

Effort Continues in Malawi

by Paula J. Harmon, MD

During the summer of 2007, Drs. Carol Shores and Paula Harmon spent three weeks in Lilongwe, Malawi, a country in the eastern Africa. The purpose of the trip was to implement the Burkitt Lymphoma and Epstein-Barr virus (EBV) study. Also during the three week mission, Shores and Harmon performed operations related to many facets of Otolaryngology from mandibulectomies to sinus surgery to laryngoscopy. During this trip, the surgical relationships that were formed during Dr. Shores' previous trip were rekindled.

EBV is an oncogenic herpesvirus associated with a number of human malignancies. The diseases include nasopharyngeal carcinoma, T-cell lymphoma, Hodgkin's Disease, gastric carcinoma and Burkitt Lymphoma.

Approximately 50% of all cancers in children in the equatorial parts of Africa are of the endemic Burkitt's. This type of lymphoma is more likely to affect children than adults. It is also strongly connected to an infection by the Epstein Barr virus as over 95% of the patients developing the cancer has a previous virus infection. Endemic Burkitt's often involves the maxilla or mandible.

In cancers associated with EBV the virus is found in the latent form, which is non-responsive to anti-viral medication. In previous animal studies it has been shown that the EBV latent tumors change from the latent form to the lytic form after receiving chemotherapy. Lytic proteins produced by these tumors convert anti-viral medications such as ganciclovir to its active form, causing a combination synergistic cytotoxic effect on tumor cells. This phenomenon has not been tested in human tissue.

Dr. Harmon was awarded two grants, one by the American Academy of Otolaryngology - Head and Neck Surgery (CORE grant), and the other from UNC Medical School Alumni Endowment Fund to



Dr. Muyco, Chief of Surgery at Kamuzu Central Hospital, with Drs. Harmon and Shores

research *The Viral Response to Chemotherapy in Endemic Burkitt Lymphoma*.

Through the collaboration between UNC Project and Lilongwe Kamuzu Central Hospital, Dr. Harmon and her advisor, Dr. Shores, set up the proof of concept portion of the study, which if proven effective, will lead to a clinical trial involving patients with Burkitt Lymphoma and possible other EBV associated tumors. Our objectives are to determine whether cyclophosphamide-containing chemotherapy regimen increases lytic EBV gene expression, inducing expression of virally encoded kinases that convert ganciclovir into its active cytotoxic form. We hypothesized that human EBV-positive Burkitt Lymphoma will respond to cyclophosphamide by increasing viral gene expression within four days of treatment. If this is found to be true, this will lead to a clinical trial with human subjects with Burkitt Lymphoma and possible other EBV-positive malignancies.

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Dr. Shores scopes a child while in Surgery Clinic.

During the first week of the mission, Dr. Harmon handled all of the logistics of the project. This included training the laboratory staff, Lilongwe pediatrician, and nurses how to collect FNA samples, consent forms, IRB rules and organization of data to be sent to UNC Chapel Hill for further analysis.

After the arrival of Dr. Shores during the second week, the two UNC surgeons began their clinical mission with the general surgeons of Kamuzu Central Hospital. Dr. Muyco, a Filipino physician who has practiced in Malawi for more than 28 years and is the acting chief of surgery, advised Drs. Shores and Harmon that he has been admitting patients to the hospital for the last 2 months in anticipation of our arrival. Although the overall experience was very rewarding, the first clinic day was overwhelming due to the fact that many of the patients had disease processes that would be cured with ease in the United States but since they were located in Malawi, many of the resources that needed to be available were nonexistent. Also, many of these patients were told that the American physicians were coming and that we would be able to resect their tumors. During the surgery clinic days for each patient that we saw and felt that they were surgical candidates, just as many patients or more were deemed incurable.

Examples of some of the disease processes: hemangiomas, head and neck squamous cell carcinoma, ameloblastomas, benign parotid tumors, sinus mucocele, laryngeal papillomas, nasal polyposis, keloids, airway foreign bodies.

