The University of North Carolina at Chapel Hill
Department of Otolaryngology/Head and Neck Surgery

Heads Up

The Research Track Experience

by Kibwei A. McKinney, MD

My name is Kibwei A. McKinney and I am a second-year resident in the 7-year research track residency program. I grew up in Washington, DC, and was the third of seven children in my family. After leaving home, I attended Stanford University, where I majored in Human Biology and minored in Spanish Language. From there I went to medical school. I matriculated at the University of Pennsylvania School of Medicine, graduating in 2008. I first became interested in applying to Otolaryngology residency programs with the NIH-funded T32 training grant during medical school, when I was mentored by a faculty member, Duane A. Sewell, MD, who had completed such a program during his residency. I spent a year in Dr. Sewell’s basic science laboratory, where I conducted a project which focused on the development of an anti-tumor vaccine for head and neck squamous cell carcinoma. From this experience, I gained an appreciation for the complexities of basic research and the challenges and rewards involved with becoming a skilled clinician-scientist.

When I visited UNC, I was immediately impressed by the importance that the program and faculty placed on resident research. Having dedicated time away from clinic responsibilities was ideal, in that it would provide me with adequate time and resources to develop research ideas upon which to build my career. Needless to say, I was absolutely ecstatic when I discovered that I had matched here and would have the tremendous opportunity to train in such a supportive environment.

For the next two years, I will be working with Drs. Adam Zanation and Charles Ebert, focusing on the genetic profiles of patients with Allergic Fungal Rhinosinusitis (AFRS). This is one of the myriad of disease processes which are more broadly described as Chronic Rhinosinusitis, and its etiology remains incompletely understood. Conventionally this disease is thought to emanate from inflammation and infection due to systemic allergy to fungi which are ubiquitous in the environment. Interestingly, in over 50% of patients with AFRS, the presentation of disease is unilateral. The contra-lateral mucosa is typically normal, and thus provides an internal control for comparison to the diseased side. Our hypothesis is that these patients represent a genetic chimera with measurable differences in the genes that regulate the eosinophilic inflammatory pathway between their diseased and non-diseased sides. In this study, we will collect normal and diseased nasal mucosa from AFRS patients and analyze their cDNA in order to better elucidate the genetic determinants of AFRS and identify potential targets for therapeutic intervention.

From my experience in the lab, I hope to pursue an academic career as a clinician-scientist, focusing clinically on Rhinology and Skull Base Surgery, while examining the molecular mechanisms that underlie the disease processes within these fields.

Read more about the Research Track on page 2.
In 2001, the Department was awarded a 5-year grant totaling $580,000, from the National Institutes on Deafness and Other Communication Disorders (NIDCD) for research training in Otolaryngology/Head and Neck Surgery. With the inception of this training grant, the department joined an elite group of about a dozen institutions that offer 2-year research training positions during residency. The grant also guarantees the Department’s continued support and promotion of medical student research experiences at UNC. The training grant further extends the burgeoning research support within the department, by providing stipends for medical students (2 for the summers and 1 for a whole year, each year of the grant) and one resident for two years for research training each year. We are currently in our second 5-year cycle of this grant.

Dr. Joe Roche is continuing his 2-year research program, where he is studying spike-timing dependent plasticity in auditory cortex with Dr. Paul Manis. Dr. Roche won a 2-year fellowship, the Herbert Silverstein Otology/Neurotology Research Award, which is jointly sponsored by the AAO-HNS Foundation and the American Neurotology Society. This fellowship helps to support his research on synaptic plasticity and critical periods for sensory learning in auditory cortex. Dr. Roche has also been involved in an auditory neuropathy retrospective with Dr. Craig Buchanan, in which they have tabulated findings from more than 100 children from MRI and CT and compared this with patient historical data and risk factors. This was presented at the Combined Otolaryngology Society Meeting in May 2009. He has also been working with Dr. Brent Senior, investigating the prevalence of specific IgE levels in a pediatric population using a new assay method that has a lower limit of detection.

