

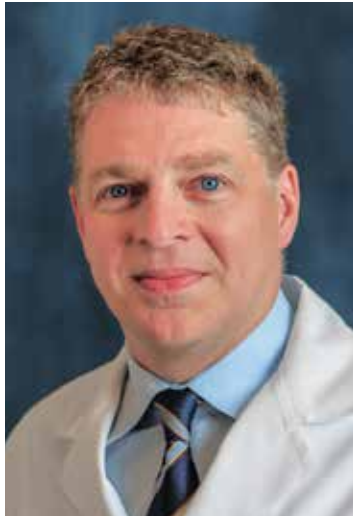
EMORY | eye

2017

**TRAINING
PHYSICIANS,
ENHANCING
PATIENT CARE**



From the Interim Director | Focusing on the future together



Welcome to another edition of *Emory Eye* magazine, where we share an inside look at what's at the heart of everything we do: education. Whether we're training tomorrow's doctors, exploring new treatments, or expanding our knowledge of the basic mechanisms of vision, it all comes back to educating ourselves and others.

Our efforts at education reach beyond the daily work with medical and doctoral students, residents, and fellows. Many of our faculty are involved with Global Ophthalmology-Emory, a program that offers opportunities to work with patients and health care providers in underserved areas locally and internationally. As you'll see from their stories, volunteering in these places impacts each

person in ways they didn't necessarily expect.

Being educators means we're also mentors, and our faculty take that role very seriously. On page 8 you'll find our tribute to a man who was a mentor to more students, fellow researchers, and physicians than we could count: Henry F. Edelhauser, PhD. Dr. Edelhauser was Emory Eye Center's director of research for more than 20 years, and helped build a legacy that we're proud to continue. We have chosen to focus on mentoring in this issue of *Emory Eye* magazine, as it is the hallmark of our institution because of outstanding faculty like Dr. Edelhauser.

The past year has been one of growth and change at Emory Eye Center. We've watched medical residents and fellows complete their time with us and shift to the next stage of their training or career. We've added faculty, provided hundreds of free vision screenings, celebrated numerous awards, and moved closer to what could be breakthroughs in vision research.

Perhaps most important of all, we've begun the search for a new chair of Ophthalmology and director of Emory Eye Center. This person will be integral to all our work related to medical education, patient care, and research. He or she will guide us and challenge us as we strive to become the best educators, care givers, and researchers possible.

Thank you for supporting Emory Eye Center and all that we do. Because of you, we're impacting lives and improving vision here at home and around the world.

Allen D. Beck, MD
Interim Chair and Director, Emory Eye Center
William and Clara Redmond Professor of Ophthalmology

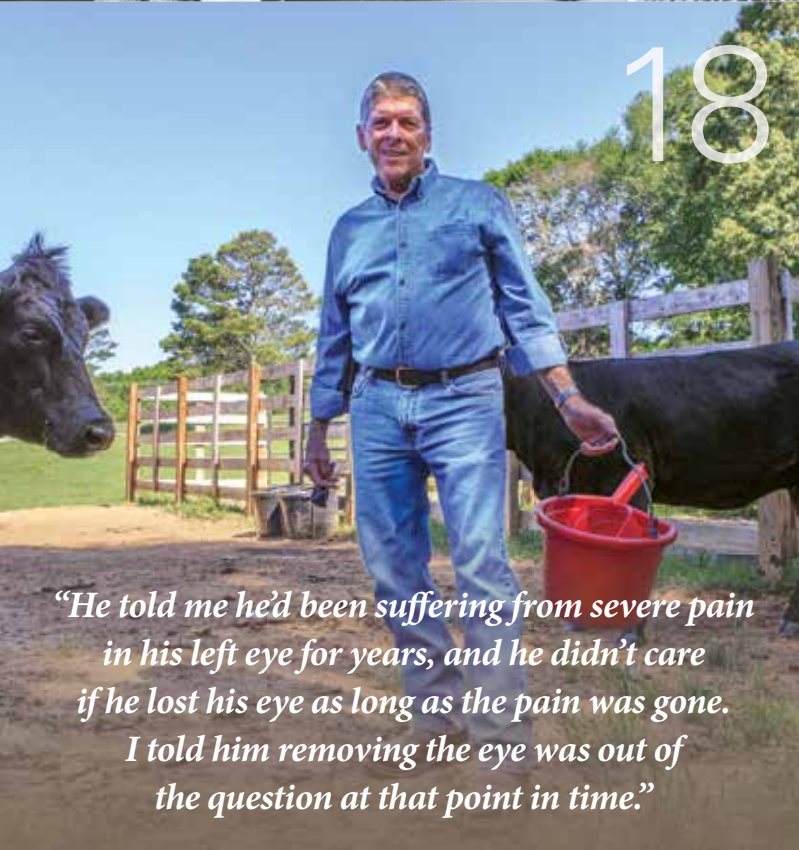
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THE EMORY EYE CENTER IS PART OF EMORY UNIVERSITY SCHOOL OF MEDICINE AND EMORY HEALTH-CARE, BOTH OF WHICH ARE COMPONENTS OF EMORY'S WOODRUFF HEALTH SCIENCES CENTER.



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“He told me he’d been suffering from severe pain in his left eye for years, and he didn’t care if he lost his eye as long as the pain was gone. I told him removing the eye was out of the question at that point in time.”

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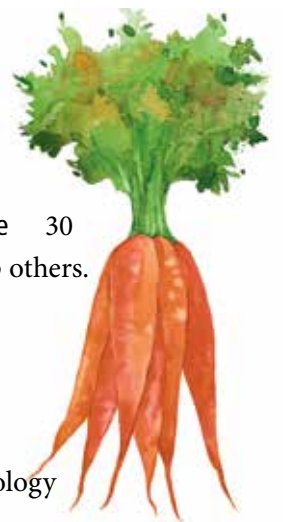
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| EMORY EYE Magazine |

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Training physicians,

M

any patients who visit one of Emory Eye Center's clinics don't just see the doctor their appointment is with—a medical student, resident, or fellow in training is also involved with their care. That's because of our connection with Emory University, and is one of the things that makes us unique among all the other eye care facilities in the region. It also takes our patient care to a higher level, thanks to the constant focus on physician teaching.

The work at Emory Eye Center focuses on three areas: education, research, and patient care. And while patient care is where our providers are usually most visible, education—training tomorrow's ophthalmologists—is at the heart of all we do.



enhancing patient care

“Education of medical students, residents, fellows, and doctoral candidates is the hallmark of Emory Eye Center,” says Allen Beck, MD, interim chair of ophthalmology and interim director of Emory Eye Center. “We’ve built a strong reputation for our ability to teach and train top-quality eye care providers and researchers.”

PLANTING THE SEEDS IN STUDENTS

It all begins with the students at Emory’s School of Medicine. Each of the 500-plus medical students spends time with the ophthalmology faculty as part of the standard MD curriculum. They work with the Eye Center’s physicians in clinics and observe surgeries to gain a better understanding of the different subspecialties.

“There are so many disciplines of medicine that overlap with the field of ophthalmology that it’s extremely important to educate our medical students on the most common causes of vision loss and how we can prevent those diseases,” says

Emily Graubart, MD, interim director of comprehensive ophthalmology and director of medical student education.

“When I started in this role [in 2008], the medical student curriculum at Emory was in the process of a complete overhaul,” Graubart continues. “It has been exciting to create an innovative curriculum for our students and give all medical students exposure to our field.”

Ophthalmology teaching now is woven into each year of the medical school curriculum. In addition, Graubart says Emory is one of the few medical schools in the country that requires every medical student to complete an ophthalmology clerkship.

That initial exposure to ophthalmology is just as exciting for our faculty as for the students.

“Seeing the awe in students’ faces the first time they observe cataract surgery in the OR, or the first time they see the retina or optic nerve while examining a patient in clinic is extremely rewarding,” Graubart says. “Knowing that I’m

DID YOU KNOW...?

- One of every four MDs in Georgia was trained at Emory University School of Medicine.
- The ophthalmology residency program began in 1962. Geoff Brocker, MD, was Emory Eye Center's first full-time medical residency program director for ophthalmology, beginning in 1988.
- We receive more than 500 applications each year for six residency positions.
- We offer fellowships in eight subspecialties: medical retina, surgical retina, glaucoma, cornea and refractive surgery, oculoplastics, ocular oncology and pathology, pediatrics, and neuro-ophthalmology.
- Students often say one reason they want to be part of our residency program is because they begin hands-on training much sooner with Emory Eye Center than in other centers.
- Emory University School of Medicine currently has more than 1,200 residents in its program.
- Thirty of Emory Eye Center's current clinical and research faculty received at least part of their education at Emory. Eleven attended Emory for multiple portions of their education.



“One thing Emory does really well is train doctors. Our goal is to educate excellent residents.”

– Jeremy Jones, MD, Emory Eye Center residency program director

helping to expand their clinical knowledge and pique their curiosity in our field is what keeps me going.”

GUIDING RESIDENT GROWTH

For students who want to focus on ophthalmology, the cornerstone of Emory Eye Center’s educational training is the residency program. Each summer, several new ophthalmology residents arrive on campus, ready to immerse themselves in the Eye Center’s work for the next three years.

They divide their time between working in one of the Eye Center clinics (usually the main one at Clifton Road), at Grady Memorial Hospital, and the Atlanta VA Medical Center. The scope of services and wide range of conditions we treat in each facility is consistently noted as a top reason why residents want to train with us.

“We have one of the few programs that includes indigent care, a VA facility, and tertiary care,” says comprehensive ophthalmologist Maria Aaron, MD, who oversaw the Eye Center’s residency program for 14 years. “That’s a rare entity for a residency training program and means we have something to offer that others don’t.”

But one word repeatedly rises to the top when residents and fellows are asked why they wanted to train at Emory Eye Center: Grady.

“As a medical student at Emory and then a resident and fellow with the Eye Center, the thing that impressed me most about my training was Grady,” says Jeremy Jones, MD, a glaucoma specialist and director of the Emory Eye Center residency program. “When you begin your residency, you have three years to learn the craft from the ground up. The

range and severity of diseases seen in patients at Grady is unparalleled.”

Praneetha Thulasi, MD, a former Emory medical student and resident who is now on faculty, agrees.

“I wanted to come here because of Grady,” she says. “It’s the heart and soul of the residency program. You don’t find many places where you have the opportunity to work with such a diverse population and range of eye conditions.”

Thulasi also says the Eye Center’s culture and the way the residency program is structured helps set it apart from others across the country.

“There’s a mindset at Emory that you learn by doing, so

we had the opportunity to start working with patients much sooner than in some programs,” she says. “That made a big difference to us.”

Jones agrees that’s one goal for our residency program.

“We want our residents in the OR sooner, but safely,” he says. “The bulk of their surgical time is during their third year, but they get experience all along. They start with extraocular surgery the first year, then pediatric and intraocular procedures the second year.”

“It doesn’t take long for them to realize that they need each other and that they work as a team, whether they’re in the classroom or the clinic,” Aaron adds. “This is the real world, they’re not just students. That hands-on learning is the best way to prepare students for every endeavor after their residency, no matter what path they want to take.”

The approach works, as Emory alum and former residency program director Paul Pruett, MD, can attest.

“Our residents transition from knowing nothing about ophthalmology to handling even the most complex cases well,” he says. “They go all over the country getting the job or



“The strength of our residency program lies in our faculty. They chose academic medicine because they want to teach.”

– Terri Trotter, Emory Eye Center residency program coordinator

fellowship they want, keeping up the reputation Emory has developed. The faculty here just help carry that on.”

Residency program coordinator Terri Trotter agrees. “If they take one thing they’ve learned from us and share it with someone else at the next place they work, then they’re propagating what we’ve taught them,” she says. “They’re helping spread our faculty’s knowledge and legacy.”

CULTIVATING SPECIALTY KNOWLEDGE

Jones believes that our residents are so well prepared that any institution that trains them during fellowship knows they’re getting an excellent fellow. The same can be said for the fellows who come to the Eye Center for their subspecialty training—they’re among the very best available.

