

# 2016 SIGHT + SOUND

## FALL EDITION



José-Alain Sahel, MD, among the world's leading researchers on blindness, is now the Chairman of Ophthalmology at the University of Pittsburgh School of Medicine. Photo courtesy INSERM/Francois Guenet.

## Into a World of Light: José-Alain Sahel, MD on Restoring Sight

by Elaine Vitone

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**T**oday, inherited and acquired blinding diseases of the retina remain untreatable, but, that is likely to change soon. Gene therapy and stem cell therapy are in clinical trials, and an electronic prosthetic device was recently approved by the U.S. Food and Drug Administration. At the forefront of these and other biomedical achievements is José-Alain Sahel, MD, the new Ophthalmology Chairman at University of Pittsburgh.

Dr. Sahel's move from Paris marries the University of Pittsburgh and UPMC to the Institut de la Vision and its academic partner, the Sorbonne's scientific and medical school known as Université Pierre et Marie Curie. Dr. Sahel's many collaborators across the United States and Europe say this union will strengthen each of its member entities: in Pittsburgh, the country's largest payer-provider health care system affiliated with an academic center; in Paris, one of the largest centers of translational research on eye disease worldwide.

Dr. Sahel expects they'll make this "marriage" official in the coming months, when Yves Lévy, director of INSERM—the French equivalent of the National Institutes of Health—and Jean Chambaz, president of Université Pierre et Marie Curie, are slated to visit the University of Pittsburgh. They'll iron out the details of the partnership in a meeting with Patrick Gallagher, Chancellor and CEO of the University of Pittsburgh, Jeffrey Romoff, President and CEO of UPMC, and Arthur S. Levine, MD, Senior Vice Chancellor for the Health Sciences and John and Gertrude Petersen Dean of the School of Medicine, among others. Dr. Sahel is quick to note that his initial decision to leave Paris was for personal reasons— not at all because he was unhappy in his work there. "It's a total blessing. I love it every day. Every minute," he says in a French accent.

Dr. Sahel had plenty of offers, he admits, but chose University of Pittsburgh for the truly unique opportunity it presented. In Pittsburgh, he could build upon the strength and success of the University of Pittsburgh's clinical and research realms—for which he credits his predecessor, Joel S. Schuman, MD, the new Ophthalmology Chair at New York University's Langone Medical Center, and Dr. Levine. ("You don't meet a dean like that [but once] in your life. He's amazing. He knows what translational research is. And his support has been exceptional.") Dr. Sahel could also build on the strengths of the city itself: The uniquely collegial relationship between University of Pittsburgh and its neighbor, Carnegie Mellon University. The growing technology industry, which includes an outpost of Google, as well as Uber's robotic car development operations. The nexus of big data and machine learning, of precision medicine and translational science.

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# When the Doctor Becomes the Patient

By Gary Frenette, MD

**N**othing, in my twenty year career as a medical oncologist, prepared me for the day when I casually made an appointment with a close friend and ENT colleague for some routine nasal congestion. My daughter had recently rescued a cat and, being a dog lover, I related all things bothersome after this time to the existence of a cat in my house. After completing an exam, he recommended a CT scan down the hall, despite the fact that it was 5pm. I thought nothing of it at the time, but he returned to the room with the scan and a second colleague, who specialized in sinus disease.

They informed me that I had a sizable mass at the base of my skull, called the clivus, that had grown down into the nasal passage and had destroyed several of the sinus walls. The appearance was most consistent with an aggressive cancer in this area. An MRI later suggested some evidence of invasion into the brain, although that was not certain.

In a moment, I had assumed the role of accepting the news and becoming a patient after years of being the deliverer of such information. I quickly realized how much even the most empathetic doctor does not appreciate about this event. How do I tell my family? How much do I tell them? What about my daughters in college...do I try to go to them or call them? How do I let my patients and coworkers know?