Dr. Mihir Patel has just completed his second year as a resident on the research track, working principally with Dr. Marion Couch. He has been worked on two projects, both involving tissue microarrays. The first was an immunohistochemical and molecular analysis of follicular thyroid lesions with the goal of designing a protocol to preoperatively identify benign versus malignant lesions. The second was the CHANCE TMA study, an analysis of squamous cell carcinomas in 150 patients. The primary goal is to preoperatively determine how to further classify head and neck SCCa lesions to guide treatment options and modality. The study analysis of tissue from 150 HNSCC patients, and is targeting various DNA repair genes.

The trainees have been actively submitting papers for both their basic research and in the clinical arena, as well as attending a variety of conferences to present their work. The residents in particular have also been quite successful in obtaining additional research funding for their projects, including from the Deafness Research Foundation (Dr. Charles Ebert, who completed the residency program in June 2009), an AHNS/AAO Young Investigator Award (Dr. Mihir Patel), Lineberger Comprehensive Cancer Center (3 grants, Dr. Trinitia Cannon), the American Academy of Otolaryngic Allergy (Drs. Ebert and Rose Eapen in separate grants), a ROADs scholarship from AAOA (Dr. Deidra Blanks), and the Herbert Silverstein Otology/Neurotology Research Award (Dr. Joe Roche). Additional success in the program is evident in the number of applicants we have had from institutions outside UNC Chapel Hill, attesting to the national stature of the program and the strength of the research opportunities.

So far, in the first 7 years, this grant has provided research support for 8 residents for 2-year research projects, 10 medical students for a 1-year research experience, and 10 medical students for a short-term (summer) research stint. Dr. Paul Manis, the Director of Research Training and Education, is the Program Director and Principal Investigator for this grant.

**Chair’s Corner**

This edition of Heads Up offers us an occasion to celebrate the wonderful opportunities that we have offered our outstanding residents to become involved in research in our department. The individuals both in the research track and their mentors on the faculty have distinguished themselves by an incredible level of productivity and success which validates our mission as a research based department in our medical school. I have the highest regard for our faculty as well as the passion of both the mentors and mentees in accomplishing their goals to further the scientific base of our specialty.

It is especially gratifying to see how successful Krishna Patel, MD, PhD, has been since she finished her residency at UNC. After a very successful fellowship, she is a valued faculty member at MUSC in Charleston, SC. Her success, in no small part, is due not only as her tremendous talents as a surgeon, but also to her promise of productivity in the academic arena as a clinician researcher. We anticipate fall each year since it brings us many interested medical students who want to pursue a residency with us. We look forward to the continued excellence that our present and past residents have exhibited in pursuing their careers.
In June 2009, Dr. Carol Shores and I traveled to Kamuzu Central Hospital (KCH) in Lilongwe, Malawi. Lilongwe, located in central Malawi, is the nation’s capital and has a population of approximately 850,000. Most of Lilongwe’s Malawian citizens live on just a few dollars a day and many are unemployed. The population of Lilongwe has grown as villagers, including young children orphaned from HIV, from the surrounding rural areas have relocated to the capital in search of jobs and improved quality of life.

Kamuzu Central Hospital is a 1,000-bed, public, tertiary care hospital operated by the Ministry of Health that serves a population of nearly four million people. Dr. Muyco, a Filipino surgeon who has been practicing in Malawi for 30 years, is the chief of the surgery department. The department is a conglomeration of surgeons from around the globe, including Norway, Tanzania, and China, who have a heart for the welfare of Malawi. Currently, there are no Malawian surgeons. Additionally, there are no otolaryngologists. Clinical officers are the vast majority of providers in the hospital and throughout the country. Following high school, clinical officers complete 2 years of formal education and eighteen months of on-the-job training. In many surrounding cities, they are the only available medical staff in the clinics. There is one clinical officer at KCH who specializes in otolaryngology.

Dr. Shores has traveled to KCH many times and the purpose of our current trip was less clinical than some of her prior trips. During this trip, my goal was to lay the groundwork for research investigating ameloblastomas. The objective of our investigation is to definitely determine if a specific virus or viral family is associated with ameloblastomas in Malawi.

In addition to this project, Dr. Shores is also working diligently to establish a cancer registry at KCH. The registry can be used to quantify the burden of disease, request resources for treatment and prevention, and be used to set up clinical trials to guide future therapies.

