The John F. Hardesty, MD, Department of Ophthalmology and Visual Sciences has a strong legacy and is a national leader in clinical ophthalmology and research. It is ranked among the top ten best overall programs in the United States, and it is also considered one of the top ten best research programs by U.S. News & World Report. Our ophthalmology department is fourth in National Institutes of Health funding for research and has one of the nation’s largest ophthalmology research faculty. The department’s mission is as follows: “As world leaders in patient care, teaching and research, we strive to touch lives and preserve and restore vision through innovation and compassionate service.” We hope that students will join us to enrich their medical education and to experience the collaborative culture of ophthalmology.

Although only a small percentage of physicians in the United States specialize in ophthalmology, there is no doubt that all physicians need a basic understanding of the eye and what it can reveal about a patient’s condition. In a recent article published in the journal Ophthalmology, it was stated that “ophthalmology-related issues arise in the diagnosis and treatment of inpatients and outpatients on internal medicine, pediatrics, trauma surgery, neurology, endocrinology, neurosurgery, otolaryngology, dermatology, oncology, and rheumatology services.”

The article went on to state that “[m]ost primary care program directors believe fewer than 50% of incoming residents have sufficient ophthalmology skills when entering the internship period of medical education. Ophthalmoscopy is one of many ophthalmic skills in which there seems to be a gap in the training of medical students. [A study] demonstrated that emergency medicine physicians often do not perform an ophthalmoscopic examination when it is indicated, and when they do, they are unlikely to detect abnormal findings. This presents a serious issue, because patients with visual impairments are more likely to be hospitalized, and from 2006 through 2011, there were 12 million eye-related emergency department visits nationwide. If they are unable to view or interpret fundus findings with either an ophthalmoscope or fundus photography, the students must know when it is necessary to refer their patients to an ophthalmologist for further evaluation.” In other words, even if a physician does not plan to specialize in ophthalmology, there is no doubt that all physicians need a basic understanding of the eye and what it can reveal about a patient's condition. During the third year, students are given the opportunity during the surgery clerkship to spend four weeks on the ophthalmology services; in addition, there are lectures given to students during the Internal Medicine rotations. During the fourth year, a four-week intensive clinical rotation is tailored to students interested in pursuing ophthalmology as a career. Research electives are available under the guidance of numerous ophthalmology faculty members for fourth-year students. Newer medical students under the Gateway Curriculum have the option of choosing ophthalmology for a three-week-long clinical experience during their first-year Procedural Immersion. More intensive clinical rotations will be available in later phases of the new curriculum.

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Our staff includes full-time university attending physicians for all subspecialties in ophthalmology, including ocular tumors, oculoplastics and uveitis. We have a very healthy mix of senior established faculty and junior members.

Todd Margolis, MD, PhD (https://ophthalmology.wustl.edu/people/todd-margolis-md-phd/)
Alan A. and Edith Wolff Distinguished Professor and Chairman
Kevin Ko, MBA (https://ophthalmology.wustl.edu/people/kevin-ko-mba/)
Executive Director of Business Affairs
P. Kumar Rao, MD, MBA (https://physicians.wustl.edu/people/p-kumar-rao-md/)
Professor and Vice Chair for Clinical Affairs
Daniel Kerschensteiner, MD (https://kerschensteinerlab.wustl.edu/)
Bernard Becker Professor of Ophthalmology and Visual Sciences
Vice Chair for Research
Co-Director of the Neuroscience PhD Program
Rajendra S. Apte, MD, PhD (https://physicians.wustl.edu/people/rajendra-s-ape-md-phd/)
Paul A. Cibis Distinguished Professor of Ophthalmology and Visual Sciences
Vice Chair for Innovation and Translation
Carla Siegfried, MD (https://physicians.wustl.edu/people/carla-j-siegfried-md/)
Jacquelyn E. and Allan E. Kolker, MD, Distinguished Professor of Ophthalmology and Visual Sciences
Vice Chair for Diversity, Equity and Professionalism
R. Lawrence Tychsen, MD (https://wuphysicians.wustl.edu/for-patients/find-a-physician/lawrence-tychsen/)
Pediatric Ophthalmology Director
Visit our website for more information about our faculty (https://ophthalmology.wustl.edu/contact-us/department-contacts/) and their appointments.