Needless to say, many patients were scheduled that first week and early the following week. Having two weeks to provide surgical service to the patients allowed the physicians to teach the clinical officers and surgical team post operative care for otolaryngology patients. Many major surgeries and

procedures were performed and included but not limited to: mandibulectomy, maxillectomy, frontal sinus mucocele removal, parotidectomy, keloid removal and laryngoscopy. At UNC, there is state-of-the-art surgical equipment, including drills and drill bits. In Malawi, these things were unavailable; For example, the mandibulectomies were performed with gigli saws and osteotomes.

There is a great need for medical equipment in Malawi. Many of the instruments are nonfunctional, ETT are recycled, and there are only 2 automatic ventilators that are to be used between their 4 operating rooms.

Drs. Shores and Harmon are finding ways to donate equipment that in America is either discarded or stored away as surplus. The equipment and supplies will be shipped to Malawi to decrease some of the healthcare burden that is afflicting the country.

Words from Dr. Harmon:

This is an experience that leaves a bittersweet taste in your heart. Each day after leaving the operating room or evening rounds, there was a feeling of helplessness. I asked myself several questions, such as: How can I help all of these/my people? What can I do to sustain the help that we have begun? At the same time, the experience was so overwhelming that when I left the hospital everyday, I felt a sense of fulfillment. To realize my calling and to be able to start fulfilling this charge at this point in my career was a true blessing. Dr. Shores stated that she could move to Malawi, work there for an entire lifetime and the country would still be in a health deprived state. I commend Dr. Shores for doing all that one otolaryngologist can possibly do, given a couple of weeks in a country of 12 million people without a single ENT doctor.



Dr. Harmon comforts a child with massive ascites after the Malawian pediatrician performed a procedure.

Introducing Dr. Yin

Xiaoying Yin, MD, is the latest addition to the faculty in the Department of Otolaryngology/Head and Neck Surgery, but she is not new to the Lineberger Comprehensive Cancer Center where she continues her research in the field of head and neck cancer. Dr. Carol Shores hired her in 2002 as a research assistant in her lab at Lineberger, where she worked for five years on a number of research projects: (1) Quantitative RT-PCR of cytokine 14 lymph nodes of head and neck squamous cell carcinoma (HNSCC) patients to predict micro-metastasis and its relation with sectional IHC, (2) Microarray study of HNSCC to predict chemo-sensitivity, and (3) Evaluation of the anti-tumor effect of Hsp90 inhibitors on HNSCC.

Dr. Yin comes with many years of research experience under her belt. She earned her MD (was in the top 5% of her class) and completed residency in Clinical Surgical Pathology in Xi'an, China, followed by a two-year Pathology fellowship at the University of Pittsburgh. For the next 11 years, she worked her way from Graduate Student Research Assistant in Infectious Diseases and Microbiology at the University of Pittsburgh to Research Assistant Professor in Hematology/Oncology at the Children's Hospital of Pittsburgh. When her husband was transferred to IBM in the Research Triangle Park, Dr. Yin came to work at UNC.

Dr. Shores realized the potential in Dr. Yin, with her high level of scientific technique, experience and professionalism, and knew she would be a valuable addition to our faculty. Since her appointment in July of 2007, she has already received funding from Eli Lilly for the study "Antitumor effect of Enzastaurin in human head and neck squamous cell carcinoma."

Dr. Yin has also collaborated with Dr. Marion Couch in the lab, with her research on cancer cachexia as well as the allogeneic whole tumor cell vaccine. "She has an incredible work ethic," says Dr. Couch. "We never have to worry about projects moving forward. She is magical in her ability to get experiments done correctly. She keeps the head and neck lab going, because she is there every day. She is very approachable and is always there to help medical students and residents. She really is an unsung hero."