There is a strong desire to have a Malawian surgeon at KCH, which was the impetus for establishing a surgical residency program in Malawi. The first group of surgical residents arrived while we were in Malawi. A third goal of our trip was to assess the surgical residency training program and determine how UNC trained faculty could contribute to the training of these young surgeons. The expectation is that one of these residents will soon be the first Malawian surgeon on staff at KCH and will eventually lead the department.

We were continually impressed by the number of patients and the burden of disease treated by this group of surgeons and staff. While seeing patients on the ward, we spoke with the nursing staff. On one particular morning, the nurse on the surgical ward was responsible for 38 patients. On another day, the theater (operating room) ground to a standstill because there was a water outage and instruments could not be sterilized. Ventilators are limited. CT and MRI imaging are nonexistent. It is amazing the care that is provided to the patients given the limited resources available at the hospital. We were able to provide some medical equipment and supplies that we brought with us, which were greatly appreciated. We hope that in the future we can provide more.

Each resident is paid $500 per month for a total cost of $30,000 to train a surgical resident through a 5-year program. Our goal is to be able to fund one resident per year. Additionally, my goal is to provide each of the three residents with a laptop computer.

The experience was extremely rewarding. Although this is a country with great needs, it is also a country of energetic, young physicians willing to work toward improvement. Dr. Shores has seen significant improvements in the few years that she has been traveling to Malawi, and it is our desire that we do all we can to ensure this progress continues.

If you are interested in making a donation that will support the surgical residents training in Malawi, please contact our Director of Development, Holli Gall: holli_gall@med.unc.edu, (919) 843-5734, or toll-free 1-800-962-2543.
Alisha N. West, MD

As we are approaching the close of our residency career, the chiefs have been asked to reflect on our “most exciting case.” As I thought about this question, I realized that my most exciting moment in residency was a direct result of my most exciting case.

Since I was in high school I have been very passionate about craniofacial abnormalities. I became a doctor in order to care for and operate on children suffering from craniofacial anomalies. One such congenital anomaly is microtia, (a condition where a child is born with a small or absent ear). Microtia is graded based on severity. The most severe grade of microtia, grade three, indicates that the child is missing the entire cartilaginous portion of the ear and is only born with an ear lobe. My first three years of residency our department did not perform a single microtia repair. Last year, my second to last year in residency, our department embarked on our very first microtia reconstruction. The case was a joint case with Dr. Shockley and Dr. Zdanski. As we set up the room to start the case, Dr. Shockley placed his hand on my back and said into my ear, “Alisha, you’re part of history in this department.” His statement set the stage for a groundbreaking operation.

The patient was an eight-year-old male with right-sided grade three microtia. We drew a template for his new ear using his mother’s right ear. We then harvested three ribs and carved a beautiful and believable ear from the patient’s own cartilage. Drs. Shockley and Zdanski did the carving and they were utterly Michelangelo-esque with their artistry. We covered the sculpted ear with skin and placed a large dressing over our neo-auricle. We then admitted the child to the hospital to watch closely for any signs of hematoma that would foil our work.

On the third post-operative day, Dr. Zdanski asked me to remove the dressing and take the first look at the ear. I went up to his room during my lunch break. His mother was in the room. She began confiding in me that she felt a new bond with her son now that they had matching ears. I asked her, “Well would you like to see your matching ear?” She exclaimed, “Yes, please.” I proceeded to remove the dressing. The ear was beautiful! It looked incredible. The mother began crying. As I looked from the ear to the sobbing mother, I too began to bawl. To this day, that was the most outstanding moment of my residency career.

Gregory J. Basura, MD, PhD

“Hey thanks for calling back. We’ve got a 23-year-old male who was working under his car; the parking brake failed and rolled from the tire ramps over him. His right ear is almost completely avulsed from his head. Do you mind taking a look at it?” The words bellowed from A bay of the Wake Med ER through the receiver and struck my tympanic membrane with the equivalent force of the 1972 El Camino that assaulted my unfortunate consult. As I hurled my “black cloud” down the long corridor from the resident work room to the trauma bay, my mind was swirling….panicking really….running the grocery list of not only what I would need to re-attach the ear….but of what “green” skill set I would draw from, from my vast 2 weeks of head and neck reconstructive surgical experience to re-attach the wayward appendage. Root of the helix, tragus, lobule, conchal bowl, the anti-helix…bolsters, cartilage necrosis…cartilage penetrating antibiotics…I ran the list.

