

Line of Sight

Fall 2003/Winter 2004

UK UNIVERSITY OF KENTUCKY
Department of Ophthalmology

Letter from the Chair

Welcome to our Fall/Winter issue of *Line of Sight* – a newsletter devoted to timely and topical news regarding University of Kentucky College of Medicine, Department of Ophthalmology. Our department continues to be very productive. In this issue of *Line of Sight*, we highlight several faculty and staff members who continue to move our department toward national prominence. We also focus on clinical trials being done by our faculty that offer hope for better treatment of age-related macular degeneration, and we highlight our participation in the latest techniques in ocular drug delivery and refractive eye surgery.

We have dedicated a section to ophthalmology house staff, highlighting our physicians who we further train as the next generation of ophthalmologists. Their education and training are a source of great pride to us.

Our needs multiply along with our scientific, educational and patient care productivity. With your continued support we are able to provide our faculty and staff with the resources that enable us to better diagnose and treat blinding diseases.



P. Andrew Pearson, M.D.
Chair and Associate Professor
Vitreoretinal Surgery
Department of Ophthalmology

Clinical Trials Test New Ways to Preserve Vision

How are cures for diseases discovered? How do new medicines arrive on the market? The answer to both questions is clinical trials.

One specific type of medical research study is called a clinical trial. These research studies evaluate the safety and effectiveness of drug treatments, medical devices, and other therapies. They can help doctors find new or better ways to prevent, detect or treat illness.

There are currently 531 clinical trials under way at the University of Kentucky, including new treatments for diabetes and eye diseases, such as age-related macular degeneration (AMD). This research offers the latest advances in treatment options to patients.

Jayakrishna Ambati, M.D., assistant professor, and P. Andrew Pearson, M.D., associate professor and chair, Department of Ophthalmology, UK College of Medicine, are trying to find answers to basic biological questions about diseases of the eye, specifically in two ongoing clinical trials about the origin and progression of AMD.

“AMD is the leading cause of blindness, not only among the elderly in this and other developed nations, but because of the inversion of the population pyramid in this country, it's the leading cause of blindness among adults, period,” said Ambati. “It's now a reality for the baby boomers.”

(continued on page 2)

(continued from cover page)

In one trial, Ambati and Pearson are testing the effectiveness of an implant – Envision TD, which contains a steroid. This device has a tiny polymer shell which distributes about two milligrams of steroids throughout the eye. The trial is scheduled to run until March 2006.

The potential to help people with AMD is at the heart of Ambati and Pearson's work.



“Around 25 percent of people over 65 have some form of macular degeneration; that's a huge number,” Ambati said. “Next to life itself, vision is the most precious thing we have. When people get older and enter their retirement years, they have more time to read and to watch television, and obviously they want to continue to be able to see the faces of their grandchildren. Macular degeneration robs them of all these things. There's a lot of human suffering behind the simple statement 'the leading cause of blindness.'”

For more information about UK clinical trials, see the *Resources* section.

Diabetic Retinopathy

Diabetes is often termed a silent killer, but silent complications from the disease can be devastating. The disease is reaching epidemic proportions in the Commonwealth of Kentucky and the nation.

Diabetic retinopathy is an ocular disease that affects half of the 14 million Americans with diabetes. It is a prominent cause of blindness in the United States. The American Academy of Ophthalmology (AAO) recommends annual eye examinations for all diabetics; however, only about half of the diabetics in Kentucky comply with this recommendation. The University of Kentucky Department of Ophthalmology urges Kentuckians to comply with the AAO recommendation.

“Many patients mistakenly believe that they should see their eye doctor only after they experience symptoms,” says Andrew Pearson, M.D. “There are no early signs of diabetic retinopathy. By the time symptoms are apparent, a great deal of vision may already be lost.”

Pearson stresses that diabetics should have regularly scheduled dilated eye examinations. Type I diabetics who have had diabetes for five years and all type II diabetics, when diagnosed, should see their ophthalmologists every year or more often if recommended.

Diabetic retinopathy cannot be prevented, but its progression can be slowed by maintaining overall good health. Diabetics should maintain a controlled blood sugar level, as well as normal lipid and blood pressure levels. This may take a combination of keeping appointments with doctors, taking medication, and maintaining a healthy diet and exercise regimen.