Beyond those profound challenges, I realized that I needed to use my knowledge and experience as a physician to make good decisions. It was immediately obvious to me that surgery is the bedrock of treatment for these tumors. I needed the best surgeon and opinions I could find. I was extremely fortunate to have the means and knowledge to travel anywhere in the world for my therapy.



Gary Frenette, MD and his wife, Victoria

My second opinion was my last. From my clinical experience, I had shared a few patients with Dr. Carl Snyderman, Director of the Center for Cranial Base Surgery in the Department of Otolaryngology at the University of Pittsburgh Medical Center, and knew of his reputation. Great physicians assemble great teams and my visit to Pittsburgh made this abundantly clear. My visit was scheduled by his exemplary medical staff and assistants, who communicated flawlessly and put me at immediate ease. It was orchestrated in an efficient manner and my appointment with Dr. Snyderman and Dr. Paul Gardner, Neurosurgical Director of the Center for Cranial Base Surgery, gave me great confidence in their skill and approach to my situation. There was no aspect of my care they had not considered and my visits found them completely prepared. There was no question about whom I would choose for my surgical team.

I want every patient with a base of skull tumor to have access to the skill and insight of these remarkable doctors. I am in awe of their dedication and commitment to disseminate their techniques and knowledge among the wider medical community. In the last twenty years, I have literally worked with thousands of doctors. Dr. Snyderman, quietly and humbly, exceeds the very highest standards of what we want from our physicians. I am eternally grateful for his care and proud to call him my friend. **S+S**

*In honor of his medical team's efforts, Dr. Frenette made a substantial contribution to the Surgical Simulation Center, led by Drs. Snyderman and Gardner. The Center for Cranial Base Surgery provides a patient-centric team approach, including surgical specialties (Otolaryngology, Neurosurgery, and Ophthalmology) as well as Radiology and Pathology. Together, the team reviews cases and develops a treatment plan that is personalized for the patient. A hallmark of the treatment plan is that it is designed to have "better flow" of medical services, resulting in a more positive patient experience. The Surgical Simulation Center trains physicians from around the world in the innovative surgical techniques that patients, such as Dr. Frenette, have benefited from in Pittsburgh. Currently, over 150 surgeons attend one of the four training sessions conducted at the University of Pittsburgh annually. Plans are underway to convert the first floor of the Eye and Ear Institute to a full-time training facility, which would allow for many more surgeons to take advantage of this world-class experience. The Surgical Simulation Center will offer a more intensive educational experience with multiple training methods, including surgical simulators, as well as a self-study curriculum. Additionally, the Center will provide a telemedicine component, enabling skull base surgeons at UPMC to consult on cases around the world from the location of the Eye and Ear Institute. With the development of the Center, a greater number of patients without access to skull base surgeons will benefit from surgical techniques developed at University of Pittsburgh School of Medicine.*

# A Personal Fight Against Glaucoma

by Heather Chronis

A civic leader for nearly 40 years, Nancy Washington has championed some of the most prominent institutions in Pittsburgh, including the Carnegie Museums of Pittsburgh and the Pittsburgh Cultural Trust. Her latest endeavor was to revive the failing August Wilson Center located in downtown Pittsburgh. Once the Assistant Dean of Student Affairs and the Director of Minority Programs, Mrs. Washington, along with her husband, Milton, have also been avid long term supporters of her former employer, the University of Pittsburgh.

Knowing the quality of research and patient care found at the University of Pittsburgh School of Medicine, Mrs. Washington immediately turned to the Department of Ophthalmology, when she began to notice some slight eye problems. As a patient of Dr. Andrew Eller for many years, she had always received the very best care for her retinal issues. However, another problem began to emerge and hit close to home for Mrs. Washington—glaucoma. The prevalence of glaucoma is high within the African American community, and Mrs. Washington had long been aware of the debilitating side effects of this disease.

