

Spring 2006 Volume 8 Issue 2 The University of North Carolina at Chapel Hill Department of Otolaryngology/Head and Neck Surgery

Hgads Up

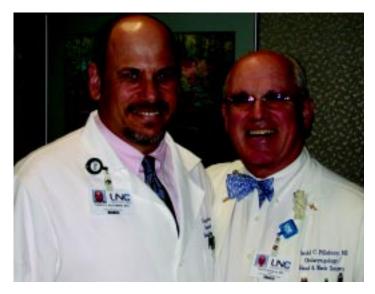
A newsletter for alumni, colleagues, and friends of the Department

UNC to Host CI2007: 360 Degrees of Perspective

The Eleventh International Conference on Cochlear Implants in Children will be hosted by the University of North Carolina in Charlotte, NC, April 11-14, 2007, and will be co-directed by Drs. Harold Pillsbury and Craig Buchman. The conference will bring together experts from surgical, technological, educational, and basic science disciplines to discuss pediatric cochlear implant issues that are of current importance and concern.

The conference is a continuation of a series that was initiated in 1986 and is clearly the premier venue in the United States for the presentation of pediatric cochlear implant findings and perspectives. This ongoing series has provided a valuable mechanism to keep the field abreast of advances in research and technology, and to afford perspectives from a wide range of relevant fields. The knowledge provided by this mechanism is critical to the evolution of a balanced and valid philosophy for clinical practice in the field of pediatric cochlear implantation. A key reason for the continuation of these meetings is the burgeoning surgical, scientific, and technological innovation in the area of pediatric cochlear implantation.

The overarching aim of the conference will be to promote interaction among participants from a range of disciplines, including surgery, audiology, speech pathology, basic science, engineering, education, and industry. The great advantage of this approach is that it maximizes the possibility for synergistic interactions that can be of great value but are otherwise very unlikely to occur. These interactions will be promoted by inviting top quality speakers and providing discussion formats that encourage exchanges across the disciplines.



C12007 Course Co-Directors, Drs. Craig Buchman and Harold Pillsbury

Another general aim of the conference will be to construct formats that allow in-depth deliberation on key issues that have been targeted for consideration at this conference but also encourage the discussion of topics across the full spectrum of pediatric cochlear implants and related areas. Thus in addition to invited talks and panel discussions that are devoted to special themes, there will be oral presentations and poster sessions for which participants will be encouraged to contribute research and discussion on a very broad range of topics. Such presentations will include the topics of medicine/surgery, education, engineering, audiology, auditory neuroscience, speech perception and language outcomes, aural habilitation, and social and emotional issues related to pediatric cochlear implantation.

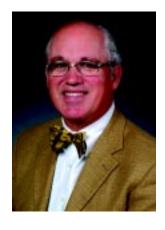
A specific goal of the conference will be to generate in-depth consideration of three areas that are currently attracting particular attention and are of clear clinical importance in the field of pediatric cochlear implantation. These areas of emphasis are:

- ♦ Implantation of the very young. Although there are compelling theoretical reasons to provide implantation at the earliest possible age, the provision of cochlear implants in infancy is associated with many complex challenges, particularly in terms of testing methods that can inform decisions about candidacy. New information regarding the valid assessment of hearing, proper device fitting, and longitudinal benefit will be highlighted in this area of emphasis. The invited speakers in this area of emphasis are Simon Parisier, M.D., Margaret Skinner, Ph.D., John T. Roland, Jr., M.D., Jean Moog, Ph.D., and Patricia A. Roush, AuD.
- ♦ Auditory neuropathy and etiology. Emerging knowledge about auditory neuropathy and, more generally, the underpinnings of childhood deafness raise important questions related to pediatric cochlear implant candidacy and the consideration of alternative approaches for the treatment of childhood deafness. These issues will be considered in this area of emphasis. The invited speakers in this area of emphasis are Fan Gang Zeng, Ph.D., Gary Rance, Ph.D., Steven M. Shapiro, M.D., and Craig C. Buchman, M.D.
- ♦ <u>Bilateral implants</u>. Recent advances in adult binaural cochlear implants suggest that adults can obtain significant ben-

efit from bilateral stimulation, with some showing improved hearing in noise and a crude ability to localize sound sources in space. Decisions regarding bilateral implantation in pediatric patients are particularly complex; for example, concerns related to the conservation of one cochlea for future surgery/technology must be weighed against the provision of bilateral stimulation during a time that may be critical for the development of binaural hearing. Issues related to bilateral pediatric cochlear implantation will be considered in the third area of emphasis. The invited speakers in this area of emphasis are Ruth Litovsky, Ph.D., Paul Kileny, Ph.D., Quentin Summerfield, Ph.D., and Hinrich Staecker, M.D.

