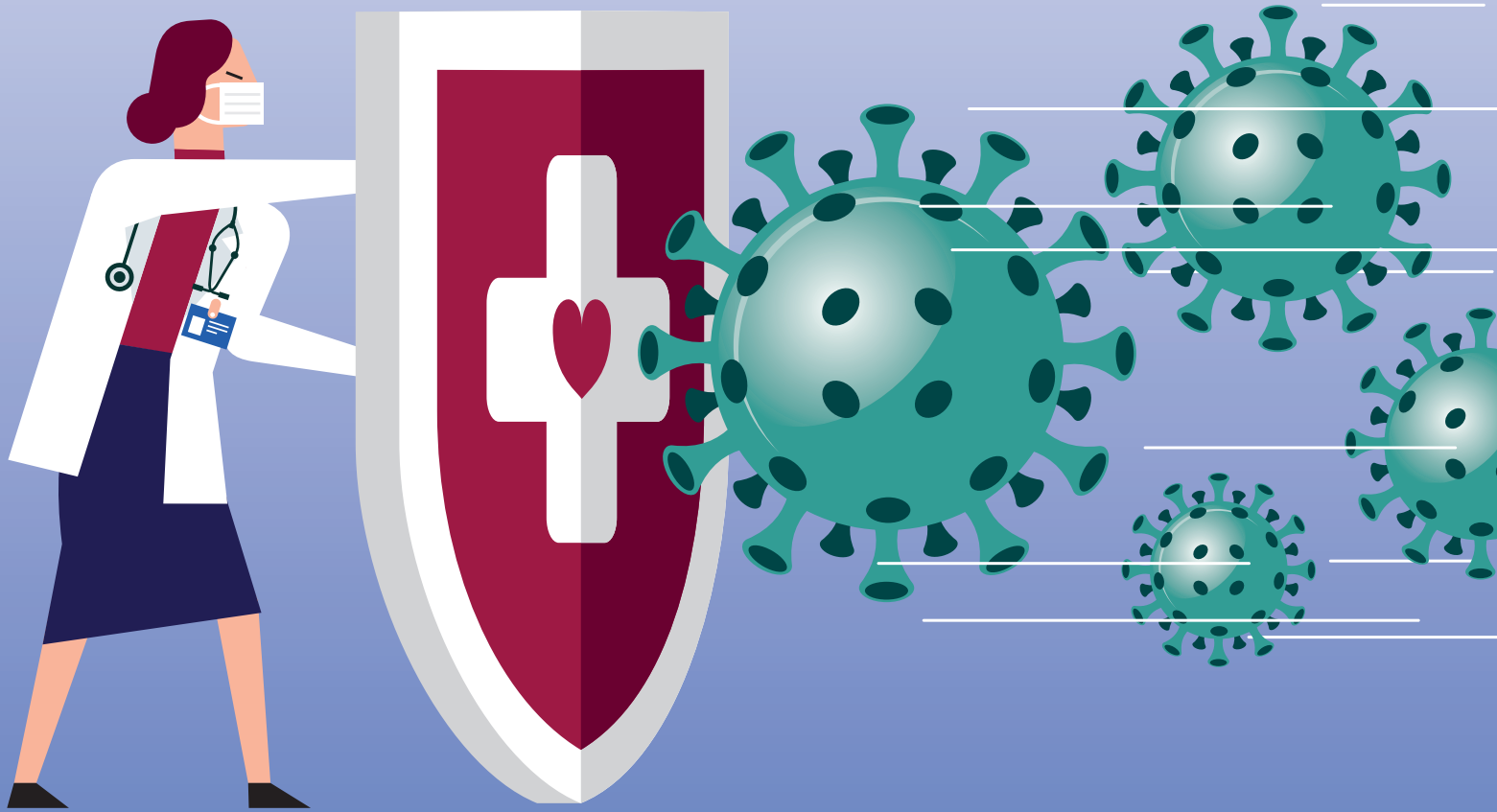


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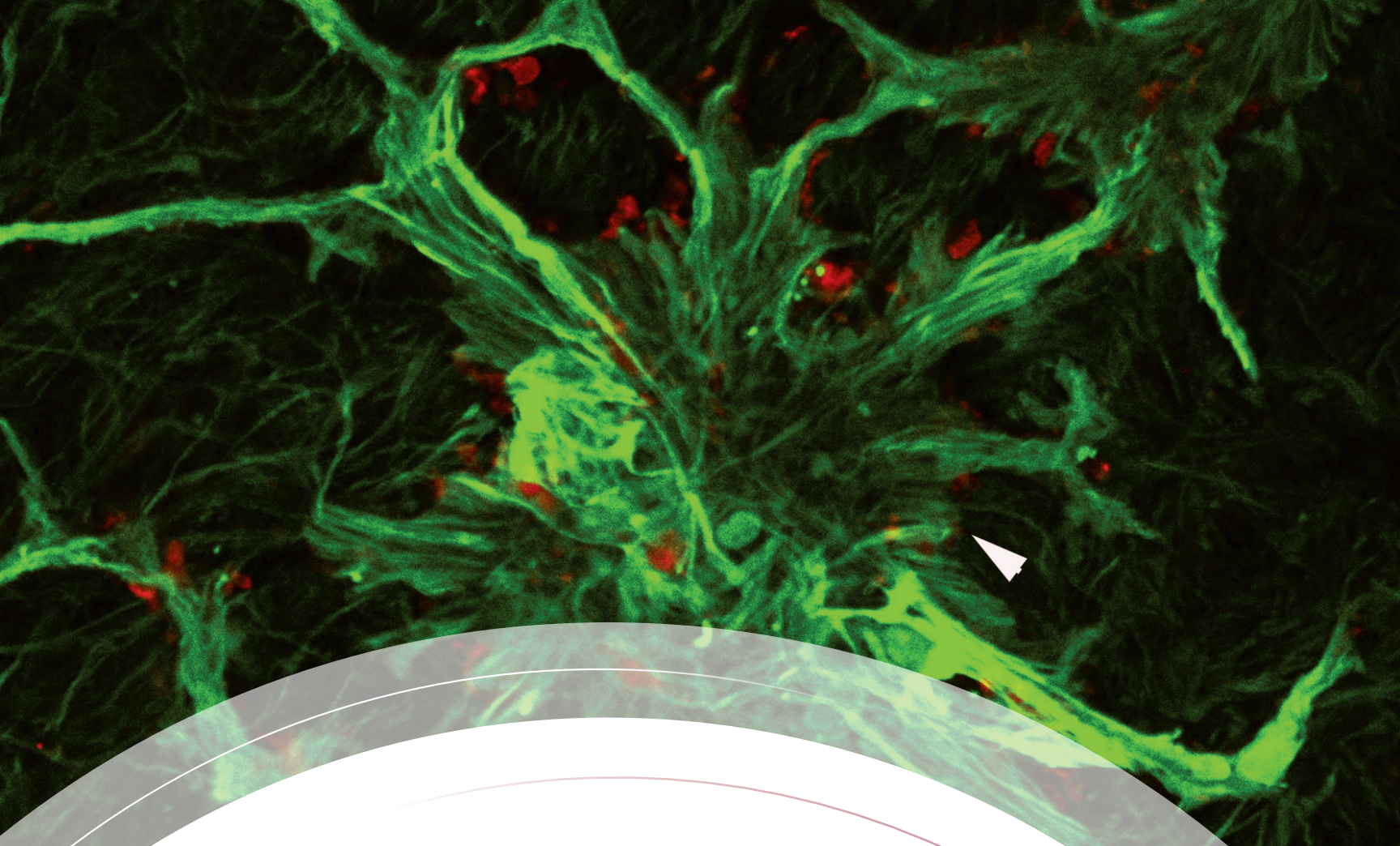
Wilmer Eye
Institute



Wilmer



Safe Patients, Safe Staff



Looking Forward

Cells known as glia provide structural support and maintain a normal environment for retinal cells. Wilmer's **Malia Edwards, Ph.D.**, and her colleagues have recently shown that glial cells extend beyond their normal position in the retina and form structures on the retinal surface. They have observed glia expanding to create dense structures on the retinal surface in conditions such as retinitis pigmentosa, macular degeneration and other retinal diseases. Edwards and her research team are studying why glial cells exit the retina as well as how the structures they form affect retinal diseases and treatments.

This image shows a human retina with glial cells in their normal position (arrow) and on the retinal surface, creating a bloomlike structure (arrowhead). Two different types of glia are shown, one labeled in red and the other in green.



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As I See It ...

