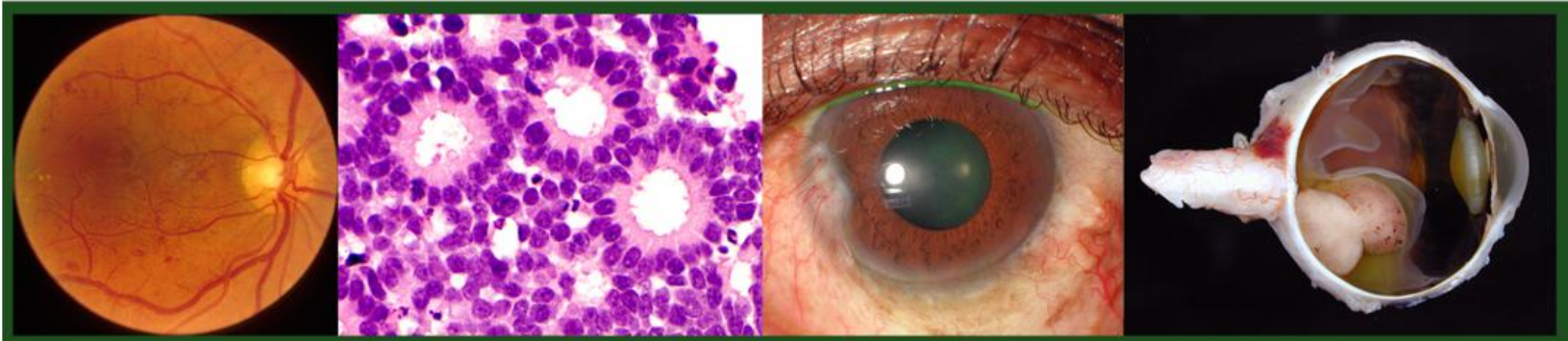


THE UNIVERSITY of
TENNESSEE **UT**
HEALTH SCIENCE CENTER

UT Hamilton Eye Institute

STUDENT INTEREST GROUP IN OPHTHALMOLOGY (SIGIO)



<http://uthsc.edu/eye/sigio/>

Why Ophthalmology?



Student Interest
Group In
Ophthalmology
SIGIO

THE UNIVERSITY of
TENNESSEE **UT**
HEALTH SCIENCE CENTER

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
- Ruetz (1852)
 - Indirect Ophthalmoscope
- Tonometers (1868 – early 1900s)
- Gullstrand (1911)
 - Slit Lamp



Hermann Ludwig Ferdinand von Helmholtz, MD

1821 - 1894
Inventor of the Direct
Ophthalmoscope

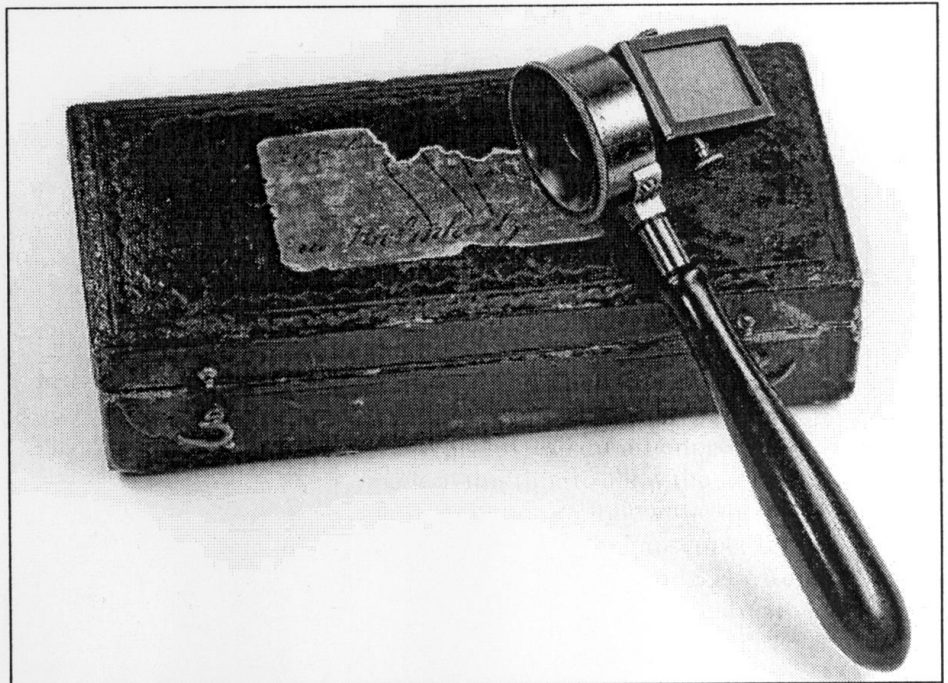


Figure 1. Early model of the Helmholtz ophthalmoscope, 1851.