Chair's Corner

This spring has been highlighted by our robust involvement in Washington Advocacy Week, sponsored by the AAO-HNS. We sent ten residents to the meeting, comprising 20% of the total residents from the entire country. It is imperative that our specialty be continuously involved in the legislative process, not only as it affects us as indi-

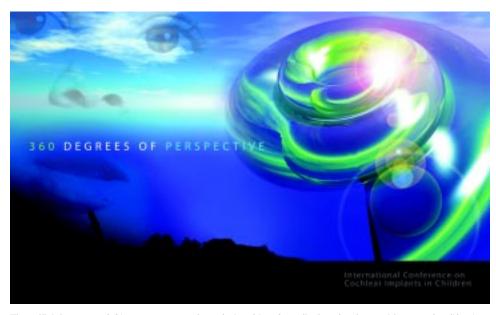


vidual surgeons but as policies affect all of our patients. The best patient advocate is a caring, involved physician. We expect all of our residents to be one of those people.

As you can see from this issue, there are many areas of otology, audiology, and auditory research where we are leaders in the field. The CI 2007 meeting coming up in the next year will be a significant opportunity for us at UNC and throughout North Carolina to showcase our state and university. We truly hope that any of you who are interested will participate in this unique event.

Harold C. Pillsbury, MD Department Chair

For ongoing updates and information about the meeting, registration, hotel, and exhibits, as well as upcoming dates for online abstract submission, continue to visit www.ci2007usa.com or e-mail info@ci2007usa.com.



The official poster of CI2007 portrays the relationship of medical technology with everyday life. It uses a high-tech representation of the cochlea that symbolizes the "360 Degrees of Perspective." It is also a tribute to the amazing technology and the array of people who integrate it. The poster was designed by Jeff Campagna, Creative Director at MED-EL Corporation.

Foreign Fellow and UNC Otology: Exchanging Knowledge and Skill

Beginning in July of 2005, the UNC School of Medicine offered its first appointment of a Fellow of Otology to a foreign medical graduate, Dr. Oliver Adunka. The appointment was established as a 2-year research and clinical placement in Otology, Neurotology, & Skull-Base Surgery with Drs. Pillsbury and Buchman. Dr. Adunka's first year at UNC has been primarily devoted to research activities focused on clinical projects and applications in the field of cochlear implantation. In the upcoming year, he hopes to continue his collaboration and contributions to the clinical research team, as well as pursue clinical responsibilities, including the treatment of patients, both medically and surgically.

Dr. Adunka was born in Vienna, Austria, and remained there throughout his educational development and completion of medical school. Following his completion of obligatory military duties in Austria, Dr. Adunka began his clinical residency in the field of Otolaryngology. The first year of his residency was successfully completed in Vienna. He was then offered an opportunity to expand his residency training in Frankfurt, Germany. It was in Germany where he fulfilled all residency requirements and became board certified in Otolaryngol-

ogy. Dr. Adunka sought to apply for and complete a fellowship training opportunity in the United States, with specific focus on otology and skull base surgery. After reviewing applications and interviewing at multiple clinical sites in the US, Dr. Adunka ultimately elected to come to the Department of Otolaryngology/Head and Neck Surgery of the UNC School of Medicine, under the direction of Dr. Harold Pillsbury. He felt that UNC best represented his primary surgical interests and areas of study, including skull base surgery and cochlear implantation.

Since the early days of his residency, otology has been his primary focus. Historically, Dr. Adunka's research studies and publications have centered on the concepts of hearing preservation in cochlear implantation and other related issues, like temporal bone histopathology. Dr. Adunka has found his passion and commitment for clinical research to be matched by those of Dr. Buchman and other members of the department. For this reason, the first year has not only signified a year of knowledge building but also a year of productivity in research and clinical applications. One of the main projects worth mentioning is the establishment of a set of electrophysiological tests to determine cochlear function during implantation – a technique that could eventually find its way into commercially available cochlear implant technology.