Once again, Emory Eye Center’s program stands out from many others, partly because of all the subspecialties covered through fellowships: cornea and refractive surgery, glaucoma, neuro-ophthalmology, ocular oncology and pathology, oculoplastics, pediatrics, medical retina, and surgical retina.

“For the past 25 years, we’ve been able to offer funded

positions for North American neuro-ophthalmology fellows,” says neuro-ophthalmology fellowship director Valérie Biousse, MD. “Having all specialties covered in one place is a spectacular experience for our fellows. They teach each other and also are involved in resident education.

“Emory Eye Center fellowships train outstanding subspecialists who often choose to work in a university or may join a private practice group,” Biousse adds. “They are well prepared and able to provide top-notch care.”

But our faculty also have a reputation for pouring more than book knowledge into students.

“It was letting us do our own cases in the OR at Grady—being scrub nurse, circulator, surgeon, and anesthetist—that made me really understand what it takes to complete an operation,” says Carol F. Boerner, MD, who completed her residency and fellowship at Emory Eye Center and currently practices in Vermont. “This gave me full comprehension of teamwork in the OR and made me a better, more understanding surgeon. Learning from so many doctors opened my mind to the fact there were many ways to be successful in the OR.”



The class of 2017 residents celebrate their graduation (l-r): Trey Nunnery, MD; Valerie Chen, MD; Himanshu Banda, MD; Arjun Sood, MD; Joel Chasan, MD; and Will Carroll, MD.

That “learning from many” mindset benefits the Eye Center’s residents and fellows, but also pushes faculty.

“Trainees question everything we do,” says Baker Hubbard, MD, director of retina services. “As a result, it’s imperative for teaching physicians to have a good rationale for treatment decisions and to convey the reasons behind our actions.

“Practicing in such an environment, with trainees around who hunger for more knowledge, means a culture naturally arises that encourages lifelong learning by not only the trainees, but also the teaching physicians,” Hubbard continues. “Patient care greatly benefits from this culture of inquiry and learning.”

How does this benefit our patients? Physicians who challenge themselves to be the best possible teachers also are always learning about the latest technologies, treatment options, and research possibilities. That translates to a broader base of knowledge that can be applied to every patient’s situation.

“Interaction between residents, fellows, and attendings allows for the best possible care and generates new ideas for treatment,” Beck explains.

That interaction even spreads abroad. For example, neuro-ophthalmology works with international physicians through post-doctorate clinical research fellowships on a regular basis.

“These physicians join us for one or two years to learn neuro-ophthalmology and participate in research projects,” Biousse says. “They are sent by their university or country with the ultimate goal of having excellent subspecialists return to their country to practice neuro-ophthalmology and train local doctors. Having such a diverse team at once is extraordinarily challenging and stimulating, and allows us to offer best practices for our patients, taking into account information gathered from all around the world.”

KEEPING THE EDUCATION FRESH

As residencies and fellowships wind down, one of the most important choices every physician makes is the type of environment to work in. For many of our providers, having the opportunity to help train doctors was a factor in their joining Emory Eye Center.

“I’ve always loved the discovery of new ideas and opportunities to teach students, residents, and fellows,” says oculoplastics surgeon Brent Hayek, MD, “so

SPREADING ACROSS THE GLOBE

Physicians with an Emory Eye Center connection are making a difference in people’s lives around the world, every day. Five who give a snapshot of the range of these services include:

- **Daniel Chang, MD, and Joseph Chang, MD**, brothers who each completed part of their medical training at Emory. They have an ophthalmology practice in California, and also founded Advanced Center for Eyecare, a nonprofit clinic that offers high-quality eye care services to uninsured, underinsured, and underserved local residents.
- **Danny Haddad, MD**, former director of Global Ophthalmology-Emory and adjunct Emory faculty member. He now serves as chief of program for Orbis, an international nonprofit that helps train medical teams in developing countries to deliver quality eye care to their local communities. Orbis operates the world’s only Flying Eye Hospital, a fully accredited, state-of-the-art ophthalmic teaching facility on board an MD-10 aircraft. Some of the Eye Center’s current faculty have been part of Orbis’ medical training teams.
- **Carol F. Boerner, MD**, the first woman to complete a residency and fellowship at Emory Eye Center. She also was the first woman to place a silicone intraocular lens (IOL) into a human eye and the first female surgeon to travel overseas with Project Orbis.
- **Eung Kwoen Kim, MD, PhD**, the first of 10 Anderson fellows who worked with Henry Edelhauser, PhD. Dr. Kim is professor in ophthalmology with Severance Hospital, Yonsei University, in Seoul, Korea, and is conducting research about the pathophysiology of granular corneal dystrophy type 2.

Continued on page 33

Gentle. Generous. Passionate.

Memories of a Mentor: Henry F. Edelhauser, PhD

Those are the words that come to mind when people speak of Henry F. Edelhauser, PhD. He was beloved and respected by everyone who knew him, including his Emory Eye Center family of 24 years.

The researcher known as “Hank” was a giant in his field, receiving numerous awards and presenting his findings at major conferences worldwide. He won nearly every national award in vision research, including the two most prestigious awards for corneal research: the Castroviejo Medal for his work related to cornea and refractive surgery and the Proctor Medal, which recognizes outstanding

basic or clinical ophthalmology research.

A TEACHER’S NATURE

Yet, as accomplished as he was, Edelhauser managed to help the students he taught feel as if they were just as important as the world-renowned scientists he collaborated with on a regular basis.

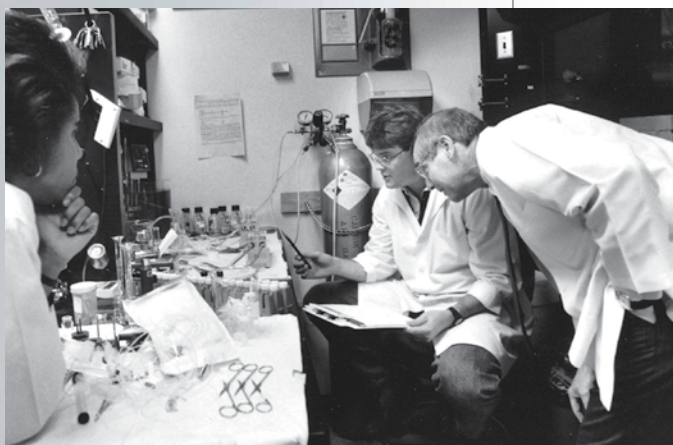
“Dr. Edelhauser was very personable,” says pathologist/oncologist Hans E. Grossniklaus, MD. “I would be with him at the AAO meeting or ARVO and walk around among the many attendees. Many people knew him and considered him a friend. He was very positive, and was always excited about his students’ ideas and proposals, even the beginning students.

“The same was true for his colleagues,” Grossniklaus continues. “He

was encouraging, supportive and always had a kind word.”

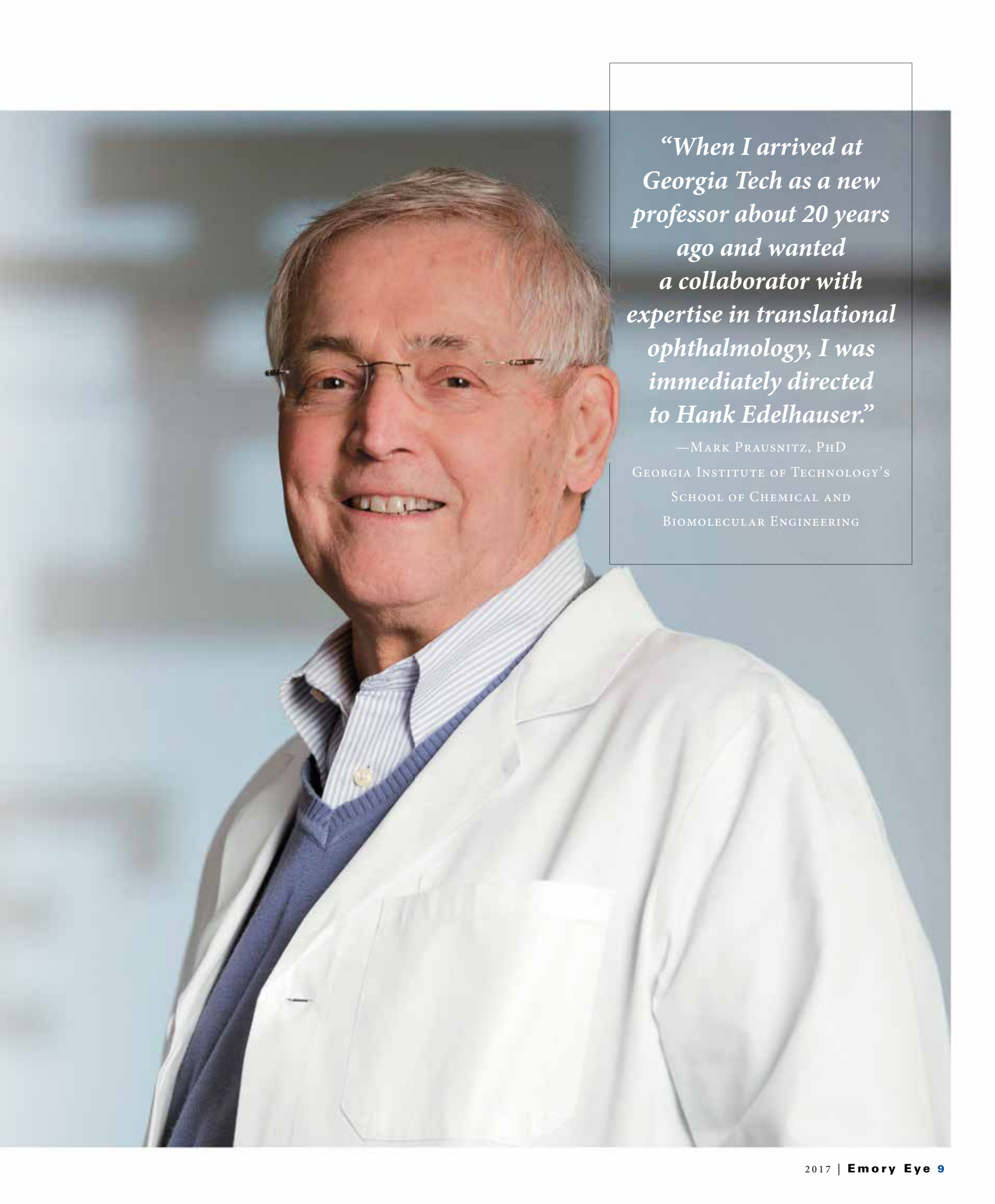
“For those of us who were privileged to study with Hank, we were challenged by the mind of a brilliant physiologist, yet also comforted by his kind and approachable demeanor,” says Timothy Olsen, MD, chairman emeritus of Emory’s Department of Ophthalmology. “He was knowledgeable, yet also wise and humble. He radiated an eternal optimism and sense of curiosity.”

Over the years, Edelhauser passed that knowledge and curiosity along to an impressive list of undergraduate, graduate, and postdoctoral students. He served as adviser to 17 graduate students and was postdoctoral adviser to 38 of some



(above photos) Dr. Edelhauser thrived on working directly with students and explaining complex research in ways anyone could understand.

(right photo) Dr. Edelhauser’s easy smile made him approachable to researchers, clinicians, and patients.



“When I arrived at Georgia Tech as a new professor about 20 years ago and wanted a collaborator with expertise in translational ophthalmology, I was immediately directed to Hank Edelhauser.”

—MARK PRAUSNITZ, PhD

GEORGIA INSTITUTE OF TECHNOLOGY'S
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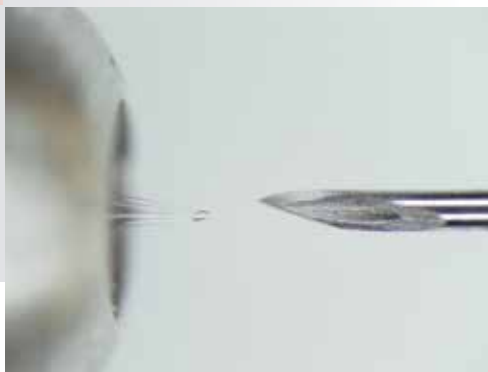
(above and right photos) The microneedle that Dr. Edelhauer and other researchers developed can be used to deliver medication directly to the suprachoroidal space to help treat retinal diseases.

in his presence,” she continues. “There is never a time during surgery that I don’t think about everything I am using and putting into a human eye. He taught me to approach clinical problems with the mind of a researcher.”