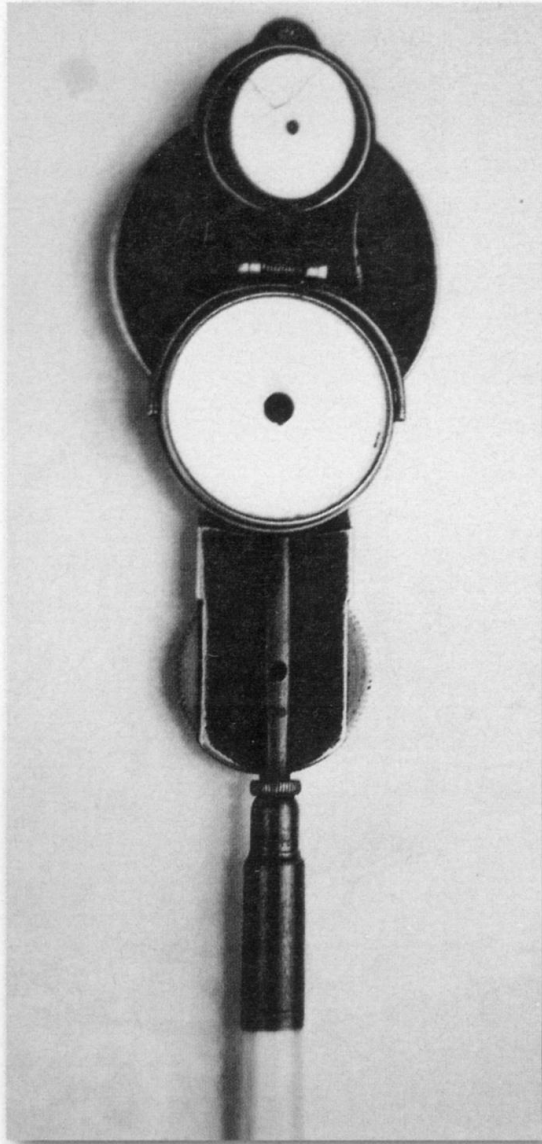


Figure 4 Juler's reflecting ophthalmoscope, 1882.

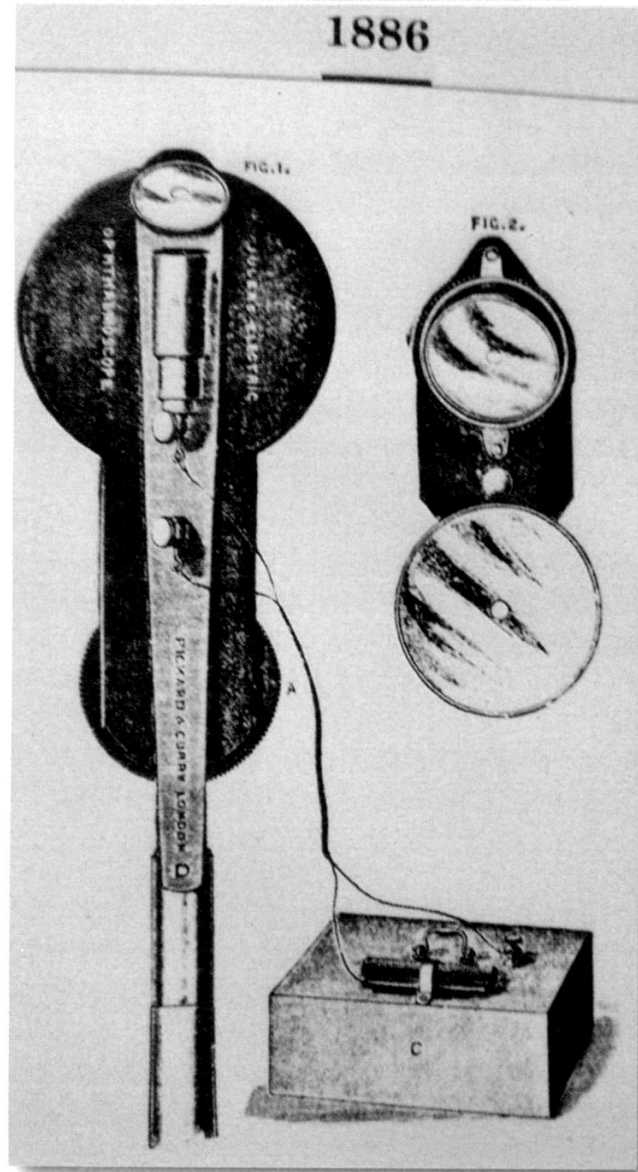


Figure 5 Juler's electric ophthalmoscope, 1886.
(Photos courtesy of Norman B. Medow, MD)