**Beginning treatment with Dr. Nils Loewen, Director of the Glaucoma Service, helped Mrs. Washington slow the progression of her glaucoma. Mrs. Washington visits Dr. Loewen frequently to have her eyes examined and to discuss the next steps in her treatment plan.**



Mrs. Nancy Washington

Beginning treatment with Dr. Nils Loewen, Director of the Glaucoma Service, helped Mrs. Washington slow the progression of her glaucoma. Mrs. Washington visits Dr. Loewen frequently to have her eyes examined and to discuss the next steps in her treatment plan. Mrs. Washington took the extra step of visiting Dr. Loewen's research laboratory within the Louis J. Fox Center for Vision Restoration to fully understand all the aspects of the Initiative to Cure Glaucoma, the groundbreaking three-part research program that he directs.

Dr. Loewen was able to show Mrs. Washington first hand his current research on the development of a gene therapy vector that would specifically remove the diseased tissue of the trabecular meshwork (TM) responsible for increased eye pressure and can thus address the cause of glaucoma. Following the development of the vector, Dr. Loewen will use the TM stem cells that Dr. Yiqin Du has harvested to rebuild the damaged or removed TM tissue, by relying on the inherent self-regenerative ability of stem cell treatments and therapies. This effort would reduce the pressure caused by glaucoma and a malfunctioning outflow tract, thereby preventing damage to the optic nerve, or otherwise halting vision loss as a result of

the disease. Investigators of the Initiative to Cure Glaucoma are now collaborating with Kira Lathrop, an Assistant Professor of Ophthalmology who specializes in imaging, to determine what is responsible for continued outflow resistance following the surgical removal of TM segments. Determining the cause of this peculiar residual resistance that is present, despite the absence of the TM that is responsible for outflow resistance, will allow the rapid development of a new category of drug therapies.

For Mrs. Washington, the tour crystallized the need to financially support Dr. Loewen's glaucoma research, as an opportunity to stop this insidious disease. "My interest in glaucoma research is both personal and communal. I saw my mother's vision deteriorate because of the disease and now my sight is failing for the same reason. In my African American community, glaucoma is the second leading cause of blindness and occurs five times more often than in other ethnic groups. I want to see a change for the next generation of my family and my community," states Mrs. Washington.

Donors, such as Mrs. Washington, are invaluable in assisting the Eye & Ear Foundation to fund the research efforts within the Department of Ophthalmology at the University of Pittsburgh. Opportunities abound to support the Initiative to Cure Glaucoma, through financial donations or planned giving at a variety of levels. This year alone, funding for the Initiative to Cure Glaucoma has resulted in seventeen peer-reviewed scientific publications. **S+S**

*Editors note:*

*Sadly, as we went to press, we received news that Milton Washington passed away. The Eye & Ear Foundation's Board of Directors and staff wish to extend our deepest sympathies to Nancy and her family.*

*Interested in more research information or a tour of Dr. Loewen's laboratory? Contact Heather Chronis, at [heather@eyeandear.org](mailto:heather@eyeandear.org) or 412-383-8749.*



# A Connection between Hearing Loss and Abnormal Sound Processing in the Brain

by Carrie Fogel

**M**ore and more research is being conducted on the effects of hearing loss in the central nervous system. Here, in the Department of Otolaryngology at the University of Pittsburgh, recent discoveries by one of our scientists, Dr. Maria Rubio, are attracting much attention in the field of auditory science. She had a paper published in the prestigious *Journal of Neuroscience* for her observation that hearing loss, even a brief period of hearing loss, can induce long-lasting changes in the structure and molecular components of brain nuclei involved in sound processing.