Dr. Yin continues with the microarray study of human head and neck tumors, as well as evaluating the antitumor effect of new biological reagents using a mice model system that mimics concurrent chemoradiation in patients. She is also working on a lung cancer genomics project using gene expression array and gene mapping with single-nucleotide polymorphism array analysis.

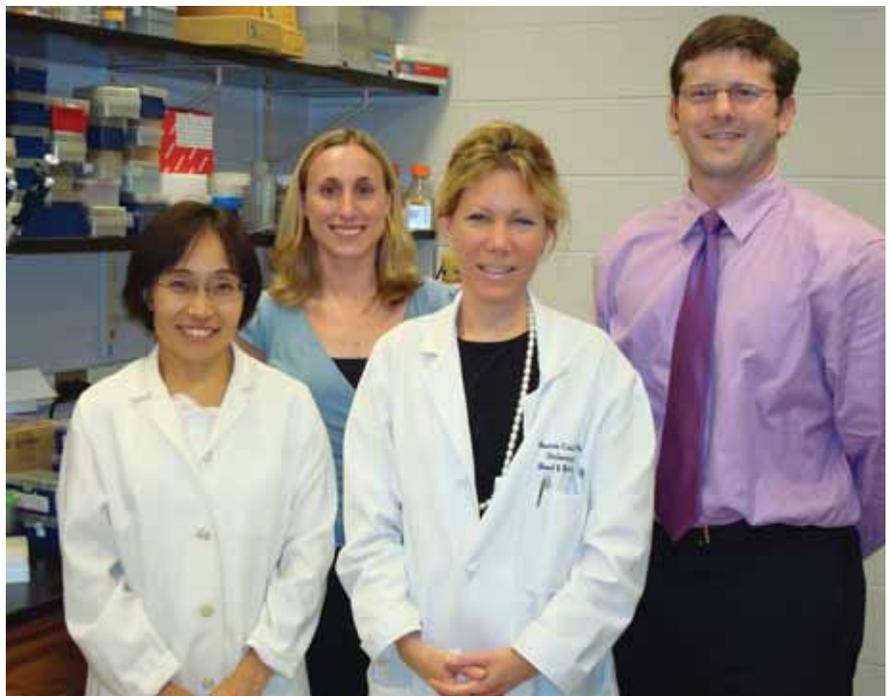
"She's extremely talented and we are so fortunate to have her in the lab full time," says Dr. Shores. "She's making an invaluable contribution to head and neck cancer research at UNC."

Chair's Corner



This last quarter has been quite interesting for our department. We have had several efforts by our faculty and residents to provide international outreach. Dr. Paula Harmon and Dr. Carol Shores went to Malawi to do some interesting work on the UNC Infectious Disease NIH grant to study Burkitt's lymphoma, a childhood cancer endemic in Sub-Saharan Africa caused by Epstein Barr Virus. Dr. Steve Lee went with Dr. Brent Senior to Vietnam where they performed outreach work for Otolaryngology/Head and Neck Surgery residents and faculty in Hanoi. Dr. Senior received a prestigious award from the Republic of Vietnam for his long-standing efforts on the behalf of the people of Vietnam. I went to South Korea to the Collegium (CORLAS) where I ran a panel and session on cochlear implants. This was an international effort which was extremely interesting and very well received. Beyond that, we have had a fabulous first quarter with our new residents who are involved in many interesting research and clinical projects. It is great to hear from Dr. Brian Downs again who has done some fabulous work at the University of Oregon. I hope you enjoy this issue of *Heads Up* as much as I have.

Harold C. Pillsbury, MD
Department Chair



Dr. Yin and Dr. Couch in the lab with Ashley Wysong, MS (Howard Hughes Fellow) and medical student Scott Asher (T32 Training Grant Fellow).