The ear dangled, like a flailing piñata following a direct hit, it twisted from a scrap of skin. I swallowed hard, eyes squinting to understand the gnarled anatomy; the ear seemed to be upside down, backwards; my patient’s own interest waning from aesthetics and facial subunits to the smoking kiosk in the ER parking lot. Following a few minutes of local lidocaine and a river of saline…I realized the OR and an attending would be the appropriate course of action. Dr. Ken Benson….you are the winner. He’s an oral

Dr. Greg Basura, a.k.a. Hurricane Basura, or The Leech Guy
Heads Up

and maxillofacial surgeon who sometimes covers call at Wake.

After 3 hours of Q-tip dabbing, PDS and proline suture, the ear was re-born. Dr. Benson and I agreed that success would come in the form of smoking cessation and leech therapy. I stored my hirudin-secreting friends in the refrigerator on the 6C patient floor; I was quickly being dubbed “the leech guy.” Leech changes 3 times a day for 1 week resulted in a newly overhauled ear.

Since that time, “Hurricane Basura” has rolled upon many interesting scenarios, but I often reflect back to the seminal week of the leeches and the ear that we saved. Now some 2.5 years later, I continue to find myself in interesting situations, yet feel more and more prepared for each new encounter.

Trinitia Y. Cannon, MD

Thinking back and trying to reflect upon which case I would consider the “most exciting” brings with it a wave of nostalgia for a place that has been my home for more than six years. Although I hold a special place in my heart for ANY of the “head and neck” cases, I have been excited to be in the operating room each time I am allowed the privilege. Therefore, it is hard for me to choose just one exciting case. Each division and the attendings therein bring a unique teaching method and every case brings with it challenges that make it exciting.

Every time that I embark upon a new procedure or am challenged with the unexpected during a case that I have done multiple times, I am filled with nervous anticipation. I can still remember the excitement before my first tonsillectomy and adenoidectomy at Wake Med because this was the first time that I truly felt like an Otolaryngologist. Each time that I drill a mastoid, complete a difficult airway case on a child, or complete a vocal fold injection I am filled with the same excitement and sense of accomplishment.

Taking another resident through a case or completing a case with little attending involvement is currently at the top of my list of exciting cases. I remember the pride I felt after Dr. Zanation allowed Paul Bryson and me to perform a Total Laryngectomy and bilateral neck dissection. Although I have been challenged with many difficult cases since that time and the majority of my cases have attending involvement, this case remains special to me. When I am frustrated with my technique and skill, I look to this case and others like it to remind myself that I have been taught the skills necessary to make me a very capable Otolaryngologist. For that I say thank you to all of my attendings for allowing me to participate in their patients’ care on any level.

Keith M. Ladner, MD

Having now assisted in over 3,000 operative cases, it is difficult to choose one case that stands out above all others as the most interesting. However, if I look back at my residency experience, the surgeries that have left the greatest impressions are those in which I have had the opportunity to operate with my resident peers.

As an intern and junior resident, I benefited from the patience and teaching of my superiors—Drs. Melroy, Hardy, Hanneman, Das, Bassim, to name a few. I still remember seeing my first laryngectomy with Dr. Adam Zanation. I also recall Dr. Krishna Patel walking me through my first pair of arch bars. My first tracheostomy was under the guidance Dr. John Alldredge. The first time I drilled a live temporal bone was with Dr. Karen Kölln (Bednarski). My first radical neck dissection was with Dr. Charles (Carlos) Ebert. Dr. Steve Lee showed me how to excise a parathyroid adenoma in under 10 minutes.

Now, as a senior and chief resident, I have had the opportunity to guide and instruct my fellow residents during cases. I was able to assist Dr. Josh Surowitz during his first thyroidectomy. Similarly, I witnessed Dr. Rupali Shah’s first laryngectomy. I will also never forget the first time that Dr. Maher Younes placed arch bars. He had the fortune of learning this procedure during his first week of intern year in a child with mixed dentition using 28-gaue wire.