"I am interested in plasticity of the brain in the auditory field, in particular, I aim to understand how the brain responds to changes in sensory experience, for example, decreases or increases in the levels of environmental sound. Conductive hearing loss (a decrease in sound conduction through the ear canal) is the second most prevalent form of hearing loss, however, its effects on the central nervous system have received relatively little attention. I put together a model of a transient conductive hearing loss to determine its effects on key synapses in the brain that initiate the pathway of sound localization. Importantly, I wanted to determine if the effects were reversible or permanent once sound levels restored. Many people think that conductive hearing loss is benign, but there is evidence from my studies and others that it has a long-lasting effect in the brain. Most of the animal studies addressed how conductive hearing loss affects auditory cortex during development. I was more interested to understand its effect on the first gate of sound in the brain, the synapse of the auditory nerve, and once the neuronal circuitries were already established. The outcomes we have seen from our studies indicate that the effects last longer than we had expected," stated Dr. Rubio.

Dr. Rubio first became interested in laboratory research while in medical school in the University of Alicante in Spain, doing research on the inner ear during her second year. Upon graduating, Dr. Rubio decided that research was her passion, choosing to pursue a PhD rather than entering a residency program. "I wanted to dedicate myself to research in the central nervous system, particularly the

function of sound processing in the brain. I like the creativity part of science. You can have an idea and see where you can take it. It's much more challenging but science is fun. I struggled with the decision to be a clinical doctor, but I realized my passion was really science and research," explains Dr. Rubio.

After completing her PhD, Dr. Rubio accepted a position at the National Institute on Deafness and Other Communication Disorders (NIDCD/NIH) to investigate what directs certain neurotransmitter receptors in the brain to be located at the correct place. According to Dr. Rubio, "At that time, we thought all the synapses in the brain had the same composition of neurotransmitter receptors. My project investigated if that general idea pertained or not. That was important in understanding the physiological function of neurons in the brain. Neurotransmitter receptors are a large family of proteins that mediate normal brain function, and there is evidence that they are also involved in neurological disorders. We did not know in which synapses they were located, so we had to reveal their location in detail." Dr. Rubio continued her work in Germany, at the Max Planck Institute for Experimental Medicine, and then at the University of Connecticut.

After spending eight and a half years at the University of Connecticut, Dr. Rubio learned of a new auditory research group at the University of Pittsburgh, and was recruited by its founder, Dr. Karl Kandler. "I was excited to be a part of something new. At that time, it was rare to find new research groups, and when the opportunity came, I wanted to be part of it. It is very important for clinicians and basic scientists to investigate ways to work together. I also knew that

**Dr. Rubio's discoveries are just scratching the surface of how we understand basic auditory processing in the brain. We know in general how we hear, but in knowing how the brain responds to hearing loss, we still know very little.**



**Maria "Lana" Rubio, MD, PhD, Associate Professor, Department of Otolaryngology, University of Pittsburgh**

Pitt's Neuroscience Community had an excellent reputation, so I was excited for the potential of collaboration with my work," says Dr. Rubio.

Dr. Rubio knows the importance of her recent breakthrough in this area and the implications it can have for people who have sustained hearing loss. Dr. Rubio emphasizes that, "The first thing we must do is to make people aware that conductive hearing loss not benign and can lead to detrimental effects in the brain. It is a brain issue. There is plasticity there but the brain does not go back to the way it was. This is important, especially as it pertains to children. Even if a child experiences only temporary hearing loss, they will never fully hear as well as they once did. Compromised plasticity could lead to an early onset of hearing loss and/or hyperacusis, in which sound input can actually become physically painful because of the changes in the brain. This makes life unpleasant, when in crowds, theaters and other loud environments becomes unbearable."

Dr. Rubio's discoveries are just scratching the surface of how we understand basic auditory processing in the brain. We know in general how we hear, but in knowing how the brain responds to hearing loss, we still know very little. Many people can deal with a bit of hearing loss and it does not affect their daily life very much, but it does have serious consequences in the long term. If your hearing loss accelerates it can prevent you from interacting socially. Moving forward, Dr. Rubio says, "we need to create more models to understand the effects of hearing loss on the central nervous system. We need to distinguish between developmental (child) and adult hearing loss and exactly what are the synaptic mechanisms. We need to make people aware that they have to be careful. They need to seek treatment for hearing loss and receive the appropriate education and training to deal with the compromise of brain function." **S+S**

# A Sister's Tribute – A Vision for the Future

By Ed Nemanic

**W**hen Martha Wandrisco Neff's siblings asked how she would like to be honored for her 96th birthday on October 1, a gift to the University of Pittsburgh was her first choice. After all, she was a 1942 graduate from the Department of Mathematics and, Pitt always held a special place in her heart because that is where she met her late husband, Philip E. Neff, Sr., a 1941 graduate from the Department of Industrial Engineering, who died November 7, 1991.