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

The History Of Ophthalmology



21st Annual Meeting of the American Academy of Ophthalmology
and the first American Board Examination

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

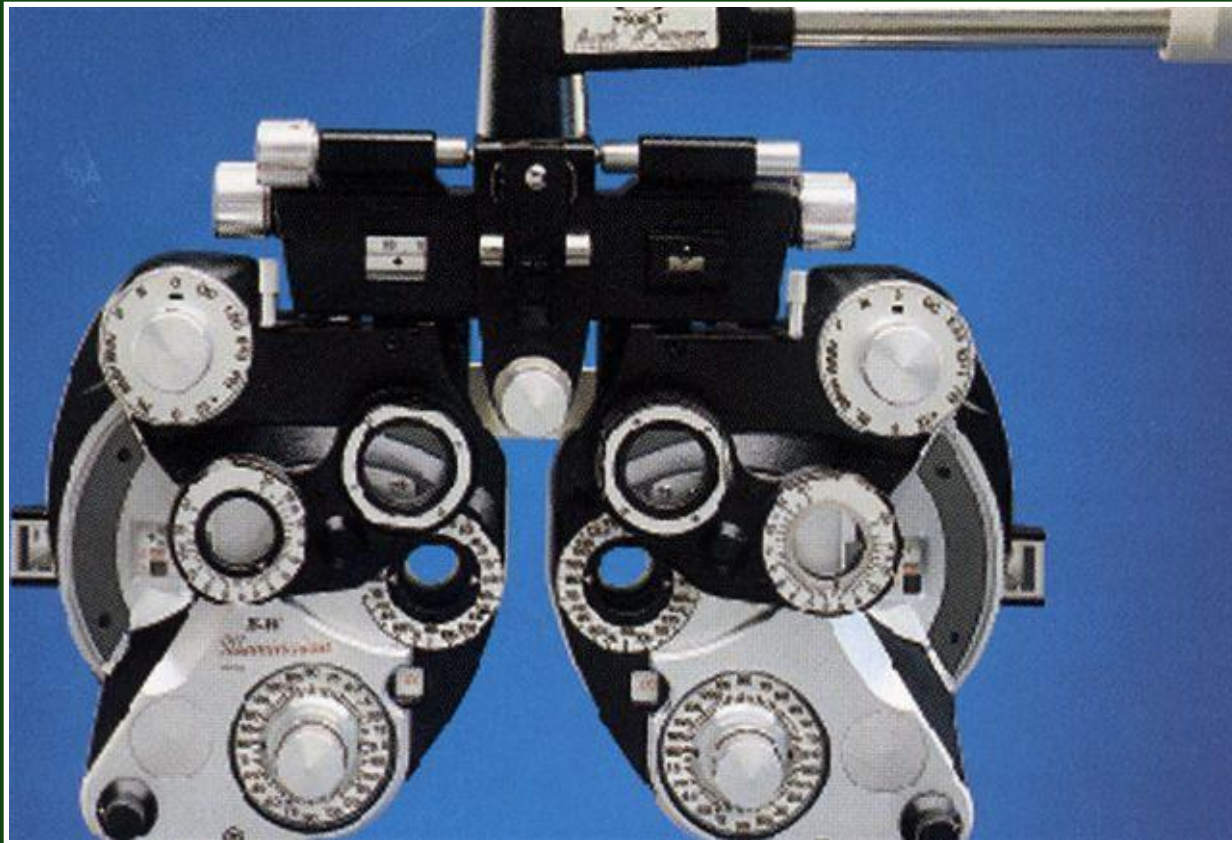
- Pediatric Ophthalmology
- Plastics/Reconstructive
- Refractive
- Retina
- Uveitis

Ophthalmologists Love “Toys”



