CONNECTIONS
Inside Head and Neck Surgery & Communication Sciences
Global Leader in Promoting Healthier Connections with the World

Head and Neck Surgery & Communication Sciences Research:
A Multi-Million Dollar Research Infrastructure for Practice-Based Research

Duke Hearing Center:
Exploring the Complexities of Hearing and Balance

Multidisciplinary Head and Neck Cancer Treatment:
Applying First-World Technologies to Low-Resource Settings

Rhinology and Endoscopic Skull Base Surgery:
Advanced Treatments in Minimally Invasive Tumor Removal

Duke University School of Medicine
To Be A Global Leader In Promoting Healthier Connections With The World Through:

Compassionate care of our patients, their loved ones and each other
Advancing and sharing knowledge in the field
Promoting virtuous professional development, collaboration and leadership

Dear Friends and Colleagues,

On behalf of the exceptional individuals who comprise the Division of Head and Neck Surgery & Communication Sciences (HNSCS) family, I am delighted you have taken the time to read this newsletter. Rather than just a cursory glance at the material, grab your favorite beverage, sit a spell, and chew on its content. As you begin to digest its message, I hope that you grasp the sense of accomplishment in what we have become in the past 11 years, and to share in our excitement and passion in striving to be the premiere Department of Head and Neck Surgery & Communication Sciences.

On January 1, 2006, I was given the opportunity to lead the Division of Otolaryngology-Head and Neck Surgery (OHNS) at Duke University, which was composed of five full-time academic faculty who saw 8,000 patients a year. In 2015, the Division of OHNS and the Division of Audiology and Speech Pathology merged to become the Division of Head and Neck Surgery & Communication Sciences. In 2017, our clinical practice has grown to 18 full-time academic surgical faculty, four clinical associate surgical faculty, four PhD research faculty, four physician assistants, seven audiologists, and seven speech pathologists with over 60,000 patient visits yearly in four practice locations. The Duke Voice Care Center, the Duke Hearing Center, the Duke Skull Base Center, and the Duke Cancer Institute Head and Neck Oncology Program were established as institutional centers of excellence. We are also key contributors in many vibrant multidisciplinary programs in pediatric otolaryngology, melanoma and cutaneous malignancies, head and neck sarcoma, head and neck endocrine surgery, facial plastic and reconstructive surgery, comprehensive general otolaryngology/allergy, and craniomaxillofacial trauma. Our efforts extend globally, with faculty and residents actively engaged in clinical care, educational, and research efforts in Ethiopia, Kenya, Colombia, Ecuador, Vietnam, Singapore, and Honduras.

Educationally, our residency program has grown from two residents to three residents per year, and we anticipate expanding to four residents a year in the near future. We have established fellowships in head and neck surgery, an international fellowship experience with residents of Hadassah Hospital in Israel, and will have fellowships in laryngology and neurotology. We have a unique T32 training grant that provides clinical research training to medical students and residents who have finished their training, including an opportunity to obtain an MPH or Masters in Health Sciences degree. Our research program is robust, and, with a concerted effort and focus, we expect to be among the top ten otolaryngology research programs in the next few years.

This newsletter illustrates the breadth and depth of HNSCS in providing state-of-the-art, compassionate patient care; excellence in education; and a vibrant research environment. However, these are staples of any outstanding program in our field. What I want you to digest, savor, and remember is what makes Duke HNSCS unique and exceptional: Who we are and what we strive to do every day is grounded in three foundational pillars.

First is our culture of leadership as exemplified in our mission statement over the last 10 years of training tomorrow's leaders. This demanded defining our core values of integrity, initiative, personal responsibility, compassion, and accountability, which are essential in developing professionalism at every level in the division. These virtues are regularly espoused, formally taught, critically evaluated, and foundational in how we select residents. Our faculty are committed to modeling these virtues, however imperfectly. Our yearly leadership program, Leadership Lived Out, engages participants at every level in the division from faculty, residents, nursing, and administrative and support staff. The resultant frameshift in thinking from “we have to” to “we ought to” do the right thing is emulated by others across the Duke Health system.

Second, the pursuit of excellence underlies all we do, starting with the patient. We remain acutely aware of the privilege and responsibility that society in general and patients in particular provide us when they entrust their health, and often their lives to their physician and healthcare team. We treasure the primacy of the patient-physician relationship, and affirm this perspective to our learners.

Third, in the everyday challenge of living and modeling an attitude of servant leadership, we try to set aside our personal agenda to enable and encourage others’ success and well-being. This is particularly challenging in a busy and demanding work environment, but has undergirded the entire division in times of struggle, failure, and success.

As I transition out of this leadership role, I can say it has been a wonderful journey and often a wild ride. In the daily challenges I have learned much about my strengths, areas for personal growth, and the vital importance of family, friends, and my Christian faith, which is foundational in my desire to do my work well for the One who has provided me with the ability as well as the gifts of people who worked tirelessly together. I would like to particularly thank and acknowledge our faculty and residents who stayed the course with me when we started, and those who trusted us enough to join us and risk their careers on a program going through growing pains to pursue excellence. It was your embrace of our vision, your commitment to excellence, and your selfless hard work that has
Dear Friends and Colleagues,

As I assume the role of Chief of the Division of Head and Neck Surgery & Communication Sciences at Duke in March 2017, I am honored to be entrusted with the stewardship of the burgeoning reputation of this division. That reputation is built on a shared commitment to excellence and a vision that has been carefully conceived and executed: to be a global leader in promoting healthier connections with the world. I am personally excited to engage in this journey after a period of unprecedented growth of the faculty by Ray Esclamado, who has created a culture of compassion and mutual respect that will continue to cultivate.

First and foremost, I am committed to maintaining the culture of leadership development, mentorship, and mutual support that is the foundation of the division’s success. Through strategic recruitment and investments in our faculty and trainees, we will continue to build academic programs that are on the cutting edge with growing impact on patient outcomes domestically and globally. We will make the most of the world-class facilities of Duke University and the rich resources of the Research Triangle to create new collaborations that will generate novel solutions. I look forward to working with the Department of Surgery, other Duke entities, and regional partners to elevate Duke and North Carolina as a hub of innovation in otolaryngology, head and neck surgery, and communication sciences, to which patients, learners, scientists, and clinicians are drawn for its supportive and pioneering reputation.

I have experienced several joys in my academic career, all emerging from a strong sense of camaraderie, purpose, and passion that I have shared with colleagues and trainees over the past 26 years at Johns Hopkins. Mentorship and collaboration have been consistent themes and sources of great satisfaction. My sense of professional fulfillment is only eclipsed by 26 marvelous years of marriage to Sarah and the joy of raising two wonderful children, Natalie and Ben. I attribute all of my successes to their acceptance and encouragement of my professional pursuits. I am guided by a strong sense of gratitude, faith, and commitment shaped by my upbringing in Jamaica and subsequently as an immigrant to the United States.

I look forward to working with our faculty, trainees, and partners to build a durable legacy of excellence in our service to patients and their families. Even as we engage in the development and deployment of new technologies in the treatment of disease, I am committed to preserving the core value of compassionate care of our patients. We will be guided by the highest levels of ethics and principles of inclusion and fairness, always with an eye on our core purpose.

