Hamilton Eyelights

MICROSURGERY IN NEW DIMENSIONS

Winter 2012

Hamilton Eye Institute
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From the Chair

Welcome to our special technology issue. At the UT Hamilton Eye Institute, we continually strive to integrate emerging technologies that enhance our clinical, education, research and outreach programs. In this issue of Hamilton Eyelights, you will learn about some of these cutting-edge technologies, as well as other recent developments and achievements, none of which would be possible without your support. Our most significant strides are achieved through your generosity. As you share in our vision to prevent blindness and advance the frontier of ophthalmic medicine, we remain ever grateful for your support.

Warmest regards,

Barrett G. Haik, MD, FACS
Hamilton Professor and Chair
Director, Hamilton Eye Institute
Welcome Aboard

Additions to
Clinical Faculty

We are pleased to announce three new appointments to our clinical faculty: Robert S. Dotson, MD, clinical professor of Ophthalmology, from the Methodist Medical Center in Oak Ridge, Tenn.; Steven Sterling, MD, clinical instructor in Ophthalmology, from Knoxville, Tenn.; and M. Stewart Galloway, MD, clinical instructor in Ophthalmology, from Cookeville, Tenn. These outstanding physicians were recruited by HEI clinical professor of Ophthalmology, Jerre M. Freeman, MD.

At a laser conference this spring in Prague, Czechoslovakia, Dr. Dotson delivered a very well-received report on his experience and research in treating macular degeneration with certain frequencies of light.

Dr. Galloway presented a paper at the fall meeting of the European Society of Cataract and Refractive Surgeons in Vienna, Austria. He reported his experience with almost 900 cases of injecting a mixture of steroids and antibiotics after cataract and implant surgery to prevent post-surgical inflammation and other complications, a method that solves the common problem of patients failing to use prescribed eye drops.

We congratulate our newly appointed clinical faculty on their accomplishments and welcome them to the UT Hamilton Eye Institute.

Orthoptist Joins
Pediatric Team

Before becoming a certified orthoptist, Chantel Devould, CO, COT, was a pediatric technician at HEI. She worked with pediatric ophthalmologist Natalie C. Kerr, MD, FACS, who introduced Chantel to the field of orthoptics. “I thought it sounded like something I could do,” Chantel recalls, “and it would make me an integral part of the pediatric ophthalmology team.”

Orthoptics pertains to the evaluation and treatment of patients with binocular vision and eye-movement disorders. Although orthoptists can serve patients of any age, most binocular disorders, such as strabismus, manifest in children. As a result, orthoptists work primarily in pediatric ophthalmology settings. “Orthoptists assist pediatric ophthalmologists with surgical plans and the overall workup,” Chantel notes. “We also have a hand in the training of residents, fellows and medical technicians.

“The Hamilton Eye Institute is a wonderful center that does so much for the community and the greater Mid-South area,” Chantel says. “I’m very grateful that I was welcomed back with open arms.”
Distinguished Visitors

14th Annual Williford Professorship

On September 15, the Hamilton Eye Institute was proud to welcome our 14th William N. Williford, MD, Distinguished Visiting Professor, David T. Tse, MD, FACS, professor of Ophthalmology, Dr. Nasser Al-Rashid Chair in Ophthalmic Plastic, Orbital Surgery and Oncology, Bascom Palmer Eye Institute, Miami, Fla.

Dr. Tse presented the Williford Lecture, “Emerging Therapeutic Advancements for Orbital Diseases,” sharing very insightful instruction with an audience of ophthalmologists and health care providers. Following his enlightening lecture, Dr. Tse received a custom-designed plaque etched with an artistic rendering of the Hamilton Eye Institute.

The following day, Dr. Tse joined the residents of the Hamilton Eye Institute to lead an engaging discussion covering a range of ophthalmic surgery pearls and principles. Then, at HEI’s weekly grand rounds, Dr. Tse presented, “X-Files of Oculoplastic Surgery,” an array of fascinating case reports each demonstrating an important lesson.

During his visit, Dr. Tse was kind enough to donate a signed copy of his new book, Color Atlas of Oculoplastic Surgery, to the HEI library. We were delighted to have Dr. Tse with us, and we sincerely appreciate his outstanding service as the Williford Distinguished Visiting Professor.
The Ayers Foundation™

The Ayers Foundation of Parsons, Tenn., under the leadership of its president, Janet Elizabeth Ayers, has awarded the University of Tennessee Hamilton Eye Institute a $1 million challenge grant to develop a comprehensive program for treating young children affected with life-threatening and blinding ophthalmic cancers.