A RESEARCHER AT HEART

Edelhauser loved teaching, research, and the potential he had for making a difference in people’s lives because of his work. His daughter Jill Harshman, an Emory Eye Center employee herself, says his becoming a researcher was never a surprise to those who knew him.

“Dad was always curious, always asking questions about everything,” she says. “We never knew what he might bring home to study or when he might



of the most prominent names in ophthalmology and vision research.

One of these was Nicole Anderson-Weiss, MD, who spent a year with Edelhauser as a research fellow.

“I knew of his reputation in the field of cornea research long before meeting him,” she says. “What I didn’t expect was to find an almost giddy, childlike excitement and enthusiasm for the research being performed in his lab.

“Dr. Edelhauser had a rare combination of being such a well-respected and accomplished researcher, but still such a nice man, making a young research fellow feel so comfortable and important

bring students to our house to show them something. He always knew he wanted to be a researcher.”

“When I first met Hank, he was researching corneal clarity in fish,” says Thomas Aaberg, Sr., MD, also chair emeritus of ophthalmology. “He wanted to learn how they could live at such great depths and have their corneas still remain clear, because it wouldn’t be so for humans.”

That was when Aaberg and Edelhauser were both at the Medical College of Wisconsin in Milwaukee. They conducted numerous research studies together while there in the 1970s and 1980s.

“I got to know Hank and respected him greatly,” Aaberg says. “When I got recruited to Emory, the Eye Center did not have a director of research. One stipulation of my coming was that we include that position in our department. Hank was a natural person for me to try to recruit for it.”

Edelhauser accepted the offer and began his career at Emory Eye Center in 1989. The appointment allowed him to combine his background in physiology with his interest in ophthalmology.

It was the beginning of much bigger things.

During Edelhauser’s time as research director, the Eye Center’s program grew from five researchers to nine. A number of adjunct professors and collaborators also became part of the research team through collaborations with the VA’s Center for Visual and Neurocognitive Rehabilitation, Georgia Institute of Technology, and Morehouse College. They made strides in many areas of vision research, with some of Edelhauser’s own work having international impact.

“He had the ability to work with ophthalmologists and understand critical needs they had that could greatly help their patients, such as the need for an irrigating solution that wouldn’t cause corneal clouding,” Grossniklaus says. “He developed one, and now it’s used for ophthalmic surgery worldwide. He understood ocular physiology and applied it to coming up with answers to clinical problems. That’s what made him a true translational scientist.”

One other groundbreaking project involving Edelhauser was the creation of a microneedle that delivers drugs for retinal diseases to the suprachoroidal space (between the sclera and the retina) rather than the main eye capsule or tissues surrounding the eye. A team of scientists from Emory Eye Center, Georgia Institute of Technology, and others

collaborated on the effort.


“When I arrived at Georgia Tech as a new professor about 20 years ago and wanted a collaborator with expertise in translational ophthalmology, I was immediately directed to Hank Edelhauser,” says Mark Prausnitz, PhD, of Georgia Tech’s School of Chemical and Biomolecular Engineering. “We hit it off immediately, forging a strong collaboration and co-supervising multiple students. We had the ideal cross-disciplinary collaboration, where an engineer and a biomedical scientist could work together to create something really new.”

Their “something new” with the microneedle led to the formation of a company focused on that delivery method. The company is now conducting late-stage clinical trials that could improve treatments for eye inflammation.

“That work is built on the foundation of Hank’s insight, ingenuity, and leadership,” Prausnitz says. “His approach to science was deceptively simple—he knew how to push away the tangents and focus on the key questions that were most important.”

Many who knew Edelhauser—either personally or professionally—agree he was a special man.

“Dr. Edelhauser was a remarkable individual,” Olsen says. “He was so talented as a translational researcher, physiologist, and scientist, who also conversed fluently in the clinical arena. He touched the lives of many colleagues, friends, and students.”

The ways Edelhauser impacted these groups continues today, as other researchers dig for answers that could make a difference in how people see the world. They’ve learned from his example and are following it in their own work. Because it’s not just about research in a lab—it’s about understanding what patients need and finding ways to make their lives better. 

Dr. Edelhauser’s bridge from researcher to clinician continues

Dr. Edelhauser was viewed by many people as a prime example of a translational re-

searcher—someone who helps bridge the gap between making discoveries in a research lab and turning those discoveries into new treatments. His work allowed millions of people to have better vision and avoid blindness.



Emory Eye Center

invites you to continue Dr.

Edelhauser’s legacy by helping us build toward the next milestone in combining education and research with patient care. Your support of the Henry F. Edelhauser, PhD, Translational Research Fund will help Emory Eye Center take vision research to new levels.

THE FUND WILL BE USED TO:

- **Consolidate** Emory Eye Center’s three existing laboratories on one floor in Emory Clinic’s Building B on the main Emory campus
- **Expand** the laboratory space beyond its current capacity
- **Train** additional medical residents and postdoctoral fellows using the expanded facilities
- **Increase** Emory’s ability to secure coveted multi-year grants for vital eye research
- **Share** pioneering, multidisciplinary research that translates into better eye care for everyone

“Restructuring the laboratory will offer the opportunity for basic scientists to understand clinical problems and ophthalmologists to understand the capabilities and limitations of basic science,” says Hans E. Grossniklaus, MD, director of Emory Eye Center’s ocular oncology and pathology service.

Contact Karla Ruggiero, Emory Eye Center’s director of development, at 404-778-4121 for more information on how you can help. 



Beyond borders with GO-E

The work of Global Ophthalmology Emory (GO-Emory, or GO-E) supports a goal that is simple to state, but complex to execute: to help eliminate avoidable blindness by the year 2020.

“We wanted to come together with one concerted effort rather than have multiple faculty members doing their own things,” explains Jacquelyn O’Banion, MD, a comprehensive ophthalmologist and assistant director of GO-E. “We funnel our goals through the mission of Emory’s School of Medicine to help keep focused.”

That mission includes five objectives:

- Provide outstanding educational programs for medical and graduate students, and for training health care professionals
- Develop outstanding clinicians and investigators who are lifelong learners, who will provide the highest quality compassionate care and who will serve the needs of their community and the world in the best traditions of our profession
- Conduct innovative and collaborative research and integrate this knowledge into the practice of medicine
- Advance the early detection, treatment, and prevention of disease
- Ensure the highest ethical and professional standards in all of our endeavors.

“We make sure we address at least one part of the mission each time we do something, no matter where we are,” O’Banion says. “It helps us provide

more comprehensive services that we hope have longer-lasting effects.”

TOUCHING LIVES ABROAD

The work done through GO-E ranges from conducting vision screenings and performing surgeries in underdeveloped countries to training other health care providers and patients in multiple countries.

Optometrist Farah Gulaid, OD, traveled to Ghana in late 2016 to help provide vision screenings—and the group



saw approximately 4,000 patients during four days in clinic.

“We were able to help a large, diverse group of people in the clinic,” Gulaid says, “but we were also able to teach new things to the workers there. The people don’t necessarily have access to health care providers with a wide range of skills. It’s nice to

know they’ll be continuing the work after we’re gone, that we’ve helped make a lasting impression on their community.”

Some of Emory Eye Center’s providers have participated in multiple GO-E initiatives over the past several years, such as oculoplastics specialist Brent Hayek, MD. He’s participated in medical mission trips to Madagascar, Sierra Leone, Liberia, and Ethiopia.

“Many of the people we see in these countries will wait all day to see us,” he says. “They might not have access to vision specialists and are glad to have the opportunity. They have a deep appreciation for anything we can do for them.

“I’ve always had a passion for global health,” Hayek continues. “Being able to go there and do what we can to help people and teach health workers is a different kind of fulfillment for me than what we have here at home.”

It’s also refreshing for physicians to learn new things themselves instead of only being the teacher.

Glaucoma specialist Annette Giangiaco, MD, saw this firsthand during a weeklong trip to Ghana. She

worked with two pediatric physicians and three fellows to assess and treat children with glaucoma.

“It’s easy to share your knowledge, especially when there’s such a need in other places,” she says. “I was able to teach them new skills, but they also taught me some things about trabeculotomy techniques. That made it even more rewarding, because I also learned something new.”

TAKING GO-E TO GEORGIA

From a GO-E perspective, however, “global” doesn’t always mean “international.” There are people right here in Georgia who lack access to quality eye care and have higher-than-normal occurrence of eye disease and preventable blindness.

One way GO-E is trying to change that is through yearly screenings of migrant farmworkers’ children in rural South Georgia.

Approximately 53,000 migrant seasonal farmworkers live and work in Georgia, but many have limited access to health care. They are at significant risk for eye injury and disease because of their work, so the Farmworker Vision Project (FVP) began in 2014 to address their ophthalmologic needs.

Pediatric ophthalmologist Phoebe Lenhart, MD, and others participate in a pediatric vision screening initiative as part of a program organized by the Emory School of Medicine and the Emory physician’s assistant program. They screen hundreds of children for vision problems and eye disease, and offer full follow-up exams for children who have problems identified through the screening. They’re also able to provide children with free eyeglasses through the Georgia Lions Lighthouse.

In an effort to keep FVP’s work going year-round, several staff workers from the General Consulate of Mexico

Why we go


Emory Eye Center faculty and students have traveled to multiple places as part of our GO-Emory efforts:

Ghana, South Africa, Ethiopia, Egypt, England, Sierra Leone, Madagascar, Peru, and others. EEC is committed to helping reduce avoidable visual impairment as a public health problem because:

- 32.4 million people are blind
- 223 million people worldwide are visually impaired
- The cost is extremely high—economically because of medical costs, but also socially because of isolation, job loss, reduced independence, and lack of confidence.

The numbers are staggering, but there is hope. More than 80% of blindness worldwide is either preventable or curable. That means vision screenings and proper care can help eliminate—or at least reduce—some types of blindness.

“We cannot forget what vision impairment means to a person, and to that person’s family,” says Jacquelyn O’Banion, MD, assistant director of GO-E. “A lot of the general public doesn’t understand the impact it has, partly because we have so many resources available to us here that help bridge the gap. People in underdeveloped countries where blindness is so prevalent don’t have those resources. Even people within our own state don’t necessarily have those resources.

“That’s why it’s exciting to see what a difference we can make when we connect with each other,” she adds. “We just want to help people have healthy, productive lives.” 

in Georgia have been trained to provide pediatric vision screenings. The program expanded to include adult eye health screenings in 2015. The Emory group hopes to continue working with the local Consulate to offer greater access to eye care for all migrant workers in the state.

“This has been a great opportunity to serve a pediatric population with vision needs and limited access to eye care,” Lenhart says.

Many of Emory Eye Center’s faculty and students help care for a completely different population group through the diabetic retinopathy program at Grady Memorial Hospital in Atlanta.

Diabetes affects more than 29 million Americans, and often puts patients at higher risk for blindness and other vision problems. Diabetic retinopathy is

the most common cause of vision loss among people with diabetes.


“Screening for diabetic retinopathy is necessary since people with diabetic eye disease don’t inherently have symptoms,” explains retina specialist Andrew Hendrick, MD. “One eye can develop vision loss that goes unnoticed unless the good eye is closed.”

“The telemedicine program at Grady is intended to catch people who have not been receiving routine eye care so we can help prevent vision loss when possible,” he adds. “Screening involves taking photographs of the retina that are then interpreted by physicians.”

The program began in August 2016 and is already successful enough to implement at other Emory Eye Center locations. More than 1,700 people were screened between August and Decem-

ber 2016. Of those screened, 48% had some eye pathology, 27% had diabetic damage to their eyes and 5% had vision-threatening disease, meaning they would have lost their vision if the disease hadn’t been found.

The year 2020 is coming soon, but O’Banion and others who support GO-E are optimistic about their chances of reaching their goal.

“A 1995 study by the International Agency for the Prevention of Blindness and WHO [World Health Organization] predicted a huge trend toward blindness,” she says. “But a study in 2010 showed that, despite the growing world population, the prevalence of blindness is decreasing. We’re making a difference, locally and internationally. If we keep working together, we can change world health care.” 