Gratefully yours,

Howard W. Francis, MD, MBA, FACS

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The Duke Division of Head and Neck Surgery & Communication Sciences is at the forefront of clinical research in otolaryngology and communicative sciences. Our team of internationally renowned researchers are working to advance care and improve outcomes through the integration of state-of-the-art technologies and collaborative research methods. Areas of focus include hearing and balance disorders, assistive technologies, swallowing disorders, speech and voice disorders, and global health.

Our research on hearing and balance disorders includes work at the Duke Vestibular Disorders Clinic, which conducts clinical research to discover new therapies for people with balance disorders. We're leading the formation of a practice-based clinical research network in collaboration with the Duke Clinical Research Institute. Researchers are also measuring the effects of cochlear implantation on the balance system and evaluating new techniques for monitoring hearing during acoustic neuroma surgery.

Our faculty is leading research efforts to test and develop assistive technologies to help people with speech and auditory disorders communicate more effectively. Additionally, we conduct research to create outcomes measurement tools and techniques that gauge the impact of assistive technology devices on the lives of people with disabilities and their caregivers.

The rhinology and endoscopic skull base surgery research program maintains a database of all its patients, allowing for outcomes research in both inflammatory and neoplastic conditions. For retrospective studies, we utilize Duke University's data repository.

Our speech and voice research includes work at the Duke Voice Care Center to document the prevalence of voice disorders and how they affect quality of life. Harrison N. Jones, PhD, is also leading a study to examine speech characteristics in individuals with Down syndrome (DS) to assess and describe the nature of speech disorders commonly found in DS individuals.

In addition, we have research collaborations with groups throughout Duke, including work with William Parker, PhD, in the Division of Surgical Sciences focused on biome enrichment with helminths, and a project in which Jones is collaborating with Priya Kishnani, PhD, in the Duke Department of Pediatrics to conduct a systematic investigation into the use of respiratory muscle training (RMT) to increase inspiratory and expiratory strength in adults and children with Pompe disease (see page 6).

Projects in global health include improving head and neck cancer screening through a low-cost fiber optic scope and providing solar powered hearing aids to low income-children, both in Vietnam. We are working with Kenyan otolaryngologists to develop a hearing screening program with the goal of starting a cochlear implant program. Several of our residents have been awarded the American Academy of Otolaryngology-Head and Neck Surgery Resident Travel Award for humanitarian work in Africa, Asia, and Central America.

“Research in our division represents some of the most compelling challenges in otolaryngology, audiology, and speech pathology,” says Dennis O. Frank-Ito, PhD. “The strength of our program lies in extensive collaboration and the expertise of our investigators.”
Partnerships with the National Institutes of Health

Duke Otolaryngology has received multi-million dollar funding from the NIH for practice-based research for two initiatives. CHEER, short for “Creating Healthcare Excellence through Education and Research,” is an NIH-funded program for practice-based research in otolaryngology, featuring a robust research infrastructure that has multiple capabilities in clinical, outcome, health services, and database research. This infrastructure is supported through the leadership of David Witsell, MD, Debara Tucci, MD, and CHEER Co-Investigator Kristine Schulz, DrPH, and has completed multiple studies through its collaborative network of 30 sites throughout the U.S.

The team collaborates with AAO-HNSF initiatives and Task Forces to evaluate the impact of evidence-based clinical guidelines on patient care. For these initiatives, CHEER not only conducts prospective clinical research but develops strategies to mine Big Data for important answers. “The power and complexity of working with Big Data becomes evident when you realize how big Big Data actually is. We are working with over 9 billion clinical records over 5 years—that provides the power to explore clinical management and the complexity of getting to the population of patients that you want to study,” says Dr. Witsell.

Dr. Tucci and Dr. Witsell have also worked together to address issues related to adult hearing health care in a second grant funded by the NIH. “Addressing Barriers to Adult Hearing Health Care” is a research initiative that seeks to accomplish two goals. First, the program collaborates with the Duke Primary Care Research Consortium to examine the efficacy of various methods of hearing screening for adults age 65-75 in primary care practices. Second, the program addresses the Food and Drug Administration’s requirement that patients see an otolaryngologist prior to hearing aid fitting in order to obtain medical clearance. The team anticipates that the results of these studies will inform changes in adult hearing healthcare policy, and will help to make care more accessible and affordable.

Dennis O. Frank-Ito, PhD, and his team use a computational modeling approach to provide new insights that advance knowledge in the field of otolaryngology. “The complexity of the anatomy that we’re dealing with in otolaryngology makes it very difficult to investigate,” Frank-Ito says. “By using computer models, we can carry out different kinds of investigation that are not practical to do in reality.” Research in the lab can be grouped into three areas of innovation: rhinology, otology/audiology, and laryngology.

Frank-Ito and his team identified three distinct normal variations in the human nasal vestibule airspace that had not been previously described in the literature. They are investigating the effect of these shapes on airflow and nasal function. Their research indicates that while variations may not affect global nasal airflow patency in healthy subjects, nasal vestibule type significantly influences local airflow patterns and local resistance at the superior anterior portion of the nose. This suggests that nasal vestibule type could influence odor-laden air transport to the olfactory recess, providing insight into the mechanisms of olfactory dysfunction.

In another project, researchers created anatomically accurate 3D reconstructions of the temporal bone anatomy generated from subject-specific radiographic images. They showed that a considerable amount of variability in the velocity of slow-phase nystagmus during warm and cold caloric irrigation can be explained by temporal bone anatomy. This research aims to advance the study of vestibular function and cochlear implants. “If we understand the amount of vestibular imbalance that is attributed to anatomy, then we can know how much of this will be impacted when a patient has hearing loss that leads to a cochlear implant,” Frank-Ito says.
New Research Advances Pompe Disease Diagnosis and Treatment

Pompe disease is a rare metabolic disorder that results from a deficiency of an enzyme essential for the lysosomal degradation of glycogen, acid alpha-glucosidase (GAA). Patients with late-onset Pompe disease (LOPD) typically present as juveniles or adults with lower extremity and respiratory muscle weakness. Alglucosidase alfa is an enzyme replacement therapy for the treatment of Pompe disease. Despite the availability of treatment, patients with LOPD continue to face challenges. Harrison N. Jones, PhD, principal investigator of the Human Motor Performance Laboratory, conducts clinical trials in subjects with LOPD in order to develop an adjunctive treatment for respiratory muscle weakness and to reduce diagnostic delay.

One research program focuses on the use of respiratory muscle training (RMT) to target inspiratory and expiratory muscle weakness directly. Jones and his team have previously found that a 12-week RMT regimen is well-tolerated and results in large to very large increases in inspiratory and expiratory muscle strength. Furthermore, these strength increases are relatively persistent over a 3-month withdrawal period.

Jones’s lab has now received funding from the National Institute of Arthritis, Musculoskeletal and Skin Disease at the NIH to continue this line of investigation with a 3-year exploratory clinical trial. Twenty-eight subjects with LOPD will be recruited and randomly assigned to receive RMT or sham-RMT. Investigators aim to identify the best outcome measures for use in future efficacy trials and determine whether sham-RMT is a useful control condition for RMT.

Another initiative builds on previous research pioneered by Jones and his team that identified lingual weakness is common in patients with LOPD. This observation may be useful in the differential diagnosis of LOPD. With funding from the Genzyme Corporation, Jones and his team are currently conducting a 40-month prospective trial to determine if abnormalities in lingual function and structure differentiate LOPD from other forms of acquired/hereditary myopathy. The objective is to identify a medical sign of LOPD that is not present in similar conditions. Such a discovery may assist clinicians in the diagnosis of LOPD, leading to earlier—and thus more effective—treatment.