I feel extremely indebted to our attendings here at UNC. It is through their instruction, guidance, and patience that generations of residents have matured into accomplished surgeons. The generosity and expertise of our ENT faculty has allowed this learning cycle to perpetuate. I am grateful to have trained beneath so many talented surgeons and hope that I can be equally successful in my endeavors.

Dr. Trinitia Cannon especially enjoys the “head and neck” cases and teaching junior residents in the OR.

Dr. Keith Ladner has acquired both surgical and teaching skills, which he passes on to junior residents.

Their Most Exciting Cases
I can remember talking to my resident seniors Chris Melroy and Rob Sonnenberg about how in the world I was going to survive once out of residency. Since residency, I have spent many sleepless nights thinking about upcoming surgeries and worrying about patients but anyone who knows me, knows that is what I do. And thanks to my incredible mentors at UNC I am living the dream.

I do not think I could have been more fortunate for how post-residency life has unfolded. I graduated in 2007, and headed to less-humid California to complete a fellowship in Facial Plastic and Reconstructive Surgery at the University of California, Davis under the supervision of Dr. Jonathan Sykes. During that year I enjoyed sharing frequent emails with my co-residents, John Allredge, Marc Bassim and Adam Zanation, who helped me endure the dreaded Boards. Like residency, my fellowship experience was invaluable, both in what I learned and the friendships I forged.

As I had promised on the day I interviewed for residency, I went seeking an academic faculty position. I joined the Medical University of South Carolina (MUSC) as an assistant professor in Facial Plastic and Reconstructive surgery in the summer of 2008. I came to Charleston with the comfort of having a friend and mentor in Dr. David White (my chief resident during my Intern year at UNC). During this past year, my previous mentors Dr. William Shockley, Dr. Raymond Cook and Dr. Jonathan Sykes have received many calls from me asking for their guidance as I began to build my practice. I am and will always be indebted to them for their continued mentoring and support.

During residency, I had the fortunate experience of joining Dr. Brent Senior on his international medical trip to Vietnam and vowed to continue to participate in medical missions. During fellowship, I traveled to Ecuador with the non-profit organization, Operation of Hope, to perform cleft lip and palate surgery for the underserved population. My experience in Ecuador and at UC Davis opened my eyes and heart to the intricacies of craniofacial teams. UC Davis had a busy craniofacial team, which enabled me to build upon my education that began with the teachings of Dr. Amelia Drake and Dr. Carlton Zdanski.

One of the high points of my position in MUSC is playing an active role in their craniofacial team. Additionally, I have traveled to the Dominican Republic twice last year as part of an Ohio-MUSC medical team called Project Ear, which provides surgical care for the underserved. I hope to make this an annual trip.

The department I joined is composed of energetic and incredibly talented surgeons with great vision, and I am grateful to be part of such a team. Additionally, I have really enjoyed working with the MUSC residents who are enthusiastic and tolerant of the many courses I have organized in facial plastic, reconstructive surgery and trauma. Their tight bonds and teamwork remind me of the camaraderie that I experienced at UNC. This past year, I have enjoyed seeing many of my peer UNC residents at the local and national meetings.

My education has sent me to all corners of this country but ultimately I am most excited about living close to my beautiful family in Athens, Georgia. I love living in Charleston and, after growing up reading Pat Conroy novels, feel that I am home.

Thank you for checking in with me, I look forward to seeing all of my old friends at this year’s Fischer Society meeting.
Amelia F. Drake, MD, spoke on the Airway Panel at the 11th International Congress on Cleft Palate and Related Craniofacial Anomalies in Fortaleza, Brazil. This was an event supported by Smile Train, in which multidisciplinary talks were given in all aspects of the field. Alisha N. West, MD, who is especially interested in craniofacial abnormalities, also went, as did three other researchers from the UNC School of Dentistry.

John H. Grose, PhD, has been invited to serve a 4-year term on the Auditory System Study Section at NIH. The first study section is at the end of September in San Francisco.