GLOBAL FELLOWSHIP

Opening doors to the world

Ophthalmologists who want to learn more about vision care worldwide can do so through Emory Eye Center’s new Global Ophthalmology Fellowship—one of only four such programs in the U.S.

The one-year fellowship is made possible through a pledge from the Alcon Foundation. An additional grant from the Fogarty International Center allows the fellow to spend the entire year working in Ethiopia rather than dividing the time between local and international settings.

The first Global Ophthalmology-Emory (GO-E) fellow is Fran Wu, MD, MPH. Her research during the fellowship will center on retinoblastoma and childhood blindness. That decision was made after GO-E representatives asked their Ethiopian counterparts about their greatest needs related to ophthalmology.

She also will be working with other health care providers to


offer vision screenings or perform surgeries for patients.

“I’m extremely thankful for this opportunity,” Wu says. “I hope to learn to manage diseases I haven’t seen before that

require a different mindset and some creativity in an international setting. I also hope to become comfortable with surgical techniques that might be rarely used in the U.S.”

GO-E fellows who are especially interested in public health and eye care can extend the fellowship to a second year with courses from Emory’s Rollins School of Public Health and get involved with ongoing blindness prevention programs in Georgia.

Wu’s long-term goal is to continue being part of international efforts that help make ophthalmic care accessible and sustainable for the people who need it most.

To learn more about the GO-E fellowship or to make a donation, visit eyecenter.emory.edu. 



Fran Wu, MD, MPH

EBOLA VIRUS DISEASE:

Where are we now?



Emory Eye Center drew national attention in late 2014 and early 2015 when uveitis specialist Steven Yeh, MD, discovered live Ebola virus disease (EVD) in survivor Ian Crozier's ocular fluid. The discovery—and its possible implications for survivors, their families, and health care workers—sent shockwaves through the medical community worldwide.

It also sent Yeh and other physicians down a path of research and patient care they hadn't expected.

"Finding live Ebola virus in ocular fluid was certainly concerning, but there are other examples of viral persistence from what we know about Marburg, a virus related to Ebola," Yeh explains. "The real impact of this discovery was the growing concern that thousands of Ebola survivors in

West Africa could also be susceptible to sight-threatening uveitis from viral persistence.

"We now know that this concern was legitimate," Yeh adds. "This reality impacts their individual quality of life and has potentially significant public health and scientific implications."

Crozier, an infectious disease physician who contracted Ebola while caring for patients in Sierra Leone, underwent 40 days of aggressive treatments at Emory in the fall of 2014. He recovered, only to start having eye pain and other vision problems that December. His eye fluid tested positive for Ebola; Yeh and then-resident Jessica Shantha, MD, (who joined the Eye Center faculty in 2017) also diagnosed him with an aggressive case of uveitis, which can lead to blindness if left untreated.

Yeh, Shantha, and physicians from Emory's Serious Communicable Diseases Unit began treating Crozier's uveitis with corticosteroids. When his vision worsened to the point of legal blindness and his eye pressure dropped enough to affect the eye's firmness and shape, they added an experimental antiviral drug to the mix.

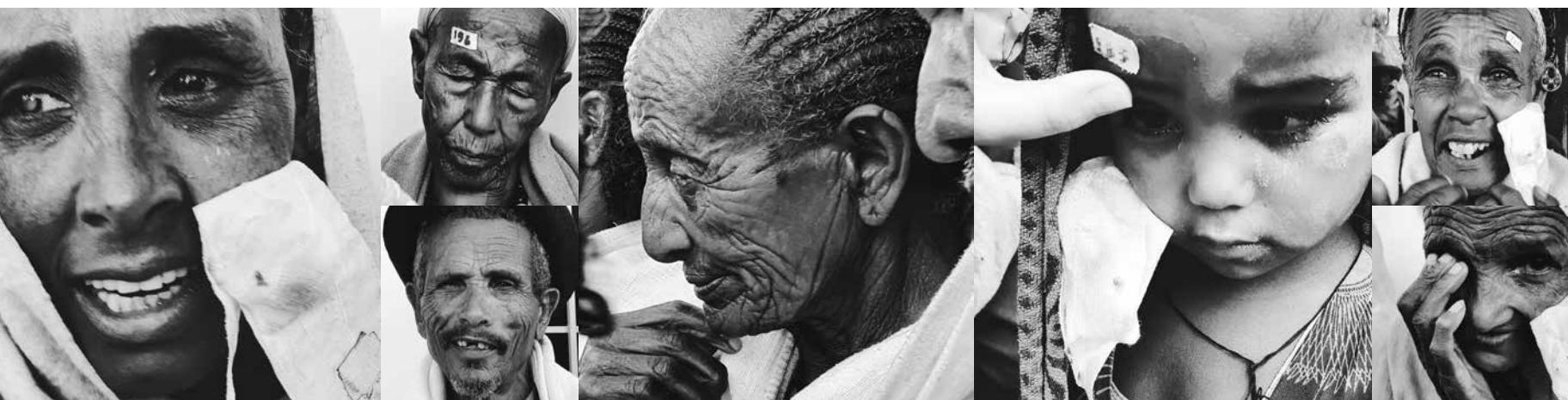
Crozier slowly regained his vision and, once again, won the battle against Ebola. But he, Yeh, Shantha, and others knew that the conflict was far from over for the thousands of Ebola survivors in West Africa.

In April 2015, a team that included Yeh, Crozier, oculoplastic surgeon Brent Hayek, MD, and Shantha traveled to West Africa to offer vision screenings to Ebola survivors. They screened and treated nearly 100 survivors and trained



Grants from the Emory Global Health Institute and others will allow teams to expand the cataract surgery program for survivors.

“We’ve learned that eye care issues are extremely important for Ebola survivors.”—STEVEN YEH, MD



physicians and other health care providers on how to screen for ophthalmic complications. They found a 20% to 25% prevalence of uveitis and severe vision impairment or blindness in affected individuals.

Several other trips to Sierra Leone have taken place since then, with providers learning more about Ebola and its aftereffects each time. Their work is done in conjunction with many organizations, including the World Health Organization, Partners in Health, Helen Keller International, and Medecins Sans Frontieres. Local connections in Liberia and Sierra Leone are also key to their efforts’ success.

“Eye care is only one issue among many in Ebola survivors,” Yeh says. “We’re finding that up to 35% of patients have a loss of vision or other eye complications.”

Uveitis is one of those complications, as are cataracts.

“There are two things to keep in mind with these patients,” Yeh says. “First, the cataract will get worse and the individual will not recover vision without surgery. Second, we have to remember that the Ebola virus might still be in the patient’s ocular fluid and know that we’re doing everything possible to protect the patient and anyone associated with him.”


One safety measure is to take a sample of ocular fluid and test it for Ebola virus before scheduling cataract surgery.

Specially-designed facilities are making that possible even in West African countries that were hardest hit by Ebola—Sierra Leone, Liberia, and Guinea.

“More than 28,000 cases of Ebola were reported in West Africa between 2013 and 2016,” Yeh says. “There are thousands of pediatric Ebola survivors or children who have been orphaned. The people are still trying to rebuild, and we’re fortunate to have the support to be part of that.”

To date, an estimated 4,000 Ebola survivors have been screened in Sierra Leone by the Ministry of Health and Sanitation and partnering organizations. The Emory Eye Center team has provided key protocols and management guidance for the process. Members of the Eye Center’s faculty will return to West Africa

later in 2017 to work with survivors in rural districts, teach local health care workers about examinations and treatments, and continue research that can help others.

“This is a prime opportunity for survivor-focused care,” Crozier said when he visited the Eye Center in December 2016. “Our job is to treat them, but also to help reduce the stigmatization of Ebola and of blindness. We’re writing the first pages of the textbook of how to treat this condition and move forward.” 



Former Emory Eye Center fellow Caroline Cromelin, MD, assesses a patient’s vision.



Ebola survivor Ian Crozier, MD, continues to work with Ebola patients.



Knocking out cancer—*again*

Dorsey Earnest lost vision in his right eye almost twenty years ago after a fishing rod accident. A few years later, another accident—caused by one of the cows on his farm—damaged his left eye and began a series of events he would never have imagined.

“It was one of those things you never think would happen,” Earnest says. “I only had one cow with horns, and she was standing beside me at the feeding trough. Another cow startled her, she threw her head back, and one of those horns went in my left eye.”



Dorsey and Peggie Earnest at home on their Palmetto, GA, farm.

Physicians were able to keep Earnest from losing his vision, but multiple problems ensued.

“It never fully healed after the cow incident,” he says. “I could still see, but that eye was always red and kept getting infected. It was very painful and just wasn’t right.”

About three years after the accident, a physician discovered that Earnest’s pain wasn’t simply due to infection or lack of healing; he had cancer on his left eye. The diagnosis was conjunctival squamous cell carcinoma.

“It started in the corner of my eye next to my nose, and grew almost to the iris,” he says. “The doctor removed it and sewed in amniotic membrane to help it heal. He put me on chemo eye drops for a while afterwards.

“I thought things were good,” he says, “and then wouldn’t you know it came back about a year and a half later?”

Surgery removed the cancer again but brought constant pain for Earnest.

“It felt like I had rocks grinding in my eye,” he says. “I can’t even begin to tell you how much pain I was in for years. It might let up for a few hours, but always came back. It was horrible.”

Despite living in Palmetto, GA, Earnest had been seeing an eye doctor on the north side of Atlanta for many years. He decided to find one closer to home, so switched to a new group. One of those physicians recommended he try a “bandage” contact lens to protect the cornea’s surface.

“I would wear the lens for 30 days and then replace it,” Earnest says. “I had suffered for so many years, and this finally stopped the pain. The doctor said it helped keep scar tissue on my cornea from rubbing against the inside of my eyelid. I thought we’d found the answer.”

The bandage lens worked as planned for about eight months. Then the times between changes began to shorten, as the lens would start getting foggy before 30 days had passed.

“I had to take the lens out after 20 days, then after 10, then after only two or three,” he says. “At that point it would be so foggy that I couldn’t see well enough to get it out. My granddaughter has trauma nurse training, so she helped with it sometimes. When she looked at



(above photo) Cancer had spread across much of Dorsey Earnest’s eye when he first came to Jill Wells, MD, for treatment.

(below photo) Earnest’s eye, cancer free after surgery.



it that last time, she saw something growing in my eye and onto the bandage lens.”

Earnest was referred to a different ophthalmologist, who said the cancer had returned.

“He said he couldn’t do anything about it, but he knew a great specialist—someone he thought was one of the best in the world—who could.”

That specialist was Jill Wells, MD, an ocular oncologist and comprehensive ophthalmologist at Emory Eye Center. The referring physician called to schedule an appointment with her while Earnest was still at his office.

“He just kept saying, ‘Please don’t break this appointment. You have to see her,’” Earnest says. “I promised him I would go.”

As he waited the few days until his appointment with Wells, Earnest watched the cancer spread—quickly.

“It grew much faster than it had before,” he says. “It was about a quarter-inch wide and moving down from the top of my eye. By the time I saw her it had gone across the iris and covered the pupil. I was completely blind in that eye and in unbelievable pain.”

“When I first met Mr. Earnest, he nearly begged me to remove his eye,” Wells says. “He told me he’d been suffering from severe pain in his left eye for years, and he didn’t care if he lost his eye as long as the pain was gone.

“I told him removing the eye was out of the question at that point in time,” she continues. “Conjunctival squamous cell carcinomas can have a high rate of recurrence with surgery alone—up to 50%.”

Wells mapped out a different plan of attack during his first appointment.

“Any patient who comes to me with a recurrence gets the ‘full court press’ at the time of surgery to hopefully prevent



another recurrence,” she says. “I recommended surgical excision of the entire lesion with adjuvant cryotherapy, injection of interferon, and placement of an amniotic membrane.”

“She was determined to do whatever she could to get rid of the cancer and try to keep it from coming back,” Earnest adds. “I knew that she meant it.”

About a week later, Earnest underwent surgery and the other steps Wells had outlined. Follow-up care included steroids, antibiotics, and interferon drops. Within days, his vision was better and he had no pain.