Q&A with Duke’s Otolaryngology T32 Clinical Research Fellow

Duke’s Otolaryngology Clinical Research Fellowship is a two-year program focused on outcomes research, clinical trials, and translational research. Duke is one of a small number of programs that offer an NIH-funded T32 training grant, and ours is the only program whose grant is designed to focus on clinical research.

Debora Tucci, MD, is the director of the clinical training program and principal investigator for the grant. “This program has allowed us to train otolaryngologists to be the leaders of tomorrow in clinical research endeavors,” she says. “We are also able through this program to offer two medical students per year a competitively awarded fellowship during their research (third) year of medical school. This program has increased interest in our specialty and provided important research training to our students.”

Our current fellow, Marisa Ryan, MD, talks about her experience.

What drew you to the Otolaryngology Clinical Research Fellowship?
I came to Duke for my residency after getting my BA/MD at Boston University. Duke has a strong research curriculum for residents, but the residency’s main focus is still on the clinical experience, so I wanted to learn more about clinical research. This fellowship gives me additional research training I felt I needed to do the caliber of research that I want to in my career. It also supports me to get a master’s degree, and I’m currently earning a master of public health in epidemiology at the UNC Gillings School of Global Public Health.

How is the fellowship helping to prepare you for a career in academic medicine?
Much of the research in our field is retrospective case series and chart reviews, but I’m also getting formal training in research methodologies like observational epidemiologic studies, systematic reviews, and clinical research trials. And I still have opportunities to do clinical work—I have about 20 percent of my time for my own clinic and surgical cases.

What are your research interests and future plans?
I’m interested in many different topics related to pediatric otolaryngology. My main research thesis at UNC is using the National Birth Defects Prevention Study, the largest case-control study of its kind, to better understand general risk factors of anotia and microtia.

In July, I’m starting a clinical fellowship in pediatric otolaryngology at Johns Hopkins, and then I’ll be looking for a job in an academic setting.
Dennis Onyeka Frank-Ito, PhD  
Assistant Professor of Surgery  
Principal Investigator  
RESEARCH INTEREST:  
Modeling the effects of human airway anatomy on respiratory airflow patterns, deposition of inhaled gases, and particle transport using computational fluid dynamics  

David L. Witsell, MD, MHS  
Professor of Surgery  
Otolaryngologist, Head and Neck Surgeon  
Medical Director, Duke Voice Care Center  
RESEARCH INTEREST:  
Improving disease outcomes for patients with ear, nose and throat diseases and cancer  

Debara L. Tucci, MD, MBA, MS  
Professor of Surgery  
Ear Surgeon  
RESEARCH INTEREST:  
Cochlear implantation, identification of hearing loss in adults, access to hearing health care, treatment of ear and hearing disorders  

Eileen Raynor, MD  
Associate Professor of Surgery  
Associate Professor Pediatrics  
Otolaryngologist, Pediatric Head and Neck Surgeon  
RESEARCH INTEREST:  
New technology, otolaryngologic problems in medically complex pediatric patients, and outcomes of surgical versus nonsurgical interventions in pediatric patients  

Frank DeRuyter, PhD, MMCI  
Professor and Section Head, Communication Sciences Division of Head and Neck Surgery & Communication Sciences, Duke University Hospital  
RESEARCH INTEREST:  
Emerging information and communication technologies, augmentative communication, outcomes management and performance monitoring.  

Harrison N. Jones, PhD  
Associate Professor of Surgery  
RESEARCH INTEREST:  
Infantile- and late-onset Pompe disease, clinical trials, behavioral interventions, motor performance, and respiratory muscle training  

Ingrid Daubechies, PhD  
(not pictured)  
James B. Duke Professor of Mathematics and Electrical and Computer Engineering  

Bastiaan Driehuys, PhD  
(not pictured)  
Professor of Radiology  

Jeffrey R. Marcus, MD  
Paul H. Sherman, M.D. Associate Professor of Surgery  

Wilkins Aquino, PhD  
Professor in the Department of Civil and Environmental Engineering  

David W. Jang, MD  
Assistant Professor of Surgery  
Otolaryngologist, Endoscopic Sinus and Skull Base Surgeon, Head and Neck Surgeon  

Rose J. Eapen, MD  
Assistant Professor of Surgery  
Otolaryngologist, Pediatric Head and Neck Surgeon  

David M. Kaylie, MD, MS  
Associate Professor of Surgery  
Otolaryngologist, Head and Neck Surgeon  
RESEARCH INTEREST:  
Treatment of acoustic neuromas and balance disorders  

Charles R. Woodard, MD  
Associate Professor of Surgery  
Otolaryngologist, Facial Plastic Surgeon, Head and Neck Surgeon  

Non-Duke Faculty Collaborators  
John S. Rhee, MD, MPH  
(not pictured)  
John C. Koss Professor and Chairman  
Department of Otolaryngology & Communication Sciences  
Chief, Division of Facial Plastic & Reconstructive Surgery  
Medical College of Wisconsin  

Julia S. Kimbell, PhD  
(not pictured)  
Research Associate Professor  
Department of Otolaryngology/Head & Neck Surgery  
University of North Carolina at Chapel Hill  

Guilherme Garcia, PhD  
(not pictured)  
Assistant Professor  
Department of Biomedical Engineering  
Department of Otolaryngology and Communication Sciences  
Medical College of Wisconsin
The Duke Hearing Center explores the complexities of hearing and balance, treating conditions that range from sensorineural hearing loss to complex tumors. Specialists in its three areas—hearing assessment and implants, vestibular and balance, and skull base surgery—work closely with each other as well as patients’ primary care physicians to provide comprehensive care. This collaborative approach sets the Duke Hearing Center apart from many other medical facilities that specialize in hearing disorders.

“Shared decision-making is crucial,” says Duke ear surgeon Debara L. Tucci, MD. “At a lot of places, patients may get just one perspective on possibilities for treatment, whereas we partner with our patients to deliver patient-centric care and excellent follow-up.”

Our neurotologists Dr. Tucci, Howard Francis, MD, Calhoun Cunningham, MD, and David Kaylie, MD, as well as physician assistants and a full complement of audiologists and speech pathologists combine to form a team that takes a holistic approach to solving hearing and balance disorders.

State-of-the-art treatment for severe to profound hearing loss
Specialists at the center offer a wide variety of treatments for hearing loss, both surgical and non-surgical, including hearing aids, rehabilitation programs and implantable hearing devices like cochlear implants. They are committed to developing hearing strategies that work for all patients.

“Often people with hearing loss will get tested, and they’ll just be told to get a hearing aid,” Tucci says. “Our approach involves meeting the patient where they are in terms of delivering care and strategies to help them communicate more effectively.”

The center has been involved in the recent advancement of cochlear implant devices. Working with the hearing implant company MED-EL, Duke was part of the clinical trials to develop a hybrid cochlear implant, which is a combination cochlear implant and hearing aid. In this device, the cochlear implant stimulates the high frequencies where there is complete hearing loss, and the hearing aid amplifies the low frequencies where there is residual hearing.

“New surgical techniques have greatly advanced our ability to place cochlear implants without damaging the patients’ remaining hearing,” Kaylie says.