A

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Professor of Developmental Biology
Professor of Medicine
Vice Chair - Translation and Innovation
Paul A. Cibis Distinguished Professor of Ophthalmology and Visual Sciences
Doctor of Medicine, University of Mumbai, 1993
Doctor of Philosophy, University of Texas Southwest, 1997

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Associate of Arts, School Not Found, 1949
Doctor of Medicine, School Not Found, 1954

B

Steven Bassnett, Ph.D.
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Professor of Cell Biology and Physiology
Grace Nelson Lacy Distinguished Professorship in Ophthalmology
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Doctor of Philosophy, University of East Anglia, 1987

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Master of Arts, Washington University in St Louis, 1987
Doctor of Medicine, Washington University in St Louis, 1987

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Doctor of Medicine, University of Chicago, 1999

Kevin Jay Blinder, M.D.
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D

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Champaign, 2007
Doctor of Optometry, Southern College of Optometry, 2011

Doctor of Medicine, Johns Hopkins University Medical (Duplicate of Johns Hopkins University), 1970

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Instructor in Clinical Ophthalmology and Visual Sciences
Main Campus, 2002

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Bachelor of Arts, Occidental College, 1963
Doctor of Medicine, University of California, 1967

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Doctor of Medicine, University of California, 1967

Dean B Burgess, M.D.
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Bachelor of Arts, Occidental College, 1963
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Main Campus, 1982

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Master of Science, University of Wisconsin Madison, 1970
Doctor of Philosophy, University of Wisconsin Madison, 1979

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Master of Science, State University of New York, 2009
Doctor of Medicine, Rosalind Franklin University of Health Sciences (Formerly Finch University of Health Sciences), 2013

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Bachelor of Science, University of Notre Dame, 1995
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Doctor of Optometry, University of Missouri in St Louis, 1994

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Champaign, 2004
Doctor of Medicine, University of Illinois at Chicago, 2009

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Doctor of Medicine, National Taiwan University, 1981

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Bernard Becker Professor of Ophthalmology and Visual Sciences
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Master of Science, Northwestern University, 1966
Doctor of Medicine, Northwestern University, 1966

Daniel Kerschensteiner, M.D.
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Professor of Biomedical Engineering (Courtesy)
Professor of Neuroscience
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Janet and Bernard Becker Professor of Ophthalmology
Doctor of Medicine, Georg August University, 2004

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Mickey L Salmon, M.D.
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Doctor of Medicine, Brown University, 2018

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Jacquelyn E and Allan E Kolker M.D. Distinguished Professor of Ophthalmology
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Associate Dean Emeritus for Post-Graduate Education
College Park), 1956
College Park), 1960

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Arthur Waldo Stickle, M.D.
Assistant Professor Emeritus of Clinical Ophthalmology and Visual Sciences
Doctor of Medicine, University of Oklahoma, 1943

Michael Vincent Stock, M.D.
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Bachelor of Science, Nanyang Technological University, 2010
Doctor of Philosophy, University of Idaho, 2017

Paul M Tesser, Ph.D., M.D.
Associate Professor of Clinical Ophthalmology and Visual Sciences
Bachelor of Science, Massachusetts Institute of Technology, 1981
Doctor of Philosophy, State University of New York at Stonybrook, 1990
Doctor of Medicine, State University of New York at Stonybrook, 1991

Linda Mei-Lin Tsai, M.D.

Ophthalmology and Visual Sciences Research Electives

During the fourth year, opportunities exist for many varieties of advanced clinical or research experiences. Below is a list of faculty that have ongoing research projects that involve medical students. If a student is interested in working with a faculty member that is not listed below, they can contact the faculty directly to see if there are any research opportunities in their lab.

All residents are encouraged to pursue projects in laboratory or clinical investigation. Research familiarizes the resident with the limitations of laboratory methodology, provides a background for evaluating the literature, helps to develop critical thinking, and allows for a better informed choice for career goals. The type of project is the choice of the resident, and a wide range of opportunities are available. An annual Rosenbaum Research Award of $1,000 is presented to the resident who performs the most exciting research. The department emphasizes basic science research as well as clinical research. Basic science research currently involves five principal areas: Neurobiology, Immunology, Molecular Biology, Pharmacology/Physiology, and Clinical Studies and Outcomes Research. There are many opportunities for research in clinical areas as well.

Further descriptions of our research labs can be found on the Research Opportunities page (https://ophthalmology.wustl.edu/research-opportunities/) of the Department of Ophthalmology & Visual Sciences website.

Basic Science Research

- Dr. Steven Bassnett (https://ophthalmology.wustl.edu/items/bassnett-lab/): Pseudoexfoliation syndrome and glaucoma; refractive development; mouse models of ectopia lentis
- Dr. Shiming Chen (https://ophthalmology.wustl.edu/items/chen-lab/): Bedside to bench: phenotype-genotype correlations of CRX retinopathies
- Dr. Mae Gordon and Dr. Philip Ruzycki (https://ophthalmology.wustl.edu/people/philip-ruzycki-phd/): Microbiome assays of normal eyes and eyes presenting with conjunctivitis
- Dr. Lynn Hassman (https://physicians.wustl.edu/people/lynn-m-hassman-md-phd/): Single-cell transcriptomics of ocular inflammatory cells in uveitis
- Dr. Todd Margolis (https://ophthalmology.wustl.edu/items/margolis-lab/): Regulation of latent infection with herpes simplex virus
- Dr. Joshua Morgan (https://sites.wustl.edu/morganlab/): Downstream circuit degeneration in a mouse glaucoma model
- Dr. Philip Williams (https://sites.wustl.edu/williams/home/): Retinal ganglion cell degeneration and axon regeneration in mouse glaucoma
Courses

Curriculum courses (p. 8) for Ophthalmology and Visual Sciences are listed below.
Visit online course listings to view offerings for MS 0 Opht (https://courses.wustl.edu/CourseInfo.aspx?sch=M&dept=M50).