“I saw him in clinic a couple of weeks later and was surprised to see his vision so drastically improved,” Wells says. “Most important for him, the pain had dissipated.”

“When I came to Dr. Wells, my eye was horrible,” he says. “It was red and raw and had this crusty, yellowish brown cancer growing. But now it’s just as clear as can be. You can’t tell any difference between my eyes.”


The best result from surgery was that Earnest regained full sight in his left eye and currently is cancer free.

“I’ll still watch him closely—every three months for the first year—to be sure this cancer doesn’t recur,” Wells says. “In the meantime, I’m thankful his pain is gone and he can see.”

“I know there’s a chance it could come back someday,” he says. “That’s how cancer is. But after everything Dr. Wells did for me, I believe her

when she says it’s gone for now.”

Wells also gave Earnest something he’ll never take for granted again: the views of his farm.

“I’ve farmed and had cows and horses for 45 years,” he says. “To be able to look across my pastures and see everything there, that’s just the best thing of all. Dr. Wells is a miracle worker in my book.” 



Physicians Rebecca Neustein and Phoebe Lenhart and orthoptist Marla Shainberg with glasses donated to the ReSpectacle program.

ReSpectacle program renews patients' sight

Imagine being in desperate need of eyeglasses to handle even the simplest of tasks but not having the resources to get those glasses. Then imagine a program that provides prescription glasses—for free—to people who might not be able to get them otherwise.

That was the scenario Rebecca Neustein (an Emory medical student at the time) encountered when she visited a friend at Duke Eye Center in 2015. Neustein's friend and some other students had gotten involved with ReSpectacle, a nonprofit program that collects prescription eyewear and then uses the Internet and local ReSpectacle chapters to distribute the glasses to people in underserved communities.

Neustein returned to Emory, ready to spread the word about ReSpectacle and gauge interest in starting a chapter. She found support in pediatric ophthalmologist Phoebe Lenhart, MD, and orthoptist Marla Shainberg.

Since that time, medical students in the Emory Ophthalmology Interest Group (OIG) have organized a local chapter and started making differences in people's lives. Members of the Emory ReSpectacle chapter meet every two months to clean and inventory the donated eyeglasses. They then log the details about each pair and upload the information to the ReSpectacle website: the prescription, frame color, size and condition of the lenses and frame.

"ReSpectacle has more than 21,000 pairs of eyeglasses online," says Neustein, who has completed her medical school education and matched for an ophthalmology residency at Emory Eye Center. "Patients or providers can search for a prescription and see what's available. Once they choose a pair, it's shipped to the patient for free. Grant funding covers the cost."

More than 300 pairs of eyeglasses have been processed and entered into the database by the Emory chapter. Approximately 100 more pairs have been donated, but the

group is always looking for more.

“ReSpectacle has 23 chapters across the country, but Emory and Duke are the only ones that collect glasses for children,” Shainberg says. “We’re always happy to get any donations, but there’s a special need for pediatrics.”

One reason for this is that pediatric patients need new glasses more often. And many young families might not

“When a child cannot focus, the brain doesn’t learn how to ‘see’ clearly,” Lenhart adds. “Therefore, young children who need eyeglasses cannot go without them for even short periods of time without the risk of permanent vision loss.”

Knowing about ReSpectacle can help parents prevent vision loss in their own children as well as help others.

need through community vision screenings and clinic appointments at Grady Memorial Hospital.

“Many of these individuals are dealing with incredibly challenging social and financial situations that make even going to the doctor difficult,” Neustein says. “They are so grateful when they find out that their glasses are not only free, but that getting them requires no



During a ReSpectacle processing night, Emory faculty, staff and medical students check the prescription in donated glasses. Then they clean, measure and photograph the glasses for uploading to the national database.

have the financial resources to pay for the frequent glasses changes required by their children, Lenhart says.


“A baby’s focusing power changes rapidly in the first year of life,” Shainberg explains. “Medicaid only covers one pair of glasses a year, so that doesn’t work for these patients. Remember, when a child has cataract surgery, her ability to focus up close is gone. The only way she can get that back if contact lens wear is not feasible is with glasses—the glasses are her eyes.”

“Our hope is that the parents will return the pair they already have when their child gets an updated prescription,” Shainberg says. “That way we can put the first pair back in the database to hopefully redistribute to someone else.”

So far, the Emory ReSpectacle chapter has mailed nearly 150 pairs of eyeglasses to patients who found a match through the website. They’ve also helped patients connect with ReSpectacle and get the glasses they

additional travel on their part.

“I love the ReSpectacle program because it’s a great opportunity to impact a person’s life,” she adds. “The glasses might not be perfect, but they’re better than nothing and are vital for some people to get through their daily lives. They can make a huge difference.”

You can help: To learn more about ReSpectacle, visit www.respectacle.org. To donate eyeglasses to the Emory ReSpectacle chapter or learn about drop-off locations, call 404-778-2928. 

Equipment finds new life at Clarkston Community Health Center

Having access to community health centers can make a real difference for some people, but the level of care they receive can be affected by the resources available. That was the case at the Clarkston Community Health Center, where members of the Emory Ophthalmology Interest Group (OIG) offer quarterly vision screenings to uninsured people from the Metro Atlanta area.

Optometrist Fulya Anderson, OD, is one of the attending doctors who helps supervise the Clarkston Center screenings.

“The purpose of the screening is to get a basic assessment of overall eye health and determine the need or urgency of a referral, but this can be difficult,” she says. “Without the proper equipment, the simplest aspects of the eye cannot be examined.”

When screenings at the Clarkston Center first began, physicians and students had only direct ophthalmoscopes to use during exams. Anderson knew that adding a slit lamp to the exam room would benefit both patients and medical students.

“A slit lamp helps us look more thoroughly at all aspects of the eyes, assess an accurate eye pressure, and even look at the retina with a lens,” she explains. “I also thought of how much more beneficial having a slit lamp would be for the medical students. They’re interested in ophthalmology, so what better way to learn than to have the proper equipment to assess the eyes?”

After talking with one of the Eye Center’s administrators, Anderson learned that the Emory Midtown Clinic might be getting new slit lamps. She then approached Mallard Benton, Emory Eye Center’s senior business manager, for more details.

Benton soon identified several pieces of unused equipment that the Eye Center could donate to the Clarkston Center: a Marco Deluxe Stand, Marco Custom Chair, CSO slit lamp, and Woodlyn phoropter. He met with health center representatives to determine the best way to

handle the additions, then mapped out a plan and arranged for a Lombart Instruments representative to deliver and set up the equipment.


Within only a few weeks, the new exam room was up and running.

“This has made such a difference in the level of care we’re able to provide patients as well as the education we’re able to offer the students,” Anderson says.

“Having a slit lamp at the Clarkston Center allows us as medical students to practice looking at and learning about all the different segments of the eye in the same

way that practicing physicians do,” says Cliff Guyton, an Emory medical student and president of the OIG. “Plus, it’s really fun to see the tools that are actually used in an ophthalmology clinic.”

Whatever equipment is available, the physicians and students realize what an opportunity they have with the patients.

“I love being able to provide a service by screening people who don’t have good access to health care,” Guyton says. “Being able to get hands-on clinical experience as a medical student is also very valuable to our education. I’m extremely grateful to everyone who helped Clarkston acquire the slit lamp. It’s a great screening and teaching tool.” 





Faculty, residents and fellows "give back" to the community through free vision screenings.

Students and faculty reach out through vision screenings


Regular vision screenings are a vital part of eye health, alerting patients and care givers to potential problems. But many Georgians don't have insurance to cover screenings, which means issues can go undetected until it might be too late.

Emory Eye Center faculty and students are doing their best to help reverse this trend by offering screenings throughout the year. One of the largest they participate in is Congressman David Scott's annual Congressional District Health Fair.

Emory medical students who are part of the Ophthalmic Interest Group partnered with the Eye Center to participate. The students, along with several ophthalmology residents and faculty members, screened 214 patients during the 2017 fair. Of these, 58 patients were referred for further ophthalmic care; 32 were diagnosed with suspected glaucoma; and 60 were diagnosed with refractive error. Several other patients were diagnosed with conditions such as pseudophakia, diabetic retinopathy, and more.

The best part for some patients was that they received free glasses through the ReSpectacle program. Others were given the information to order glasses through the ReSpectacle website (read more about ReSpectacle on page 21).

"Screening events allow us to identify persons with potentially blinding disease, hopefully early enough to prevent them from going blind," says comprehensive ophthalmologist Jacquelyn O'Banion, MD. "It's important for us to seek these people out through events like screenings so we can point them to the services they need."


"The event was a huge success and an excellent example of Emory Eye Center's contribution to and involvement with our community," adds ophthalmologist Purnima Patel, MD, who helped organize the Center's participation. 



Keeping an eye on the game

Emory Eye Center ophthalmologists are helping ensure that the Atlanta Falcons and Hawks see their best at every game.

Groups led by Anastasios Costarides, MD, PhD, conduct pre-season vision screenings for all players and provide follow-up care as needed. Services can range from completing a comprehensive eye exam to filling contact lens prescriptions, performing LASIK surgery, or checking for issues if a player is struck in the eye during a game.

Members of the Hawks care team were Costarides; Brent Hayek, MD; Baker Hubbard, MD; Jeremy Jones, MD; John Kim, MD; Joon Kim, MD; and Purnima Patel, MD. The Falcons screenings were conducted by Costarides; residents Nikhil Anand, MD, and Morgan Micheletti, MD; former glaucoma fellow Joanna Olson, MD; and comprehensive ophthalmologist Jill Wells, MD. 

Research looks promising for treating optic nerve trauma

Victims of optic nerve trauma currently have no treatment options; once the eye sustains blast-induced damage, there's no hope of recovering any vision loss.

Emory Eye Center director of research Michael Iuvone, PhD, and others hope to change that. The group is characterizing the effects of blast-induced trauma on vision loss and retinal and optic nerve degeneration in mice. They're also studying whether the drug HIOC helps prevent loss of visual function and optic nerve axons.

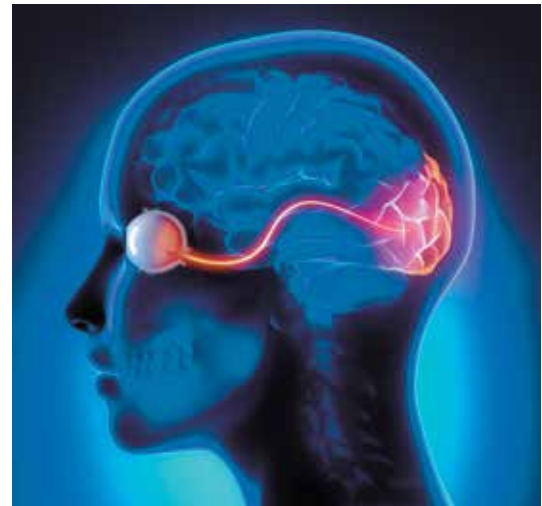
The mice being studied were injected with either HIOC or a control solution lacking the drug before or after exposure to an ocular blast. Mice that received the control injections showed significant loss of visual function, inflammatory reactions in the retina, and optic nerve

degeneration. Those treated with HIOC showed less vision loss and degeneration. Visual function was preserved even when the first HIOC treatment occurred three hours after the blast, but not if treatment was delayed for 24 hours.


Injections continued for six consecutive days following the blast. Visual acuity and contrast sensitivity were tested one week, one month, and four months later.

Mice receiving the control injections showed persistent loss of visual function for at least four months, but those with the HIOC treatment showed almost complete preservation of vision at four months. This suggests that receiving HIOC within a limited time after trauma helps preserve visual function and is likely permanent.

"We've shown that HIOC can preserve



neurons and visual function from progressive loss following traumatic eye injury," Iuvone explains. "But you have to receive treatment within a certain time after the trauma occurs."

Emory Eye Center researchers are the only scientists to study this treatment to date, and were initially funded by Department of Defense grants. Although more studies are needed, Iuvone believes the drug shows promise. 