Patient-centered approach to balance disorders and skull base tumors
Many adults suffer from acute dizziness that may be brought on by heart problems, blood pressure issues, or neurologic disorders. “Because there are many causes of dizziness, we must work as a part of the patient’s healthcare team, including primary care providers, to provide essential information that leads to a diagnosis and treatment,” Tucci says.

To assist in the diagnosis of conditions such as migraine-associated vertigo, Ménière’s disease, and viral inner-ear infections, patients are often evaluated in the Duke Vestibular Disorders lab. With the most state-of-the-art vestibular testing clinic in the Southeast, the Duke Hearing Center is equipped to quickly and accurately diagnose and treat dizziness caused by inner ear disorders. Tests include videonystagmography (VNG), which is the standard for measuring vestibular function, as well as rotational chair and vestibular-evoked myogenic potential testing.

The Duke Skull Base Center is a multidisciplinary partnership between otolaryngology, neurosurgery, and radiation oncology that works closely with the Hearing Center. It is the only program in the Carolinas to offer multiple treatment options and care for all types of skull base tumors, from acoustic neuromas and meningiomas to complex epidermoid cysts, and one of the few medical centers to have an intra-operative MRI (iMRI) in its operating rooms. The team approach in caring for patients with skull base tumors is unique and comprehensive.

“Every patient is different, and we believe in a tailored approach to treatment based on input from multidisciplinary specialists,” Cunningham says. The Skull Base Center is one of the leading programs in the United States, with ongoing research in hearing preservation and cost-effective diagnostics and surgical techniques.

“We deliver personalized care, counsel patients about their options, and help guide them to make a decision about how they want to be treated,” Tucci says.
Comprehensive, multidisciplinary audiology services

“When a lot of people think of audiology, they think of hearing and hearing aids,” says Daniel King, Director of Audiology. “While we have comprehensive patient care delivery models set up for these needs, there are a lot of other areas we’re involved in that are less common.”

Audiologists perform auditory processing disorder (APD) evaluations for children and adults, including military personnel who have traumatic brain injury. Whereas some clinics offer an auditory evaluation only, Duke’s pediatric APD testing is followed by a speech pathology evaluation. “It’s a much more collaborative team approach for patients with concerns about auditory processing disorder,” King says.

The Duke program also offers a management plan for patients suffering from tinnitus, a condition that often has no clear cause or straightforward solution. Audiologists work with tinnitus patients to provide assessment and develop a management plan that can include hearing aids, tinnitus devices, integrative medicine, or social work. The team also collaborates with physicians in otolaryngology and neurosurgery to perform intra-operative monitoring during brain tumor resections, helping to achieve the best outcome possible for the patient.

One of the most unique aspects of the audiology program is its role as a referral center for children who are not behaviorally testable. Patients from South Carolina, Virginia, and all over the state come to Duke for this specialized testing. “If you have a child who can’t push a button or raise their hand due to cognitive or developmental delays, we’re one of the few sites that do hearing tests under sedation or other anesthesia,” King says.

In addition to the practice at Duke University Hospital, the Division of Head and Neck Surgery & Communication Sciences provides comprehensive audiology services at Duke Otolaryngology of Raleigh and Duke Otolaryngology of Durham.
Experts in the Duke Head and Neck Surgery Program provide comprehensive care for the full spectrum of head and neck conditions, including surgery to remove tumors and cancers that occur in the head and neck, such as throat and mouth cancers, thyroid cancer, skull base tumors, and skin cancers. But the team’s true distinction is its commitment to work together in a multidisciplinary fashion to ensure patients get the most effective and appropriate care for their condition.

“The care we give is outstanding because we work so well as a team,” says Walter Lee, MD, an otolaryngologist, head and neck surgeon, and Co-Director of the Duke Cancer Institute Head and Neck Oncology Program. “We all possess the same passion and core values that drive us to do what we do. It’s not every place you go that people work so well together and communicate well, and care for one another and care well for the patients and their families.”

Duke Head and Neck surgeons use advanced surgical techniques—including robotics, free flaps, and point-of-care thyroid ultrasound—to minimize morbidity for patients. They meet regularly as a multidisciplinary team comprising neurosurgeons, radiation oncologists, medical oncologists, oral surgeons, endocrinologists, and other specialists to discuss cases and develop comprehensive management plans. They also work closely with local physicians. Speech pathologists, nurses, and social workers round out the program’s holistic approach to patient care and quality-of-life concerns.

Applying first-world technologies to low-resource settings

The members of the Head and Neck Oncology program are leaders in their field, presenting on national stages, serving on high-profile committees, and impacting healthcare on a national and international level. For example, David Brizel, MD, a radiation oncologist, recently returned from the International Federation of Head and Neck Oncology Societies World Tour where he taught other leaders and physicians about head and neck cancer.

They are also improving lives on a global scale. The team has worked with Duke biomedical engineers to design a fiber optic scope aimed at early detection of cancer in low-resource countries like Vietnam. “A fiber optic scope would normally cost $10,000, with the monitor, the screen, the light,” Lee explains. “We’re developing one that costs less than $500.”

Researchers are currently working on an optical probe that can diagnose cancerous lesions early, a particularly valuable tool in remote areas. If the doctor suspects cancer, the patient must travel to the nearest city for an assessment—a trip that may take hours. If cancer is not indicated with the new optical probe, the patient is saved the inconvenience of unnecessary travel.

Training tomorrow’s surgical leaders

Education is an integral component of the Head and Neck Surgery program’s mission. In addition to educating patients about their diagnosis and treatment, physicians teach each other as well as the next generation of surgeons.

“We need people to come after us to keep excellence in patient care going,” Lee says. “That’s our fellows, residents, and medical students. We need to inspire them to be better—to be that kind of physician you would want taking care of your own family or yourself.”

Patients and their families routinely comment on the palpable culture of selfless service and the spirit of cooperation focused on their care. “You can hire a person to do surgery,” Lee says. “But we need the right person, someone who can not only perform excellent surgery but also possess all the other intangibles we’re talking about—the passion for teaching, collaboration, healthcare, and teamwork. That is how you provide excellent patient care.”
CORRECT DIAGNOSIS REVEALS RARE THYROID CANCER

In 2010, Mac McCorkle was experiencing severe bouts of diarrhea. He thought it was a sign of irritable bowel syndrome. When his gastroenterologist noticed swelling in his neck, however, he sent him to Duke otolaryngologist Ramon M. Esclamado, MD. A week later, McCorkle, then 57, learned he had medullary thyroid cancer. The diarrhea had been caused by the abnormally high calcitonin released by the C-cells. McCorkle’s serum calcitonin level was 18,000 pg/mL.

When a patient has severe diarrhea, Esclamado says, “it’s pretty rare for medullary thyroid cancer to be the first thing that comes to mind.”

McCorkle presented with a type of lump that is often an enlarged lymph node, caused by cancer that has metastasized from the skin, mouth, throat, larynx, thyroid, or salivary glands. Esclamado noted that patients in this situation—a lump in the neck without symptoms of infection—are often treated with antibiotics two or three times before being referred to an otolaryngologist.

“That’s not the right thing to do, because most of the time that mass is a tumor—it needs to be evaluated as soon as possible,” he says.

The diagnosis led to swift action: Esclamado performed a thyroidectomy and neck dissection. Pathologic findings confirmed the diagnosis and revealed extracapsular spread (ECS) in the lymph nodes in McCorkle’s neck. A few weeks later, David Yoo, MD, PhD, a radiation oncologist, administered radiotherapy to ablate the ECS.