Otology Fellow Oliver Adunka, MD, PhD

Separate from otologic medicine, Dr. Adunka takes great interest in major league baseball - "the great American past-time." Growing up in an American School in Vienna, with baseball being the sport of choice, he could not help but develop a special respect for the game. Perhaps he is not the greatest American baseball fan you will meet, but he definitely qualifies as the most-dedicated Austrian fan you will encounter, as he supports the local programs – the Durham Bulls and UNC-Chapel Hill's famed baseball team. Similarly, outdoor activities of hiking, biking, and running are also among his favorite personal hobbies and diversions.

Dr. Adunka's medical and surgical privileges will begin in the summer of 2006, where he hopes to actively contribute in the otological and skull base cases at UNC Hospitals. This will also serve as an extremely valuable learning experience and exchange of knowledge between a seasoned surgeon and a studied fellow. His personal goals and professional goals are to attain a new level of skill in the practice of Otology and to better serve the clinical patients. The combination of clinical skills from his European background, coupled with the knowledge gained from this fellowship will lead to a healthy academic career in Otology.

Residents Lobby in Washington

by Deidra A. Blanks, MD, and Allen F. Marshall, MD

After completing the annual Inservice Exam on March 4, 2006, ten residents loaded into a van and left Chapel Hill, NC, bound for Washington, DC. We attended the 2006 American Academy of Otolaryngology - Head and Neck Surgery (AAO-HNS) Washington Advocacy Conference (WAC). This conference is an opportunity to meet other otolaryngologists from across the country, learn about the current issues facing the future of our field, and meet some of the most influential health policy makers and political insiders in the U.S. Those attending the conference included approximately 500 otolaryngologists from all over the country and over 80 residents.

The meetings began on Saturday, March 4, with workshops on allergy and ultrasound use in our practice. Saturday night was the big Carolina vs. Duke basketball game which we enjoyed with Dr. Pillsbury and a few colleagues including Ira Papel, MD, and Peter Hilger, MD. With a huge Tar Heel victory over Duke, the conference was off to a great start!

Sunday continued with learning workshops and our first networking lunch with Congressman Tom Price, MD, from Georgia. He addressed how to present our issues clearly and effectively to Congress. We ended the night by attending the open house reception of the new AAO-HNSF Washington, DC office located in a fantastic spot behind the Capitol Building.

Monday morning conferences discussed negotiating contracts and pay for performance issues with a networking lunch led by Harold Pillsbury, MD, and Robert Miller, MD. Monday afternoon continued with our instruction on being an effective advocate with former Congressman Jack Quinn. After the sessions on Monday afternoon, a few of us visited the national treasures found in Washington by attending the Smithsonian Natural History Museum and the National Gallery of Art. We returned to attend the ENT PAC reception with speaker Senate Minority Leader, Harry Reid.

On our final day in Washington, we lobbied on Capitol Hill to senators from our home state and discussed the issues that are important to otolaryngologists throughout the country. We spoke with the staff members of Senator Elizabeth Dole, Senator Richard Burr, and Representative David Price to address the scope of practice within the fields of Audiology and Speech Pathology, Tort Reform, and the Treatment of Children's Deformities Act.

With regard to scope of practice, a recent bill seeks to expand the scopes of practice of audiologists and speech-language pathologists to include diagnosis and management of communications disorders. Our goal is to maintain nationally what currently exists at UNC - a collaborative effort among all three fields for the optimal diagnosis and management of patients. Specifically, HR1000: Treatment of Children's Deformities Act of 2005 states, "A group health plan, and a health insurance issuer offering group health insurance coverage, that provides coverage for surgical benefits shall provide coverage for outpatient and inpatient diagnosis and treatment of a minor child's congenital or developmental deformity, disease, or injury. A minor child shall include any individual through 21 years of age." This would include cleft lip and palate, hemangiomas, microtia, and many others that otolaryngologists commonly treat. Lastly, we briefly discussed the impact of tort reform on patient care and the practice of defensive medicine by physicians.

The ten UNC OHNS residents attending the conference with Dr. Pillsbury included: Marc Bassim, MD; John Alldredge, MD; Karen Kölln, MD; Jeffery LaCour, MD; Trinita Cannon, MD; W. Derek Leight, MD; Deidra Blanks, MD; Allen Marshall, MD; Paul Bryson, MD; and Sachin Parikh, MD.