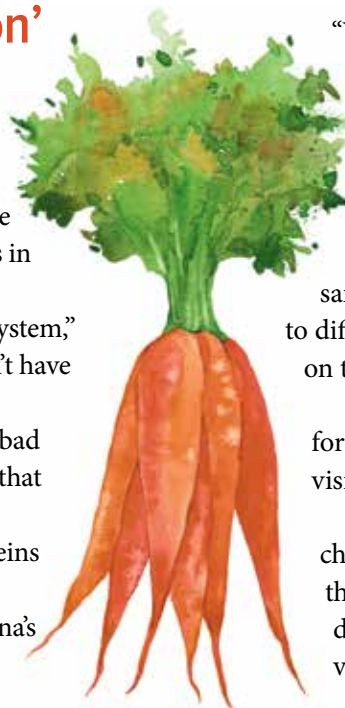
'Eat carrots for better vision' is not so far-fetched

It's no secret that foods rich in vitamin A (such as carrots, sweet potatoes, and liver) have multiple health benefits. One of its most important roles is in vision and eye development.

"Vitamin A is absolutely critical in the visual system," says researcher John Nickerson, PhD. "If you don't have the right chemical form of it, you won't see at all."


But having too much vitamin A also can be a bad thing. Nickerson's goal is to find the "sweet spot" that helps a person's vision be its best.

One of his projects looks at how binding proteins move vitamin A analogues between retinal pigment epithelium (RPE) cells and the adjacent retina's photoreceptors.



"We think maybe the protein that moves between cells shuttles one form of vitamin A from the RPE cells to the photoreceptors and then takes the spent form of vitamin A back to the RPE," he explains. "During early stages of development, yet another form of vitamin A is required and transported and protected by the same binding protein. It tells cells when and how to differentiate early in eye development, then moves on to other roles."

When RPE cells don't regenerate the correct form of vitamin A or don't work as they should, vision loss results.

"The eye needs the right amount of the right chemical form of vitamin A at the right time and for the right duration," Nickerson says. "Once we understand all those variables we'll know more about vitamin A and how it affects vision." 



Spin, stretch, and see better

Researchers know that pre-conditioning (doing something to help the body be better prepared for certain events) can lessen the effects of future cardiac events or stroke. Now Emory Eye Center researchers are drawing on that knowledge to better understand how similar situations might affect eyesight.


“Retina cells and brain cells are similar in many regards,” says researcher Jeffrey Boatright, PhD. “Studies show that exercising can increase proteins that help the central nervous system function better. Considering that, photoreceptor cells on the retina should be especially sensitive to pre-conditioning.”

Boatright is exploring that concept through a study with the Atlanta VA Medical Center. Elderly, sedate veterans enroll in a program that alternates between 12 weeks of stretching/movement classes and 12 weeks of spinning/cycling classes. Participants have normal vision and no signs of retinal degeneration, so data from the study is helping establish baselines for future research.

This is important because retrospective studies have shown that people who are more active have slower onset of age-related macular degeneration, the leading cause of blindness in Americans over age 55.

“We aren’t sure of the threshold for that effect yet, whether mild exercise for thirty minutes a day will work well enough or if you get more benefit from an hour,” Boatright says. “As long as you’re not totally sedentary, even doing simple exercises may benefit your vision.”

The study with veterans is still underway, but Boatright is confident it will provide valuable data.

“The veterans are very motivated by doing something that could make things better for the next guy—which makes sense because of their backgrounds,” he says. “Many of them might enjoy the stretching class, but once they try the cycling they want to stick with that. It seems to bring the competitive spirit back for them.” 



Cancer drug joins the battle against ROP

Babies who are born very premature can have abnormal blood vessels in their eyes that can grow and cause scarring in the retina. This condition, known as retinopathy of prematurity (ROP), can possibly lead to retinal detachment and cause the baby to go blind. The smaller and more premature the baby is, the higher the risk of ROP.

Pediatric ophthalmologist Amy Hutchinson, MD, and retina specialist Baker Hubbard, MD, are participating in a multi-center study that uses Avastin (a drug often used to treat cancer patients) to slow or stop the growth of new, abnormal vessels in the eye.

Once Avastin is injected, it binds to a molecule called vascular endothelial growth factor, or VEGF. VEGF promotes the growth of new blood vessels, but Avastin blocks that process.

Physicians already use Avastin and other anti-VEGF agents to treat other ocular conditions such as diabetic macular edema, proliferative diabetic retinopathy and wet age-related macular degeneration (AMD).

“Babies with severe retinopathy can benefit from a treatment to stop the ROP from progressing,” says Hutchinson, principal investigator for the Emory site. “In the past, destruction of the peripheral retina with laser or cryotherapy treatment were the only available options. Avastin works very well to arrest ROP and does not require sacrificing the peripheral retina, but there are concerns about side effects it might have in other parts of the body.”

The trial is designed to determine the lowest dose of Avastin that will be effective in stopping ROP. 



Port could show promise for wet AMD drug delivery


One of the most recent clinical trials to begin at Emory Eye Center involves a new way to deliver medication to eyes affected by wet AMD (age-related macular degeneration).

In the study, principal investigator Baker Hubbard, MD, implants a plunger-like port in the patient's eye. The device rests within the wall of the eye at the edge of the retina so that medication can be delivered through the port.

"This device incorporates a reservoir that contains medication and controls the rate at which the medication is delivered over time," Hubbard explains. "It reduces the number of injections many people require. The injector goes through the port to periodically refill the reservoir of drug."

Similar ports have been used to treat other eye conditions. Some of these ports must be sewn in place, but the one Hubbard is studying does not. Instead, it's held in place by the tissue of the eye wall.

The port is about the size of a pencil eraser. Investigators hope the reservoir will last six months or longer.

"We're not studying a new drug in this trial, but a new way to deliver it," he says. "If a patient has shown some positive response to Lucentis injections for wet AMD, this type of delivery system might be beneficial for him in years to come." 

Gene therapy may help reverse LHON damage


For the first time ever, Emory Eye Center is participating in a gene therapy trial. The study is for patients with Leber's hereditary optic neuropathy, or LHON, a rare degenerative eye disease that strikes quickly and leads to irreversible blindness, typically in young adults. Patients can completely lose vision in one eye only months after noticing problems. The second eye becomes involved in a similar fashion, usually within a few months. Severe involvement in both eyes by one year is essentially inevitable.

"This is a devastating disorder with no proven therapy of any great efficacy," says Nancy Newman, MD, principal investigator for the Emory site and international principal investigator for the early onset portion of the trial. "That's why patients would be willing to try a gene therapy trial, despite the fact there will always be risks."

Gene therapy treatments attempt to slow or reverse an inherited disease by delivering a new gene to the site of the mutated, disease-causing one. In the LHON trial, retina specialist Baker Hubbard, MD, administers a one-time injection of gene material to the retina in hopes that the injected gene will compensate for the mutated ones and allow retinal cells to stay viable.

Only seven sites are participating in the trial worldwide: four in Europe and three in the U.S. Newman's expertise led the sponsor, French-based GenSight Biologics, to involve her in the design and execution of the studies.

The trial made international news in September 2016 when the FDA approved expanding study guidelines to include patients ages 15-18.


"Not all gene therapies are considered safe for children because they may damage organs that are not fully developed," Newman explains. "The patient population for this trial was able to be slightly expanded because LHON is biologically the same disease in a 15-year-old and a 20-year-old." 



Tiny implant helps replace glaucoma drops

For years, patients with glaucoma have used topical medications or eye drops to keep their eye pressure under control. The treatment works in many cases, but it can be difficult to be consistent with multiple administrations each day. Some patients struggle to put the drops in their eyes, run out of medications before refills are allowed, or just have trouble remembering to use the drops.

One clinical trial at Emory Eye Center could help alleviate those challenges, by studying a novel medication delivery system. A pellet of medication so tiny it can only be seen with a slit lamp is injected into the front part of the eye. It rests at the base of the iris and delivers glaucoma medication over time.

"This is the first time this type of system has been used to deliver glaucoma drugs to the eye," says principal investigator Allen Beck, MD. "The pellet stays in place for months. It's biodegradable, so once the medication is gone, the pellet dissolves and is absorbed by the body. This could be a new way to deliver glaucoma medications for patients who have difficulty using eye drops." 

Educating for the future

Education is Dr. Maria Aaron's passion. She loves seeing the excitement of students, the challenge of teaching them, and the satisfaction of watching them grow into competent physicians. She went through the entire process 14 times as Emory Eye Center's ophthalmology residency program director, but now has taken on a new challenge for herself: associate dean of Graduate Medical Education for Emory School of Medicine.

As associate dean, Aaron works with more than 1,200 residents and fellows across all specialties in 104 residency/fellowship training programs. The program also includes more than 60 MD/PhD students, some of whom are enrolled in a joint program with the Georgia Institute of Technology.

"I enjoy being around the residents and knowing that we're passing along skills and knowledge that they'll spread to others," she says. "The students we have at Emory are truly among the brightest anywhere. Working with them is a rewarding way to give back to society."


Aaron has also stepped up to serve ophthalmologists on a national level, as secretary for the American Academy of Ophthalmology's (AAO) Annual Meeting. The position is a three-year appointment based on AAO member voting.

As secretary, Aaron will use her educational background to ensure that the annual meeting provides the best opportunity for ophthalmologists and eye care providers to update



their knowledge and skills. She also will be responsible for all the Academy programs, including ceremonial, educational, clinical, and non-clinical.

"The annual meeting is the best place to discover new diagnostic tools, treatment options, and surgical techniques," Aaron says. "I'll help plan ways to provide diverse educational opportunities at the conference that emphasize innovative, interactive sessions. Everything physicians can learn at the annual meeting helps them provide better care for their patients."

"Serving as secretary of the AAO is a tremendous opportunity for Dr. Aaron," adds Allen Beck, MD, interim chair of ophthalmology and interim director of Emory Eye Center. "We know she'll represent everyone well." 

NEW FACULTY | Emory Eye Center expanded with the addition of five new care team members in the past year



James Bedrick, MD, provides comprehensive and consultative eye care. He came to Emory Eye Center in October 2016 and

performs cataract procedures, including femtosecond laser assisted cataract surgery and extended range intra-ocular lens implantation.

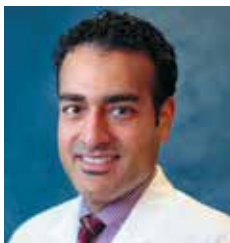
Bedrick completed his undergraduate and medical education at the University of North Carolina, Chapel Hill. He remained in Chapel Hill for a one-year internal medicine internship at North Carolina Memorial Hospital. His residency at the University of Pennsylvania Medical School allowed him to work at several affiliated hospitals (Hospital of the University of Pennsylvania, Scheie Eye Institute, Children's Hospital of Philadelphia, and Philadelphia VA

Hospital). A fellowship at Emory School of Medicine in vitreoretinal surgery and diseases followed.

He has published scientific articles in the *Archives of Ophthalmology*, *American Journal of Ophthalmology*, and other journals. He co-authored the chapter "Diabetic Retinopathy" in the text book *Clinical Diabetes Mellitus*.

Bedrick is a member of the American Academy of Ophthalmology and the American Society of Retina Specialists.

He also holds memberships in the Phi Beta Kappa, Alpha Epsilon Delta, and Psi Chi Honor Societies.



Soroosh Behshad, MD, MPH, joined the cornea and refractive service in August 2016. Behshad received his medical

degree from the University of Arizona College of Medicine, Tucson and Phoenix, in 2011. He completed a transitional year internship at Harbor UCLA Medical Center in Los Angeles, followed by a residency in ophthalmology at Tulane University in New Orleans that included one year as chief resident. He completed a fellowship in cornea, refractive, and external disease at Gavin Herbert Eye Institute at University of California, Irvine.

His Master's degree in Public Health is from the University of Arizona, Tucson, with a concentration in public policy and health care management.

Behshad's interests are in global ophthalmology, the newest developments in intraocular lens technology, corneal disease and transplantation, DSEK, DMEK, corneal limbal stem cell transplantation, and refractive surgery (including LASIK and PRK).

Farah Gulaid, OD, joined Emory Eye Center



in August 2016 as part of the medical/surgical care team with an emphasis on glaucoma.