The disease can be treated with laser or surgery, and some experimental medications,

but there currently is no cure. Many of these experimental medications have been, or are currently being, tested at UK. Treatment slows progression, but does not cure the disease. “Quality diabetic care and a healthy lifestyle are extremely important,” says Pearson. “Most of all, regular eye examinations are key in reducing progression of the disease.”

For more information about diabetic retinopathy, see the *Resources* section.

UK Leads in Laser Vision Correction

Sight is a precious gift. Unlike any other human ability or sense, vision is an integral and vital part of life. Innovations in eye care technology are preserving this precious gift like never before. The U.S. Food and Drug Administration (FDA) has approved a personalized eye laser treatment system, the Zyoptix™ system, manufactured by Bausch & Lomb, in the correction of near-sightedness and astigmatism. The University of Kentucky Department of Ophthalmology is one of the first in the region to acquire this technology.

“Approximately 90 percent of individuals that need vision correction have myopia (near-sightedness) and/or astigmatism,” says John Conklin, M.D., associate professor of ophthalmology and director, UK Refractive Surgery Service, UK College of Medicine. “We’re delighted to offer our patients a safe and effective alternative to glasses using the best personalized laser vision treatment technology available. Patients can be confident in this procedure.”

This confidence comes in the form of careful research into the effectiveness of the treatment. Multi-center clinical trials in the U.S. for FDA approval of Zyoptix™ generated impressive outcomes, including:

- 99.7 percent of patients said that their quality of vision was improved after treatment;
- 91.5 percent of patients said their vision was 20/20 or better after treatment; and
- 98.5 percent of patients were satisfied or extremely satisfied with the results.

“The clinical research clearly shows that the technology has the best patient visual outcomes determined by customer satisfaction,” says Conklin. “Not only were more than 98 percent of the patients satisfied or extremely satisfied six months after treatment, but no patients were dissatisfied and there were no re-treatments during that period – traditional LASIK surgery can’t offer that.”



John Conklin, M.D., performs LASIK surgery

This laser eye technology is unique for a variety of reasons, including the ability to change the diameter of the laser for more precision. It also has an advanced diagnostic system, which analyzes thousands of data points across the entire eye to produce a personalized treatment plan. Success with this procedure has been proven outside of the U.S.

(continued on page 6)



Focus on Faculty and Staff

Resident Training and Education

Resident education has remained a prime directive of the Department of Ophthalmology in the University of Kentucky College of Medicine. The program continues to evolve to meet the ever-changing educational needs of the next generation of ophthalmologists. Along with an uncompromising commitment to outstanding patient care, medical and surgical training of exemplary ophthalmologists remains our contribution to today's complex health care environment. Through close association with our clinical and volunteer faculty, they are able to experience the full breadth and scope of clinical care.

Jeff Carlsen, who decided to stay at UK and complete a fellowship in pediatric ophthalmology, says, "The surgical training at UK is superb – better than 90 percent of the residencies throughout the country. Our pediatric program is very strong, and we fill a great need with our proximity to Eastern Kentucky patients. I really enjoy the collegial atmosphere with the faculty – there is a great spirit here."

UK Department of Ophthalmology House Staff 2003-2004

Third-year residents

- Preeti Bansal, M.D., UK College of Medicine
- Moya Brooks, M.D., UK College of Medicine
- S. Jafar Hasan, M.D., UK College of Medicine

Second-year residents

- Brooke Brennan, M.D., New York Medical College
- Patrick Schumacher, M.D., Ohio State University
- Jeffery Taylor, M.D., University of Iowa Medical School

First-year residents

- William Richardson, University of Ohio Medical School
- Lori Williams, UK College of Medicine
- David Bryson, University of Alabama Medical School

The Next Big Step – Where the Class of 2003 Residents are Headed

- Matthew B. Blair, M.D., is in private practice in Louisville, Ky.
- Jeff Carlsen, M.D., is completing a fellowship in pediatric ophthalmology at University of Kentucky
- Chad Wolsky, M.D., is in private practice in Minot, N.D.

Meet the Staff: Philip Moss

Philip Moss is basically a "jack of all trades." "I work with all of the technicians, so I work with pediatrics, refractive surgery, general, adult," he said. "I also work with study patients. I am trained in almost every aspect of my field, except photography."