AS ONE LONG-TIME PATIENT SAID AFTER HER RECENT VISIT TO WILMER, “THE WHOLE ETHOS AT JOHNS HOPKINS IS ONE THAT OTHER HOSPITALS CAN ONLY HOPE TO MODEL.”

Dear Friends,

When we sat down to plan this magazine in December, we were excited to focus on education, a topic of vital importance at Wilmer. But in the ensuing months, our world has been turned upside down by COVID-19. These unprecedented times require flexibility, and in this issue of *Wilmer*, we also share the steps we are taking to meet the needs of our patients and staff during this global pandemic. As always, our number one priority must be their safety.

At Wilmer, we are fortunate to be part of the larger institution that is Johns Hopkins Medicine. In White House briefings, national newspapers and television news, Johns Hopkins is routinely cited for its expertise in tracking COVID-19 and learning how best to prevent its spread

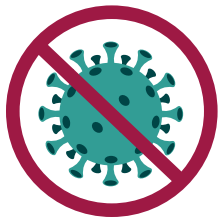
and minimize severe illness. Johns Hopkins scientists have pioneered innovative approaches to therapy, such as testing whether the serum of recovered patients can prevent illness or speed recovery.

As we open our doors once again to offer elective procedures and routine eye care, all of our patients can visit Wilmer clinics with confidence, knowing that we have implemented protocols established by the world’s foremost experts in infectious disease and infection control. In our clinics, waiting rooms and operating rooms, our team of clinicians and staff members has implemented best practices designed to minimize risk to patients and staff members. In our labs, many of our researchers have temporarily shifted their focus to investigate topics such as the pandemic’s effects on ophthalmic health and on care-seeking behaviors — and in the process, developing new and improved standards that are informing best practices in institutions around the world.

When you come to Wilmer, we want you to know that you are in a safe place — the right place. You can rest assured knowing that we will take every measure to protect you while continuing to uphold the highest standards of ophthalmic care. With your support, Wilmer will continue to lead the way.

Regards,

PETER J. McDONNELL, Director



Wilmer. Safe Patients, Safe Staff.

Since the earliest days of the COVID-19 pandemic, Johns Hopkins has led the way in coronavirus research, tracking, patient care and in setting the standard for preventing the spread of disease. At Wilmer, we have adopted evidence-based policies and protocols designed to minimize risk and maximize the safety of patients and staff members. These include:

CUSTOMIZED PRESCREENINGS

Preliminary screening, preregistration and scheduling of follow-up visits are conducted by telephone and through MyChart.



MANDATORY MASKING

All staff members and patients are required to wear masks in Wilmer facilities.



REDUCED WAIT TIMES

When patients arrive, we are making every effort to direct them to an exam room, where they will remain for the duration of their visit unless diagnostic testing is indicated.



PHYSICAL DISTANCING

Appointments are scheduled further apart to ensure fewer patients in the clinic at any given time.



PHYSICAL BARRIERS

Plexiglas barriers at front desks and attached to slit lamps provide an extra layer of protection.



EXTENSIVE CLEANING

All work spaces and patient areas are — as always — cleaned and disinfected frequently, including before and after each patient.

As they always have, clinicians and staff members sanitize or wash their hands before and after interacting with patients.



Wilmer continues to monitor information about COVID-19 and adapt care practices to reflect the latest recommendations from experts in the Johns Hopkins Hospital Department of Hospital Epidemiology and Infection Control and the U.S. Centers for Disease Control and Prevention.



Reopening:

GUIDED BY EVIDENCE-BASED PROTOCOLS

By Amy Entwisle



Lynne Young
*Director of Clinical
Operations at Wilmer*

There is no doubt that the coronavirus pandemic has challenged health care professionals in new and unprecedented ways. “But the difficulties presented by the pandemic have also brought into stark relief the incredible strengths of this institution and all it embodies,” says Lynne Young, M.B.A., director of clinical operations at the Wilmer Eye Institute.

As an example, Young cites the ingenuity and problem-solving skills the staff has demonstrated in recent months: One employee took the initiative to become certified in fit testing staff members for N95 respirators and subsequently outfitted dozens of doctors and technicians with the personal protective equipment. Another engineered and installed Johns Hopkins Hospital Department of Hospital Epidemiology and Infection Control-approved breath barriers on slit lamps. Others independently offered to transport supplies and equipment from Wilmer’s East

Baltimore location to its satellite clinics to ensure that they also had adequate supplies.

As Wilmer reopened its ambulatory surgery centers and clinics in June, the health and well-being of patients and staff members remained the top priority. Evidence-based safety protocols guided the implementation of best practices for patient and employee safety.

These practices include but are not limited to scheduling patient visits further apart, installing Plexiglas barriers in reception areas, stocking sufficient protective supplies and reducing patient wait times. Staff members are performing preliminary screenings of patients by telephone to limit the time patients are in the clinic. Strict cleaning and disinfection procedures are carefully followed.

“When we look back on this time — and eventually, we will — I hope that what we will remember most is our dedication to caring for our patients and for each other,” says Young. ●

COVID-19 Research Roundup

As the COVID-19 pandemic transformed the world in spring 2020, Wilmer researchers — both basic scientists and clinician-scientists — sprang into action to learn more about a myriad of topics relevant to patients. Running the gamut from drug development to public health to ophthalmic care-seeking behaviors, the subjects researchers are focusing on right now offer a snapshot of the many ways COVID-19 has changed our lives.

A Promising Drug to Fight the ‘Cytokine Storm’

In June, a promising therapeutic for COVID-19 received approval for phase II testing by the U.S. Food and Drug Administration (FDA).

Known as OP-101, the drug was developed by **Kannan Rangaramanujam, Ph.D.**, Wilmer’s Arnall Patz Distinguished Professor, and his research collaborator and wife, **Sujatha Kannan, M.B.B.S.**, an anesthesiologist at the Johns Hopkins University School of Medicine. The two researchers created a company that then licensed the compound to expedite its journey to market.

Initially, the drug’s target was neuro-inflammation. As COVID-19 was flaring in the U.S., Rangaramanujam, co-director of Wilmer’s Center for Nanomedicine, realized that COVID-19 landed people in the hospital because of a viral attack on the lungs as well as a systemic “cytokine storm” — both of which lead to inflammation. “Our compound targets the very cells that play a significant role in both of these,” he says.

“If you look at the drugs that are being created and used for COVID-19, you will find that a lot of them are potent but target a single mechanism and can have side effects,” says Rangaramanujam. “We expect that our safety profile is likely to be much better in treating inflammation broadly, compared to other drugs.” This is because the compound targets only cells implicated in inflammation and is quickly cleared from the rest of the body.

If the drug gains FDA approval for treatment of COVID-19, he believes it could also be used to treat other conditions caused by inflammation — including diseases such as age-related macular degeneration and central nervous system disorders.

“Since it treats inflammation, it treats many different conditions, including ocular disorders,” he says. “It is actually a pretty exciting compound.”



Kannan Rangaramanujam
Arnall Patz
Distinguished Professor



Sujatha Kannan
Associate Professor of
Anesthesiology and
Critical Care Medicine

COVID-19 RESEARCH ROUNDUP



Megan Collins
Assistant Professor of
Ophthalmology

Keeping Kids Connected to Health Care

On March 13, the world changed for millions of children in the United States — and all of the children in Baltimore City Public Schools — when schools closed.

Megan Collins, M.D., M.P.H., a pediatric ophthalmologist at Wilmer, leads the Vision for Baltimore program, which aims to screen the vision of all children in Baltimore City Public Schools and provide glasses to those who need them.

Because of her close working relationship with the public school system, she knows well the concerns raised as the physical school buildings closed down: concerns around continuity of learning, food security, supervision, safety and housing, and health services.

Collins is focused on the latter. In April, she received a Johns Hopkins University Alliance for a Healthier World COVID-19 Launchpad Grant to examine how children who were receiving health services in the school are currently interacting with providers.

The grant is funding a research project that will focus on conducting interviews with key stakeholders from schools to understand what steps they are taking to connect children with health care needs and health care providers.



Bonnielin Swenor
Associate Professor of
Ophthalmology

Flattening the Curve of Inaccessibility

Approximately 61 million Americans have a disability, equating to one out of four adults, and disability is most common among older adults, occurring in more than 40% of Americans 65 and older. How people with disabilities access both health care and public health messages is always important, but because COVID-19 disproportionately affects older people, it has become paramount.

Wilmer's **Bonnielin Swenor, Ph.D., M.P.H.**, associate professor of ophthalmology, is the director of the Johns Hopkins University Disability Health Research Center. Since the beginning of the pandemic, Swenor has been involved in research examining the degree to which people with disabilities can access health care for and health information about COVID-19.