The Hamilton Eye Institute’s program will collaborate with the St. Jude Children’s Research Hospital International Outreach Program, regional hospitals in Latin America, ORBIS International, Lions Clubs International, the 20/20 Foundation, the American College of Surgeons Committee on Emerging Surgical Technology and Education, and the American Joint Committee on Cancer in a multi-institutional public health initiative to develop improved diagnostic and therapeutic strategies to cure these devastating diseases.

While the main focus will be to help children in Latin America, the strategies employed there should be applicable to pediatric diseases throughout the developing world. Childhood cancer occurs at a dramatically higher rate in Latin America than in the United States and Europe. This difference may be connected to environmental toxins, genetics, maternal viral exposures, or nutritional influences. Because of this increased rate, we expect to uncover new information about cancer biology. The program may even lead to new insights about the origin and nature of cancer, as retinoblastoma research has previously led to many breakthroughs in our understanding of human cancer.

The Ayers Foundation was created by James W. Ayers (pictured above), a remarkable individual with an extraordinary intellect. He was inspired early in life by his parents to treasure education and public service. Today he is a gifted businessman who has created and led numerous successful corporations throughout Tennessee. His faith and dedication to improving the life of Tennesseans have been demonstrated by his strategic investments in higher education and programs for children’s health, as well as for the early detection and treatment of cancer.

The generous support of the Ayers Foundation makes it possible for us to maintain the highest levels of excellence in providing optimal pediatric vision care for children worldwide. It will allow our telemedicine program to dramatically expand our mission and support physicians throughout Latin America. We wish to convey to James and Janet Ayers our deepest appreciation and the heartfelt gratitude of the participating physicians and the children, families and communities we serve.
Awards & Achievements

Dr. Charles’ Laser Platform Clears FDA

Steve Charles, MD, clinical professor of ophthalmology at Hamilton Eye Institute and founder of the Charles Retina Institute, recently received approval from the FDA for the 577-nm laser platform. Treating a range of retinal disorders from diabetic retinopathy to retinal detachment, this laser platform offers improved precision, efficiency, safety and comfort.

“With this newest addition to the PASCAL family of lasers, ophthalmologists no longer have to make a choice between using a device with pattern-scanning capability or one that has the more desirable wavelength for macular disease,” Dr. Charles says. “The PASCAL Streamline 577 provides both attributes in a reliable, solid-state, small-footprint device.”

As the center where it was tested and developed, the Hamilton Eye Institute is the first medical facility in the world to use this new advancement in medical laser technology.

Dr. Kerr Honored by Major Societies

In July, HEI Hiatt Professor of Ophthalmology Natalie C. Kerr, MD, FACS, was accepted for membership in the prestigious American Ophthalmologic Society (AOS). Only five ophthalmologists in the United States were accepted for membership this year, and fewer than 350 ophthalmologists worldwide have earned this honor. Dr. Kerr was nominated by Drs. Barrett G. Haik and Ralph S. Hamilton, both members of the society. Admission represents special recognition of contributions to the science and practice of ophthalmology and requires approval of a thesis published in Transactions of the American Ophthalmological Society.

In August, Dr. Kerr was elected president of the American Orthoptic Council (AOC), a national organization that establishes standards and examines candidates for certification as orthoptists in the United States. The AOC is comprised of representatives of major American organizations involved in orthoptic eye care.

In October, Dr. Kerr received a Senior Achievement Award from the American Academy of Ophthalmology for her contributions to their scientific, advocacy and educational programs. She was also recognized with the AAO Distinguished Service Award along with fellow council members for years of service on the AAO Council representing the American College of Surgeons.
This summer, the UT Hamilton Eye Institute (HEI) revolutionized the presentation of surgical video in its operating rooms and Freeman Auditorium with the addition of TrueVision®, a three-dimensional, high-definition (3-D HD) surgical video system. HEI is among the first eye centers in the world to have adopted this exciting new microsurgical technology in its operating rooms. Furthermore, HEI is the first eye center to take the additional step of assimilating this 3-D HD technology into the building’s audio/video (A/V) infrastructure. This enables live or prerecorded simulcasting of 3-D HD ophthalmic microsurgery to an audience of more than 100 viewers in our state-of-the-art Freeman Auditorium.