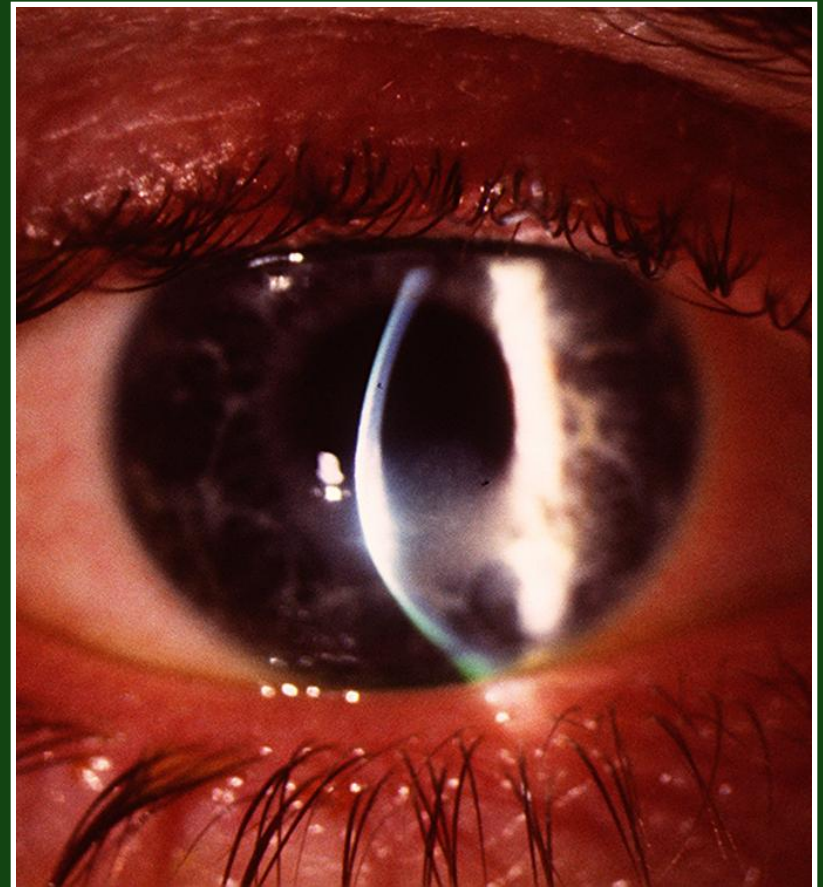
An Ophthalmologist's Toys

- 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

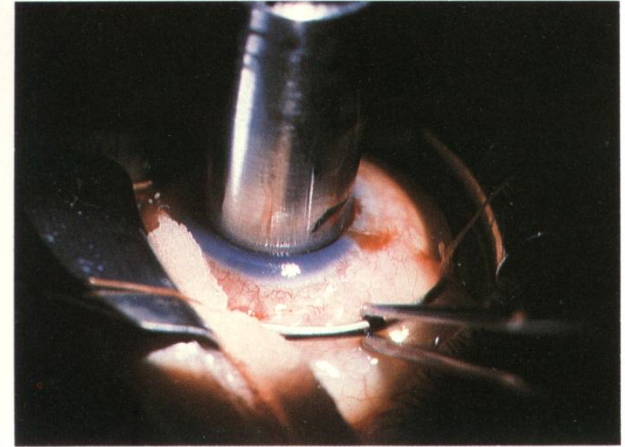