One project already yielding results is Flattening the Inaccessibility Curve, which involved a survey broadcast via different channels such as the National Federation of the Blind and the American Foundation for the Blind. "This survey assessed the impact of COVID-19 on people who are blind or have low vision, and results are being published for the public rapidly on the website flatteninaccessibility.com," says Swenor. "It was deployed quickly and tells us information about gaps and needs in the response and the ways that people with vision loss are uniquely experiencing COVID."



Sezen Karakus
Assistant Professor of
Ophthalmology

Conjunctivitis and SARS-CoV-2

In March 2020, Wilmer ophthalmologist **Sezen Karakus, M.D.**, and her colleagues noticed an uptick in patients presenting with conjunctivitis. She and her colleagues had begun reading clinical reports from other countries that indicated conjunctivitis was a symptom, albeit a rare one, of COVID-19, but none indicated conjunctivitis alone as a presenting symptom or an isolated eye infection.

“We hypothesized that this new coronavirus, SARS-CoV-2, might be responsible for some of these conjunctivitis cases like other respiratory viruses,” says Karakus. To determine the prevalence of conjunctivitis caused by SARS-CoV-2, Karakus and her collaborators designed a study, for which they will enroll everyone who presents to Wilmer with a red eye condition that ophthalmologists think could be viral conjunctivitis. For these patients, the doctors will collect conjunctival, nasal and nasopharyngeal swabs, and then Wilmer researcher **James Foster, Ph.D.**, will perform polymerase chain reaction tests on these samples to see if SARS-CoV-2 is present.

If a significant number of patients do appear to have conjunctivitis caused by SARS-CoV-2, this could end up changing several facets of the public health response to COVID-19. For example, guidelines about the correct personal protective equipment could change or an additional screening question about eye redness could be added when asking patients and employees about symptoms that could indicate COVID-19.





James Handa
*Chief of the Retina
Division*



J. Fernando Arevalo
*Chief of Wilmer at
Johns Hopkins Bayview
Medical Center*

Exploring Possible Delays in Care

Researchers at Wilmer Eye Institute have joined forces with those at 16 other eye hospitals across the country to explore whether patients experiencing retinal emergencies during the COVID-19 pandemic may have delayed vital care.

James Handa, M.D., Wilmer's Robert Bond Welch, M.D., Professor of Ophthalmology, and **J. Fernando Arevalo, M.D., Ph.D.**, Wilmer's Edmund F. and Virginia Ball Professor of Ophthalmology, are among those gathering data on the number of patients seeking treatment for urgent and emergent retinal problems, including retinal detachments, eye trauma and eye infections, from January 2019 to May 2020. Handa, the chief of the Retina Division at Wilmer, and Arevalo, chief of Wilmer at Johns Hopkins Bayview Medical Center, were recently joined by new Wilmer faculty member **Mark Breazzano, M.D.**, an assistant professor of ophthalmology, on this project.

If the number of patients seeking care for these conditions decreased, the next step will be to determine why. "Our concern is that during the pandemic, patients may be afraid to come to the hospital or clinic," says Arevalo. But there may also be another explanation. For example, says Arevalo, if patients are staying home and being more sedentary, there's less pulling on the retina by the gel inside the eye, which typically causes retinal detachment.

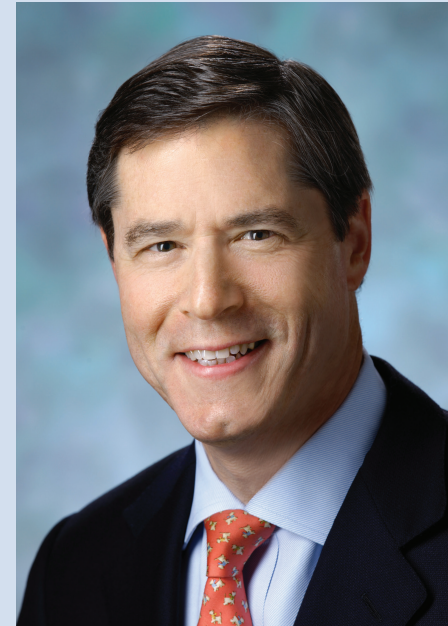
Knowing what is happening and why may indicate the need for more in-depth screening when patients call with these kinds of concerns. The information gleaned from the study may also help inform practices in other specialties. "If this is happening in ophthalmology, it's likely happening in other specialties as well," says Arevalo.

MAXIMIZING CARE, MINIMIZING RISK

Like his clinician colleagues across Wilmer, Neil Bressler, M.D., the James P. Gills Professor of Ophthalmology, is using an individualized approach to determine if — and when — his patients should come in to be seen.

“At Wilmer, we’ve been intimately involved in many large clinical trials for the treatment of conditions such as diabetic retinopathy and macular degeneration — conditions that, if left untreated, can lead to vision loss. We’re able to apply the wealth of knowledge we’ve acquired about these conditions and their treatments in the context of each patient.

“We consider what condition they have, where they are in their treatment, any subjective changes in vision, the amount of time since their last treatment, and what their vision, imaging and retina exam showed at that time. All of these factors help us determine, on an individual basis, whether a patient needs to be seen at this time. It might be that they can wait a month. Maybe they should come for an injection only, and then we can reassess them in a month, or maybe we do a formal assessment of their vision or obtain imaging.



Left: During the age of COVID-19, an eye examination requires new protocols, such as wearing masks, for the patient and the provider.

Right: Neil Bressler

“We’ve done this for every single patient, and it’s worked extremely well. Patients have uniformly expressed how thankful they are that the staff and physicians are making every effort to maximize their vision and prognosis in an era of new challenges.”

—NEIL BRESSLER



Meghan Berkenstock
Assistant Professor of
Ophthalmology

Changes in Diagnoses Offer Clues for Resource Allocation

Meghan Berkenstock, M.D., an ophthalmologist at Wilmer, has continued to see patients throughout the COVID-19 pandemic. About six weeks after clinics closed to all but urgent and emergent conditions, she noticed a change in diagnoses in her patients.

Berkenstock acquired the diagnosis codes for patient visits six weeks before the day clinics closed to everything but emergency care and six weeks afterward and began a deep analysis. She and her collaborators made the following observations from this analysis:

- The amount of telemedicine visits increased sixtyfold in the six weeks after in-person clinics closed to everything but emergency care.
- The low vision, pediatric ophthalmology, general ophthalmology and cornea divisions had the largest decrease of in-person visits.
- Ocular trauma visits occurred in equal numbers during both study periods.
- Ocular inflammatory disease follow-up and high-risk medication monitoring significantly increased during COVID-19.
- Even in the subspecialty clinics where a significant decrease of visits was noted, diagnostic codes were still used for patients with acute changes in vision, indicating that even when closed to all but emergency care, ophthalmology departments should staff all subspecialty clinics.

Knowing the changes specific to each subspecialty clinic is vital to correctly redistributing available resources, says Berkenstock. It provides generalizable evidence for ophthalmology departments to allocate human resources and materials during a pandemic.



THE WILMER WAY: PROFESSIONAL, KNOWLEDGEABLE AND KIND

“I am not one who’s been going out and about, but I went to the Bethesda clinic, and I felt very safe and very cared for.

“There was Plexiglas to protect the patient and the receptionist, and I was immediately met by someone in the office to take me into an exam room so I wasn’t left waiting. The tech came in wearing a mask and was as professional as the techs always are, asking the appropriate questions, taking down the information, doing the appropriate exams.

“When Dr. Kaleem came in, she had taken the time to look at my chart — at my very complicated medical history — so when she came in, she didn’t say ‘What brings you here today?’ She knew all about me because she took the time to look at my history. It’s a wonderful feeling to be put at ease like that — to have the sense that someone knows you before they’ve even met you. This was my first experience with her, and I felt that she cared. She was extremely knowledgeable, and it was very comforting.

“My experience at Bethesda during [COVID-19] was just like any other experience at Wilmer. The doctors are so professional, the technicians so knowledgeable and everyone is so kind. It’s just like when you go to Baltimore. The whole ethos at Johns Hopkins is one that other hospitals can only hope to model.



“I want to encourage patients to please take care of their eyes, and don’t be afraid. Get your eyes checked and keep seeing your eye doctor, because your sight is so valuable, and sometimes we take it for granted. And we can’t [take sight for granted], because it’s a beautiful thing.”

Mona Kaleem performing an examination in Wilmer’s Bethesda clinic



“It’s a wonderful feeling to be put at ease like that.”