During her time at Pitt, Martha was a member of the Zeta Tau Alpha sorority and has fond memories of many dances, social events, and football games she attended as a student. After graduation, she worked at Gulf Research, where she assisted in plotting maps for petroleum exploration prior to the use of computers in the United States, before starting a family with Phil, who served as a Captain in the U.S. Army Ordnance Division during World War II. They have four children:

Philip E. Neff, Jr., and wife Jody, of Vermont; Cynthia Jean Neff Bishop and husband Ken, of Wisconsin; Virginia Elaine Neff Campbell and husband Reid, of Gibsonia; and Nancy Elizabeth Neff Madeoy and husband Marlow, of Ross Township. They also have three grandchildren and seven great grandchildren.

Contrary to her close connections to both the mathematics and engineering departments, Martha chose to have an endowment established in the Department of Ophthalmology, where she thought the gift would impact more individuals and on a grander scale. Subsequently, the Martha Wandrisco Neff Research Award in Macular Degeneration was created. Macular degeneration is a serious condition that often leads to blindness and directly affects Martha and many of her loved ones.

Thanks to the generosity and thoughtfulness of Martha and her siblings, Nicholas Hanovice, a PhD student working in the laboratory of Dr.



Mrs. Martha Wandrisco Neff

Jeffrey Gross, Director of Fox Center for Vision Restoration at the University of Pittsburgh, will have resources for a project in macular degeneration research. "We are grateful that Mrs. Neff has established this award in macular degeneration, and particularly excited that the focus is on student training. We need to continue to train the next generation of scientists and researchers, and this award provides support for a really talented student in my lab, Nick Hanovice, and his novel work on macular degeneration," states Dr. Gross. Martha is hopeful that the award will eventually help find a cure for the disease and improve the quality of life for those already suffering from it. **S+S**

## Into a World of Light: José-Alain Sahel, MD on Restoring Sight

*continued from front page*

And he was drawn by the urgency of the moment for this region, which has a large elderly population. Macular degeneration—the leading cause of vision loss in the United States—is on the rise. Cognitive loss, dependence, depression, and trauma are all compounded by this as-of-yet-uncurable, age-related assault to the senses.

Without prompting, just about everyone I talked to predicted that Dr. Sahel would build a Pittsburgh equivalent to the Institut de la Vision that will attract researchers from all over the world. And when I ask the man himself about this, he says that it is indeed a goal. However, he says, "I like to tell people the future is promising, but it's not today. We have to start working now."

Scientists from other top institutions are already expressing interest in coming here to work with Dr. Sahel—one interviews in Pittsburgh about every other day. Perhaps they have such faith in the next act of Dr. Sahel's career because of the compelling

story of the previous ones, which he performed starting with far less—virtually nothing, save his talents, notably that of bridge-building. "I built the institute with many people," he says. "So I can do it here—with many people."

His plan for the present is two-pronged: First and foremost, make changes for patients' immediate benefit by improving access to, and comprehensiveness of, ophthalmologic care—notably for age-related macular degeneration, genetic retinal degenerations, and other diseases of the retina, which require advanced approaches. To do so, he will leverage the University of Pittsburgh's main clinical and research hub in Pittsburgh's Oakland neighborhood, as well as UPMC's many community clinics. (He's sensitive to the fact that for many people within this patient population, venturing out for doctors visits isn't easy.) Meanwhile, he'll exploit technologies that can extend Pitt/UPMC's reach even further. "We have an opportunity to build a model of medicine," he says.