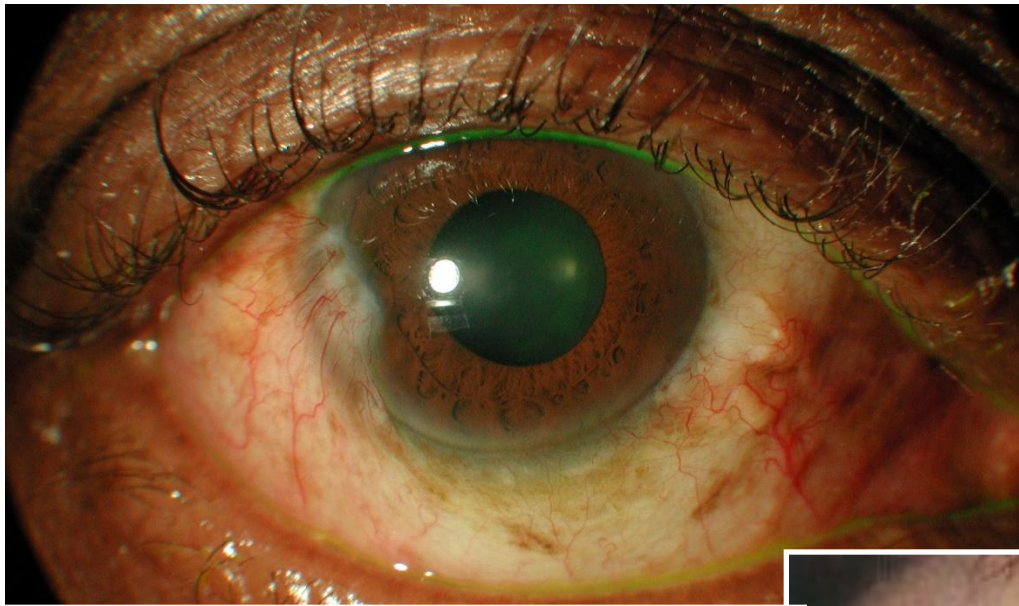
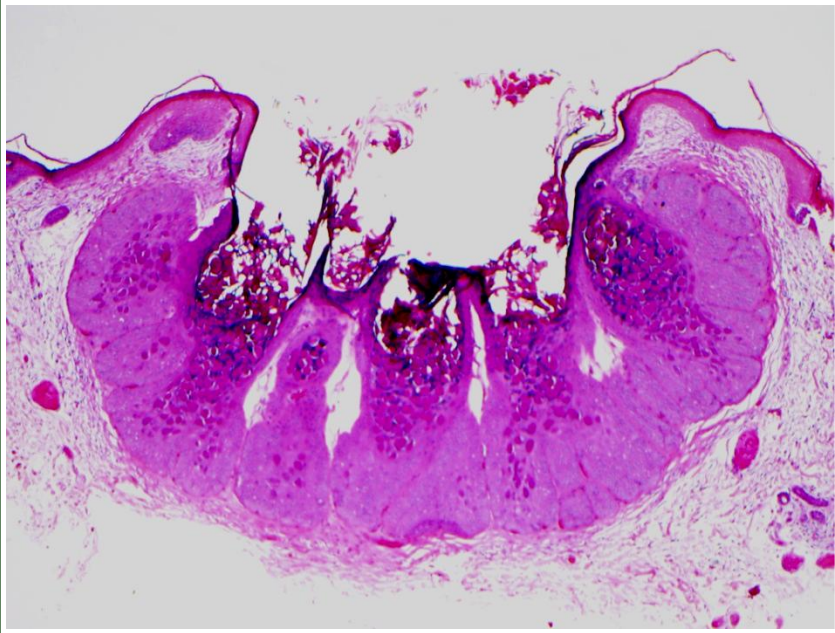
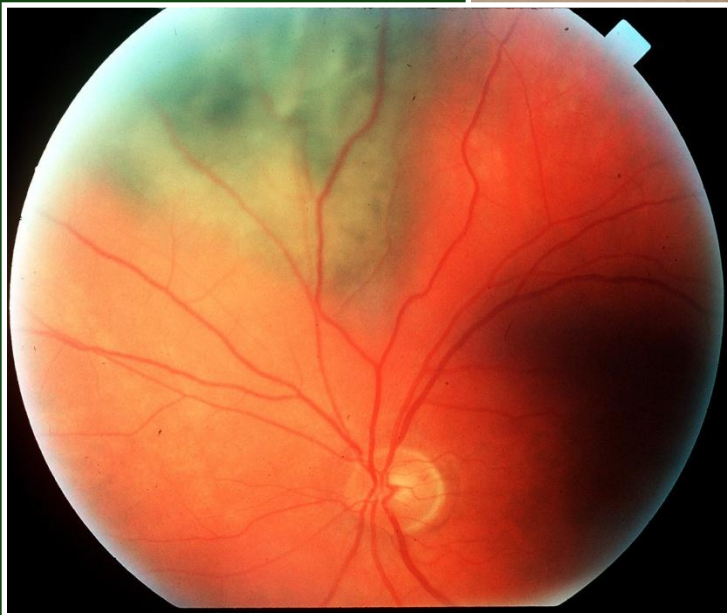
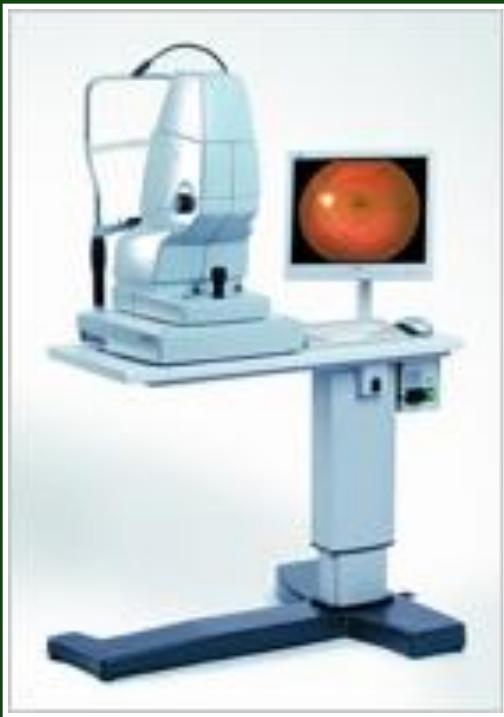