CASTLE now has 6 AV certified full or part time staff. This is more than many states have total! Three speech-language pathologists at CASTLE have recently become LSLS Certified (Listening and Spoken Language Specialists). They are: Sandra Hancock, MS, CCC-SLP, LSLS Cert. AVT; Erin Thompson, MS, CCC-SLP, LSLS Cert. AVT; and Maegan Evans, PhD, CCC-SLP, LSLS Cert. AVEd.

Mark C. Weissler, MD, was named Case Report Associate Editor of the journal Otolaryngology-Head and Neck Surgery.

Mitchell R. Gore, MD, PhD, and Adam M. Zanation, MD, have had a paper accepted to Archives of Otolaryngology entitled “Salvage of Late Neck Metastases in Esthesioneuroblastoma-A Meta-analysis.” Dr. Gore will give two oral presentations at the North American Skull Base Meeting in New Orleans in October. Both are co-authored by Dr. Zanation and entitled, “Salvage of Late Neck Metastases and Local Recurrence in Esthesioneuroblastoma” and “Treatment of Sinonasal Melanoma-A Meta-analysis.”

Oliver F. Adunka, MD, has graduated the UNC Teaching Scholars Program, a year-long faculty development program designed to promote expertise in medical education. Graduation from the Program confers recognition as a scholar in medical education and provides the School of Medicine with a resource of talent in education. Dr. Adunka’s project was a partially online learning system for Otolaryngology residents.

Brent A. Senior, MD, was invited as a Visiting Professor in Asia this summer. He presented “Complications in Endoscopic Sinus Surgery” at Hai Phong Medical University in Hai Phong, Vietnam, and from there he went to Beijing, China, where he presented “Minimally Invasive Pituitary Surgery” at the Beijing Institute of Otolaryngology. Dr. Senior was also elected to the Nominating Committee of the American Academy of Otolaryngology-Head & Neck Surgery, as well as to the Board of Directors of the International Rhinologic Society.

Oliver F. Adunka, MD, attended the 53rd Annual Meeting of the Austrian Society of Oto-Rhino-Laryngology in Bregenz, Austria, in September. He presented a talk in German, the English title being “Animal Model for Hearing Preservation Cochlear Implantation.” Co-authors were 4th-year medical student Stephanie Mlot, Craig Buchman, MD; and Douglas Fitzpatrick, PhD.

We have completed enrollment for the Vibrant Soundbridge trial (PI: Craig A. Buchman, MD) with four subjects, which is the second most in the nation. The Vibrant Soundbridge is an implantable hearing aid. This device has been available since the 1990s and currently has FDA approval for mild to severe sensorineural hearing loss. A new indication includes conductive or mixed hearing loss. Here, the device is placed onto the round window membrane (and is not clipped onto the incus hearing bone). This indication has been approved in Europe (CE certificate since 2008) and we have now completed enrollment in the US. Also, we have enrolled 14 subjects in the Electro-Acoustic Stimulation trial (PI: Oliver F. Adunka, MD), making UNC the leader in North America. EAS combines hearing-preservation cochlear implantation with amplification.

Charles S. Ebert, Jr., MD, MPH, will be presented with the American Academy of Otolaryngology-Head and Neck Surgery Honor Award during the Opening Ceremony of the annual meeting on October 4th, held in San Francisco this year. This prestigious award is given to members in recognition of their volunteer contributions to the Academy and its Foundation.
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
Craig A. Buchman, MD, FACS, Vice Chair for Clinical Affairs
Brent A. Senior, MD, FACS, Vice Chair for Academic Affairs
Carolyn Hamby, Clinical Academic Departmental Administrator

The Division of Head and Neck Oncology, Cancer Research
Mark C. Weissler, MD, FACS, Professor and Chief, Joseph P. Riddle Distinguished Professor of Otolaryngology/Head and Neck Surgery
William W. Shockley, MD, FACS, Professor
Marion E. Couch, MD, PhD, FACS, Associate Professor
Xiaoying Yin, MD, Assistant Professor
Adam M. Zanation, MD, Assistant Professor
Trevor G. Hackman, MD, Assistant Professor
Andrew F. Olshan, PhD, Professor
D. Neil Hayes, MD, MPH, Assistant Professor
Brian K. Kanapkey, Speech Pathologist