Second: Make connections. There's a tendency to view ophthalmology as an island all its own, notes Dr. Sahel. But really, it's a part of neuroscience and relevant to much more. "The eye is an approachable part of the brain," he says, quoting his mentor, John Dowling. "And a lot of diseases that affect many parts of the body affect the eye, too." Here is an organ with sophisticated vasculature and immunology. Pharmacology is integral to managing eye disease, and biomaterials are becoming increasingly important—for drug delivery, for biocompatible systems. And perhaps most important, in his view, is what happens after the therapy—rehabilitation. Dr. Sahel sees treatment as a beginning, not an end. "When a patient comes into your office, he's not asking you a cellular biology question. He's asking you about his real life." **S+S**

*To read the Pitt Med article in its entirety, please visit <http://www.pittmed.health.pitt.edu/story/world-light>*



# Remembering Berrylin J. Ferguson, MD

By Jonas T. Johnson, MD, FACS

Distinguished Service Professor and Chairman, Department of Otolaryngology  
The Dr. Eugene N. Meyers Endowed Chair, University of Pittsburgh School of Medicine

**T**he world has lost an exceptional individual. On July 23, 2016, Berrylin June Ferguson, MD passed away after a long, brave battle with cancer.

Those of us who worked with her on a daily basis know that Dr. Ferguson was a thoughtful physician who made provision of outstanding medical care the central focus of her life. Dr. Ferguson graduated Magna Cum Laude in Biology from Princeton University. She completed her medical degree and residency in Otolaryngology at Duke University. The University of Pittsburgh and the community of Western Pennsylvania was delighted when she joined us in 1993. In the ensuing 23 years, Dr. Ferguson evolved as an international leader in Rhinology and Sino-Nasal Allergy. Dr. Ferguson contributed over 100 manuscripts to the peer-reviewed literature and had edited four books. She excelled as an amateur photographer. In 2012, the outpatient care area in Mercy Hospital was named the **BJ Ferguson Sino Nasal Disorders & Allergy Center**. Dr. Ferguson, who lost her husband to cancer recently, is survived by five wonderful children—one of whom is a Resident in Surgery and another, the youngest child, is a medical student. We



Dr. Carl Snyderman, Dr. Berrylin J. Ferguson, and Jonas T. Johnson, Chairman of Otolaryngology

will always remember BJ Ferguson for her enthusiastic pursuit of excellence in every aspect of her life.

This past year, the Eye & Ear Foundation established the **BJ Ferguson Annual Lectureship in Sino-nasal Disorders and Allergy** at the University of Pittsburgh. This lectureship is meant to honor Dr. Ferguson, as well as her contributions to the Department

of Otolaryngology and the quality of care she provided to her patients. During her tenure at the University of Pittsburgh School of Medicine, Dr. Ferguson focused on the understanding of disorders of the nose and sinuses and we believe this lectureship will be an appropriate tribute to her memory. Dr. Ferguson attended the Inaugural Lecture held in May 2016. **S+S**

## A Tribute to Jen Fruit

Submitted by:

Catherine Palmer, PhD, Chief of Audiology, Department of Otolaryngology

Barry Hirsch, MD, Chief of Otolaryngology, Department of Otolaryngology

David Eibling, MD, Professor, Department of Otolaryngology

Elaine Morner, PhD, Clinical Education Coordinator, Department of Communication Science and Disorders