The integration of this video system advances the effectiveness of surgical instruction at HEI, bridging a gap that has long existed between the teaching and practice of microsurgery. Although stereo operating microscopes have been used for more than 50 years, surgeries could only be recorded in monocular (2-D) video. Only now can the dimension of depth in a microsurgical procedure be accurately shared with students,

LEFT: Drs. Steve Charles and James C. Fleming review a recent surgery on the 3-D system for the benefit of vitreoretinal fellow, Dr. John Randolph.
which is especially important since the slightest error in depth can result in a damaged lens or scarred retina.

These remarkable advances in A/V technology at HEI are made possible through the vision of Jerre M. Freeman, MD, HEI clinical professor of Ophthalmology and founder of the World Cataract Foundation, whose support led to the creation of the Freeman Auditorium and continues to advance its cutting-edge technology.

Our ophthalmic physicians have been using the new 3-D HD system to perform procedures across several subspecialties. The system is ideal for display of cataract, corneal, vitreoretinal, glaucoma, strabismus, ophthalmic plastic and orbital surgery. The Freeman Auditorium will continue to undergo further upgrades throughout the year ahead.
The Hamilton Eye Institute always strives to remain on the cutting edge of technology. The addition of 3-D HD microsurgical video is not the only recent expansion in our array of training technologies. This summer, HEI also added a new indirect ophthalmoscope simulator system to its Skills Transfer Center. This highly advanced virtual-reality workstation immerses its users in a hands-on training environment with a simulated patient who can present an array of different possible ophthalmologic conditions. By using the simulator, students and residents learn to perform an eye examination using indirect ophthalmoscopy to identify the computer-generated patient’s symptoms.

The system tracks students’ improvement over time by storing performance data, which can also be reviewed by faculty to identify areas in which the student may need more guidance. First-year HEI resident Stephen Huddleston, MD, who has been training on the simulator, remarks, “The simulator is very useful for localizing lesions and better understanding how certain pathologic cases present.”

Indirect Ophthalmoscope Simulator

Stephen M. Huddleston, MD, first-year HEI resident, works at the indirect ophthalmoscope simulator.

Surgical Simulator Updated

The ophthalmic surgical simulator, which provides training in a wide array of cataract and vitreoretinal surgeries, received a major software upgrade this year. It was updated to include a considerably expanded curriculum of new training modules, an improved interface, refined tissue modeling, and various other upgraded features. An ideal convergence of technological synergy, the surgical simulator can also record and export 3-D video of the virtual surgeries, which can then be edited and displayed on any 3-D-capable video system, including the Freeman Auditorium’s new 3-D HD projection system.

Daniel K. Bennett, MD, third-year HEI resident, performs a simulated retinal surgery.
Digital Whiteboard Facilitates Instruction

Among the array of education technology available at the Hamilton Eye Institute, the digital whiteboard leaves old-school chalk boards in the dust. This special type of plasma screen enables our professors and instructors – like William R. Morris, MD, who is in charge of medical student education at HEI – to pull up pictures from our vast database of ophthalmic images and draw directly on them. With the whiteboard’s digital markers, instructors can employ different colors to highlight aspects of external or internal eye anatomy such as blood vessels, areas of hemorrhage, and pathology. This teaching method helps viewers to better visualize and comprehend the anatomy of the eye. Notes and images drawn on the screen can be saved in a library folder for future reference.

Additional A/V Technology at HEI

The Freeman Auditorium is a cornerstone of education at the Hamilton Eye Institute. The seamlessly integrated systems there allow us to make the most of any presentation and share it with the world.

Our media Webcast system allows us to share Internet links that enable students, residents and health professionals to attend live Webcasts of events and presentations by our faculty, residents and visiting guest speakers. After these live events have transpired, they are stored in our media server and can be viewed at any time, providing an invaluable information and educational resource.