Moss, a certified ophthalmic technician (C.O.T.), is the ophthalmic technician supervisor in the Department of Ophthalmology in the University of Kentucky College of Medicine. As a skilled technician with a great deal of clinical knowledge and experience, he performs many roles in the department, from working with patients involved in several ongoing clinical

trials, to assisting with laser procedures at the department's Refractive Surgery Center.

A native of Oklahoma, Moss attended Oral Roberts University. He planned to go into athletic training, but he followed a very different path, in part, due to family circumstances.

"My mother had glaucoma and I received training as a technician to understand her condition and hopefully go to optometry school to become an O.D. (doctor of optometry), to help her and others like her," he said. "But I loved my work as a C.O.T. I later received training to work with pediatric patients."



Philip Moss

Moss came to UK just over a year ago. He lives in Lexington with his wife and son, and when he isn't working, he enjoys outdoor activities such as biking and fishing.

Moss has been working as a C.O.T. since 1995, but clearly still is excited about going to work every day.

"What do I like best about my job?" he said. "I learn something new about the eye every week."

Profile: P. Andrew Pearson, M.D.

P. Andrew Pearson, M.D., has been the chair of the Department of Ophthalmology in the University of Kentucky College of Medicine for more than a year.

Pearson earned a bachelor's degree from Juniata College in Huntingdon, Pa., in 1983, and earned his M.D. from University of Cincinnati College of Medicine in Cincinnati, Ohio, in 1987. He completed his residency at UK College of Medicine, becoming Chief Resident in Ophthalmology in 1991.

In 1992, Pearson left Kentucky for Duke University Eye Center in Durham, N.C., where he served as a Vitreoretinal Fellow. He returned to UK as an Assistant Professor of Ophthalmology in 1994.

Since 1999, Pearson has been an Associate Professor of Ophthalmology in the UK College of Medicine. He also is the Director of Ophthalmic Research for Control Delivery Systems Inc., Watertown, Mass.

One of Pearson's focal research interests is drug delivery. His research has led to patented technology that contributes significant revenue to UK each year. Among these innovations is a sustained-release device, marketed by Bausch & Lomb, which is used to treat an eye condition resulting from human immunodeficiency virus (HIV). Pearson is now a lead investigator in several studies evaluating drug implants for the treatment of diabetic retinopathy, age-related macular degeneration (AMD), and uveitis.

One of these current studies is a Phase II trial focused on patients with occult AMD. Pearson and Jayakrishna Ambati, M.D., an assistant professor and director of research for the department, are testing the effectiveness of an implant containing the steroid fluocinolone acetonide. The physicians will target the eye by implanting technology developed in part by Pearson at the UK Chandler Medical Center.

In addition to basic and clinical research, Pearson also is active in academic publishing and service. He serves as an ad hoc reviewer for

(continued on page 6)

(LASIK...continued from page 3)

for over two years, with nearly 100,000 procedures in Europe and other parts of the world. FDA approval now makes it available in the U.S.

For more information about LASIK, see the *Resources* section.

UK Ophthalmology Professor Selected as 2003 Dennis W. Jahnigen Scholar, Searle Scholars Competitor

Jayakrishna Ambati, M.D., assistant professor of ophthalmology, University of Kentucky College of Medicine, has been awarded a 2003 Dennis W. Jahnigen Career Development Scholars Award from the American Geriatric Society – the leading clinical society devoted to the care of older adults. Ambati also has been nominated to represent UK in the 2003 Searle Scholars competition.

The Jahnigen Scholars program addresses the urgent need to create a structure for developing leaders in geriatrics in academic surgery and related medical specialties. The Searle Scholars program, established at the Chicago Community Trust in 1980, awards grants to selected universities and research centers to support the research of exceptional young faculty in chemistry and biomedical sciences.

Each award provides two years of salary and research support intended to assist young, clinical research faculty in initiating or sustaining careers in research and education in the geriatric aspects of their disciplines.

Ambati conducts novel research in angiogenesis, the growth of blood vessels in the eye, and targeted drug delivery for ocular

disorders. He is the Director of Research for the UK Department of Ophthalmology and head of the Ocular Angiogenesis Laboratory. Research in Ambati's laboratory has led to discoveries about the mechanisms underlying age-related



Jayakrishna Ambati, M.D.
Assistant Professor of Ophthalmology

macular degeneration (AMD), the leading cause of blindness among the elderly in the United States. Ambati and P. Andrew Pearson, M.D., associate professor and chair, Department of Ophthalmology, currently are testing potential therapies for AMD in two ongoing clinical trials.