McCorkle experienced no significant side effects and was back to playing tennis six months later. Now, several years after completing treatment, his calcitonin levels remain undetectable. “I may have dodged a bullet thanks to Dr. Esclamado,” he says.

Mac McCorkle
Pediatric Otolaryngology Works to Advance Care, Minimize Risk

“Thanks to nasoalveolar molding, or NAM, Duke’s craniofacial team was able to repair Paisleigh Hamilton’s cleft lip and palate with fewer surgeries.” —Melissa Hamilton, Mother

From neonates to adolescents, the Pediatric Otolaryngology Program provides well-rounded care for a broad range of head and neck conditions, including chronic ear problems and hearing loss, sleep disorders and sleep apnea, allergies and sinus problems, and congenital neck lesions. Patients are seen at Duke Children’s Health Center in Durham, Duke Otolaryngology of Durham, and Duke Otolaryngology of Raleigh.

Specialists in the program understand that working with young patients requires special considerations. Multidisciplinary care is central to the approach. Pediatric otolaryngologists are part of the vascular malformation team, treating babies and children who have vascular related lesions in various locations in the head and neck, and the cleft palate and craniofacial teams. They also work in close collaboration with pediatric audiology and speech pathology for both communication and feeding.

“We focus on working collaboratively with other services and work across specialties regularly,” says Eileen M. Raynor, MD, a pediatric head and neck surgeon. “This collaboration is one of the program’s biggest strengths.”

**Advances in airway management**

The team focuses on treating breathing problems in a safe, effective, and minimally invasive way. Glottic stenosis and subglottic stenosis are often managed with a tracheostomy tube in combination with other procedures. At Duke, most of these children are treated endoscopically, with balloon dilation or other instrumentation opening the narrow area.

“Our goal is to get them to the point where they don’t have to be dependent on the tracheostomy tube anymore,” Raynor says.

Cases may require open airway surgery when an abundance of scar tissue must be removed. These procedures require entering the trachea for reconstruction. Specialists at Duke are frequently able to avoid this riskier approach.

“We’ve been able to manage the majority of the cases with endoscopic surgery,” Raynor says. “The recovery is easier, and the patients do better over time, because one of the downsides to doing open procedures is voice problems later in life or scar tissue coming back.”

Recent research, which the group presented at the Society for Ear, Nose, and Throat Advances in Children (SENTAC) 2016 conference, shows promise for the use of a coblator (controlled ablation) for radiofrequency plasma ablation of suprastomal granulomas in tracheostomy-dependent children.

**Increasing safety of pediatric procedures**

Team members are engaged in a variety of research projects, with some finding ways to minimize anesthesia and radiation for children. Radiologists have developed a fast MRI scan for babies who have known hearing loss. The technology effectively eliminates the need for patient sedation or general anesthesia for the MRI.
“Obviously, if you have too much radiation over time, you increase the risk of somebody developing cancer,” Raynor says. “With anesthesia, it’s harder to predict the effects that multiple anesthesia exposures have on children, but recently there has been some concern about long-term decreased cognitive development.”

The team is also engaged in research related to pediatric bone marrow transplants. Duke is the largest pediatric bone marrow transplant center in the world, and many of those patients have ENT issues. Duke researchers are systematically examining the procedures and protocols involved in the bone marrow transfer process to determine a young patient’s risk when undergoing anesthesia for a procedure such as endoscopy.

“We look for evidence to support the procedure being requested and how transplant patients respond, compared to non-transplant patients,” Raynor explains. “Usually, if they’re in for a transplant, it’s for a malignancy or a type of enzyme deficiency or other serious types of ailments. We just want to get a better understanding of that particular patient population.”

“PAs at Duke HNSCS: A Day in the Life

Our PAs are key to providing comprehensive care for patients. Joshua Smith, MMS, PA-C, describes how he serves patients and collaborates with faculty.

Over the past 10 years, I have been privileged to work in our outpatient clinic. As a provider who is able to evaluate and treat general otolaryngology complaints but who also subspecializes in otology/neurology, I am always excited to come to work because every day brings so much variety.

Many of my patients suffer from dizziness and vertigo. I actually enjoy figuring out the root cause of these ailments. We have a state-of-the-art audiology and vestibular lab, which is so helpful in diagnosing and treating patients with hearing and balance concerns. I have a passion for evaluating hearing loss, and some of my favorite visits are when I can help people hear again. Aside from clinical workups, I also perform many office-based procedures like PE tube placement, endoscopy, nasal cautery, and biopsies.

In our clinic, we work together in a team-based approach with our physicians. It’s a very collegial environment, and I have so much support from them. This system extends to the entire team: I work with audiologists, physical therapists, speech pathologists, other PAs, and the nursing staff to give patients well-rounded treatment.

My day usually ends around 5 p.m. I work hard during the day, but in the evenings and weekends I have time for my family, thanks in a large part to our residency program. Our residents are amazing. They’re on call and answer my patients’ phone calls in the middle of the night, which is incredibly helpful. I feel fortunate to have spent the past decade here and look forward to decades more.

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Duke's Rhinology and Endoscopic Skull Base Surgery Program is at the forefront of investigating and treating problems of the sinuses and skull base. With fellowship-trained faculty who perform over 400 surgeries each year, the program focuses on both inflammatory and neoplastic diseases.

**Cutting-edge treatment for skull base tumors**

The most advanced treatments in tumor removal call for minimally invasive options while achieving positive outcomes and shorter hospital stays. As part of the Duke Skull Base Center, the Endoscopic Skull Base Surgery Program is answering the call by offering the endoscopic endonasal approach for tumors that would otherwise require open approaches.

Duke's program is truly a collaborative effort, says David W. Jang, MD, an endoscopic sinus and skull base surgeon. “We work closely with colleagues in the Department of Neurosurgery as well as the Duke Cancer Center,” he says. In the last three years, the team has completed more than 100 endoscopic tumor resections.

The program offers promise for patients with traditionally hard-to-reach tumors, and many come to Duke after being referred from other facilities. Jang recalls a 54-year-old man who came to Duke with vision problems. Six years earlier, he’d had a pituitary tumor that was removed at another medical center—but doctors did not remove it all.

“His most recent MRI showed that his tumor had recurred and was extending upwards to push on his optic nerves,” Jang says. The tumor was also extending laterally to invade the cavernous sinus.

Duke surgeons performed a complete endoscopic resection and repaired a CSF leak through the nose. Four days later, the man went home. Now, eight months later, he’s doing very well, with no neurological deficits, Jang says. “His sense of smell was intact, and he was breathing well through the nose.”

**Treating difficult cases of chronic sinusitis**

Duke’s rhinology program focuses on treating recalcitrant cases of chronic rhinosinusitis. Because many of our patients suffer from aspirin-exacerbated respiratory disease, cystic fibrosis, and immune deficiencies, revision surgery is an important aspect of their treatment plans. However, long-term follow-up, multidisciplinary care, and adherence to a postoperative medication regimen are just as critical.