### Jenifer Rae Powers Fruit (August 4, 1984 - June 4, 2016)

**J**enifer Fruit, AuD was a quadruple bearer of the attributes we aspire to achieve in academic medicine.

She was a superb clinician who mastered her skills early in her career. Our Otolaryngologists valued her insight into issues our patients were facing and knew they could trust her careful clinical work. Jen was heavily invested in her role as a clinical educator for the Audiology graduate program. She exemplified exactly the clinical and professional qualities we strive to develop in our students. Jen served as a critical bridge connecting the clinical and academic resources that serve our AuD students and ultimately our patients. She coordinated the annual course on cerumen management directed to audiology students. She was the MacGyver of audiology,

concocting formulas to mimic cerumen and methods for creating anatomic models suitable for simulated training. Jen taught basic audiology to Pitt third year medical students. Attendance at these sessions was excellent due to word-of-mouth validation of her teaching by the students themselves. As a result of her dedication, every Pitt medical student was exposed to the importance of hearing and communication in patient care. Jen's dedication to teaching went beyond our region as she coordinated the University of Pittsburgh teaching conference, which helps educate our educators. Along with strong clinical and teaching skills, she had a passion for research. She was dedicated to the concept of Interventional Audiology—bringing audiology services to those who



Jennifer Fruit, AuD

need them most and have the least ability to access standard clinics. She was involved in the creation and implementation of the HearCARE quality improvement initiative, which has impacted senior care regionally and nationally. She presented her work at several national academic conferences. The fourth attribute was who she was as a person. Jen was poised, confident, strong, mature, bright, genuine and loving. It is these latter qualities that we will dearly miss. **S+S**

# The Guerrilla Eye Service Reconnaissance Project – A New Model to Meet the Needs of High-Risk Populations

by Carrie Fogel & Dr. Jake Waxman

**G**ES Recon is an offshoot of the Guerrilla Eye Service Mobile Eye Care (GES Mobile) project started in 2006. The GES Recon Program was designed to reach a larger number of patients and to target the patients at highest risk for vision loss and blindness. The program provides service for patients at sites that GES Mobile does not reach and for patients who are unlikely to have access to the eye doctor. A retinal camera is placed permanently at each GES Recon participating primary care site and requires minimal operator skill. The camera is web connected and it is easy to transfer images from the camera to an electronic medical record. Onsite staff are trained in the use of the camera. Primary care providers are instructed regarding the patients at highest risk and advised to recommend the use of the camera for patients who are unlikely to receive eye care otherwise. Images are transmitted to and interpreted by UPMC Eye Center physicians and subsequent reports are sent back to the primary care team.

**“GES Recon targets patients at risk of losing vision from diabetes and glaucoma. These are two conditions that do not cause symptoms until the disease is very advanced and are over-represented in underserved populations.”**

Dr. Jake Waxman, the founder of this project, explains, “We now have several years’ experience using these cameras. We have shown that retinal photography can, with proper training and leadership, be successfully integrated into the care pathway for patients at high risk.” Cameras are currently present at twelve sites and have imaged the retinas of more than 1000 patients during 2015. As the primary care teams have become more familiar with GES Recon, more sites are interested in

participating and the number of patients imaged at each site has increased. These screenings successfully detect patients at high risk for losing vision from diabetes, glaucoma, macular degeneration and other conditions. Dr. Waxman and his team are proud to say that they have successfully followed up with many patients identified as high risk and have provided further medical evaluation, and when necessary, surgical treatment to save and restore vision. In many cases, they were able to provide care free of charge to patients without medical insurance coverage.


One startling fact that has also been observed is that only one third of patients identified as high risk by photography actually follow up for further evaluation as recommended. Dr. Waxman explains that, in some sense, this is an expected result. “GES Recon targets patients at risk of losing vision from diabetes and glaucoma. These are two conditions that do not cause symptoms until the disease is very advanced and are over-represented in underserved populations.” Primary care teams have been instructed to target patients that they identify as being unlikely to receive screened by an Ophthalmologist. These patients are at highest risk for non-adherence to recommended follow up. “Likely barriers to care for this population are those related to finances, transportation, time off from work for themselves or a family member, mobility, a misunderstanding of the importance of the findings and difficulty with navigating an increasingly complex healthcare system.”