Fig. 11-3. Recipient bed is trephined using a new disposable trephine blade.





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

DANGER



**LASER IN USE
DO NOT ENTER**

LASERS - Hamilton Eye Institute

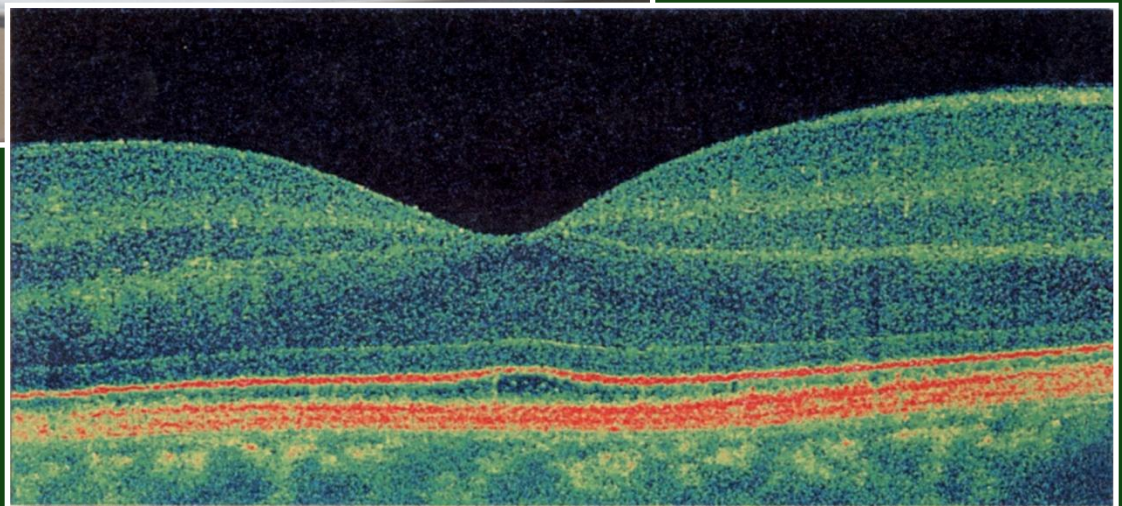


- Glaucoma
- Retinal Tears
- Diabetic Retinopathy
- Central Retinal Vein Occlusion
- Post-Cataract (YAG)

LASIX Instrument



Optical Coherence Tomography (OCT)