—PATIENT BETH GLASSMAN

Passing the Scalpel in Strabismus

**“I REALLY LOOK AT DR. KUWERA
AS INHERITING A LOT OF THESE
THEORIES AND TECHNIQUES I’VE
DEVELOPED OVER THE YEARS.”**

– DAVID GUYTON





David Guyton, left,
and Edward Kuwera,
above

Though **David Guyton, M.D.**, the Zanyvl Krieger Professor of Pediatric Ophthalmology, would never say it himself, he is a bit of a legend around the Wilmer Eye Institute. Often referred to as “the grandfather of strabismus” by those who know and work with him, Guyton has published prolifically, developed practice-changing surgical techniques and invented new diagnostic technologies that have transformed the field of strabismus care. He is the author of more than 300 peer-reviewed papers and holder of 11 U.S. patents.

Strabismus is a condition in which a patient’s eyes do not maintain correct alignment due to problems with the muscles and tendons that control eye movement. Such misalignment is quite common, affecting 3–5 percent of all people, usually from childhood. But the surgical correction of strabismus, especially vertical strabismus, has been fraught with variable results in the past, often requiring repeat surgeries. Guyton’s contributions have greatly reduced the need for re-operations.

Guyton, who is now 75, continues to see patients and performs surgery regularly, but he has begun to pursue the task of handing the scalpel to a new generation of strabismus specialists. His leading protégé is **Edward Kuwera, M.D.**, an assistant professor of ophthalmology at Wilmer.

Guyton says that he admires Kuwera’s interest in strabismus surgery, as well as the younger doctor’s delight in the more quantitative aspects of strabismus care, which allow doctors a precise understanding of each patient’s condition. Guyton also praises Kuwera’s enthusiasm and friendly manner with patients, particularly children.

“Dr. Kuwera was one of the better fellows that we’ve ever had. He likes the mechanisms involved — the physics of strabismus,” Guyton says. “I really look at him as inheriting a lot of these theories and techniques I’ve developed over the years.”

Noting that Guyton’s legacy is unmatched, Kuwera says he considers it an honor to be in his tutelage. In particular, Kuwera notes that Guyton developed new ways to measure

“Dr. Kuwera was one of the better fellows that we’ve ever had. He likes the mechanisms involved — the physics of strabismus.”

— DAVID GUYTON

torsion (twisting of the eye), and he understands how best to correct those problems with surgery. Kuwera is now an up-and-coming faculty member at Wilmer in his own right, but he and Guyton continue to consult one another on particularly challenging patients.

Daniel Molerio is one patient who benefited from Guyton’s expertise. As a child, he suffered from a difficult case of strabismus that vexed his doctors for years. Molerio had endured at least half a dozen “episodes” of surgery to correct his vision, all of which failed sooner or later. It wasn’t until he was in his 50s that he met Guyton.

“Sometimes people have successful surgeries, and then they backslide. And that’s what had happened to me,” Molerio says. “I went to Dr. Guyton, and he operated on me very successfully.”

Molerio was a direct beneficiary of at least one of Guyton’s innovations: a sliding, removable knot in the surgeon’s suturing technique that allows the

surgeon to adjust the amount of correction in the recovery room after the anesthesia wears off, reducing the guesswork that made strabismus surgery so challenging for decades. The patient tells the surgeon precisely where the vision is best, and the surgeon secures the knot at that exact spot.

Molerio’s surgery was more than 10 years ago, and his vision remains strong. He was so grateful for his care that he now supports Guyton’s research and work through yearly gifts of \$1,000. Molerio says it’s a sincere and significant expression of his true sentiments.

“Look, I’m a middle-class guy. I decided this was a worthwhile thing, and I could afford it,” Molerio says. “If I can help one child avoid what I went through, it’s worth it. That’s the reason I contribute.” ●

GIVING CHILDREN A CHANCE FOR SIGHT

To watch Cecilia Joseph on a playground is to see a child as happy and active as any 2-year-old could be, says her mom, Maria Joseph. But that was not always the case.

Cecilia was born with several serious vision problems. The list reads like an ophthalmic dictionary. Cecilia has microphthalmos — a small eye, her left. That eye also has an optic nerve coloboma, which is an incomplete formation of the optic nerve, and amblyopia, which is decreased vision from nonuse. Cecilia's right eye has a coloboma too. On top of these conditions, Cecilia has refractive errors — her left eye has what doctors call high myopia (very strong near-sightedness), plus severe astigmatism. Her right eye has moderate myopia with moderate astigmatism.

So complex were her conditions that her local ophthalmologist had essentially thrown in the towel on Cecilia's left eye, says Maria Joseph.

"When Cecilia was diagnosed at 8 months old, the local ophthalmologist told us there was nothing we could do to save the vision in that eye. We just needed to focus on protecting her better eye," she says. "I wanted a second opinion."

That's when Joseph learned of Wilmer and the work of **Edward Kuwera, M.D.**

"I wanted to treat it," Kuwera says. "We tried both patching therapy and glasses — no surgery at all — and she's had this incredible response to it. We gave her vision a chance." Cecilia now wears a

patch on her good eye four hours a day to force her weaker left eye to strengthen; she has recovered vision in that eye.

"Children are more resilient than you think," says Kuwera, who was recently recognized as a Johns Hopkins Service Star, a peer-nominated award for staff members who deliver outstanding patient-centered care, education for students and trainees, and innovative research.



Cecilia Joseph

The Highest Plane

**BUILDING ON A LONG LEGACY OF EXCELLENCE,
WILMER'S RESIDENCY PROGRAM CONTINUES TO
PREPARE TODAY'S TRAINEES TO BE TOMORROW'S
LEADERS IN OPHTHALMOLOGY.**

By Jessica Wilson





In the early 1900s, a patient coming to Wilmer would see a single doctor: William Holland Wilmer, M.D., a world-renowned ophthalmologist who practiced in Washington, D.C. Today, Wilmer patients can visit one of nine clinics to see one of more than 100 highly qualified ophthalmologists.

The seeds for that transformation were first sown in 1922 with the vision of Aida de Acosta Root Breckinridge. While convalescing from a successful surgery performed by Wilmer, she conceived a plan to create an institute that would give him the resources to both treat patients and preserve his knowledge to pass down to future generations.

The Wilmer Eye Institute opened in Baltimore several years later. At its formal dedication in 1929, George E. Vincent, president of the Rockefeller Foundation, noted, “This clinic ... will carry on into the long future not only [Wilmer’s] name, but ... something of his insight, skill and sympathy to inform and inspire generations of investigators and physicians.”

Were Wilmer alive today, he would be pleased to see it has — largely because of Wilmer’s residency program, the postgraduate training program that transforms medical school graduates into ophthalmologists. All ophthalmologists-in-training must attend a residency program, and Wilmer’s is one of the nation’s most competitive.

“This year, we had over 450 applicants for five spots,” says **Fasika Woreta, M.D., M.P.H.**, who runs the residency

program and was herself a Wilmer resident from 2008–2011 and chief resident (also referred to as assistant chief of service) from 2013–2014, before she joined the faculty as an assistant professor of ophthalmology.

Wilmer’s selection committee members clearly have their pick of qualified candidates. But they are looking for more than exceptional students. “What we look for is to train the future leaders in ophthalmology. Our residents go on to become program chairs, program directors, innovators and leaders in national and international organizations,” says Woreta.

And what inspires residents to decide on Wilmer for their residency? Third-year resident Narine Viruni, M.D., says the Wilmer residency offers three unique features: extensive clinical experience in a community clinic, top-notch mentorship and modern training facilities.

“There are very few places in the country that have a resident-run clinic where the resident is the provider, so when patients come in, they are here to see specifically you,” says Viruni.

Viruni is referring to what was long known as the General Eye Services and more recently has been renamed the Patient Access Center for the Eye, or PACE. In operation since 1925, the clinic is where Wilmer residents do much of their training. Patients from around the East Baltimore community and beyond come to PACE for a full range of ophthalmology services. The center also offers same-day appointments for those who require urgent care.

Left: The class of Wilmer Eye Institute residents who completed their training in June 2020

On the right: Wilmer Ophthalmological Institute house staff (aka residents and interns), 1929–1930, with Director William Holland Wilmer, center, flanked by senior resident Benjamin Rones and supervisor of nurses Helen O'Brien in front of the newly dedicated Wilmer Eye Institute building



Next page: Wilmer Eye Institute residents, 2019–2020, with Director Peter J. McDonnell, center, flanked by chief resident Thomas Johnson III and director of the residency program, Fasika Woreta

While residents see their own patients, they are supervised by Wilmer faculty members as well as by their chief resident, a fellowship-trained faculty member and former Wilmer resident who dedicates one year to teaching residents, taking care of patients in PACE and performing emergency surgeries for patients with eye injuries. Residents follow their own patients through their entire three-year residency. “You see different diseases — sometimes very advanced diseases — and you learn to diagnose, manage and follow them through time. They’re your patients, so you take responsibility for making sure they get the care they need,” says Viruni.