On the steps of the Capitol: Cooper Scurry, MD (OHNS Resident from Winston-Salem, training at Penn State), with UNC OHNS residents Marc Bassim, MD; Deidra Blanks, MD; and Allen Marshall, MD.

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Carolina Course Wows Participants

by John W. Alldredge, MD

The Seventh Annual Carolina Course in Sinus Surgery and Facial Plastic Surgery recently took place on March 31-April 1, 2006. As a recent transfer to the UNC Otolaryngology/Head and Neck Surgery program, I had no idea of what to expect. To say the least, however, I was very impressed. This was easily the best course I have ever attended.

The course commenced on Friday, March 31st, as all participants met on the first floor of Berryhill at 7:00am. After a brief registration and a breakfast of hot coffee and fresh pastries, everyone introduced themselves to each other. It was a pleasure to see some familiar faces, as well as meet residents from other programs, and private practitioners from the community. In fact, we had over 40 visiting residents from various programs around the country, making this the largest Carolina Course to date.

At 7:30am sharp, Dr. Pillsbury warmly welcomed all in attendance, after which the course co-directors, Dr. Senior and Dr. Shockley, laid out the game plan for the next couple of days, and introduced us to our instructors for the

day. This year's sinus surgery/rhinology instructors included Dr. Scott Meredith (UNC, WakeMed ENT), Dr. Brian Mathews (Wake Forest University), Dr. Rodney Schlosser (Medical University of South Carolina), and Dr. Frederick Kuhn (Georgia Nasal and Sinus Institute).

Morning lectures soon began by laying down a basic groundwork and foundation with medical management of sinus disease, sinus anatomy, basic endoscopic surgical techniques, and avoiding complications. This was, of course, followed by the more advanced topics of frontal sinus surgery, sphenoid sinus surgery, CSF leak repair, as well as open approaches to the paranasal sinuses.

Following a hearty lunch, we all headed to the lab for the cadaveric dissection portion of the day. After a very thorough and informative pro-dissection by Dr. Kuhn, it was off to our stations to practice our newly acquired knowledge and skills. Each station consisted of a fresh cadaver specimen and state of the art equipment, complete with various angled endoscopes, monitors, entire instrument sets, and microdebriders. Some stations were even equipped with image guidance systems. Company reps strolled through the various rooms to answer any questions and troubleshoot any problems. The entire afternoon was spent in the lab as the PGY-1's performed their first FESS, and PGY-5's honed their skills for life after residency. Of course we all received individualized instruction from the faculty as they moved station to station, passing on their priceless knowledge.

To cap off a great day, we headed to the Carolina Brewery for camaraderie, conversation, food and libations. After a wonderful meal of barbeque ribs and a couple of pints of Copperline Amber, I headed home for the night.

We switched gears on Saturday; it was time to learn about facial plastic surgery. After fueling up with another tasty breakfast, we were greeted by Dr. Shockley and introduced to our instructors. Our faculty for the day included Dr. Lynn Damitz (UNC Plastic Surgery), Dr. Raymond Cook



Residents gather in the lab before beginning cadaveric dissections.

(UNC, WakeMed ENT), Dr. Neil Goldman (Wake Forest University), Dr. Cynthia Gregg (FPRS, Cary, NC), and Dr. Greg Renner (University of Missouri).

Once again, the morning was filled with several informative lectures on various topics including upper and lower lid blepharoplasty, brow lift, midface lift, advanced concepts in skin flap design, facelift, and scar revision. All lectures were outstanding. We were even treated to a stand-up comedy routine by Drs. Shockley and Renner during an AV malfunction. So, these three guys walk into a bar.....

After lunch, we again headed to the lab to put into practice what we had learned in the classroom. Under the tutelage of our instructors, we refined our techniques in rhinoplasty, blepharoplasty, and facelifting. Our instructors once again moved from station to station, individualizing their teaching, and maximizing our learning. After a great afternoon of mastering the beautification of our fellow man, we all went our separate ways feeling very satisfied and excited about what we had just experienced and learned.