The audience response system at HEI is used weekly at our grand rounds lectures. This system enables presenters to place poll questions in their PowerPoint lectures that the audience can answer with remote controls. The answers are then instantaneously transformed into a graphic representation on the slide in the form of a bar or pie chart. Not only does this create a heightened level of interest and involvement for participating students and residents in the audience, but it also reveals any gaps in knowledge and prompts our faculty to address them.
Annual Meeting: American Academy of Ophthalmology

In October, HEI faculty and residents traveled to Orlando for the annual meetings of the American Academy of Ophthalmology (AAO), the American Society of Ophthalmic Plastic and Reconstructive Surgery (ASOPRS), and the American Orthoptics Council (AOC). There, they attended panels, presented scientific posters, and participated in invited lectures and instructional courses. Several faculty members also served on special committees and moderated events at the meetings. In addition, associate professor Sarwat Salim, MD, FACS, received both an AAO Achievement Award and AAO Secretariat Award at the meeting. We congratulate our faculty, residents and research staff on their many achievements at this year’s meetings.

Program Benefits Students & Community

Sarwat Salim, MD, FACS, has been awarded a grant from the Friends of the Congressional Glaucoma Caucus Foundation (FCGCF) for the Student Sight Savers Program (SSSP) at the University of Tennessee. FCGCF is a private organization supported by the Congressional Black Caucus. The goals of the SSSP are to support screening for glaucoma, increase community awareness about glaucoma, and improve medical student education. In the past year, several glaucoma screenings have been conducted by HEI residents, medical students and staff under Dr. Salim’s supervision.

As director of the HEI Glaucoma Service, Dr. Salim is very pleased to have the SSSP at the University of Tennessee to facilitate early exposure to ophthalmology for our medical students and to teach them basic skills for comprehensive eye examinations. In addition, she is extremely grateful to the foundation and its leadership for their recognition of the profound need for early glaucoma detection in our community and for their support in our shared mission of community outreach and care for all.

Ella Rosamont-Morgan, national director for screening programs with the FCGCF, with Dr. Salim (right) at a glaucoma screening event.
Dr. Steinle Supported for Diabetic Eye Drop

Jena J. Steinle, PhD, associate professor in the Departments of Ophthalmology, and Anatomy and Neurobiology, has been awarded a grant by the Juvenile Diabetes Research Foundation (JDRF) to continue her work developing a new eye drop that may be used to prevent diabetic retinopathy. “The JDRF grant is vital for continuing our work,” says Dr. Steinle. “Our hope is that the drops will eventually be used in patients to reduce concerns about this problem.”

Dr. Rex Receives Shaffer Prize

Tonia S. Rex, PhD, assistant professor in the Departments of Ophthalmology, and Anatomy and Neurobiology, was awarded the Shaffer Prize for Innovative Glaucoma Research at the meeting of the Glaucoma Research Foundation in San Francisco on February 2, 2012.

Each year, the Shaffer Prize recognizes a researcher whose project, funded by a Shaffer grant, best exemplifies the pursuit of innovative ideas in the quest to better understand glaucoma.
Faculty Listing

Academic & Research Faculty

Barrett G. Haik, MD, FACS
Ophthalmic Oncology, Orbital Disease, & Oculoplastics
Hamilton Professor & Chair, Department of Ophthalmology
Director, Hamilton Eye Institute

James C. Fleming, MD, FACS
Orbital Disease & Oculoplastics
Philip M. Lewis Professor of Ophthalmology
Vice-Chair, Department of Ophthalmology

Ralph S. Hamilton, MD
Comprehensive Ophthalmology
Professor of Ophthalmology

Richard D. Drewry, Jr., MD, FACS
Neuro-Ophthalmology
Professor Emeritus

Roger L. Hiatt, MD
Pediatric Ophthalmology & Strabismus
Professor Emeritus

Edward Chaum, MD, PhD
Vitreoretinal Diseases
Plough Foundation Professor of Retinal Diseases

Eldon E. Geisert, PhD
Ophthalmic Research
Professor of Ophthalmology
Professor of Anatomy & Neurobiology
Director, Center for Vision Research

Dianna A. Johnson, PhD
Ophthalmic Research
Professor of Ophthalmology
Professor of Anatomy & Neurobiology

Natalie C. Kerr, MD, FACS
Strabismus, Developmental Ophthalmology & Pediatric Cataracts
Hiatt Professor of Ophthalmology
Director, Residency Program

R. Christopher Walton, MD, MHA
Uveitis & Ocular Inflammatory Diseases
Professor of Ophthalmology
Continuing Medical Education