Mentorship comes not just from senior faculty members, but even from those just a year ahead of them in the residency program — sometimes especially from them. “The first-years work closely with our second- and third-years in the Emergency Department, clinic and operating room,” says Woreta. “We want to encourage our residents to be outstanding teachers. In medicine, passing knowledge and experiences that you have learned along the way to the next generation is critical.”

Woreta says she selected Wilmer as her first-choice residency program because of

the support for education she witnessed at the institute while she was a student at the Johns Hopkins University School of Medicine, particularly from **Neil Miller, M.D.** A world-renowned neuro-ophthalmology specialist and Wilmer’s Frank B. Walsh Professor of Neuro-Ophthalmology, Miller was both a resident and chief resident at Wilmer in the 1970s, after which he joined the faculty and ran the resident selection committee for two decades. Although he stepped down from that position two years ago, Miller remains an ardent advocate for academic medicine — both for residents and for those who teach them.

Acknowledging that research and patient care are important elements of academic medicine’s mission, Miller notes that teaching is equally crucial. “We’re the ones who make sure that the specialty moves on in, hopefully, the highest plane. And that’s a tremendous responsibility,” he says.

One reason Wilmer faculty members and residents can advance the field of ophthalmology lies in the training facilities at the institute — both the PACE clinic and the Center of Excellence for Ophthalmic Surgical Education and Training (OphSET).



OphSET houses a six-station, state-of-the-art wet lab facility with an additional instructor station — all of which simulate operating room conditions so that trainees can experience the anatomical conditions of doing microsurgery aided by microscopes.

For Wilmer alumni who choose to give back to the institute philanthropically, OphSET is a popular beneficiary of their support because of the advances in education the center allows.

“In ophthalmology, everything’s microscopic, and there’s not much room inside the microscope for teaching,” explains Scott LaBorwit, M.D., who did a fellowship in Wilmer’s Glaucoma Division from 1998 to 1999. “OphSET has figured out a way to change that dynamic by networking the microscopes and projecting simulation surgeries on screens and expanding the opportunity for learning.” A philanthropic supporter of OphSET, he is inspired to give to Wilmer because he gained so much during his fellowship. “I’ve been trying to give back in any way I can ever since,” he says.

Another alumni supporter of OphSET, John Payne, M.D., was a resident and chief resident at Wilmer in the mid-

1960s. “I’m particularly indebted to the Wilmer training that I had, which gave me a leg up when I started practice on my own. Wilmer taught me the way to do things and the way to take responsibility for people’s eye care,” says Payne.

Payne credits Wilmer’s leadership as key to its ability to attract the best faculty members and residents. For an organization that is 95 years old, Wilmer has had only six directors — allowing for a great deal of continuity. “It comes from the top. The various chairs we’ve had are so highly respected,” says Payne. “Consequently, people who are trained under them go out into the world with a sense of pride in their institution, pride in their professionalism and pride in their expertise.”

Viruni, who will return as a co-chief resident in two years, understands the value of the Wilmer legacy. “It’s really inspiring. It makes me think about what I can bring to the table. How can I contribute? Such great minds have represented Wilmer. As a generation, we have big shoes to fill,” she says. ●

Students Inspired to Save Sight

When **Thomas Johnson III, M.D., Ph.D.**, first started medical school, he took Johns Hopkins' mission of community service to heart. He began volunteering at free health clinics in the under-resourced and underserved neighborhoods of East Baltimore. Often, these clinics were the only medical care available to the residents there.

Back then, in 2010, the health screenings were general in nature. Johnson would measure blood pressure and blood sugar, for example. Gradually, as his focus began to shift to ophthalmology, Johnson began to think about broadening those screenings.

"We just asked the people what health services they needed but lacked," Johnson says. "And the number one thing was eye care."

From there, Johnson took it upon himself to do something about the dearth of access to eye care. He recruited a group of medical students who were also interested in ophthalmology and began doing eye screenings, under faculty supervision, in the same neighborhoods. He called the group Student Sight Savers.

One of his first official acts was to enlist a faculty adviser to help shape the nascent program: **Harry Quigley, M.D.**, the

A. Edward Maumenee Professor of Ophthalmology, who already served as a teacher and mentor to Johnson. Quigley was an established expert in glaucoma care. He had also participated in an epidemiological study in the 1990s, known as the Baltimore Eye Survey, and the ensuing Hoffberger Eye Screening program, a community-based eye screening program.

Soon, Johnson won a grant, funded by the Friends of the Congressional Glaucoma Caucus Foundation, that provided screening equipment and another \$10,000 for other equipment and supplies, Johnson recalls.

"It wasn't a big grant, but enough to fund a few Saturdays in the community each year with 10 or 15 student screeners," Quigley says. "Tom set it up, and from there, it just grew."

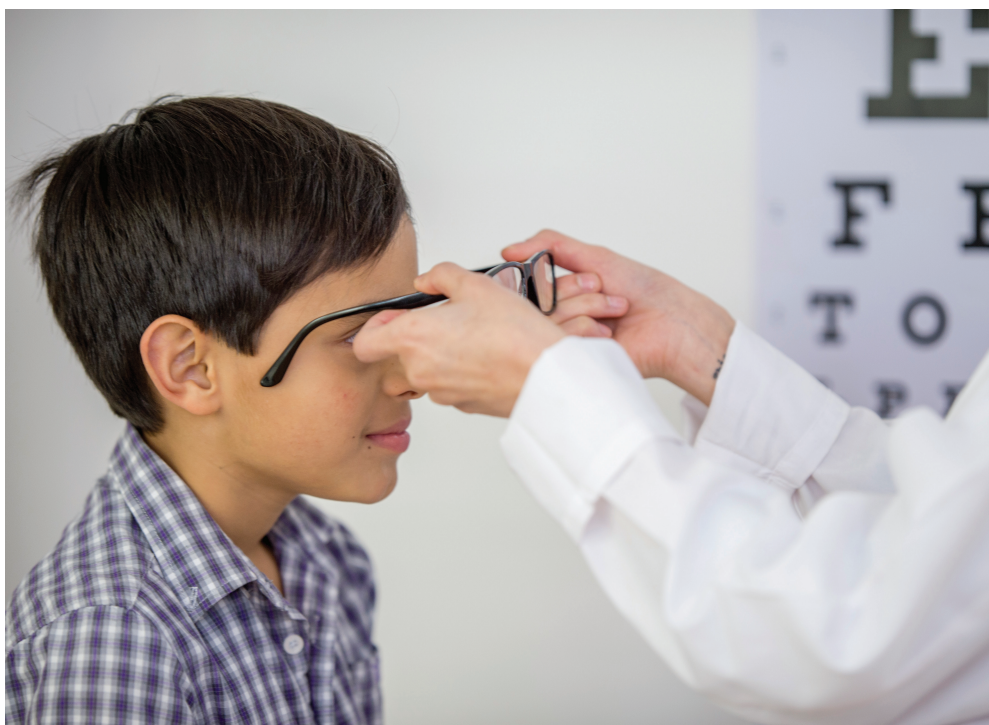
A recruitment meeting at the school of medicine soon followed. Quigley thought maybe a handful of students would show, but 25 turned up. “That’s 20 percent of the class,” Quigley notes. “All willing and able to participate.”

Over time, the screenings grew in number and in scale. Student Sight Savers now provides eye screenings on Saturdays in communities around Baltimore every other month or so, under the supervision of Wilmer faculty members. People with potential medical issues, such as glaucoma or diabetic retinopathy, are referred to Wilmer, where they receive free care if they do not have health insurance. As of March 2020, 257 Student Sight Savers volunteers have participated in 44 events since the program’s start. A total of 1,130 people have been screened, and 416 — almost 37 percent — have been referred to Wilmer for care.

Johnson has continued to shepherd the project he first launched in 2011. Now an assistant professor of ophthalmology and the assistant chief of service (chief resident) at Wilmer, he succeeded Quigley as faculty adviser to Student Sight Savers about a year ago.

Student Sight Savers has been meaningful to Johnson as both a student and a faculty member. He’s particularly grateful to fellow faculty members who participate.