UNC Team Returns to Vietnam

by Steve C. Lee, MD, PhD

This year, the 12th Annual ASEAN Conference on Otolaryngology and Head and Neck Surgery was held in Saigon from August 20 to 24 so the annual early spring trek to Vietnam was postponed until late summer. Dr. Brent Senior was one of the invited international guests to the conference and conducted courses on endoscopic sinus and skull base surgery to the over 850 otolaryngologists that gathered for that conference. After that week, he and his wife, Dana, were joined in Hanoi by the largest group that Resource Exchange International (REI) has sent to Vietnam. UNC had a strong showing in this group with Dr. Austin Rose, Dr. Harold Pine (former resident), Dr. Do-Il Kim (former international fellow from Korea), Sara Mamo (audiologist), and me going on this trip.



Vietnamese countryside: A woman with cows walking through rice paddies.

After our 24 hour long trip to the other side of the world, we decided to get some rapid immersion into our new environment. After a jet lagged night of sleep, we went on a bicycle tour of the Vietnam countryside with its friendly people, lush green rice fields, grazing water buffalo, and all kinds of tropical fruits we'd never tasted before. It was a pleasant way to get acquainted to the country before we started our work for the week.

Because of the large size of the group this year, we were able to split up into multiple teams and simultaneously go to several hospitals at once in Hanoi. Dr. Senior spent most of the time at the National ENT Hospital and Bach Mai teaching more advanced sinus surgery techniques such as CSF leak repairs and management of encephaloceles. There was also a very well attended sinus surgery course for the provincial otolaryngologists in northern Vietnam which was jointly taught by Dr. David Parsons and Dr. Senior throughout the week. Dr. Rose, along with Dr. Pine, spent the first half of the week at the National Pediatric Hospital consulting on difficult pediatric cases and was able to demonstrate the use of the pediatric airway equipment that he carried with him. They later joined me at E Hospital, which is a smaller hospital in the outskirts of Hanoi, where we taught them endoscopic sinus surgery as well as the proper technique for medial graft tympanoplasty. Sara Mamo spent the whole week at the National ENT Hospital and was a great help to the audiologists there.

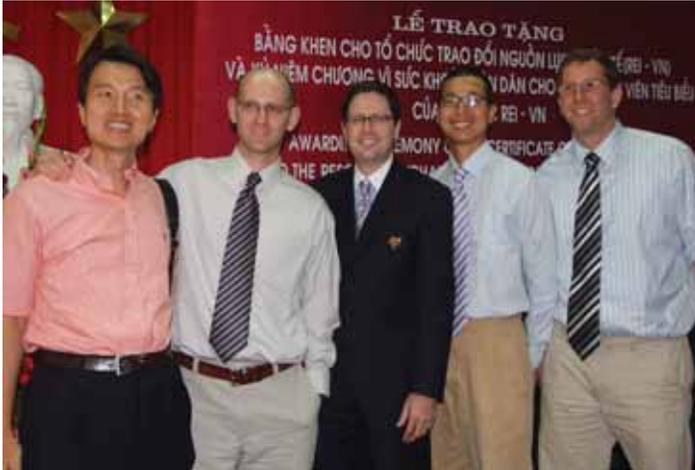
There were two major highlights on this trip. First, Dr. Senior had been using his close relationship with BrainLAB in order to procure an image guidance system for Vietnam for many years. This year, BrainLAB agreed to donate the first image guidance system in Vietnam, and it was delivered on this trip. This will no doubt be as important an advance in treatment to them as it has proven to be for us. The second highlight happened on Thursday when we were all invited to Vietnam's Ministry of Health. The people of Vietnam had decided to officially recognize the work that REI had been doing for the past 12 years. They singled out Dr. Senior, along with Dr. Byron Bailey, Dr. David Parsons, Dr. Craig Hedges, Dr. Toby Morgan and Madame Lien Tran (REI's local representative in Vietnam) and awarded them the Medal for People's Health. In particular, they outlined the 10 years of service that Dr. Senior has given the country of Vietnam, the many fellows he has supported to come learn from him here at UNC (most of whom are now chairs of departments and leaders in otolaryngology in Vietnam), his role in the advances in the treatment of sinus diseases in Vietnam as well as the hundreds of thousands of dollars worth of donated equipment. What they failed to mention was that he also funds a scholarship that allows one UNC resident to go to Vietnam every year of which I was the grateful recipient this year. This year, my

trip was also funded in part by a humanitarian travel award from the American Academy of Otolaryngology-Head and Neck Surgery.