See the article titled "Clinical Trials Test New Ways to Preserve Vision" for more information about Ambati's research.

For more information about UK faculty, see the *Resources* section.

(Meet the Staff...continued from page 5)

several journals, such as *Retina* and *Ophthalmology*. He is a member of numerous organizations, including the Association for Research in Vision and Ophthalmology, American Academy of Ophthalmology, and Kentucky Medical Association. Pearson has also served as a grant reviewer for the National Institutes of Health.

Making a Difference

Uninterrupted research is the key to stemming the tide of blindness and overcoming devastating eye disease. Research physicians at the Department of Ophthalmology in the University of Kentucky College of Medicine are leaders in investigating novel and exciting methods for detecting and treating blinding eye disease.

While the challenge of preventing and reversing the damage done by these diseases is daunting, the UK Department of Ophthalmology is meeting that challenge through better science and better medicine. In this issue of *Line of Sight*, we focused on several discoveries and clinical trials that will make a positive difference. When you give to ophthalmic research, you can help create a miracle in your life and in the lives of others. Several funds have been initiated to further our research goals and to help educate future ophthalmologists. The Lions Eye Bank program has grown due to several generous gifts. We have initiated our first fund raising event this fall, the Tri for Sight. Proceeds from this triathlon will benefit our eye research fund. Please see related article for the review of our first annual Tri for Sight.

In addition, we have a unique opportunity to double the impact that your gift could make and leave a lasting legacy bearing your family's name at the University of Kentucky. The Kentucky Research Challenge Trust fund will match dollar for dollar in support of an endowed chair, professorship or research fund that will provide an opportunity to take our research results directly to patients. These matching funds will be available for a limited time for research gifts, and we hope to take advantage of this incentive to ensure the future of several UK eye research programs.

Together we can lead the way and continue to discover miraculous treatments that save our most precious sense – our sight.

First Annual Tri for Sight Nets Thousands for UK Eye Research Fund

The first annual Tri for Sight triathlon was a success! Over 190 triathletes participated in the event, which included an 800-meter swim, a 20-mile bike ride, and a four-mile run, all located on or near the campus of the University of Kentucky. Held on September 21, Tri for Sight netted thousands of dollars for the UK Eye Research Fund.

The Tri for Sight board would like to thank over 100 volunteers who made the race possible, including several groups with a special interest in eye disease prevention and cure.

Many thanks to the sponsors for their support of the race and of UK eye research. Special appreciation goes to the presenting sponsor, James Johnson, a 1981 UK grad and three-time national champion Greco-Roman wrestler. Blue/White sponsors included Bausch and Lomb contact lens division, John's Run/Walk Shop, the Lexington Lions Club, and Pedal Power Bike Shop. Expo sponsors included Great Harvest Bread Co., Slone's Markets, the EPIC Company, the Campbell House Inn and The Buttered Scones.

The Men's overall winner was Paducah's Barry Knight, who finished in 1 hour, 29 minutes, 43 seconds. Winning the Women's overall was Lexingtonian Lisbeth Kenyon, with a finish of one hour, 38 minutes, 49 seconds.



University of Kentucky
Department of Ophthalmology
Kentucky Clinic, E-315
740 S. Limestone
Lexington, KY 40536-0284

R E S O U R C E S

Appointment
(859) 323-5867

LASIK
(859) 257-2020
www.mc.uky.edu/lasik/

Donation
(859) 323-5184

Web site
www.mc.uky.edu/eye/

Faculty
www.mc.uky.edu/eye/faculty.asp

For more information on topics covered
in this issue:

Clinical Trials
www.mc.uky.edu/research/clinicaltrials.htm
(859) 323-1751 or see Odyssey Magazine,
dedicated to UK research
www.rgs.uky.edu/ca/odyssey

American Geriatric Society
www.americangeriatrics.org

UK UNIVERSITY OF KENTUCKY
Department of Ophthalmology

AN EQUAL OPPORTUNITY UNIVERSITY