“They do amazing things in their clinics and labs, and then they’re willing to take a half a day on a Saturday and just teach students and see patients,” Johnson notes. “That is really special.”●



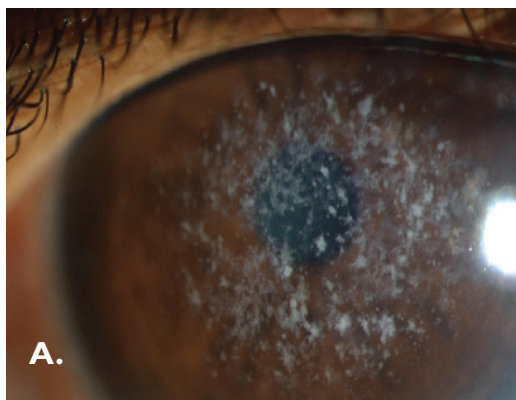
Student Sight Savers founder, and now faculty adviser, Thomas Johnson III

‘Not Satisfied with the Status Quo’

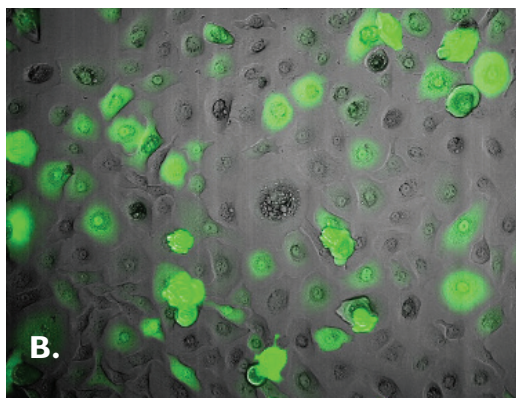
Granular corneal dystrophy is a rare condition in which tiny, opaque granules grow on the cornea and can cause severe pain, blurred vision, light sensitivity and watery eyes.

Some patients have severe conditions and elect to have cornea transplants, notes **Albert Jun, M.D., Ph.D.**, who is doing cutting-edge research on this rare but painful disease.

A: Slit-lamp photograph of a patient with granular corneal dystrophy. (taken from Evans *et al.* 2016, *Invest Ophthalmol Vis Sci*)



B: Light microscopy image of corneal epithelial stem cells expressing green fluorescent protein introduced by adeno-associated-virus. A similar approach will be used to introduce gene therapy into corneal epithelial stem cells in patients with granular corneal dystrophy.



The protein deposits, Jun explains, are caused by genetic mutations in cells on the outer layer of the eye, at the precise point where the iris meets the white of the eye. Those cells produce too much protein, which migrates to the surface and collects on the cornea.

“Eventually, they can cover the cornea, clouding and compromising vision,” says Jun, Wilmer’s Walter J. Stark, M.D., Professor of Ophthalmology and chief of the Division of Cornea, Cataract and External Eye Diseases.

In appearance, the granules, with their jagged edges, have been likened to breadcrumbs or to saltwater deposits on a car window. They can feel like little pebbles in the eye, Jun adds. For many with the condition, there is pain. The only treatments to date involve removing the



deposits surgically or with a laser. But the deposits always return because the mutation remains. Jun hopes to put an end to that.

Among those supporting his work is Joanna Pedas. “Dr. Jun demonstrates the dedication, the passion and, honestly, the brilliance to make a difference,” she says.

Jun is attacking the problem using a gene editing technique known as CRISPR to understand and someday hopefully cure granular corneal dystrophy. “The only real cure is to replace those cells with healthy ones,” says Jun. “That’s where gene therapy comes into the picture.”

He believes the lessons he’s learning could be applicable to other types of corneal dystrophy and, quite possibly, to genetic conditions outside the eye.

He has collected cells from a patient and used CRISPR to “knock out” the DNA mutation in cells grown in a petri dish. The next step is testing the treatment in the lab using corneal tissue. The ultimate goal: to deliver the treatment directly to the patient’s eye. That day is still a long way off, but both Jun and Pedas are optimistic.

Along the way, Jun has to confirm that the gene editing is safe and that it works every time without fail. After that, tests in animals will follow. If all works, eventually there will be human trials.

All that hard work requires people and equipment, and that necessitates funding. Jun is fortunate to have a number of generous supporters, like Pedas, who are interested in his work on corneal dystrophies. She believes clear vision is a gift and that advanced research like Jun’s has a huge potential for cornea patients and beyond.

“We support him,” Pedas says, “because he’s not satisfied with the status quo. He truly is an inspiration.” ●

Albert Jun in an operating room of the Maurice Bendann Surgical Pavilion

Nobel Lectures
2019



A Fruitful Collaboration

Interview by Jessica Wilson

When Johns Hopkins scientist **Gregg Semenza, M.D., Ph.D.**, climbed to the podium in Stockholm last December to accept his Nobel Prize, **Akrit Sodhi, M.D., Ph.D.**, sat in the audience, appreciative of the opportunity to witness the historic event. The two go back a long way. In 2017, they launched a company, HIF Therapeutics, that grew out of the work that earned Semenza his Nobel: the discovery of protein hypoxia-inducible factors, or HIFs, which guide how cells sense and respond to low oxygen levels.

Their collaboration began when Sodhi asked Semenza to serve as his primary mentor on a specialized grant from the National Institutes of Health (NIH) called a K12 award, given to newly trained clinicians to help launch their independent research programs.

In February, we sat down with Semenza, the C. Michael Armstrong Professor of Medicine at Johns Hopkins, and Sodhi, who holds the Branna and Irving Sisenwein Professorship in Ophthalmology at the Wilmer Eye Institute, to learn more about their work and working relationship.



Akrit Sodhi, Gregg Semenza, and Sodhi's wife, Silvia Montaner, at the Karolinska Institute in Stockholm following the Nobel Prize in Physiology or Medicine Lectures, Dec. 7, 2019

“It’s important to have clinicians doing research because they understand the disease process.”

— GREGG SEMENZA

How do HIFs work, and how are they related to cancer and eye diseases?

GREGG SEMENZA: HIFs allow the body to respond to changes in oxygen levels. For example, if you have a serious accident with blood loss, cells in the body will not receive enough oxygen. The low oxygen levels (hypoxia) will turn on (induce) proteins (factors) called HIFs. In the kidney, HIFs control the production of a protein called EPO that is secreted into the bloodstream and stimulates the bone marrow to make more red blood cells. It’s a beautiful physiological system that allows you to respond to changes in the amount of oxygen that is available to cells throughout the body. But in cancer, the disease process causes hypoxia, and HIFs are turned on in the cancer cells. This response helps keep the cancer cells alive and is good for the tumor, but not for the patient. Drugs that block HIFs may be a useful addition to anticancer therapies.

In the eye, when oxygen levels go down in the back of the eye due to diabetes or aging, the HIFs get turned on. In this case, the response is to make new blood vessels in order to bring more red blood cells carrying oxygen to the retina. But for reasons we don’t understand, the blood vessels don’t get made very well. These blood vessels have a tendency to leak or bleed, which can lead to swelling or scarring of the retina, which can lead to blindness. Again, a drug that interferes with HIFs may prevent the formation of these abnormal blood vessels.

What is the goal of HIF Therapeutics?

AKRIT SODHI: Most of the original inhibitors of HIF that many scientists are still using today were discovered by Gregg. Those are drugs that vision scientists have subsequently looked at — our lab in collaboration with Gregg’s and other labs in collaboration with Gregg. But there are limitations to those drugs, including toxicity. Those drugs have not yet translated to patients, and they may not be able to be translated to patients due to these limitations. What they did provide was a nice proof-of-principle that targeting HIF in many different animal models was a very effective way to treat many eye diseases and most cancers.

What we’re trying to do now is come up with other approaches to inhibit HIF that might be less toxic, more effective, longer lasting. The ultimate goal of the company is to identify those new therapies.

How are K awards beneficial to research in science and medicine?

AKRIT SODHI: K awards are grants that are designed to transition a clinician from learning to doing research to becoming an independently funded researcher. A very effective K award mentor is one who not only helps you to design a K award project that allows you to learn basic science or clinical research but also enables you to then transition to writing your own R01 grant to fund your own independent research program. You choose your mentor based on your interests, but the mentor shapes not just the project but the type of questions you ask, the rigor of your research and ultimately the impact of your work.

GREGG SEMENZA: It's really important to have clinicians doing research because they understand the disease process. We really need people who are taking care of the patients also doing research, like Akrit does, because they're the ones who best understand the clinical condition and are closest to the patients.

Dr. Semenza, is there specific advice you remember giving to guide Dr. Sodhi?