What was needed, thought Dr. Waxman, was a person whose sole mission was to support the patients being identified through GES Recon as they attempted to receive the follow up care that they needed. A person who could identify and assist in overcoming the barriers and obstacles that so many high-risk individuals encounter as they seek treatment for their conditions. Dr. Waxman thought that if a person was hired as a Coordinator to increase the amount of follow-through for patients seeking treatment and could prove that they were successful



**Evan “Jake” Waxman, MD, PhD, Vice Chair, Medical and Resident Education, Director, UPMC Eye Center Mercy, University of Pittsburgh School of Medicine, performing an eye exam at a local clinic.**

in increasing follow-through with these patients, it would be a pilot project with data to justify its necessity in healthcare.

During the Fall of 2015, the Eye & Ear Foundation hosted individuals from the Pittsburgh Foundation, who wished to learn more about the work being done in vision research, as well as some of the other community health initiatives we support. After discussing GES Recon and the issues facing the patients it serves, Dr. Waxman was told of a specific fund held at the Pittsburgh Foundation, whose purpose was to serve blind and visually impaired adults in Pittsburgh. After a few months of designing exactly what the Coordinator position would entail, and with help from the Beckwith Institute, another community foundation with a long legacy of support in the healthcare field, Dr. Waxman proposed his plan to the Pittsburgh Foundation and was awarded funding for a two-year pilot project. “Our work to date shows that remote screening for diabetic retinopathy is effective at detecting patients at greatest risk for vision loss. By funding the Guerrilla Eye Service Recon Coordinator position, the Pittsburgh Foundation and the Beckwith Institute will allow UPMC Eye Center to take tele-ophthalmology to the next step, closing the loop for the patients and ensuring they receive the care they need.” 

The Eye & Ear Foundation of Pittsburgh is a nonprofit 501 (C)(3) organization. Our mission is to support the research and academic efforts of the Departments of Ophthalmology and Otolaryngology at the University of Pittsburgh. Donations to support our research initiatives can be made online at [eyeandear.org](http://eyeandear.org) or by returning the enclosed envelope. For more information on the Foundation, our research, or the articles in this newsletter, please contact Katherine Troy, Director of Operations, at [katherine@eyeandear.org](mailto:katherine@eyeandear.org) or 412-864-1300.

## Planning to Give Back

By Carrie Fogel

**A**s you begin your estate planning, it is important to give some consideration as to how to use your remaining funds in a meaningful way. For Loretta and Tom Hanwell, "it was so important to us, as healthcare is such a big part of our life, that the legacy we wanted to leave was to continue beyond us to help others remain healthy and receive treatment that is the most advanced available. It's something we always wanted to promote."

Loretta Hanwell has spent an impressive career at UPMC. From receiving her start as a radiology technologist, through recently retiring as the Senior Vice President of UPMC International, where she worked closely with partners around the world. Recently, the Hanwell's, have turned the tables, in their decision to give back.

In the early 1960's, Mrs. Hanwell's father needed ear surgery and was referred to the "best ear surgeon in the country," at the Eye and Ear Hospital. When her mother began

having problems with her vision, she also came to the Eye and Ear Hospital for one of the first corneal transplants. Later, when Tom, began to have ear problems, Loretta introduced him to physicians at the Eye & Ear Institute, where he has had ear surgeries and continues to be a patient of Dr. Barry Hirsch. "Our family experience at UPMC has been exceptional, from the doctors to the staff." It is important to us to ensure that this special type of place continues to promote cutting edge technology for a long time so other families experience the care our family has," explains Mrs. Hanwell.

"It can make a difference in patients' lives, and that is what it is all about. We want people to know that if we do not continue to do things to improve healthcare and help people who need it, or get the newest technology, or train as many physicians as we can, we will not be successful. We are proud of UPMC and all the care provided. This is a great place and we want it to continue to strive toward excellence," explains Mr. Hanwell. **S+S**



Loretta and Tom Hanwell