Gulaid earned her optometry degree from the University of California, Berkeley, and followed that education with a residency program at the Baltimore VA Medical Center. During her

residency, she completed a five-month clinical rotation at Wilmer Eye Institute, Johns Hopkins University, in addition to working with several private practices in retina and glaucoma management.

She gained additional experience through externships at Bascom Palmer Eye Institute in Miami, FL, Walter Reed Army Medical Center in Bethesda, MD, and VA Medical Center in Reno, NV. She has administered vision screenings and provided care for adult and pediatric patients, including volunteering with a group that assessed more than 1,000 patients in Mexico and the Dominican Republic.

Gulaid's clinical interests include comprehensive eye exams, medical management of adult glaucoma, medical compliance, and optical coherence tomography (OCT) interpretation.

Andrea G. Hill, OD, FAAO, Diplomate,



came to Emory Eye Center in June 2016 as part of the medical and surgical care team.

Hill completed her undergraduate education at Furman University before earning her optometry degree from Southern College of Optometry in Memphis, TN. She completed her residency in ocular disease at Salem Veteran Affairs Medical Center in Salem, VA.

Her previous work encompassed the full scope of optometry, including family eye care, specialty contact lenses, treatment of ocular diseases, post-operative LASIK and cataract care, and low vision exams and consultations. She has volunteered as part of the student chapter of VOSH International (Volunteer Optometric Services to Humanity) on a foreign medical trip and has helped with vision care needs for Special Olympics.

In addition, she has been published in the American Academy of Optometry's journal *Optometry* and in *Vision Science*.

Hill received numerous awards and honors while in optometry school. She is board certified through the American Board of Optometry and is a fellow of the American Academy of Optometry.

Kristen Thelen, OD, FAAO, came to Emory Eye Center in June 2016, and



works with the medical/surgical care team with a focus on cataract care and triage.

Thelen received her degree from Southern College of Optometry in Memphis, TN, in 2013. She then completed a one-year residency in ocular disease with Omni Eye Services in Atlanta, where she focused on pre- and post-operative care for cataract patients.

She co-authored the article "Rock the Voth," published in *Review of Ophthalmology* in 2014, and has received numerous awards for research presentations.

Thelen is a Diplomate of the American Board of Optometry, Fellow of the American Academy of Optometry and a member of the Georgia Optometric Association and American Optometric Association.





Changing the rules of the glaucoma game

Patient Debra Owens is impacting the lives of others with glaucoma by supporting patient programs with Anastasios Costarides, MD, PhD, and research with Eldon Geisert, PhD.

It's not uncommon for a person to want to support an organization that has touched her life. For Debra Owens of Calhoun, however, that support has become a mission to help others less fortunate.

Owens first became acquainted with Emory Eye Center through her father, Don. He developed glaucoma and, later, age-related macular degeneration. She brought him to the Eye Center for many checkups with Ted Wojno, MD, director of oculoplastics, because of complications related to his eye disease. During that time, she witnessed the effects that vision loss and blindness have on patients and their families.

She also took one of her father's observations to heart, especially when diagnosed with glaucoma herself—"blindness is a game changer."

“Science is progressing at warp speed in terms of eye research. Time is critical in my case, and in others. But I’m just a layperson, I can’t make the discoveries. All I can do is give money to help those who can.” —DEBRA OWENS

“The important thing with glaucoma is to be diagnosed and treated early,” she says. “It’s easy to miss because nothing hurts and the brain helps compensate for the initial vision loss. But once vision loss begins, it’s too late to reverse.

“I’m fortunate because I knew to pay attention to my own health because of Dad,” she adds.

Even with regular vision checks, a specific diagnosis for Owens took time: normal tension glaucoma (NTG). Most people with glaucoma have high pressure within the eye that damages the optic nerve and leads to vision loss. With NTG, however, optic nerve damage and vision loss occur despite eye pressures being normal. That leads to multiple challenges in diagnosis and treatment.

Owens traveled across the U.S., visiting top-notch ophthalmologists to learn all she could about NTG. Her research brought her back to Emory Eye Center and glaucoma specialist Anastasios Costarides, MD, PhD, who began treating her in 2010.

“One thing I love about Dr. Costarides is that he doesn’t mind that I visit other specialists or try to see what else I can learn,” Owens says. “He wants to know what the other doctors say because we’re in this together.”

During one visit, Costarides mentioned that Dr. Eldon Geisert, an Emory Eye Center researcher, has a special interest in the genetics of glaucoma. His study focuses on the genetic networks associated with developing glaucoma.

Owens thought Geisert might be able to learn things from her relatives since her family has a history of the disease, so she began talking to them about his research.

Several of them have since worked with Geisert as he uses their “family pedigree” to better understand how glaucoma has moved from one generation to another. But Owens took her generosity even further by establishing the Owens Family Discovery Fund to help support Geisert and other Emory Eye Center researchers.

“By working with Debra Owens, we have constructed a family tree and identified related individuals who report having NTG,” Geisert says. “We are now looking at the genomes of several individuals to determine if they carry rare sequences that match up with Debra’s genome. We hope to be able

to identify the basis of her disease and ideally create a more targeted therapy for her specific form of NTG.”

“I often thought that if I could find a place that I felt had the potential to make a difference in glaucoma research and could help a lot of people, that would be significant,” Owens says. “I do feel like Dr. Geisert is on the cusp of a big breakthrough in eye research.”

As exciting as the research potential is, however, Owens also wants to help people today. Costarides has given her that opportunity.


“There are few surgical options for glaucoma, none of which are good,” she says. “Most people use prescription eye drops to lower their pressures, but there are problems with that, too.”

Owens and Costarides have both seen this firsthand. Many patients aren’t able to administer the drops correctly. The small bottle is supposed to last 30 days, but patients often run out of medication before that point and aren’t able to get a refill. Still others are unable to pay for the prescription in the first place.

When Costarides shared some of these frustrations with Owens, she was ready to help. She presented a monetary gift to Emory Eye Center (in addition to her funding for Geisert) to establish a program that provides glaucoma medication to patients who cannot afford it.

“Patients with high-pressure glaucoma are usually very responsive to medication,” Owens says. “If they’ll just use the drops, their vision can be preserved and they’ll have no further loss. Some people literally have to choose between buying their family’s food or buying their medication. I’m blessed that I’m not in that situation and am glad for the chance to help however I can.

“Science is progressing at warp speed in terms of eye research,” Owens continues. “Time is critical in my case, and in others. But I’m just a layperson, I can’t make the discoveries. All I can do is give money to help those who can.”

For researchers such as Geisert and physicians such as Costarides, the “all I can do” from Owens is a tremendous step in the right direction. It might even prove to be a game changer in itself. 




Newman and Biousse win prestigious publishing awards

Emory Eye Center physicians Valérie Biousse, MD, and Nancy Newman, MD, were awarded first prize in the neurology category of the 2016 British Medical Association (BMA) book awards. Their book, *Neuro-Ophthalmology Illustrated*, Second Edition, is an up-to-date, beautifully illustrated guide to help readers recognize a patient's signs and symptoms, localize pathology, develop a differential diagnosis, and select a management strategy.

The BMA medical book awards are held each year to recognize outstanding contributions in medical literature. Prizes are awarded in 20 categories. The most recent contest included almost 700 entries across all categories.

The book also received honorable mention in the clinical medical textbook category for the PROSE awards from the Association of American Publishers. PROSE awards recognize books, journals, and electronic content in 53 categories.

Biousse and Newman are two of the most prominent neuro-ophthalmologists in the world, with a combined 45 years of teaching experience. They treat patients at Emory Eye Center as well as teach ophthalmology and neurology at Emory School of Medicine.

This second edition of *Neuro-Ophthalmology Illustrated* is a handy reference for ophthalmologists, neurologists, and neurosurgeons as well as a valuable resource for residents preparing to take board examinations in these specialties. 

Faculty recognized for AAO

Three of Emory Eye Center's faculty members were recognized at the 2016 conference of the American Academy of Ophthalmology (AAO) in Chicago.



Hans Grossniklaus, MD, was awarded Life Member status by the AAO. A member must be active and in good standing with AAO for 35 years to be eligible for consideration as a life member. Grossniklaus has received the Senior Achievement Award and two Secretariat Awards from AAO in previous years. He is founding director of the Emory Eye Center's ocular oncology and pathology service and serves as interim vice chair of Emory Eye Center.

The AAO's Achievement Award program recognizes doctors and individuals who participate in the scientific programs at the AAO annual meeting. The program encompasses more than 25 categories of contribution to the Academy (such as presenting scientific posters or papers, teaching courses, and serving on AAO committees).



Baker Hubbard, III, MD, received the AAO Senior Achievement Award. Hubbard is the director of clinical retina services at Emory Eye Center and vitreoretinal surgery fellowship training at Emory School of Medicine. He has served as president of the Georgia Society of Ophthalmologists and previously received the Senior Honor Award from the American Society of Retina Specialists for his work in pediatric retina disorders.



Jill R. Wells, MD, received the AAO Achievement Award.

Wells works in Emory Eye Center's comprehensive ophthalmology and ocular oncology/pathology sections. She is a member of Alpha Omega Alpha medical honor society, and has a special interest in working with patients who are being treated for conjunctival tumors, posterior segment tumors, and retinoblastoma.

"We're extremely proud of what our physicians do for our patients each day," says Emory Eye Center interim chair Allen D. Beck, MD. "We're glad that the AAO has recognized them for their many contributions."



Jones named vice president of Georgia Society of Ophthalmologists
Glaucoma specialist Jeremy Jones, MD, was installed as vice president of the Georgia Society of Ophthalmologists (GSO) at the group's annual meeting. In addition, he recently completed the Georgia Physicians Leadership Academy, a year-long program that aims to develop physician leaders in Georgia. Jones joined Emory Eye Center in 2013 and serves as director of the Eye Center's residency program and associate chief of ophthalmology at Grady Memo-

rial Hospital.

Several other Emory Eye Center physicians also have leadership roles in GSO. Baker Hubbard, MD, Purnima Patel, MD, Phoebe Lenhart, MD, and Mary Lynch, MD, currently serve on the GSO Council and Anastasios Costarides, MD, heads the CME committee.



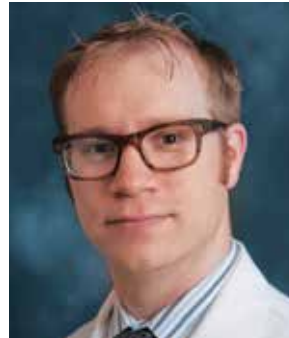
Hernandez reaches Fellow status

Optometrist Elaine Hernandez, OD, earned Fellow status in the American Academy of Optometry during 2016. The process involved extensive written and oral examinations by panels of vision experts.

Hernandez joined the Eye Center's care team in 2015 and primarily treats patients at Grady Memorial Hospital. She provides comprehensive eye exams and assists low-vision patients with visual rehabilitation. She also has a special interest in conducting vision screenings for Hispanic and underserved communities.

NANOS designates Peragallo as Fellow

Jason Peragallo, MD, received his Fellow designation from the North American Neuro-Ophthalmology Society (NANOS).



He joined the Emory Eye Center faculty in 2013, following a neuro-ophthalmology fellowship through the Emory School of Medicine. He is particularly interested in evaluation and treatment of strabismus due to neurological disease and in treating children who have developed ophthalmic disease due to neurologic processes.



Hayek noted as Distinguished Alumnus
Oculoplastics and reconstructive surgeon Brent Hayek, MD, received the Ophthalmology Distinguished Alumnus Award from Loyola University. Hayek has expertise in a wide array of reconstructive and cosmetic procedures that address areas of the eyelids/face, orbit and tear drain. He joined the Department of Ophthalmology at Emory in 2008. 




academics was a great fit for me. The biggest reward is being part of their lives by contributing to their growth each day. I hope working with me helps them learn how to listen to patients with empathy as much as becoming great at diagnosing and treating them."

"My experience training at Emory had a major impact on my professional life," Hubbard adds. "Having the ability to participate in something that would have such an impact on young physicians was very attractive to me after I finished my training, so I was drawn to the opportunity when it arose. More than passing along any specific knowledge or surgical technique, I hope I can serve as a role model for trainees."