GREGG SEMENZA: My philosophy for research projects is that they begin and end with the patients. And so that means you start with a model of a human disease. You try to understand it, and then eventually, you hope to learn something that can be brought to the clinic to treat those diseases.

I thought that one of the disease models that Akrit was planning to use was not a clinically useful model. I suggested using a different model that was more representative of human eyes diseases and might provide information that could help develop new therapies.

AKRIT SODHI: That advice was exemplary of what ultimately resulted in one of the big shifts in the focus of my research program. Gregg instilled in me the importance as a clinician-scientist of understanding the endpoint, which is really translating what you are studying in the lab into therapies that can help patients.

Dr. Semenza, what was it like to win the Nobel Prize?

GREGG SEMENZA: It was quite an experience — a once-in-a-lifetime event, but quite hectic. I think Akrit had a more relaxed and enjoyable time in Stockholm than I did.

AKRIT SODHI: There was obviously much less pressure on me. But also a once-in-a-lifetime opportunity. When Gregg asked if my family and I wanted to go to the ceremony, I texted my wife, who is also a scientist, to let her know. I forwarded Silvia's response to Gregg; I will spare you the details, but it was clear that Silvia was more excited about being asked to go to Stockholm than she was when I asked her to marry me.



Equipped to Tackle Complexity

Above:
Pradeep Ramulu

Dietmar Weselin, who hails from near Stuttgart, Germany, traveled the world during his career and then retired to a small town in Virginia. It was there that he first experienced

complications from his glaucoma. His local ophthalmologist recommended surgery, and Weselin assented. Sadly, the surgery did not go well, and Weselin's vision in one eye quickly deteriorated.

"He convinced me he had the skill for this complicated surgery. Then, after it failed, he said there was nothing else he could do," Weselin recalls. He was told he might go blind in the eye if it was not corrected right away.

"My doctor called the Wilmer Eye Institute himself to schedule an appointment," Weselin remembers.

At Wilmer, Weselin first saw renowned glaucoma expert **Harry Quigley, M.D.**, the A. Edward Maumenee Professor of Ophthalmology, and then **Pradeep Ramulu, M.D., Ph.D.**, the Sheila K. West Professor of Ophthalmology and chief of the Glaucoma Division, who took Weselin under his care.

"Complications happen, and at Wilmer, we see a lot of difficult cases, which give us the experience needed to help deal with these complications. Unfortunately, one of his eyes had diminished vision from the complications from his prior surgery. I assured him we could help," Ramulu says.

The surgery was a success, and Ramulu saved Weselin's sight in the bad eye. But then, a few years later, Weselin was back in Ramulu's office. Not only had his repaired eye regressed, but his other eye now needed surgery.

“We did surgery on both eyes, and he’s done very well ever since,” Ramulu says.

Weselin and his wife, Mary Lou, were so grateful for the quality of care they received and with Ramulu’s surgical skill that they were inspired to support his work with a bequest from their estate.

The big lesson Weselin takes away from his experience is to choose a surgeon very carefully. To that end, Weselin says his hope is that the bequest will fund Ramulu’s ongoing work to teach the next generation of glaucoma surgeons the skills he’s learned so that others never go through an experience similar to Weselin’s.

“The doctors who do these kinds of complicated surgeries need to be well-trained and able to deal with problems if things go wrong,” Weselin says. “That’s why we made this gift.” ●



Dietmar and Mary Lou Weselin

Johns Hopkins
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EYE TO EYE

The Fog Is Lifted

Above:
Edward St. John, left,
and Ashley Behrens

Edward St. John knew it was time for cataract surgery when driving at night became dangerous.

“It was like looking through thick glass,” St. John says of his vision at the time. The halo effect of the oncoming headlights had become so pronounced that he had to stop driving after dark. “I knew I had to have the cataracts removed.”

When that day arrived, St. John thought of going only to one place, the Wilmer Eye Institute, where he’d had LASIK surgery years before. There, after some research, he came to **Ashley Behrens, M.D.**, the KKESH/Wilmer Professor of International Ophthalmology and chief of the Comprehensive Eye Care

Division, one of the most experienced cataract surgeons in the country.

“He had an outstanding reputation and came highly recommended by others,” St. John says.

Behrens explained to St. John that cataracts were pretty much unavoidable but entirely correctible with surgery. “If you live long enough, you’re going to get cataracts,” Behrens assured St. John. In fact, more than half of all Americans age 80 or older either have cataracts or have undergone surgery to get rid of them.

The surgery involves replacing the eye’s aging lens with an artificial one. The surgery is delicate, but new technologies make it almost routine. With a laser

or, more often, an ultrasonic cutting tool, the surgeon makes a small incision. “Just one-tenth of an inch,” Behrens says. If the patient needs both eyes done, the surgeries are done two weeks apart, for safety’s sake.

The old, murky lens is dissolved and sucked out of its protective sheath. The surgeon then injects a replacement lens, typically made of acrylic. “It’s very, very flexible and about the size of an M&M,” he says.

Cataract surgery removes the cloudiness that most associate with the condition, and patients often report that colors become more vivid. Many patients can put away their eyeglasses for the first time in years.

Behrens says that St. John’s case was particularly challenging. Behrens had to do a number of specialized calculations to estimate the exact power of the new lens. Too strong or too weak, and St. John might need to wear glasses after the surgery, something he was loath to do. Behrens calculated correctly, and St. John now enjoys crystal-clear vision.

“He has perfect vision, both distance and near, with each eye,” Behrens says with delight. In fact, St. John’s vision is so good, both near and far, that it’s “optically impossible,” Behrens says. St. John now finds himself the object of study to figure out exactly how his vision can be so good.

St. John couldn’t be more pleased: “There was no pain. The team was extremely efficient. The process was seamless. And Dr. Behrens gave me my ‘youthful’ sight back. What more could you ask?” ●

HOW TO SUPPORT THE WILMER EYE INSTITUTE

Your donations directly impact the Wilmer Eye Institute’s mission to transform medical outcomes in the field of ophthalmology through collaboration and innovation, resulting in compassionate, leading-edge, patient-informed care.

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Gift Planning

Our Office of Gift Planning can provide you with resources to help fulfill your philanthropic wishes in coordination with your overall financial and estate planning.

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Mentor to Many



Earl D.R. Kidwell Jr.

In 1973, **Earl D.R. Kidwell Jr., M.D.**, graduated from the Johns Hopkins University School of Medicine and became the first African American resident at the Wilmer Eye Institute.

In the intervening decades, Kidwell, who continues to see patients, has logged a storied career in which he has taught upward of 400 residents the art of cataract and oculoplastic surgery. Most of these residents have been at Wilmer, but he's also instructed trainees at the University of Maryland, Howard University and Maryland General Hospital.

"How many exactly is something you don't count," Kidwell says with characteristic directness when asked if he knows the real number. "You just do it."

One former student who definitely counts himself fortunate to be among those mentored by Kidwell is **Peter J. McDonnell, M.D.**, director of Wilmer since 2003.

In McDonnell's student days, Kidwell was chief of ophthalmology at Baltimore City Hospitals, which later became Johns Hopkins Bayview Medical Center. Johns Hopkins residents would rotate there and work under the supervision of Kidwell, who was known as a particularly excellent instructor in the operating room.

"He was very positive, very supportive, very helpful to learners like me," McDonnell recalls of Kidwell's style.

"IT'S LIKE IN SPORTS, WHERE ONLY A HANDFUL OF HUMAN BEINGS IN HISTORY PROVE TO BE BOTH OUTSTANDING PLAYERS AND OUTSTANDING COACHES. EARL KIDWELL IS ONE OF THOSE."

Like McDonnell, many others share a fondness for Kidwell, as evidenced by the recent creation of the Earl D.R. Kidwell, Jr., M.D., Professorship of Ophthalmology at the Wilmer Eye Institute. "I think everyone was thrilled to be part of making this happen because of the impact that he's had on the lives of so many trainees over multiple generations here at Wilmer," says McDonnell.

The honor of being the inaugural Earl D.R. Kidwell, Jr., M.D., Professor was bestowed upon **Timothy McCulley, M.D.**, chief of both the Division of Oculoplastics and the Division of Neuro-Ophthalmology at Wilmer, who specializes in reconstructive surgery of the eyelids and orbits.

Asked how long he plans to continue his legacy of teaching, Kidwell flashes a grin. "As long as I can do it," he says, "I'm going to keep going strong." ●

EVENTS



PENTACAM PRESENTATION BY WOMEN'S BOARD

OCT. 29, 2019

Wilmer's Patient Access Center for the Eye (PACE), formerly the GES, was the recipient of the 2019 Johns Hopkins Women's Board Grant. The grant funds were used to purchase a Pentacam for the PACE clinic. This comprehensive eye scanner provides physicians with data critical to planning anterior eye treatment.

