



Passing the Torch
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Department of Otolaryngology
Head & Neck Surgery

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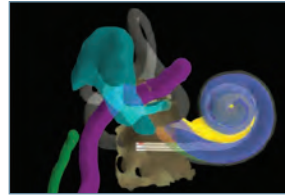
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the SCOPE

MUSC Department of Otolaryngology Head & Neck Surgery



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Cover illustration by Wade Harris

Chairman's Corner



Passing the Torch

2,800 years ago the first Olympic games were held in Greece (776 BC). The Greeks considered fire sacred, and a gift to man from the gods. Not surprisingly, they chose this symbol to announce the opening of their games, which were staged every four years for the next 10 centuries. The flame, which was lit in Hera's temple in Olympia, was also a proclamation that peace, however brief, was to prevail during the games. Later a flame on a torch was actually passed between runners, symbolizing the passing of life and knowledge from one generation to the next.

In 1896 the first modern Olympics was inaugurated in Athens. Inspired by ancient Greek art and the writings of Plutarch, a torch relay was instituted to herald the beginning of the games, a tradition that continues to this day.

The idiom "passing the torch" dates from the 1800s and is understood to mean handing over one's job, responsibilities, or duty to another. And so it is with this transition to a new chair of the Department of Otolaryngology-Head and Neck Surgery at the Medical University of South Carolina.

With great artistic skill, our front cover artist has captured the "passing of the torch" to our next leader, Robert Labadie, M.D., Ph.D. My 22-year tenure as chair has unequivocally been the highlight of my career, and the Department is a legacy in which I take immense pride. It is now time for an infusion of new talent, innovation, and energy; Rob brings all of these and so much more.

Running the race is a Biblical metaphor and one that is certainly applicable to being a department chair. One needs a singular focus on the goal line(s); stamina to complete the race and achieve the goals; bursts of energy and determination to overcome the hurdles along the course; and a team behind you for support and accountability. Overarching these prerequisites is one indispensable attribute: passion.

Those who know Rob Labadie appreciate his enthusiasm and passion for excellence. This runner (me) is proud to pass the torch, and does so with unbridled confidence that the future of Otolaryngology-Head and Neck Surgery at MUSC is as bright-or even brighter-than it has ever been.

Welcome to the race, my friend! Here is the torch.

Paul R. Lambert, M.D.

Paul R. Lambert, M.D.
Professor and Chair
Department of Otolaryngology - Head & Neck Surgery

Welcome Incoming Department Chair

Robert F. Labadie, M.D., Ph.D., FACS, MMHC

A native of Pittsburgh, Pennsylvania, Dr. Labadie earned his BS in mechanical engineering from The University of Notre Dame, his M.D. and Ph.D. (bioengineering) from The University of Pittsburgh following which he did his residency training at The University of North Carolina at Chapel Hill. He joined the faculty of Vanderbilt University in 2001 and quickly developed a collaboration with faculty in the school of engineering to investigate the use of image guidance in otology. First funded by the NIH in 2003, he has been principal investigator (PI), co-PI, and/or co-investigator on over a dozen grants with topics including minimally invasive approaches to the cochlea, use of post-operative imaging to improve cochlear implantation, robotic mastoidectomy, trans-nasal assessment of middle ear status via the Eustachian tube, and training of biomedical engineering graduate students to perform clinically translational research. He has authored or co-authored over 200 peer-reviewed publications, holds 15 patents, served on 19 doctoral committees, holds an FDA investigational device exception for a minimally invasive surgical approach, and is the co-author of a textbook on image-guided surgery. He is a member of The American Academy of Otolaryngology-Head and Neck Surgery and a fellow of The American College of Surgeons, The American Otological Society, The American Neurotology Society, The Triological Society, and Collegium Oto-Rhino-Laryngologicum Amicitiae Sacrum.

Clinically, Dr. Labadie focuses on otology with a particular interest in cochlear implantation having personally performed over 500 implants. He has pioneered the use of intraoperative CT scanning for immediate quality assessment and improvement (e.g., intraoperative correction of tip fold-over). Such CT analysis is also used for post-operative cochlear implant mapping with large population studies showing significant improvement in audiological outcomes. These techniques have been used on thousands of cochlear implant recipients both at the institutions where he has worked and beyond. He is a passionate teacher having twice been awarded the resident teaching award at Vanderbilt University Medical Center and has mentored over 20 Oto-HNS residents who have spent time in his laboratory.