The trip ended with a tour of Halong Bay, a UNESCO World Heritage Site, organized by our Vietnamese friends from E Hospital. We cruised the bay, which is dotted with thousands of limestone islands, while being served seafood fresh from the bay and also stopped to walk through one of the many caves that are found there. It was a memorable way to end a trip that was rewarding in many ways.



Dr. Steve Lee performs sinus surgery at E Hospital in Hanoi, with endoscopy equipment donated by UNC. On the right, Dr. Jim Schoeder, and Dr. Tran, who is the head of ENT at E Hospital.



Dr. Do-Il Kim (former UNC international fellow), Dr. Austin Rose, Dr. Brent Senior, Dr. Steve Lee, and Dr. Harold Pine (former UNC resident).



Dr. Lem (3rd year Otolaryngology resident at Bach Mai Hospital in Hanoi), the patient, nurse, Dr. Austin Rose, and Dr. Chase Lay (resident from Southern Illinois). Dr. Lem had placed ear tubes in the patient for eustachian tube dysfunction, the first set ever placed by Dr. Lem. Dr. Rose said he did an excellent job! (Photo by H. Pine)

The editor of *Heads Up* asked Dr. Senior why he is drawn to Vietnam, why this mission trip means so much to him. His answer:

Ten years, ten trips, nearly six months of my life spent in Vietnam, and the most common question asked of me is “why?” Well, it is not simply for the frequent flyer miles! Every physician who travels on humanitarian missions must answer this question at some time. For some, it is the sense of adventure that comes with practicing their craft in a foreign environment. For others, it is that sense of self satisfaction that comes with “doing a good deed.” Both are valid, both are good, but for me, it is far more. It is returning a little bit of the immense wealth and blessing that I have received by being raised in a wonderful country, trained in outstanding programs, and working in a fantastic university doing what I love to do in order to help people that live on meager wages with textbooks from 1975, working in squalid conditions, struggling to do what we easily achieve. It is living a life of significance and not existence. Indeed, it is living out what I believe to be true: “I will show you my faith by what I do” (James 2:18).

At dinner with a colleague recently, he summed up his life philosophy by saying “life is meant for living!” But after ten years, I have found that it is so much more. Life is not simply meant for *living*, but real life is meant for *giving*. And that is why I return to Vietnam.



The Assistant Minister of Health for the Nation of Vietnam pins Dr. Senior during the awards ceremony when he received the Medal for People's Health. On the far left is Madame Lein of REI Vietnam, followed by Dr. Jim Schroeder (Northwestern University, Chicago, IL), and on the far right is Dr. David Parsons (Charlotte, NC). Lein and Parsons also received awards. (Photo by H. Pine)

Whatever happened to... Dr. Brian Downs?



The Downs Family: Kristen holding 5-month-old CJ, and Brian with 22-month-old Will.

After graduating from otolaryngology residency in 2005, I said goodbye to the Southern Part of Heaven. Chapel Hill was very good to me – I left with an undergraduate degree, a medical school diploma, and a residency training certificate. As a native North Carolinian, it was definitely a change of pace to trade in the humid days of the Old North State for cool rainy ones in the Pacific Northwest. It is also unnerving to me that, in some water cooler discussions about college basketball, I now occasionally hear someone say, “Roy who?” Oh, yeah – and no more Eastern NC BBQ!

