Hamilton Eye Institute Expands Reach of Telemedicine

By HOLLI W. HAYNIE

A child in Central America with retinoblastoma used to have little hope for a positive outcome. Fortunately through the mission of the Hamilton Eye Institute (HEI) telehealth program at the University of Tennessee Health Science Center (UTHSC), physicians and surgeons in developing nations have the ability to provide specialized treatment for these complex cases. Ophthalmologists at HEI have long been dedicated to contributing to global research in eye diseases and injuries. In partnering with organizations like St. Jude Children’s Research Center, and the Cyber-Sight program through Orbis Telemedicine, physicians are able to continue reading on page 12.

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training, offer consultations and study cases with ophthalmologists throughout the world.

"Ophthalmology is probably the best suited field of medicine for telemedicine and telesurgery because we deal with a transparent organ," explained Dr. Barrett G. Haik, director of HEI and chair of UTHSC’s department of ophthalmology. "It’s the only place in the body where you can literally see through the entire depth of the eye."

Haik said the interest in participating in telemedicine came from the work already being done through UTHSC and St. Jude’s international outreach program, which serves developing countries where childhood diseases like retinoblastoma and retinopathy of prematurity (ROP) are more prevalent and severe. Ophthalmologists from developing nations have the opportunity to become fellows in Memphis training with physicians at HEI and St. Jude. Here they develop skills and knowledge to carry out medical care in their country. While that is a necessary and worthwhile system, the partner organizations realized the need for regular conference to keep physicians up-to-par with perpetual innovations in technology and procedural techniques.

"Medicine is always advancing and changing so even with six months of training in this field, it takes many years to become a true master," said Haik.

Building a telesurgical link became essential, which is why St. Jude and HEI partnered with Orbis Telemedicine’s Cyber-Sight program, an Internet networking system designed to promote the provision of high quality eye care, with the ultimate goal of eliminating avoidable blindness in the world. This telemedicine system allows physicians from anywhere in the world to consult on cases and even watch surgeries being performed in Memphis, and vice versa. In addition, Cyber-Sight provides the world’s only flying eye hospital which aids countries in developing their own hospital based programs. FedEx Corporation is also integral to the Cyber-Sight program by transporting x-rays, slides and biopsies from parts of the world that are not yet digitized.

HEI is networked through a series of countries, the strongest of which are in Central America. The first center of excellence established this year is Guatemala, which is the most advanced of the international sites. Other locations include Panama, Honduras, El Salvador and Costa Rica.

"We get to know the patients over time and since we can’t be there every month, we can see their eyes through the telemedicine program to see how a child has progressed and changed every month, and determine if their treatments are at the right level," explained Haik.

Dr. Haik and his team also travel to these cites twice annually via the Orbis program to provide on-site visits.

Teleconferencing is another use of the telehealth program which allows HEI physicians to review and discuss cases locally and internationally.

"The latest international collaboration with HEI was with Vietnam, a country where patients typically present with advanced disease. Pediatric oncologists, pathologists and ophthalmologists presented retinoblastoma cases which were reviewed, via live video feed, by Haik and his team."

Tele conferencing has a tremendous benefit back home as well, allowing physicians to review and discuss cases among their peers. It’s also become useful for physicians in the state for general grand rounds and pathology conferences.

"Every time we have one of these conferences, I realize how many different approaches there are to different procedures," said ophthalmologist Dr. James Hart. Every location, he added, has unique aspects in the way patients present and the provision of medical services. "We are sometimes able to participate in brainstorming to come up with better approaches."

Ultimately the HEI staff would like to expand their teleconferencing abilities into a sort of world-wide grand rounds.