Gateway Curriculum

Under the new Gateway Curriculum, medical students spend their four years split among three phases. Phase 1 involves the first 16 months of medical school. During Phase 1, students participate in multiple Procedural Immersions, which are three-week-long clinical and surgical experiences. The primary goals of the Procedural Immersions are to socialize the student to different clinical settings, to hone their clinical skills, and to allow them to explore the impact of society and health systems on an individual patient’s health. This 360-degree approach to early clinical exposure allows students to view practicing medicine through physician, patient, and systems lenses. In these rotations, medical students will often focus on longitudinal patient care by following a specific patient from the time they arrive until they leave and seeing how all health care team members are involved in that patient’s visit. During the Ophthalmology Procedural Immersion, students spend time in the University Eye Clinic and in the pediatric and adult subspecialty clinics and operating rooms, and they attend rounds with an inpatient consult team. This early exposure to clinical experience helps students to contextualize the classroom and clinical learning that they continue with over the next two phases.

The basic and clinical science of ophthalmology is taught in Phase 1 during Module 7: Brain and Behavior. During this module, the students will spend time learning about eye anatomy and physiology, the visual pathways in the brain, and the mechanisms of ocular movements. The students participate in interactive case sessions that reinforce the material and encourage students to practice their critical thinking and eye examination skills.

During Phase 3, medical students will have opportunities to participate in electives in ophthalmology and advanced clinical rotations in ophthalmology. These will allow students to obtain further experience in clinical ophthalmology to strengthen their clinical knowledge and examination skills. The students will work closely with the ophthalmology residents and review the differential diagnosis of the “red eye,” the interpretation of an ophthalmologic consult note, and the handling of ocular emergencies. During this rotation, there is again emphasis on the use of the ophthalmoscope. Additional clinical skills introduced to rotating students include the use of the slit lamp and indirect ophthalmoscopy.

Legacy Curriculum: Fourth Year

The Ophthalmology Sub-Internship Rotation occurs during this time. During the month of June during their fourth year, students interested in pursuing a career in ophthalmology are encouraged to complete this intensive four-week rotation. Students will have personal indirect...
ophthalmoscopy lenses available for use on the rotation. Formal didactic sessions and workshops will be used to teach students how to perform a detailed ophthalmic history and exam, including the mastery of advanced slit lamp techniques and indirect fundoscopy. Students present a case at the department’s grand rounds. By the end of the rotation, students will be expected to function at the level of a first-year ophthalmology resident.

Curriculum Courses

**M50 Ophth 805 Ophthalmology (Clinical Elective)**
The Ophthalmology elective is designed to provide a foundational experience in clinical and surgical ophthalmology for medical students. Time will be divided between the University Eye Service clinic, adult inpatient consults, pediatric ophthalmology, and other ophthalmology subspecialties ophthalmology (e.g. Glaucoma, Cornea, or Retina). The amount of time at each location will depend on length of the rotation and the student's specific interests. There are didactic sessions with Dr. Andrew Lee and Dr. Cynthia Montana during which the students present their own cases. In addition, there are continuing opportunities to attend educational conferences. At the end of the experience, the student is expected to be familiar with the routine eye exam, common eye conditions and their treatment, and the use of the slit lamp and ophthalmoscope.

**M50 Ophth 910 Ophthalmology Advanced Clinical Rotation (ACR)**
On the Ophthalmology Advanced Clinical Rotation, medical students will rotate on the ophthalmology adult consult service, the University Eye Service clinic, and the subspecialty clinics of the full time faculty of the Department of Ophthalmology and Visual Sciences (cornea, glaucoma, retina, oculoplastics, neuro-ophthalmology, pediatric ophthalmology, ophthalmic pathology, uveitis, and ocular oncology). Students will care for patients of all ages and backgrounds, and ophthalmic diseases seen will range from common eye conditions to complex diseases requiring subspecialty care. In clinic and on consults, students will perform the ophthalmic history and physical examination and also develop their ability to diagnose, manage, and treat common ophthalmic conditions. In the operating room, students will participate in all phases of perioperative patient care and learn basic ophthalmic surgical principles and techniques. Academic curriculum for the rotation will include weekly case presentations with ophthalmology faculty, resident lectures and conferences, and weekly departmental grand rounds. Each student will also present a case at grand rounds during the final week of the rotation with the assistance of a resident mentor. Students will participate in ophthalmology call approximately once per week from 5pm-12am. During that time, the medical student is expected to be present to work with the primary call ophthalmology resident.
Credit 140 units.