### Advanced treatments for skull base tumors: Endonasal approach

- 63-year-old man with pituitary macroadenoma before and after gross total endoscopic resection.
- 65-year-old woman with previously irradiated petroclival chondrosarcoma before and after endonasal endoscopic resection with staged lateral transmastoid approach.
- 27-year-old man with right nasopharyngeal high-grade adenocarcinoma with ICA involvement before and after endoscopic nasopharyngectomy with craniotomy and internal carotid resection and bypass.
- 37-year-old man with sinonasal undifferentiated carcinoma before and after endoscopic resection and skull base reconstruction.
- 63-year-old man with 5 cm olfactory groove meningioma before and after endoscopic gross total resection.
Speech-Language Pathology: Successful Communication for All Stages of Life

Being able to communicate is important to Nancy Johnson of Fayetteville, (pictured above) whose movement disorder makes it difficult for her to speak clearly and be understood. Speech therapy at Duke has made a huge difference. “It’s making life better for me,” Johnson said.

To learn more visit www.dukehealth.org/blog/speech-therapy-improves-communication-quality-of-life

Duke speech pathologists provide a range of services for children and adults with communication and swallowing disorders. More than 50 speech-language pathologists provide services at Duke University Hospital, and collaborate with otolaryngologists to treat patients with head and neck disorders. The group’s goals are to minimize impairment, maximize independence, and help patients achieve success in their lives based on personal goals.

State-of-the-art services
Duke Speech Pathology is on the leading edge of technology and therapies to treat patients with communication disorders and dysphagia. The team’s speech pathologists were some of the first in the country to routinely provide respiratory muscle training (RMT) to treat speech and swallowing disorders. RMT is valuable for a wide range of patients, including geriatric patients who are undergoing surgical procedures, those who are awaiting or have just received a lung transplant, and patients with obstructive sleep apnea. It also helps patients wean from the ventilator.

Communication is the foundation of every human interaction. Speech pathologists help patients improve communication with their medical team and families through a variety of treatments, including augmentative communication, early identification of traumatic brain injury, group treatment for dementia and autism, and adult aural rehab.

A team approach
The success of patients depends on collaborations with their medical teams. Duke speech pathologists work to bring excellent, well-coordinated care to patients. Speech pathologists are fortunate to participate in a variety of multidisciplinary clinics, including Down syndrome, ALS, special infant care, and Huntington’s disease clinics.

Collaborative care for patients with feeding and swallowing disorders is vital. Speech pathology and gastroenterology have formed a joint pediatric feeding clinic. In addition, pediatric aerodigestive rounds give otolaryngologists, gastroenterologists, speech pathologists, and pulmonologists the opportunity to discuss complex cases and novel treatment approaches.

“In Cleft Palate Board, speech pathologists provide in-utero consults for families to help them know what to expect for speech and swallowing development,” says Kim Irby, director of speech pathology. “We have the opportunity to continue to work with these children as they grow up.”

Duke Speech pathologists improve the lives of their patients through research, collaboration and dedication to excellent clinical care.
Established 10 years ago as a Center of Excellence at Duke, the Duke Voice Care Center comprises laryngologists, speech pathologists, and singing voice rehabilitation specialists who work together to diagnose and treat voice, breathing, and swallowing disorders for all patients.

A holistic approach is crucial for determining the true source of these problems.

“We’ve done research to show that working in an interdisciplinary fashion—using stroboscopy, working with speech pathology—leads to a change in diagnosis quite frequently,” says Seth Cohen, MD, a fellowship-trained laryngologist at the Duke Voice Care Center. “Changes were also identified in treatment recommendations involving the use of proton pump inhibitors, antibiotics, voice therapy, and surgical intervention after interdisciplinary evaluation. A team approach really does help fine-tune the best treatment for the patient.”

Patients themselves are part of that holistic approach. The medical care team works with patients to determine how best to address their medical, behavioral, and, if necessary, surgical needs to get the best voice outcome possible.

The Duke Voice Care Center treats patients for common problems, such as laryngitis, benign vocal fold lesions like nodules and polyps, and vocal cord paralysis. Duke Voice Care Center’s team also treats airway disorders (including vocal cord dysfunction, subglottic/tracheal stenosis, and chronic cough) and dysphagia. Some speech pathologists specialize in working with patients whose professions require intense voice use, like teachers or attorneys. Others are specially trained to work with patients who have had laryngectomies to manage TEP prostheses, while others specialize in pediatric voice disorders.

Care for professional singers

When professional singers experience voice problems, the emotional and financial impact can be devastating. The Duke Voice Care Center stands apart in this area with a team of singing voice specialists, including Leda Scearce, Emily Scheuring, and Tara Nixon, all of whom are speech pathologists with extensive experience as professional singers and voice teachers.

The medical component is just one part of voice care for singers, Scearce says. Singers with voice problems often see a general ENT or PCP before making their way to the Duke Voice Care Center.

“Reflux medications or steroids may have been given to them, but that doesn’t address the rehabilitation part of treatment,” she says. “At Duke Voice Care Center, our team is able to address the whole package.”

A key part involves visualizing a singer’s larynx with stroboscopy before prescribing medications or making recommendations about whether or not to move forward with a performance. Otherwise, the patient may be at risk for permanent injury.

Voice therapy is part of the treatment for many voice patients, including singers. Patients are prescribed an exercise regimen to promote healing while avoiding further damage.

“That’s where you need a skilled individual to figure out the best way for that patient to rehabilitate,” Cohen says. “It’s not a recipe.”

Community education is a big part of their practice, including the annual World Voice Day Celebration in April, which brings together members of the community to learn about the voice and how to care for it. The Duke Voice Care Center also honors a performer with the Patrick D. Kenan Award for Vocal Health and Wellness as a part of their World Voice Day Celebration; “American Idol” winner and North Carolina native Scotty McCreery was recognized last year.

The voice is fundamental to who we are, and the team at the Duke Voice Care Center is committed to helping patients optimize theirs.

“It’s fun and rewarding to help people to talk, breathe, and swallow,” Cohen says. “These are all things that make us human.”
RESTORING VOCAL FUNCTION FOLLOWING A MISDIAGNOSIS

When Michael Grafinger began having problems speaking, swallowing, and breathing, he went to his primary care physician. The physician prescribed antibiotics, prednisone, and a proton pump inhibitor, but his symptoms persisted. He was referred to an otolaryngologist, who suggested the cause might be a nonhealing granuloma on the arytenoid cartilage at the back of his larynx.

Grafinger was then referred to Seth M. Cohen, MD, a head and neck surgeon and fellowship-trained laryngologist. Cohen diagnosed him with a paralyzed left vocal cord, a condition that had previously gone unnoticed.

"Unfortunately, patients experiencing larynx symptoms may suffer unnecessarily because of misdiagnosis before specialists are consulted," Cohen said. He also noted that the overuse of antibiotics and proton pump inhibitors can pose problems for patients with voice disorders.

Cohen performed office-based injection laryngoplasty to correct the vocal cord paralysis. Using a transcervical entry point, he injected collagen into the paraglottic space in the paralyzed vocal fold. The collagen shifted the fold to the midline so it would make contact with the healthy cord. The patient was fully awake during the procedure.

Grafinger’s speaking, swallowing, and breathing improved within a couple days following the procedure. Cohen said injection laryngoplasty in the office allowed for a quicker recovery than traditional surgery in the operating room would have, with the added benefit of avoiding general anesthesia.

Voice therapy with Tara Nixon, CCC-SLP helped advance his recovery after the injection.

“The cause of a patient’s voice problem cannot be diagnosed without a referral to an otolaryngologist who can perform laryngoscopy,” says Cohen. “A prompt referral helps.”

(Images of faculty members are provided in the document.)