The Division of Pediatric Otolaryngology
Amelia F. Drake, MD, FACS, Professor and Chief, Newton D. Fischer Distinguished Professor of Otolaryngology/Head and Neck Surgery
Carlton J. Zdanski, MD, FACS, Associate Professor
Austin S. Rose, MD, Associate Professor
Laura Rosenthal, MD, Pediatric Otolaryngology Fellow

The Division of Facial Plastic and Reconstructive Surgery
William W. Shockley, MD, FACS, Professor and Chief, W. Paul Biggers
Distinguished Professor of Otolaryngology/Head and Neck Surgery

The Division of Rhinology, Allergy, Sinus Surgery
Brent A. Senior, MD, FACS, Professor and Chief
Adam M. Zanation, MD, Assistant Professor
Charles S. Ebert, Jr., MD, MPH, Assistant Professor
Julia S. Kimbell, PhD, Associate Professor

The Division of Voice and Swallowing Disorders/UNC Voice Center
Robert A. Buckmire, MD, Associate Professor and Chief
Mark C. Weissler, MD, FACS, Professor
Ellen S. Markus, MA, CCC-SLP, DMA, Coordinator
Linda F. Hube, MS, CCC-SLP, Speech Pathologist

The Division of Otology/Neurotology and Skull Base Surgery
Craig A. Buchman, MD, FACS, Professor and Chief
Harold C. Pillsbury, MD, FACS, Professor
Oliver F. Adunka, MD, Assistant Professor

Sleep and Snoring Surgery
Brent A. Senior, MD, FACS, Professor
Marion E. Couch, MD, PhD, Associate Professor

The Division of Auditory Research
Joseph W. Hall, PhD, Professor and Chief
Jiri Prazma, MD, PhD, Professor
Paul B. Manis, PhD, Professor
John H. Grose, PhD, Professor
Emily Buss, PhD, Associate Professor
Charles C. Finley, PhD, Associate Professor
Douglas C. Fitzpatrick, PhD, Assistant Professor
Patricia A. Roush, AuD, Assistant Professor, Director, Pediatric Audiology

The Division of Research Training and Education
Paul B. Manis, PhD, Professor and Chief

The Adult Cochlear Implant Program
Marcia Clark Adunka, AuD, CCC-A, Director
English King, AuD, CCC-A, Audiologist

W. Paul Biggers Carolina Children's Communicative Disorders Program
Craig A. Buchman, MD, FACS, Professor, Admin. Director
Harold C. Pillsbury, MD, FACS, Professor, Executive Director
Carlton J. Zdanski, MD, FACS, Associate Professor
Oliver F. Adunka, MD, Assistant Professor
Holly Teagle, AuD, Assistant Professor, Program Director
Hannah R. Eskridge, MSP, CCC-SLP, LSLS Cert. AVT, Clinical Instructor, Director of CASTLE

WakeMed Faculty Physicians
Michael O. Ferguson, MD, Associate Professor and Chief
Carol G. Shores, MD, PhD, FACS, Associate Professor
Brett E. Dorfman, MD, Assistant Professor
Esa A. Bloedon, MD, Assistant Professor
Allen F. Marshall, MD, Assistant Professor

Residents:

Gregory J. Basura, MD, PhD
Keith M. Ladner, MD
Alisha N. West, MD
Trinitia Y. Cannon, MD
Mitchell R. Gore, MD, PhD
Paula J. Harmon, MD
Michael E. Stadler, MD
Deidra A. Blanks, MD
Rupali N. Shah, MD
Joshua B. Surowitz, MD
Maher N. Younes, MD
Rose J. Eapen, MD
Mihir R. Patel, MD
Jessica K. Smyth, MD
Scott Shadfar, MD
Yu-Tung Wong, MD
Kibwei A. McKinney, MD
Joseph P. Roche, MD
Baishakhi Choudhury, MD
Brian D. Thorp, MD
Alexander Farag, MD
John P. Dahl, MD, PhD, MBA

Appointments: (919) 966-6483 or 966-3325
ENT Clinic, UNC Hospitals: (919) 966-6484
ENT Clinic, Carolina Pointe: (919) 490-3280
Administrative Office: (919) 966-3342

www.med.unc.edu/ent