The Seventh Annual Carolina Course was truly a resounding success. Both attendees and faculty alike were all pleased with the content of the course, as well as with the manner in which it was run. I was so impressed with the quality of lectures, the topics covered, and the hands-on approach to learning. Moreover, being able to participate in cadaveric dissections under the supervision of some of the leading surgeons in their respective fields is truly an invaluable experience. This may have been my first Carolina Course, but it certainly will not be my last. I can't wait until next year.

We are all very thankful and appreciative for all of the hard work, planning, and dedication of Dr. Senior, Dr. Shockley, and Kathy Harris. Many thanks also go out to our corporate sponsors and supporters: BrainLAB, GlaxoSmithKline, Sanofi Aventis, Acclarent, Karl Storz Endoscopy, and Gyrus ENT.

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Realizing the American Dream at UNC

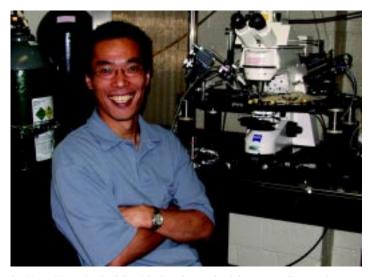
by Yong Wang, PhD

My name is Yong Wang. I was born in Shanghai, China, to hard-working factory workers. My father, at the age of 16, left the countryside to seek a better life in Shanghai, where he met my mother. My parents, brother, sister, and I lived in a single room apartment of about 180 square feet, where we also had to share a kitchen and bathroom with two other families. I had a very happy childhood because my parents loved us and took good care of us.

I excelled through high school, scored well in the national college entrance exam, and was accepted into Fudan University in Shanghai. University education was still free then in China. I graduated with a bachelor's degree in microbiology and was assigned a research position at the Shanghai Institute of Industrial Microbiology. As a student during the period of China's repressive culture revolution, the U.S. had always been a magic and somewhat mystical place to Chinese students. I remember seeing the movie "Futureworld" with Henry Fonda, and was dazzled by all the glistening 3-D expressways, the human-like robots etc. We said to ourselves, "Wow, this is what's happening in America!" We realized how far behind China was. After years of making preparations and taking graduate entrance exams, I was ecstatic when I received acceptance letters from University of Pittsburgh and Iowa State University. I finally belonged to a small percentage of Chinese students who were given the opportunity to come to this country to fulfill a life-long dream.

On January 2, 1991, I bid an emotional farewell to my family, and with two big suitcases of personal necessities (including cookware), boarded an Air China jumbo Boeing 747, headed to this haloed land called America. As we passed over Japan cruising over the vast Pacific Ocean, I looked out of the window, and for the first time, I felt that I had grown up and realized that I was on my own.

I received a M.S. degree in molecular and cellular biology from Iowa State University in 1994 and decided to switch fields to explore the last frontier of biological sciences, "Neuroscience." So I entered a Ph.D. program at Purdue University in West Lafayette, Indiana, where I studied neuronal pathways and mechanisms of associative learning in leeches (yes, leeches learn!) under the guidance of Dr. Christy Sahley. In 1998, I graduated from Purdue and was thinking really hard about what I wanted to do for the rest of my life. I knew I loved doing research. The thought of exploring new



Dr. Yong Wang in the lab with the electrophysiology recording equipment

ideas and conducting experiments that have never been done before really excited me. I also wanted to make a small contribution to the overall wellbeing of human health. Thus, with some careful consideration, I decided to study the auditory system. I was extremely lucky that Dr. Charlie Liberman of the Eaton-Peabody lab at Massachusetts Eye and Ear Infirmary offered me a post-doc position to study noise-induced hearing loss in his lab. We used a mouse model to address the issue for two very important reasons: 1) powerful genetics is widely available in mice and many mutations that cause human hearing loss have mouse homologues; and 2) in-bred lab mice are genetically homogeneous and we can reliably manipulate their hearing status and meaningfully assess the consequences of noise overexposure to the inner ear. Our study, entitled "Dynamics of noise-induced cellular injury and repair in the mouse cochlear," published in the *Journal of the Association for Research Otolaryngology (JARO)*, is the number one most cited article in *JARO* to date.