"Teleconferencing and teledermatology in ophthalmology is a great way to open communication," maintained Haik. "We’d love to partner with other major institutions in the U.S., Europe and Asia to help carry some of the load of ensuring we elevate this level of care across the world."
HEI Surgery Center Provides Specialized Care Under One Roof

By Holli W. Haynie

When Lonnie Utley realized his right eye was losing vision due to a cataract, he knew it was time to come to Memphis. A commercial airline pilot in Dallas, Utley, 55, is required to maintain 20/20 vision in order to continue flying. Growing up in Memphis, Utley was familiar with the University of Tennessee Health Science Center, and as a third generation patient of Dr. Ralph Hamilton, he wished to continue his eye care at UT.

Utley previously underwent cataract surgery on his left eye through Dr. Hamilton three years prior, before Hamilton Eye Institute (HEI) officially formed in 2005. In June he was back for cataract surgery on his right eye, this time under the care of Dr. James Hart, and Utley said he was impressed with the evolution taking place in the department of ophthalmology.

"In the post op visit, it was interesting because Dr. Hart was as excited about the results as I was," said Utley. "My observations of how other patients are handled and treated (show) there are very caring and committed people here."

Since Hamilton Eye Institute opened their surgery center in December, ophthalmologists have been able to perform routine and highly complex surgeries under one roof, allowing physicians a centralized location specific to ophthalmology procedures. Before the center opened, physicians were driving throughout the city to perform multiple operations at multiple sites, while often dealing with general operating room staff that may or may not have been familiar with ophthalmic procedures. A deal between Baptist Memorial Health Care Corp. and Methodist Healthcare, Inc., made the center possible. The HEI surgery center is 9,281-square-feet and has three operating rooms, two laser rooms, and post-op monitoring rooms. No other facility exists in the city that is dedicated solely to eye care. The surgery center is open for use by the ophthalmology community in Memphis as well as UTHSC staff.

"What we found years ago, and it's true today, when you get into delicate eye surgery, you create a very focused process," said Dr. Chris Fleming, medical director of the HEI surgery center. "This focused process can extend to a number of specialty surgeries we offer that really are unique."

For instance, Fleming pointed out, HEI has more than 20 surgeons who specialize in a variety of ophthalmic procedures, including complex retinal surgery, corneal transplantation, glaucoma, ophthalmic plastics, and pediatric ophthalmology, among others.

Having the surgery center on site, added Fleming, "Has allowed us to take care of eye emergencies very quickly if we see somebody in the clinic who has an urgent problem."

It wasn't only help from the major hospitals that made the center possible, but generous community donations, which helped supply extremely expensive, high-tech equipment such as a RETCAM™ for evaluating childhood injuries and tumors inside the retina, and a PASCAL® laser which has the ability to perform hundreds of laser treatments in a single sitting.

Fleming acknowledged that Memphis needs comprehensive eye care in sites throughout the city, but until that happens, HEI has a surgery center "equipped with the latest and the best equipment we could find," he said. "We offer a facility that is very special."

Although the surgery center is privately held between the hospitals and HEI physicians, it is linked up to UTHSC as a learning tool for residents. Next door is the skills transfer lab where students practice procedures, along with a surgical simulator where residents can hone their skills. The center is wired to teaching labs for student interaction with ophthalmologists, and Hamilton's Freeman Auditorium which allows procedures to be shown to larger audiences.

In the mean time, the Hamilton team is planning to add more physicians and grow the output of the surgery center. Some staffers have moved to HEI from other hospitals after learning of the surgery center's opening, because, Fleming said, "Their focus and joy is to do eye surgery."

"It's pretty focused on what they do here, not like an operation in a hospital," Utley said. "I would absolutely recommend Hamilton Eye Institute to other people."

In addition to launching the surgery center, HEI opened a low vision clinic this year to address the growing issue of poor eyesight.
Physician Spotlight

Dr. Sarwat Salim

She completed an internship in internal medicine at Montefiore Medical Center in New York and a residency in ophthalmology at SUNY-Health Science Center in Brooklyn, where she served as administrative chief resident.

Her glaucoma fellowship was at Yale University School of Medicine, Department of Ophthalmology and Visual Science. She is a diplomate of the American Board of Ophthalmology.