To refine his ability to lead and work in team settings beyond Oto-HNS and engineering, he completed a Master of Management in Health Care from Vanderbilt University's Owen School of Management in 2013. He was a founding member of Vanderbilt's Institute of Surgery and Engineering, chaired an institution review board, and served on multiple institutional committees including technology review, promotions and advancement, and physician well-being. Before being named the chair of MUSC's Department of Otolaryngology-Head & Neck Surgery, he was vice-chair for research at Vanderbilt University Medical Center's department of Oto-HNS where he held an endowed directorship in clinically translational research.

*A little over 20 years ago I was a rising chief resident at the University of North Carolina at Chapel Hill interested in a career in otology. Neurotology fellowships were in a state of flux, and my chair, **Rick Pillsbury, M.D.**, told me that one of the places I would grow not only as a surgeon but also as a person was at the University of Virginia under the tutelage of division chief **Paul Lambert, M.D.** Unbeknownst to me, Paul was in negotiations to become chair at the Medical University of South Carolina! While he has been an informal mentor over the ensuing decades, I am proud to finally be his colleague.*

To carry on the legacy that he has established will be a daunting task with many unforeseen events. I certainly did not plan on helping to build a revitalized head & neck program so early on! (Much more about that in a future edition of SCOPE.) This challenge quickly exposed me to nearly all faculty members and their commitment to patients and the department, and it has led to intense work with the incredibly talented leadership team at MUSC which has re-confirmed one of the main reasons why I took on this challenging job.

I am not sure what other opportunities will arise but will share that I am a clinician-scientist through and through and believe strongly that advances in patient care depend on fundamental discoveries being translated to the clinics. My work has focused on the use of imaging to improve cochlear implantation (see story on page 4). I am excited that the spirit of discovery is already part of the fabric of MUSC which was very clear during my interview process. Paul has stacked the deck for the next chair with a wide portfolio of basic science investigators and clinician-scientists all contributing to place MUSC Oto-HNS #10 in NIH funding.

Another core mission of academic medicine is commitment to trainees. For those with relationships to MUSC, you will know that Paul has also stacked the deck in this realm. When considering content for this SCOPE edition, I suggested that we list all the trainees under Paul's leadership. Those who know him can predict his knee-jerk response. "Rob, I want this to be about the future not the past." I can tell you that we will pay tribute to Paul's trainees in a future SCOPE edition. (Sorry Paul, that is my prerogative as the new chair!)



Robert F. Labadie, M.D., Ph.D., FACS, MMHC
Professor and Incoming Chair

Department of Otolaryngology - Head & Neck Surgery



BIOGRAPHICAL INFORMATION

BS: University of Notre Dame

Ph.D.: University of Pittsburgh

M.D.: University of Pittsburgh

MMHC: Vanderbilt University

At Vanderbilt University since July, 2001

January 1, 2022

Professor and Chair
MUSC Otolaryngology -
Head & Neck Surgery

Use of CT Scans to Improve Cochlear Implantations

Robert F. Labadie, M.D., Ph.D., FACS

Cochlear implants (CI) are the most successful neural prosthesis to date with over 200,000 Americans having received one to restore their ability to hear. While technologically impressive, post-implantation word and sentence scores have improved only incrementally since clinical introduction of modern-day signal coding strategies in the early-to-mid 1990s. The reason why this has occurred can be broadly classified into “top down” (e.g., central processing) versus “bottom up” (e.g., intracochlear trauma associated with electrode array insertion) issues. Our multidisciplinary group of audiologists, engineers, surgeons, and speech language pathologists has spent the past 15 years leveraging image processing of CT images to customize the CI process for individual patients focusing on the “bottom up” issue. After accurately identifying temporal bone anatomy on a pre-operative CT scan, we use this information to provide customized insertion plans to surgeons. We then use intraoperative CT scanning to detect and allow correction of tip fold-over and/or translocation before the sterile field is taken down. Post-insertion, we analyze the

intraoperative CT scan and use it to create customized programming by selectively activating electrodes to optimize performance. This article will briefly introduce each of these processes.