After finishing my training at the Eaton-Peabody lab in Boston, I wanted to explore the central changes that associated with peripheral hearing loss because this knowledge would be very beneficial to research communities who develop cochlear implant devices and hearing aids, as well as to physicians like Dr. Pillsbury, who use these devices to help severely hearing-impaired patients. So I contacted Dr. Paul Manis at UNC, one of the best electrophysiologists in the field, to learn how to record single cochlear nucleus neurons in brain slices. In 2001, I applied for and received a post-doc training fellowship from NIDCD and was offered a post-doc research associate position in Dr. Manis' lab here at UNC. Under the mentorship of Dr. Manis, I initiated a project to study physiological consequences of age-related hearing loss on cochlear nucleus neurons. I am happy to report that our study (published in the Journal of Neurophysiology) showed some interesting changes in cochlear nucleus neurons, the classic "use it or lose it" scenario. However, these changes seem subtle and do not appear to impair the temporal coding of these central neurons at least during the early period of hearing loss. This, in a sense, bodes well for patients with hearing loss because we may be able to preserve or restore the function of the central auditory pathway after peripheral hearing loss through devise intervention, thus improve hearing and speech recognition, and the quality of life for these patients.

Also in Dr. Manis' lab, we started looking at protein expression changes of some of the key molecules in cochlear nucleus neurons that may be associated with age-related hearing loss. In collaboration with Dr. Christopher Borchers in the Biochemistry department at UNC, we have identified glutamate synaptic receptor molecule GluR2 and potassium channel molecule as potential candidates.

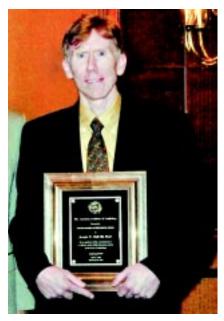
I intend to further these lines of research in Dr. Manis' lab here at UNC. Recently I was awarded a three year small R03 research grant from the National Institute of Deafness and Communication Disorder to study the central consequences of noise-induced hearing loss. We also received funding from NIDCD to start a proteomics project of age-related hearing loss. I hope the insight gained from our study will further our understanding of noise overexposure in our daily lives and raise the awareness of the danger of noise overexposure, especially in young people.

At last, I would like to thank the American people for giving me the opportunity to study in this country. It has not always been an easy journey, but I am enjoying it. Now that I am a proud U.S. citizen myself, I would like to do my small part to not only make this country better, but the whole world.

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Hall Receives National Honor for Research

Joseph W. Hall, PhD, was the recipient of a 2006 Distinguished Achievement Award presented by the American Academy of Audiology at the Academy Honors Reception on April 6th in Minneapolis, Minnesota. This award is given to individuals who have had an



Dr. Joseph Hall receiving the 2006 award for Distinguished Achievement in Audiology

impact on the profession through their teaching, clinical service, research contribution, and/or innovative program development.

Dr. Hall is one of the nation's preeminent hearing scientists. His over 100 peer-reviewed articles over the past 30 years, with threequarters of them published in the Journal of the Acoustical Society or Journal of Speech and Hearing Research, have provided significant contributions to the profession of audiology. He is perhaps best known for his discovery and investigation of the comodulation masking release (CMR) paradigm. The CMR paradigm led hearing scientists to view the auditory periphery as a multichannel signal processing system ultimately impacting on the development of processing strategies for hearing aids and cochlear implants. His other areas of investigation have been the effects of mild hearing loss on child development and the effects of glycerol in the diagnosis of Ménière's disease. The impact of his research on the clinical practice of audiology has been recognized by the National Institutes of Health (NIH). In 1988, he was awarded the Claude Pepper Award of Excellence by NIH that provided funding for 7 years. In fact, Dr. Hall has been funded by the NIH continuously for the last two decades. His prolific body of scientific work has had a significant impact not only on the advancement of our scholarly knowledge but our clinical work as well.

Dr. Hall is the Chief of the Division of Auditory Research at UNC, and has been on faculty in our department since 1986.

Announcements

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

The "UNC Heathcare Ear, Nose & Throat" clinic at Carolina Pointe officially opened its doors to receive patients on April 13, 2006. We are very excited to offer this alternative location for our patients. Our clinic at Carolina Pointe is located at 5915 Farrington Road, Suite #102, just north of Highway 54, near the intersection with I-40. Our number for appointments at both clinic locations remains the same - (919) 966-6483. Look for a full report in the next issue of *Heads Up*

Drs. Mark Weissler and Carol Shores offered free head and neck cancer screening exams in the ENT Clinic on April 19th. This was in conjunction with the Yul Brenner Head and Neck Cancer Awareness Week. We had 48 participants. Of these, two were referred for immediate appointments for possible neoplasms, nine were referred for further head and neck evaluations, and one was referred to the dentist. This is the seventh year we have offered the free cancer screening. The exhibits were in the NC Children's Hospital this year, and all members of the Multidisciplinary Program participated.