Matthew W. Wilson, MD, FACS
Ophthalmic Oncology, Orbital Disease, Oculoplastic Surgery & Ophthalmic Pathology
St. Jude Chair of Pediatric Ophthalmology
Professor of Ophthalmology

Alessandro Iannaccone, MD, MS
Hereditary Retinal Disease & Retinal Electrophysiology
Associate Professor of Ophthalmology

Monica M. Jablonski, PhD
Ophthalmic Research
Professor of Ophthalmology
Professor of Anatomy & Neurobiology

William R. Morris, MD
Comprehensive Ophthalmology & Ophthalmic Pathology
Associate Professor of Ophthalmology

Sarwat Salim, MD, FACS
Glaucoma
Associate Professor of Ophthalmology
Director, Glaucoma Service

Jena J. Steinle, PhD
Ophthalmic Research
Associate Professor of Ophthalmology
Associate Professor of Anatomy & Neurobiology

Mary Ellen Hoehn, MD
Pediatric Ophthalmology & Strabismus
Associate Professor of Ophthalmology
Director, Special Projects

Elliott M. Kanner, MD, PhD
Glaucoma
Assistant Professor of Ophthalmology

Thomas O’Donnell, MD
Neuro-Ophthalmology & Low Vision Rehabilitation
Assistant Professor of Ophthalmology
Director, Low Vision Services

Andreea E. Partal, MD
Cornea, External Disease & Refractive Surgery
Assistant Professor of Ophthalmology

Tonia S. Rex, PhD
Ophthalmic Research
Assistant Professor of Ophthalmology
Assistant Professor of Anatomy & Neurobiology

John M. Freeman, MD
Cornea & External Disease, Comprehensive Ophthalmology
Instructor of Ophthalmology
Clinical & Affiliated Faculty

Howard Beale, MD
Brian Biesman, MD
Kathryn Byrd, MD
Ernesto A. Calvo L., MD
Jorge I. Calzada, MD
Steve Charles, MD
Thomas Currey, MD
Roger Deshaies, MD
Robert Dotson, MD
James Freeman, MD
Jerre M. Freeman, MD
Stewart Galloway, MD
Thomas Gettelfinger, MD
Fletcher Goode, MD
Lawrence Gordon, MD
Thomas Grizzard, MD
Ralph F. Hamilton, MD
James C. Hart, MD
Faramarz Hidaji, MD
Sydney Kriger, MD
Andrew Lawton, MD
Rashmi Pandya-Lipman, MD
Gary Passons, MD
Melvin Litch, MD
Ivan Marais, MD
William B. Priester, MD
Kathryn Reed, MD
Peter Rubín, MD
Alan R. Schaeffer, MD
Richard E. Sievers, MD
Steven Sterling, MD
Spencer Thornton, MD
Audrey W. Tuberville, MD
Ming Wang, MD, PhD
Jesse M. Wesberry, Jr., MD
Ralph Wesley, MD
Thomas O. Wood, MD

Instructors

Emily Taylor Graves, MD
Pediatric Ophthalmology Instructor

David F. Jones, MD
Second-Year Oculoplastic Surgery Instructor

Margaret E. Phillips, MD
Oculoplastic Surgery Instructor

John D. Hyatt, MD
Second-Year Vitreoretinal Surgery Instructor

John C. Randolph, MD
Vitreoretinal Surgery Instructor

Ophthalmology Residents

Third Year:
Daniel K. Bennett, MD
Brian T. Fowler, MD
Brian M. Jerkins, MD
Alinda Guynes McGowin, MD

Second Year:
Lauren C. Ditta, MD
Lauren L. Harris, MD
Katie A. Mills, MD
Brian C. Tse, MD

First Year:
Julie K. Calderwood, MD
Stephen Huddleston, MD
Mark Kosko, MD
Justin Wilkin, MD

Joint-Appointed Faculty

Michael A. Dyer, PhD
Erno Lindner, PhD, DSc
Eniko K. Pivnick, MD
Anton J. Reiner, PhD
Stephen X. Skapek, MD

Visiting Research Fellows

Aladdin Rashwani, MD
Pediatric Ophthalmology & Oncology Research

Chainarong Luengchaichawang, MD
Glaucoma Research
Congratulations to William J. Mallon, MD, a graduate of our residency program, who has been elected president of the Florida Society of Ophthalmology.