David L. Witsell, MD, MHS
Professor of Surgery
Otolaryngologist, Head and Neck Surgeon
Medical Director, Duke Voice Care Center
RESEARCH INTEREST:
Improving disease outcomes for patients with ear, nose, and throat diseases and cancer

Seth M. Cohen, MD, MPH
Associate Professor of Surgery
Laryngologist, Head and Neck Surgeon
RESEARCH INTEREST:
How voice, breathing, and swallowing problems impact health and daily function

Eileen Raynor, MD
Associate Professor of Surgery and Associate Professor Pediatrics
Otolaryngologist, Pediatric Head and Neck Surgeon
RESEARCH INTEREST:
New technology, otolaryngologic problems in medically complex pediatric patients, and outcomes of surgical versus nonsurgical interventions in pediatric patients

Leda Scearce, MM, MS, CCC-SLP
Clinical Associate, Singing Voice Rehabilitation Specialist
Director of Performing Voice Programs and Development, Duke Voice Care Center

Gina Vess, MA, CCC-SLP
Clinical Associate
Director of Clinical Voice Programs, Duke Voice Care Center

Duke Voice Care Center
Speech-Language Pathology Staff
Caroline Banka, MS, CCC-SLP
Senior Clinician, Duke Voice Care Center

Hilary Bartholomew, MS, CCC-SLP
Clinical Speech-Language Pathologist, Duke Voice Care Center

Lauren Lindigrin, MS, CCC-SLP
Clinical Speech-Language Pathologist, Duke Voice Care Center

Tara Nixon, MM, MS, CCC-SLP
Senior Clinician, Singing Voice Rehabilitation Specialist, Duke Voice Care Center

Emily Scheuring, MEd, CCC-SLP
Singing Voice Rehabilitation Specialist, Duke Voice Care Center

Support Staff
Karen Stark
(not pictured)
Duke Voice Care Center Liaison

Briana Gift
(not pictured)
Administrative Clerk
Established in 2011, the Duke Facial Plastic and Reconstructive Surgery Program has quickly prospered into a full-service program of aesthetic facial plastic surgery as well as reconstructive surgery for cancer defects, facial paralysis, and nasal obstruction.

Charles “Chip” Woodard, MD, a double board-certified otolaryngologist and facial plastic surgeon, created the program when he joined Duke following a fellowship at Stanford University. He developed a full practice and a didactic curriculum for residents, giving trainees the opportunity to rotate through the service.

Honing skills in trainees
At any given time, the program has junior-to senior-level residents on rotation. For the residents, this experience often leads to a decision to subspecialize in the field. In the five-year life of the program, two residents have completed fellowships in facial plastic surgery and one has been accepted to a facial plastic surgery fellowship starting in 2017.

“Facial plastic and reconstructive surgery is one of the cornerstones of resident education, and it is critically important that a program exist in some formal way within a training program to adequately expose residents to different aspects of this particular subspecialty,” Woodard says.

The robust training introduces residents to complex cases while giving them the chance to hone their clinical decision-making skills. “During structured lecture time I have the opportunity to meet with some of the residents and review different aspects of the field of facial plastic and reconstructive surgery,” he says.

Full range of cosmetic and reconstructive procedures
On the clinical side, the program has grown into a complete facial surgery practice, both from an aesthetic and reconstructive standpoint.

The majority of cases lie in functional and cosmetic rhinoplasty, aging face surgery (including facelifts, blepharoplasty, and forehead lifts), and reconstruction for skin cancer defects of the face. The program offers nonsurgical options and skin care therapies, from laser skin resurfacing to facial fillers and neuromodulators (e.g., Botox®). Woodard is also a member of the craniofacial trauma team, providing the reconstructive procedures for patients suffering facial bone fractures.

A hallmark of the program is the collaborative Duke Aesthetic Center, where surgeons from different disciplines, including plastic surgery and ophthalmology, work together to offer comprehensive aesthetic care for patients. “This exposes us to different ideas and ways to approach similar problems, where we have crossover between our specialties,” Woodard explains.

Woodard expects continued growth for the relatively young program. Dane M. Barrett, MD, who focuses on both reconstructive and aesthetic surgery of the head and neck, recently joined the Duke faculty and is expanding the facial plastic surgery footprint into the Duke Regional Hospital practice.

“That’s our future—adding faculty to expand the size of our clinical and educational programs and what we have to offer,” Woodard says.

Looking Good: Duke’s Facial Plastic and Reconstructive Surgery Program

Charles Woodard, MD, demonstrates aesthetic anti-aging treatment on patient Patricia Pittman at a Healthy Focus Seminar. Dr. Woodard’s clinical interests include facial plastic and reconstructive surgery as well as non-surgical anti-aging treatment.

To learn more visit youtu.be/xYN1SUf97ug
Community Practices Provide Comprehensive Otolaryngological Care

Duke provides comprehensive otolaryngology services through three community practices in North Carolina: Duke Otolaryngology of Durham; Duke Otolaryngology of Raleigh at Duke Raleigh Hospital; and Duke Otolaryngology of Person County, located about 30 miles north of Durham. These clinics provide a full range of ear, nose, and throat services, including hearing and balance evaluations, allergy testing and treatment, and speech therapy, for children and adults. The otolaryngologists provide many in-office procedures and perform the vast majority of head and neck surgeries that define this specialty.

The Durham and the Raleigh clinics offer allergy and immunotherapy services through their comprehensive sinus and allergy programs. Specialists provide allergy testing, allergy shots, and the increasingly popular approach to allergy immunotherapy, sublingual immunotherapy (or allergy drops). The programs run to the most current medical standards, including the effective dose strategy of mixing allergy shots in subcutaneous immunotherapy.

Otolaryngologist Matthew Ellison, MD, oversees the sinus and allergy program at the Raleigh location. As a generalist who is part of an academic practice, he has had the opportunity to specialize part of his practice in obstructive sleep apnea. Ellison has received advanced surgical training to treat nasal, palate, and tongue base obstruction with cutting-edge procedures such as expansion sphincter pharyngoplasty and hyoid suspension. Over the next several years, the practice will add hypoglossal nerve stimulator therapy to its services.

Duke’s otolaryngology community practices complement the sub-specialty services provided by the otolaryngologists at Duke’s academic medical centers. As a well-rounded team, the physicians respond to a variety of patient conditions and concerns at state-of-the-art facilities using the most advanced diagnostic tools and procedures available. 

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Charles R. Woodard, MD
Associate Professor of Surgery
Otolaryngologist, Facial Plastic Surgeon, Head and Neck Surgeon

Liana Puscas, MD
Associate Professor of Surgery
Otolaryngologist, Head and Neck Surgeon, Microvascular Surgeon

Russel Roy Kahmke, MD
Assistant Professor of Surgery
Endocrine Surgeon, Head and Neck Surgeon, Microvascular Surgeon, Surgical Oncologist

Dane M. Barrett, MD
Clinical Associate in the Department of Surgery
Facial Plastic Surgeon, Head and Neck Surgeon

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Research Interest:
Clinical outcomes of head and neck cancer patients and improving education for residents, medical students, and non-physician providers.

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Clinical outcomes of head and neck cancer patients and improving education for residents, medical students, and non-physician providers.

Research Interest:
Aesthetic and reconstructive surgery of the head and neck, particularly patient outcomes and patient satisfaction following rhinoplasty (both functional and cosmetic) and facial rejuvenation.

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Continued from page 19.