Christopher T. Melroy, MD, is the recipient of a 2006 Medical Staff Executive Committee House Officer Award. These awards are given every year to five senior residents in the UNC School of Medicine who demonstrate effective communication with and empathy for patients and their families, exemplary professionalism, and the highest standards of patient care.

Deidra A. Blanks, MD, a resident in the research track who will be completing her training in 2011, has been awarded a Research in Otolaryngology & Allergy Development (ROAD) Scholarship. This \$5000 grant is awarded once a year to residents for research in allergy. Winners are required to present their research at the Academy meeting. Dr. Blanks will be presenting this year in Toronto. Her research focuses on the use of topical immunomodulated oligonucleotides in the prevention of eustachian tube dysfunction to reduce the incidence of otitis media.

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

Heads Up

The Department of Otolaryngology/Head and Neck Surgery is proud of its skilled faculty and staff who are committed to providing patients with the highest quality health care. Get to know us!

The Department of Otolaryngology/Head and Neck Surgery

Harold C. Pillsbury, MD, FACS, Chair, Thomas J. Dark Distinguished
 Professor of Otolaryngology/Head and Neck Surgery
 William W. Shockley, MD, FACS, Vice Chair, W. Paul Biggers Distinguished

Professor of Otolaryngology/Head and Neck Surgery

Carolyn Hamby, Clinical Academic Departmental Administrator

The Division of Head and Neck Oncology, Cancer Research

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Distinguished Professor of Otolaryngology/Head and Neck Surgery
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Scott D. Meredith, MD, FACS, Associate Professor (WakeMed ENT, Chief)
Carol G. Shores, MD, PhD, FACS, Assistant Professor
Marion E. Couch, MD, PhD, FACS, Assistant Professor
Andrew F. Olshan, PhD, Research Professor

The Division of Pediatric Otolaryngology

Brian K. Kanapkey, Speech Pathologist

Amelia F. Drake, MD, FACS, Professor and Chief, Newton D. Fischer
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 Carlton J. Zdanski, MD, FACS, Assistant Professor
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Linda F. Hube, MS, Speech Pathologist

Sleep and Snoring Surgery

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John H. Grose, PhD, Associate Professor
Charles C. Finley, PhD, Research Associate Professor
Douglas C. Fitzpatrick, PhD, Research Assistant Professor
Emily Buss, PhD, Research Assistant Professor
Carol H. Pillsbury, MS, Director of the Adult Cochlear Implant Program,
Director of Audiology & Speech Pathology
Patricia A. Roush, AuD, Clinical Instructor, Director of Pediatric

The Division of Research Training and Education

Paul B. Manis, PhD, Professor and Chief

W. Paul Biggers Carolina Children's Communicative Disorders

Craig A. Buchman, MD, FACS, Professor, Admin. Director Harold C. Pillsbury, MD, FACS, Professor, Executive Director Carlton J. Zdanski, MD, , FACS, Assistant Professor Carolyn J. Brown, MS, CCC-SLP/A, Clinical Assistant Professor, Program Director Holly Teagle, AuD, Clinical Instructor

Residents:

Audiology

Subinoy Das, MD Stuart M. Hardy, MD Christopher T. Melroy, MD Michael Hanneman, MD*

*visiting from LSU

Marc K. Bassim, MD Charles S. Ebert, MD, MPH Krishna G. Patel, MD, PhD Adam M. Zanation, MD John Alldredge, MD* Trinitia Y. Cannon, MD Joshua C. Demke, MD Karen A. Kölln, MD Steve C. Lee, MD, PhD Jeffrey LaCour, MD* Deidra A. Blanks, MD Paul C. Bryson, MD W. Derek Leight, MD Allen F. Marshall, MD Gregory J. Basura, MD, PhD Keith M. Ladner, MD Alisha N. West, MD Rose J. Payyapilli, MD Sachin Parikh, MD*

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