I am currently in my third year at Oregon Health & Science University, the first of which was spent as a fellow in Facial Plastic & Reconstructive Surgery. After fellowship, I joined my mentors in practice here, Drs. Tom Wang and Ted Cook. My practice spans the breadth of Facial Plastic Surgery, from cosmetic to reconstructive to trauma to congenital problems. I teach medical students, residents and our Facial Plastic Surgery fellow, as well as several visiting international fellows each year. Starting this month, I will serve on the OHSU medical school admissions committee. For each of the past two years, I’ve also taken part in a medical

mission trip to do cleft lip and palate surgery in the mountains of Peru. There we provided care to a traditionally underserved population and worked alongside some of the most dedicated nurses and caregivers in the world.

From a personal standpoint, my wife and I have been blessed with two healthy children in the interim since leaving Chapel Hill. Soon after arriving in Portland, we welcomed a bouncing baby boy, Will. Just five months ago, Kristen gave birth to our second, a beautiful baby girl, Caroline Jillian (“CJ”). Will, who is now almost two years old, enjoys talking about trucks, drawing trucks, and playing with trucks. CJ mostly watches Will do the above things, but she is quickly developing interests of her own.

It is an understatement to say that my role models at UNC were influential in shaping my future personal and professional life. Our Department taught me to develop relationships, work as part of a team, and truly care for patients. The UNC faculty demonstrates on a daily basis the importance of personal integrity. I value my time spent as a resident at UNC, and to the faculty I say, “Thank you!”

Announcements

Just a few of the many exciting things happening in our Department



Sarah Martinho

Sarah Martinho, AuD, CCC-A, has been selected as one of this year's Plus People at UNC Healthcare. This award was established to "recognize people who consistently excel at their jobs and who demonstrate an enthusiasm and devotion to duty that inspires others." Sarah sets high standards for herself and is a very strong role model for others audiologists at UNC. As one of our pediatric hearing aid specialists, she is called upon to perform complex diagnostics on very challenging patient populations from all over the state of North Carolina. Sarah is a champion for change and can be counted on to display a positive attitude no matter how much "chaos" surrounds her in this very busy clinic environment. Congratulations, Sarah, on your well-deserved recognition!

We are now offering a
Fellowship in Pediatric Otolaryngology!
Please see our website, www.unc-ent.org,
for more information.

Joseph W. Hall, PhD, received a 5-year competing renewal for his NIH grant "Development and plasticity in normal and impaired ears." The grant begins on September 1, 2007 and is funded by the National Institute on Deafness and other Communication Disorders. The research will study the development of hearing in children and the effect of sensorineural hearing loss on auditory development. Congratulations, Joe!

The new **CASTLE** in Wilmington moved into a permanent facility during the month of September. The program has been operating in temporary quarters since January. The Center occupies leased space in a newly constructed building just off Market Street at 106 Marshall Court. CASTLE is teaching deaf children to listen and talk. The program is seeking to make both direct services for families and a training/mentoring program for school professionals more accessible across North Carolina. The preschool classroom currently has four children enrolled. Phone: (910) 686-4304.



Marcia and Oliver Adunka

Marcia S. Clark, AuD, Director of the Adult Cochlear Implant Program, and **Oliver F. Adunka, MD**, Assistant Professor, were married on Hilton Head Island, South Carolina, on September 8, 2007. It was a beautiful weekend for an outdoor wedding at the beach, with the water and a pier with boats behind the couple as they said their vows. Several members of the department attended and enjoyed dancing at the reception, as well as time on the beach that weekend. Friends and family came from all over North Carolina and from out of state, and from as far as Vienna, Austria. The couple decided to postpone a real honeymoon trip, as both needed to return to UNC to carry on their professional responsibilities. Congratulations, Marcia and Oliver!

Comments, suggestions, or questions about *Heads Up?* Contact Elizabeth Perry, 919-966-8926, or eaperry@med.unc.edu.

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