◀ President of the Women's Board Bert Ficke with Eric Singman, division chief of Wilmer's Patient Access Center for the Eye, at the Pentacam



FALL BOARD MEETING 2019 NOV. 7, 2019

Board members enjoyed presentations from two Wilmer faculty members after an update from Wilmer Director Peter J. McDonnell, M.D. Bonnielin Swenor, Ph.D., M.P.H., presented on her research about the correlation between vision

loss and cognitive decline. Amanda Dean Henderson, M.D., discussed her work with animal models created to study non-arteritic anterior ischemic optic neuropathy, a type of eye stroke.



▲ Left: Jan McDonnell, Wilmer Director Peter J. McDonnell, Wilmer Board of Governors' Chair Sanford Greenberg, Sue Greenberg and Dean of the Medical Faculty/CEO of Johns Hopkins Medicine Paul B. Rothman

Right: Amanda Henderson presents to the Board of Governors

EVENTS

► Left: Timothy McCulley's children pull down the curtain to reveal the plaque commemorating their father as the first Earl D.R. Kidwell, Jr., M.D., Professor of Ophthalmology

Right: Timothy McCulley, left, and Earl D.R. Kidwell Jr.



DEDICATION OF THE EARL D.R. KIDWELL, JR., M.D., PROFESSORSHIP OF OPHTHALMOLOGY NOV. 7, 2019

Following the board meeting, Wilmer dedicated the Earl D.R. Kidwell, Jr., M.D., Professorship of Ophthalmology and celebrated its inaugural recipient, Timothy McCulley, M.D., the chief of both the Division of Neuro-Ophthalmology and the Division of Oculoplastics. The

professorship is named for Earl D.R. Kidwell Jr., M.D., a former Wilmer resident who has spent his career in oculoplastics as well as educating generations of residents, including Wilmer Director Peter J. McDonnell, M.D.

LIONS RALLY NOV. 16, 2019

The Lions held their annual rally with members of clubs present from Washington, D.C., Delaware and Maryland. Sen. Barbara A. Mikulski (retired) was the guest of honor and spoke to the Lions about the importance of civic engagement and reminisced about her experiences with former Wilmer Director Arnall Patz, M.D., who was a special friend of the Lions at Wilmer.



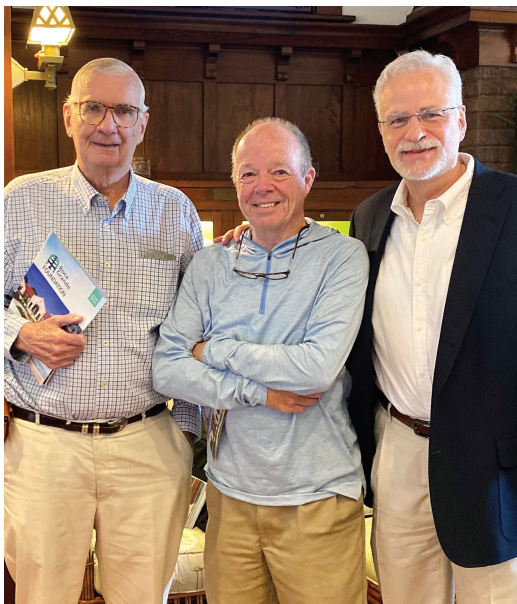
▲ Left to right, Larry Burton, chair of the Lions Vision Research Foundation; Ellen Patz, wife of Arnall Patz; Sen. Barbara A. Mikulski (retired); and Judith Goldstein, division chief of Wilmer's Lions Vision Research and Rehabilitation Center



A WOMAN'S JOURNEY NOV. 23, 2019

Bonnielin Swenor, Ph.D., M.P.H., associate professor at the Wilmer Eye Institute, was the keynote lunch speaker at *A Woman's Journey* in Baltimore. She spoke of her personal journey with visual impairment and her newly established Disability Health Research Center at Johns Hopkins, created to better serve the 26 percent of Americans with a disability.

◀ Bonnielin Swenor



▲ Left: Dick Nielsen, Tom Ervin and Peter Gehlbach

Right: Peter Gehlbach presents to Florida's Boca Grande community.



BOCA GRANDE PRESENTATION JAN. 10, 2020

The Boca Grande Health Clinic Foundation and Wilmer donor Dick Nielsen hosted Peter Gehlbach, M.D., Ph.D., at the Gasparilla Inn, where

he presented his talk, "The Common Life-Changing Retinal Diseases: Current and Emerging Surgical Treatment," to members of the Boca Grande community.

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To read more about the clinical services
and programs covered in *Wilmer*, visit
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Looking Back

Wilmer patient floor, 1929

The significance of the earphones the patient is wearing here is explained in an article published on Oct. 13, 1929, in *The Sun* titled, "The Wilmer Institute Is Ready: Great Eye Clinic Will Be Dedicated Tuesday." This marked the formal dedication of the institute, which began operation in 1925. The article explains: "In both private rooms and public wards each bed has radio connection. Ear phones [sic] are provided and there is a choice of two local programs. It will be appreciated at once that eye patients are peculiarly handicapped when it comes to keeping themselves occupied and entertained. The radio contributes greatly to the happiness of the patients; but it has a therapeutic value as well. After certain sorts of eye operations, it is essential that the patient keep quiet, and that restlessness be avoided at all cost. The radio, in this situation, seems to do more than was accomplished by drugs, and leaves no after effects."



Wilmer

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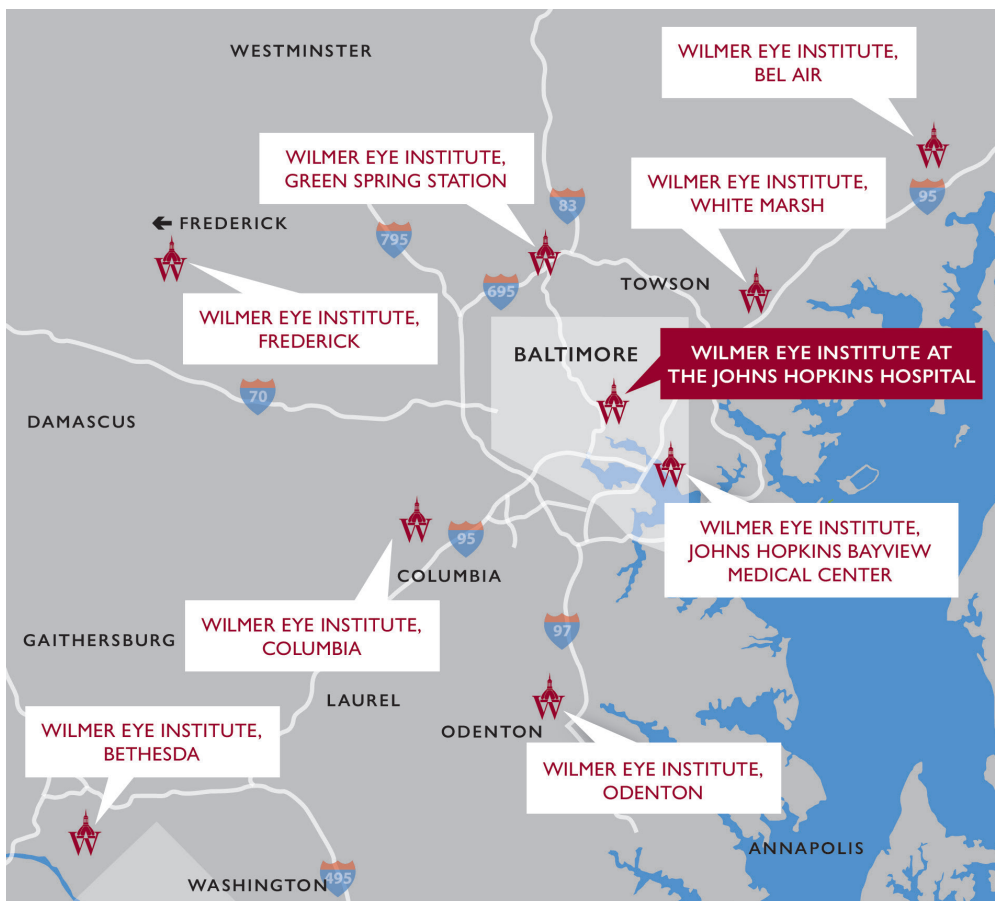
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