Hubbard, Hayek and other faculty are achieving that goal, becoming mentors that students want to emulate in their own careers.

"I admire the faculty here so much because they truly care about their patients and about the residents and fellows they're teaching," Thulasi says. "They taught me to be independent, but were always there whenever I asked for help. They gave me so much. I want to be that person for someone else."

She'll have that opportunity in the fall of 2017, after she completes her fellowship in Chicago and returns to Emory Eye Center as a cornea specialist and faculty member. And so the cycle will continue, growing physicians from medical student to resident, fellow to faculty, trainee to trainer.

It's why we do what we do. 



Emory Eye Center physicians are tops again, according to the Top Doctors list in *Atlanta* magazine.

Tops again

Seven Emory Eye Center ophthalmologists were selected as some of Atlanta's Top Doctors. The selections were featured in the July 2017 issue of *Atlanta* magazine. They were:

Allen Beck, MD (glaucoma)

Valérie Biousse, MD (neuro-ophthalmology)

Hans Grossniklaus, MD, MBA (ocular oncology and pathology)


G. Baker Hubbard, III, MD (retina)

Scott Lambert, MD (pediatric ophthalmology)

Nancy Newman, MD (neuro-ophthalmology)

Ted H. Wojno, MD (oculoplastics)

The annual America's Top Doctors list is published by health care research firm Castle Connolly Medical Ltd. Thousands of doctors across the nation are invited to participate in regional peer nomination surveys. The process seeks to find physicians who excel in academic medicine and research, but also are known for their excellence in patient care—the providers to whom nominating physicians would send their own family members.

The 2017 list recognized 720 physicians from across metro Atlanta. Half of those listed (358) are associated with Emory in some way: Emory Healthcare physicians, Emory Healthcare Network physicians, Emory School of Medicine faculty, and Emory medical staff physicians. 

GRANT FUNDING

More than \$2 million in VA grants support tele-ophthalmology program

April Maa, MD, an assistant professor at Emory Eye Center who practices comprehensive ophthalmology at the Atlanta Veterans Affairs Medical Center (VAMC) Eye Clinic, was awarded two separate grants to support a tele-medicine program for veterans. The first was a \$277,000 VA Access Clinical Grant, and the second a \$1.99 million grant from the VA Office of Rural Health.

The program, called Technology-based Eye Care Services (TECS), gives veterans better access to eye care by screening them at their primary care clinics.

“We screen for common eye diseases and give the patients glasses if necessary,”

Maa says. “The main eye clinic might be up to two hours away from their home. Older patients are less likely to seek care due to travel distance and cost, but are at the greatest risk for potentially blinding eye

“Many veterans also have issues obtaining timely appointments because growth in demand for eye services exceeds current clinical infrastructure. TECS helps address some of these issues.”


conditions. So, providing the service closer to home can make it much easier for them to access the care they need.”

“Rural and homeless veterans in particular can have poor access to eye care because they live in a medically underserved area or lack the resources to overcome

the barriers of traveling to an eye clinic for care,” Maa adds. “Many veterans also have issues obtaining timely appointments because growth in demand for eye services exceeds current clinical infrastructure. TECS

helps address some of these issues.”

TECS has garnered significant interest from National VA leadership

and other eye clinics within the VA system as a potential cost-effective method to help deliver eye care to veterans. With the support of the VA Office of Rural Health, Maa is now working on spreading TECS to other VA hospitals. 

\$3 million core grant continues collaborative research for 5 years



Researcher John Nickerson, PhD, vice director of AVRC

In a show of continued support, the National Eye Institute (NEI) renewed its funding of collaborative vision research through a five-year award totaling \$3,023,456. The first year of the funding grant—worth \$624,000—was renewed in September 2016.

Emory Eye Center director of research Michael Iuvone, PhD, says the grant will help fund collaborative research for those who participate in the Atlanta Vision Research Community (AVRC).


“AVRC is a consortium of award-winning vision scientists across the Southeastern U.S.,” Iuvone says. The group includes investigators from the Atlanta VA Medical Center for Visual and Neurocognitive Rehabilitation, Children’s

Healthcare of Atlanta, Emory Eye Center, Emory School of Medicine, Emory’s Rollins School of Public Health, Emory College, Georgia State University, Georgia Institute of Technology, and Morehouse School of Medicine.

The AVRC’s core laboratories are housed in 7,000 square feet of research space at Emory Eye Center. The work by AVRC scientists falls in three categories: structural biology and imaging, functional genomics and proteomics, and bio-statistics and bioinformatics.

“The purpose of a core grant from the NEI is to provide shared services, equipment, and training to support principal investigators and their staffs,” explains John Nickerson, PhD, an Emory Eye Center researcher and vice director of AVRC. “This sharing is the basis of team science. It helps establish collaboration among scientists and promotes progress toward understanding and improving the treatment of major eye diseases.”

In the past five years, the scientists of AVRC have published more than 200 articles in peer-reviewed publications. Their findings have included ways to track vision loss during progressive retinal disease, gene defects that cause retinitis pigmentosa, the effects of physical exercise on the progression of retinal disease, and potential therapy for ocular trauma-induced vision loss.

“NEI core grant funding is provided to only a small number of research centers,” says Allen Beck, MD, interim chair of ophthalmology and interim director for Emory Eye Center. “It’s a critical funding award that shows Emory remains at the forefront of vision research.” 


2017 brings several campus renovations

Emory Eye Center clinics will see updates throughout 2017 to improve functionality and expand patient care services.

At the main clinic on Clifton Road, changes will be ongoing for several months as the new hospital tower is completed. One important shift for Eye Center patients and visitors to note is that the new pedestrian bridge enters Clinic B on the second floor (not first floor, as in the past).

Expansion plans at the John’s Creek clinic include expanding from three to five exam rooms and adding a diagnostic

room that could be used for OCTs, visual fields, or other tests. Work is scheduled to be completed over a series of weekends so patient care is not interrupted.

An optical shop has just opened in the Emory Saint Joseph’s clinic. The service offers one-stop shopping for eyewear, when patients have a current prescription (less than one year old). Two certified opticians are on site to work with patients as they select new frames. No appointment is needed to browse the frames and learn about special offers. 

Emory Vision introduces the latest LASIK technology

Emory Vision, the LASIK service of Emory Eye Center, now offers the very latest equipment available to make LASIK procedures more comfortable and convenient for patients.

The Zeiss VisuMax femtosecond laser uses groundbreaking technology to give surgeons outstanding cutting precision and speed while still being gentle to the patient. Emory Vision is the first academic medical center-affiliated facility in the state to have the VisuMax laser.

During a LASIK procedure, the surgeon improves the patient's vision by using a laser to permanently change the shape of the cornea (the clear covering on the front of the eye). Older LASIK equipment required the surgeon to flatten the cornea in order to make the necessary cuts. The ideal outcome was a nice curved line when the cornea returned to its natural shape, but the results could vary and sometimes lead to visual distortion.

The VisuMax is built so the surgeon can make a three-dimensional, curved incision along the cornea's natural surface instead



John Kim, MD, performs a LASIK procedure at the Emory St. Joseph's clinic.


of flattening it. Incisions have unsurpassed accuracy, down to the micron level (as a comparison, a credit card is about 500 microns thick).

The equipment is further enhanced by including three different sizes of contact glasses (the guides to cut the corneal flaps) to ensure a better fit to the patient's cornea.

"The first step of the LASIK procedure involves creating a flap incision in the cornea," explains John Kim, MD, assistant professor of ophthalmology and director of cornea and refractive services at Emory Eye Center. "Previously available lasers required very high pressures to flatten the cornea to make

the incision. This regularly caused the patient's vision to briefly 'black out' during the procedure. The new VisuMax laser requires less pressure so there is less discomfort for the patient and no loss of vision during the procedure."

Another bonus for the patient and surgeon is a shorter procedure time because of a laser pulse frequency of 500 kHz.

Emory Vision is located at Emory Saint Joseph's Hospital in Atlanta (5671 Peachtree Dunwoody Road, Doctor's Center Building #3, Suite 400). Call 404-778-2SEE (2733) to schedule a free LASIK consultation. 




Hospital Tower expansion continues

Anyone visiting Emory Eye Center over the past two years has stepped to the edge of a construction zone, thanks to the building-out of Emory University Hospital's new tower. But the end is in sight:

the new tower is scheduled to welcome patients later in 2017.

The tower will include 232 patient beds, with 40 designated for critical care. Cancer and transplant (bone marrow, kidney, liver, and pancreas) patient care units, diagnostic and treatment spaces, radiology, and an anesthesia pre-operative clinic are also part of the plan. A retail pharmacy and the Radiance Boutique at Winship Cancer Institute will relocate to the tower. An additional food venue will offer multiple dining options for patients, visitors and staff.

The tower is nine stories high and encompasses 450,000 square feet, plus has a 500-space underground parking area.

A two-tiered pedestrian bridge connects the tower to the original hospital building, Emory Clinics A and B, and Winship. It accesses Emory Eye Center on the second floor of Clinic B. 



This is my legacy.

*Jim Lewis, Attorney
Douglasville, Georgia*

“As a patient of the Emory Eye Center, I know firsthand that Emory delivers the best care. That’s why I’m including a planned gift for glaucoma research at the Eye Center in my estate plans. Emory’s researchers are fighting for better treatments, better quality of life, and—above all—cures.”



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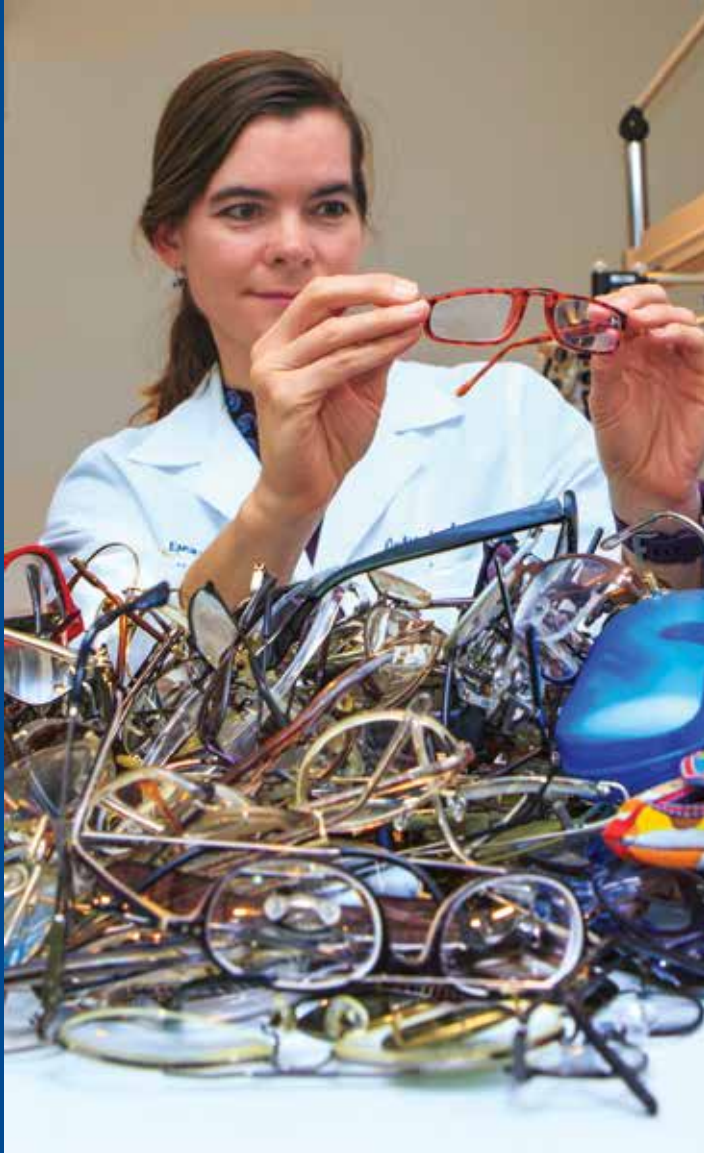
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Pediatric ophthalmologist Phoebe Lenhart, MD, looks at glasses donated to Emory Eye Center's ReSpectacle program. See page 21.

Emory Eye Center
Uncommon knowledge.
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