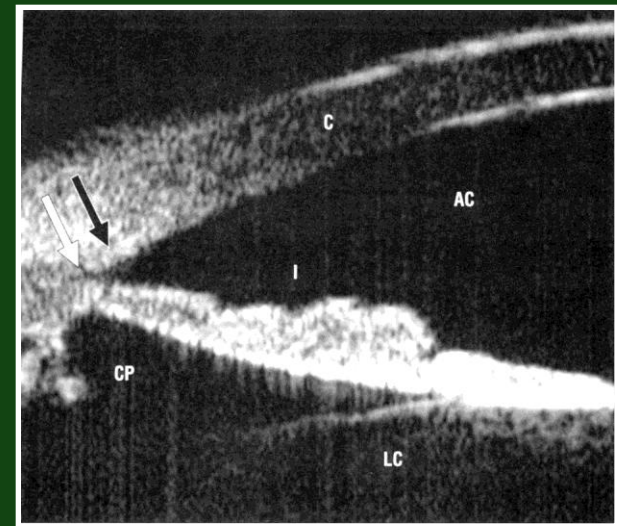


Ultrasonography

A-Scan

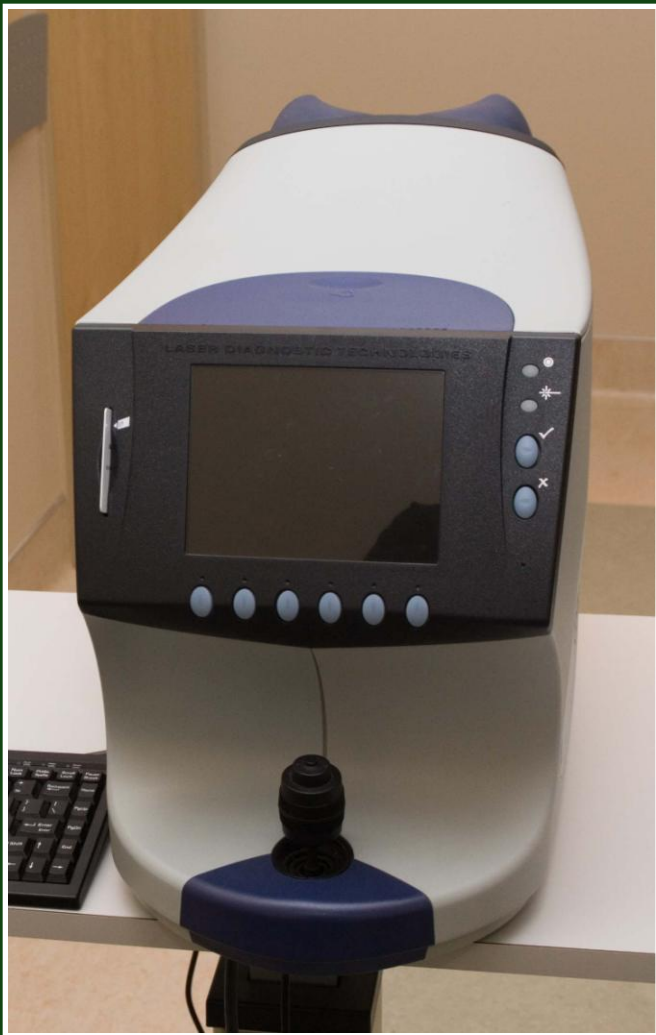
B-Scan

UBM

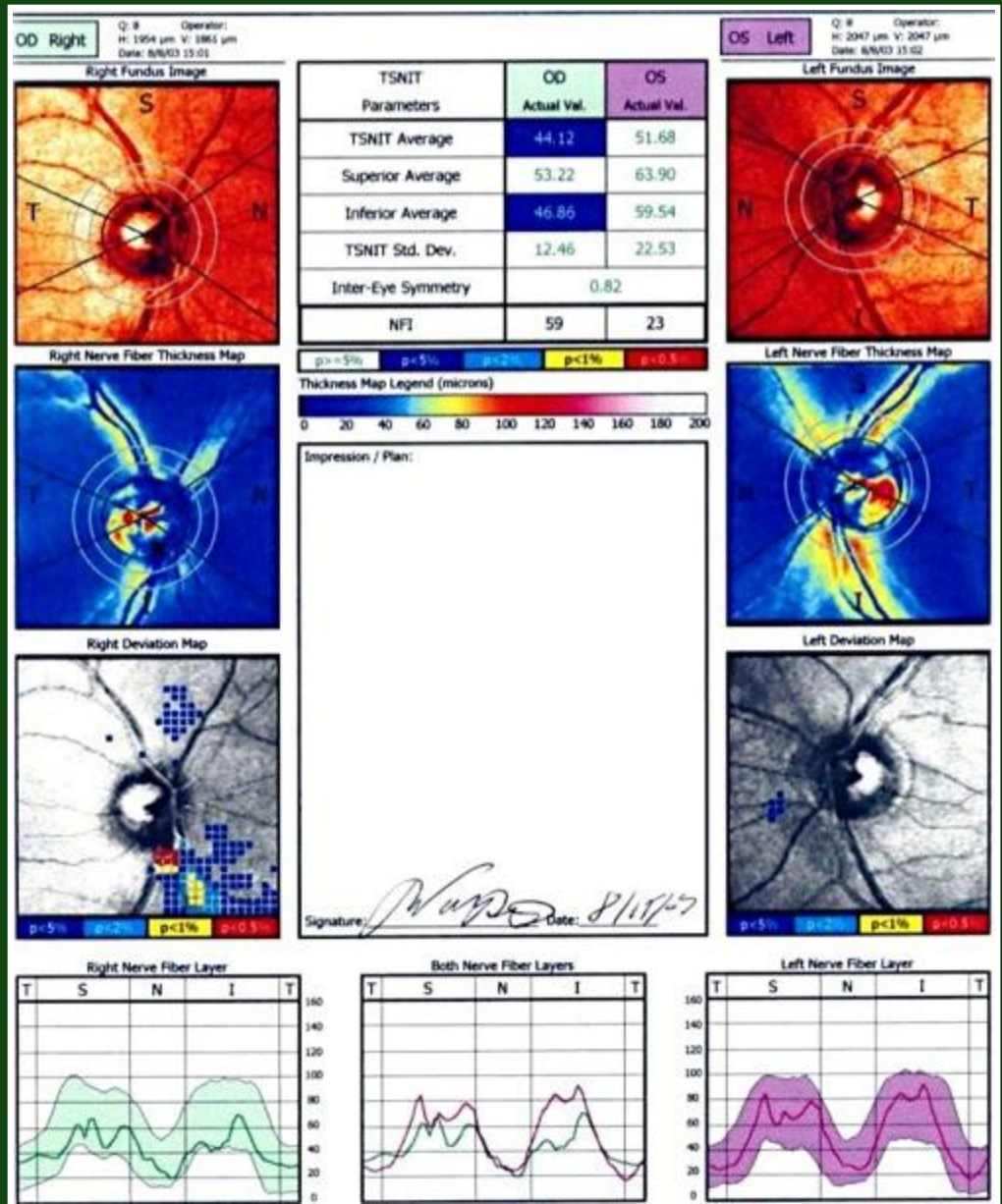


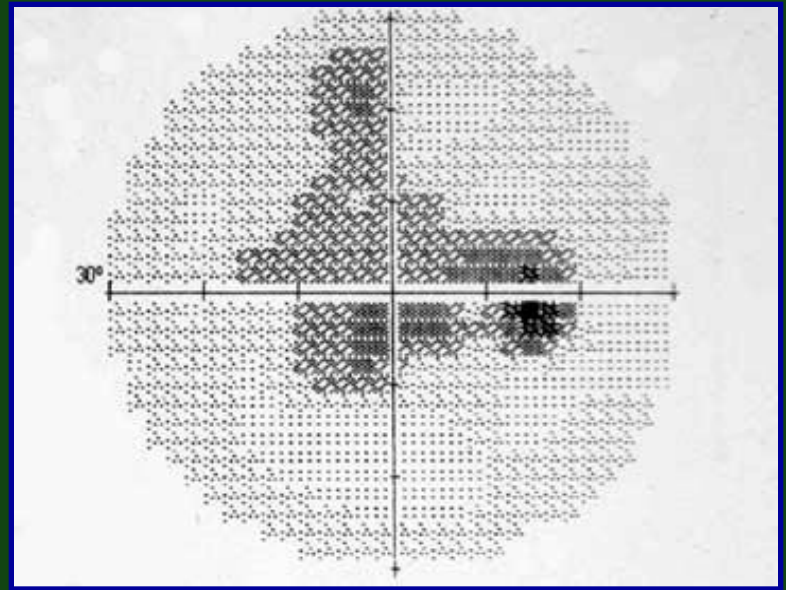
HRT





GDX





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



125I
Plaque

- External Beam Radiation

Other Forms Of Therapy

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

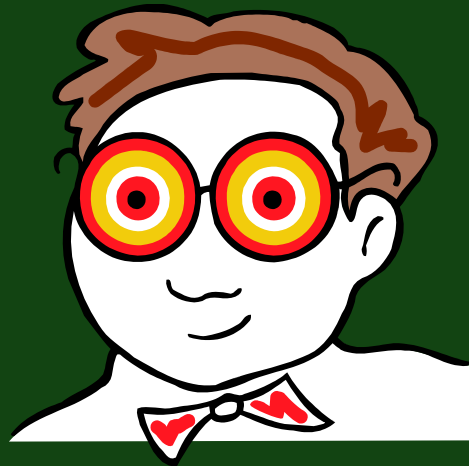
Optical Treatments



Glasses



Contact Lens

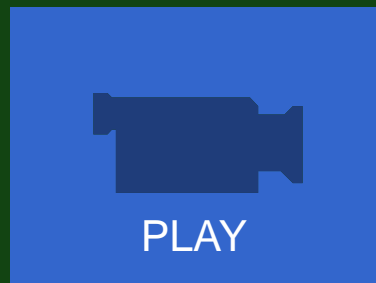


Low Vision Aids

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