton, MD
  - Anterior Segment Surgery
- Ivan Marais, MD
  - Anterior Segment Surgery, Glaucoma
- James Hart, MD
  - Comprehensive Ophthalmology
- Jess Wesberry, MD
  - Comprehensive Ophthalmology
- Alinda Guynes McGowin, MD
  - Comprehensive Ophthalmology
Full Time Faculty Members

- Shiva Nobar, MD
  - Pediatric Ophthalmology
- Byron Wilkes, MD
  - Oculoplastics
- William (Bill) R. Morris, MD
  - Comprehensive Ophthalmology
  - Ophthalmic Pathology
  - Student Clerkship Director
  - SIGIO Faculty Advisor
Fellows

- Fellows –
  - Carolee Cutler-Peck, MD
  - Oncology – Brian Fowler, MD
  - Retina – John Randolph, MD
Residents 2012 - 2013

• First Year
  – Drs. Bell, Hood, Pegram, and Risch

• Second Year
  – Drs. Calderwood, Huddleston, Kosko, and Wilkin

• Third Year
  – Drs. Ditta, Harris, Mills, and Tse
Clinical Faculty Members

We Are Also Fortunate To Have Many Outstanding Clinical Faculty Members From The Community That Actively Participate In the Training Of Residents In Ophthalmology At The University Of Tennessee Health Science Center
More Information

- American Academy of Ophthalmology
  - http://www.aao.org

- Envision Ophthalmology
  - http://www.aao.org/careers/envision/intro.cfm

- Talk With Practicing Ophthalmologist Or Resident
Come And Join With Other Students And Learn More About Ophthalmology As A Career

Come To The Next Meeting Of The Student Interest Group In Ophthalmology (SIGIO)

Check Our Website At: http://uthsc.edu/eye/sigio/
Thank You For Coming To Learn More About The Specialty of Ophthalmology