Salim’s choice to focus on glaucoma allowed her to delve into the technical field of ophthalmology while also dealing with patients more broadly. Certain systemic medications can increase risk for glaucoma, while its treatments can in turn have systemic side effects.

“As a glaucoma specialist, I feel like I take care of the patient as a whole — not just the eyeball," she said.

Beginning first with medical management, the treatments Salim provides are aimed at correcting elevated intraocular pressure, which causes glaucoma through damage to the optic nerve.

“When significant damage takes place there, people can lose vision — and the vision they lose is irreversible," she said. “The key is to try to detect it and to intervene early so you can try to preserve vision.”

If medical treatment is not successful in relieving the built-up pressure, Salim moves on to laser treatments, applied to the eye’s natural drainage canal to help it return to normal function.

As a final resort, incisional surgery allows Salim to make a new drainage canal for her patient’s eye. She and UT colleagues are currently using a new surgical device, the Ex-Press™ Mini Glaucoma Shunt, which diverts fluid from inside the eye and also prevents the canal from closing up again.

“The procedure is not new, but the brand is new," Salim said. “UT has been using it for a few years under Dr. (Peter) Netland, my director, and we’ve been very pleased with the outcomes so far.”

Glucoma, a leading cause of blindness in older adults, is often undetected until the point at which it starts causing vision loss — when it is already well-advanced. For that reason, Salim is hopeful that new genetic research will some day provide patients and physicians with a head start on detection and treatment.

“It would be wonderful if we can detect who is likely to get glaucoma," she said. “We don’t have that answer yet, and I don’t think we’re anywhere near it. But it is something we hope for.”

Although the causes of glaucoma are not fully known, its primary risk factors include age, positive family history and African descent. Past eye injury and some medications such as steroids can also be risk factors for glaucoma, which affects more than 3 million people in the United States.

In addition to her work with the American population, Salim travels extensively as part of medical mission teams, performing both glaucoma and cataract surgeries in places like the Middle East, Central America and Asia. Devoting at least one or two weeks of each working year to this service, she has gone abroad through several different organizations, depending on which schedule fits her. She has also done some trips on her own.

Over the years, her strategy for making an effective difference in such a short timeframe has evolved.

“In the past, I was directing efforts more to doing the cases myself," she said. “But I have learned that when I do that, I’m helping some individuals, but I can only do so many. Once I leave, they’re just waiting for me to return.”

Instead, in recent years, her focus has been on transferring her skills to the local physicians who will remain to help their communities.

“I try to be available if they have any questions about management or surgical techniques," she said. “I think the impact is greater that way.”

Outside of work, Salim enjoys music — she plays the saxophone — as well as running, long walks and pleasure reading.

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Dr. Barrett Haik Receives Freeman Award

At the recent Sight Night at the Pink Palace Museum, Dr. Barrett Haik was awarded the 2nd Freeman Vision Award by Dr. Jerre Freeman, Founding Director of the World Cataract Foundation. Dr. Ralph Hamilton, the first recipient of this award in 2007, introduced Dr. Haik, describing him as the person responsible for the renaissance in developing the University of Tennessee Department of Ophthalmology into an outstanding ophthalmic research and clinical center. Nationally, it is now rated among the top ten clinical ophthalmic programs in the country. Dr. Hamilton stated that Dr. Haik is a person with tremendous interpersonal skills and a significant work ethic, which attracted not only a wonderful and productive clinical, research, academic and teaching staff but also a local and national network of supporters to initiate and sustain the growth necessary for ophthalmology in the mid-south.

One of Dr. Haik's major interests is tumors of the eye and orbit, especially the retinoblastoma (retinal tumors) seen primarily in young children. As a result of Dr. Haik's study of this disease with colleagues at St. Jude's Children's Research Hospital and in the Hamilton Eye Institute, unique characteristics associated with human cancer have been identified. These new insights into tumor biology and response to therapy will have a significant impact on other cancers in children and adults.