Duke Otolaryngology of Person County

Duke Otolaryngology of Durham

Duke Otolaryngology of Raleigh

[top row, left to right]

Duke Otolaryngology of Raleigh

Matthew Ellison, MD, FACS, FAAOA
Assistant Professor of Surgery
Otolaryngologist, Head and Neck Surgeon

Calhoun D. Cunningham III, MD
Assistant Professor of Surgery
Otolaryngologist, Head and Neck Surgeon

Tami C. Runyan, PA-C
Andrea Bailey, MA, CCC-A
Clinical Associate

Hannah Heet, AuD, CCC-A
(not pictured)

Kensi Cobb, PhD, AuD, CCC-A

(bottom row, left to right)

Duke Otolaryngology of Durham

Dane M. Barrett, MD
Clinical Associate in the Department of Surgery
Facial Plastic Surgeon, Head and Neck Surgeon

RESEARCH INTEREST:
Aesthetic and reconstructive surgery of the head and neck, particularly patient outcomes and patient satisfaction following rhinoplasty (both functional and cosmetic) and facial rejuvenation

James G. Ross, MD
Clinical Associate in the Department of Surgery
Otolaryngologist, Head and Neck Surgeon

Sheila Ryan, MD
Clinical Associate in the Department of Surgery
Otolaryngologist, Head and Neck Surgeon

Ralph Abi Hachem, MD, MSc
Assistant Professor of Surgery
Otolaryngologist, Endoscopic Sinus and Skull Base Surgeon, Head and Neck Surgeon

Jeffrey Cheng, MD
Assistant Professor of Surgery
Pediatric Head and Neck Surgeon

RESEARCH INTEREST:
Advancing state-of-the-art diagnostics and treatment and developing innovations in helping to care for children

Rebecca Kane, AuD, CCC-A

Duke Otolaryngology of Person County

Sheila Ryan, MD
Clinical Associate in the Department of Surgery
Otolaryngologist, Head and Neck Surgeon

Rebecca Kane, AuD, CCC-A

20 COMPREHENSIVE OTOLARYNGOLOGY
Durham VA Medical Center: Providing State-of-the-Art Otolaryngology Care to NC Veterans

With a main facility in Durham and several outpatient clinics in North Carolina, the Durham VA Medical Center provides services to more than 200,000 veterans living in a 26-county area. Staffed by faculty from the Division of Head and Neck Surgery & Communication Sciences, the center’s otolaryngology-head and neck surgery (OHNS) section sees about 6,500 clinic patients per year, with over 3,500 consult requests annually. The OR volume is commensurate with these busy clinics.

State-of-the-art clinic equipment allows image capture and transmission of data to the patient’s medical record. This provides excellent continuity of care and ease of communication across time intervals and between providers. As a tertiary care medical center, the Durham VA provides care across the entire spectrum of OHNS diseases, including microvascular reconstruction and skull base surgery.

In addition, the Durham VA is a center of excellence for cochlear implants, and patients are referred from throughout NC and surrounding states for this procedure.

The OHNS service has a model multi-disciplinary head and neck tumor board that meets weekly. Speech and language pathology, radiology, medical and radiation oncology, nutrition services, and oral surgery teams meet with OHNS physicians to provide a comprehensive assessment of cancer patients. Patients are usually examined by the group in clinic, facilitating patient assessment and communication between specialists.

Liana Puscas, MD, leads the section, and she also serves as the associate chief of surgery, education. The section includes five physician team members, two non-physician team members, and two residents (one PGY-5 and one PGY-3) who rotate at the VAMC.
Preventing Tomorrow’s Surgical Leaders:  
Duke’s Otolaryngology Residency Program

The Duke OHNS Residency Program, originally accredited in 1959, began with one resident. We grew to three in 2010, and now we are poised to train four residents per year.

Under the leadership of Ramon Esclamado, MD, and Liana Puscas, MD, the program has added depth and breadth through faculty that have expertise in all areas of the specialty. Residents rotate at the Durham VA and Duke Raleigh Hospital in addition to the primary teaching site of Duke University Hospital. Trainees come from a diverse array of backgrounds and medical schools, but they graduate as close friends and members of the Duke HNSCS family.

Most residents pursue fellowships and then careers in academic or community practice settings. The research and scholarly output of the residents has increased exponentially over the past 10 years, and residents are supported to present their work at regional, national and international meetings. They finish the program confident in their patient care and surgical skills and inculcated with the values of our program—integrity, compassion, accountability, initiative, and responsibility.

Current OHNS residents answer the question, “What do you like most about the program?”

“The program offers wide exposure to all aspects of otolaryngology training and prepares residents to become well-rounded specialists with the opportunity to pursue subspecialty training if desired. The faculty come from various backgrounds and with their combined knowledge and expertise, learning opportunities are limitless.”
—Adam Honeybrook, MD, PGY4

“I enjoy having the opportunity to work at different locations including the main Duke campus, Duke Raleigh, the VA, and the ambulatory surgery center. This allows for exploration of what type of practice I may be interested in working in the future. It also provides the opportunity to work with many different attendings and therefore get exposure to different surgical and clinical approaches.”
—Anatoli Karas, MD, PGY3

“Our residents are not only committed to our patients, but also to each other. We’re a tight-knit group that gets along great at work and finds time to hang out after.”
—Clifford Scott Brown, MD, PGY3
HNSCS has over 40 people, including nurse navigators, referral coordinators, and access managers.

**PATIENTS SERVED**

68,000 patient visits per year

**YEARS OF EXPERIENCE**

5-35+ years per person

**TOTAL NURSING STAFF**

20 including RNs, LPNs, and CMAs

**TEAM LEADS**

Irish Hamilton
Lead Staff Assistant
Melissa Stark
Health Center Administrator
Duke Otolaryngology of Raleigh
Jacqueline Fuller
Clinical Team Leader
Duke Clinic, 1F
Donna Morris
Health Center Administrator,
Duke Otolaryngology of Durham
and Person County

**LOCATIONS SERVED**

North Carolina
Durham, Person,
Granville, Orange,
Wake & Vance counties

Virginia
Danville & South Boston, VA
Engaging the Global ENT Community through an International Symposium

The Duke Division of Head and Neck Surgery & Communication Sciences is partnering with the Department of ENT at Hadassah Hospital in Jerusalem to sponsor the first Duke-Hadassah ENT Global Health Symposium, taking place in Jerusalem on July 20-21, 2017. Its mission is to promote collaboration and the exchange of ideas between Israeli and American medical systems, to generate innovation in global health, to share new technologies in both countries, and to foster cross cultural approaches to patient management.

The idea for the conference was sparked by a generous donation to create the Lilian S. Wilen Hadassah Otology Rotation, an observational fellowship for Hadassah ENT residents to spend three months learning otology/neurotology at Duke. Through the growing interactions between Duke and Hadassah, the groups identified mutual interests and the opportunity to hold a joint ENT conference in which we could share our respective hospitals’ expertise and benefit the region.

As a result of the existing relationship, the division has committed resources to develop and hold this conference, and leadership has identified strengthening the relationship with Hadassah as a strategic priority. The conference also will bolster our mission to promote Duke globally and grow its repertoire of continuing medical education programs.

Collaboration between Duke and Hadassah benefits the patients served by both institutions, to the United States and Israeli medical communities, and to Israel’s neighbors in the Middle East. The Duke-Hadassah ENT Global Health Symposium will help promote collaboration and understanding between physicians in our two countries as well.

For more information, visit ENTGlobalHealth.com.