Pre-Op Planning

It has been known since 1938 that cochlear size varies between individuals with a range in length of the organ of Corti from approximately 25 to 35mm and a mean length of 31.52mm.¹ While variation among individuals for any body part size seems obvious, the misconception within otology that cochleae are all about the same size may have been perpetuated by universal CI electrode array lengths. The trajectory through the facial recess to the round window also varies between individuals. This trajectory difference is perhaps most apparent when comparing pediatric and adult populations with children having a narrower view of the round window via the facial recess making cochleostomies sometimes necessary which is rarely required for adults.²

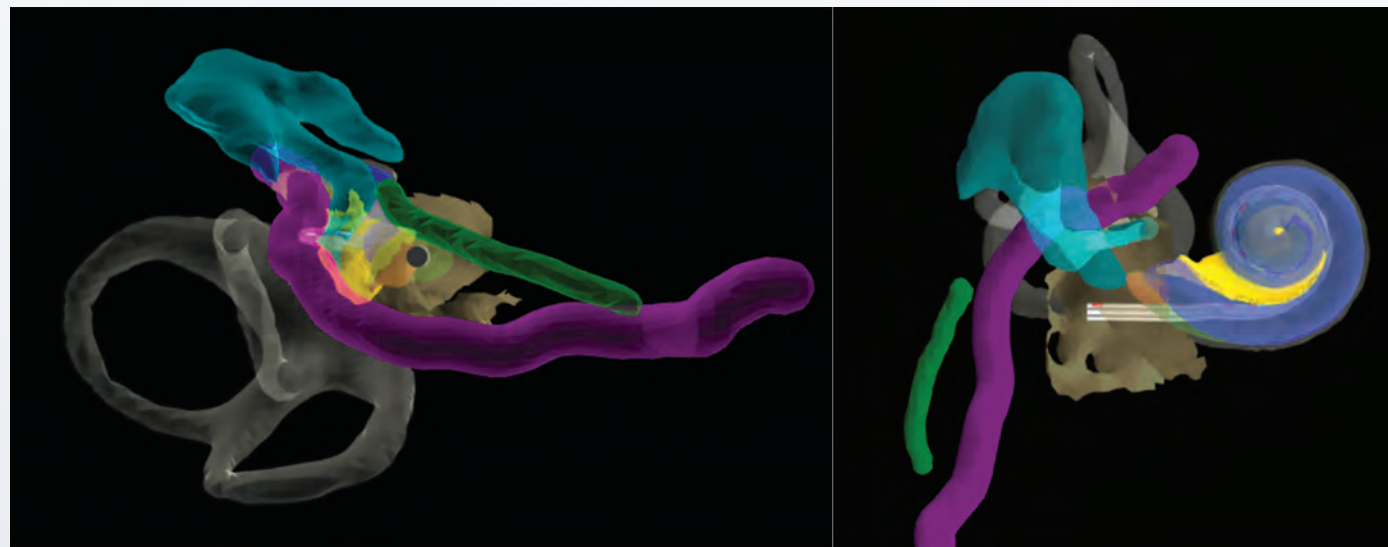


Figure 1. Customized insertion plans can be generated for individual patients from standard CT scans. Images such as the above show vital anatomy (facial nerve – magenta, chorda tympani – green, modiolus – yellow, scala vestibuli – blue, scala tympani – green, ossicles – turquoise) from both a surgical view looking down the facial recess with ideal trajectory seen as the black circle (left panel) and a view perpendicular to the cochlea allowing visualization of final CI electrode array position (right panel). The graphic interface is interactive with views rotatable and scalable and is accompanied by text descriptions of insertion customized for this patient (e.g., insert until depth marker is z mm outside a marginal round window cochleostomy). Customized insertion plans have been shown in temporal bone models to decrease incidence of tip fold-over (see Figure 3), decrease scalar translocation, and improve peri-modiolar positioning (see Figure 4).



Figure 2. Use of a portable CT scanner to take an intraoperative scan before the sterile field is taken down. Shown in the left panel, the patient has been draped with a sterile bag and the scanner is in its start position about to rotate around the head of the patient. Shown in the right panel, an individual reviews the scans which are available within minutes after acquisition. Tip fold-over (Figure 3) can be detected facilitating correction before the sterile field is taken down. The images acquired intraoperatively can be used as input to image processing algorithms with output being images such as those shown in the top left and bottom right corners of Figure 4.

Our group has performed temporal bone studies where we have shown that by using customized insertion plans (e.g., insert into an extended round window cochleostomy at angle “gamma” relative to the facial nerve and “theta” relative to the stapes, insert to depth “x” before advancing off stylet, and insert to total depth “y”), we have fewer cases of tip fold-over, fewer cases of scalar translocation, and better peri-modiolar positioning.³ We have recently expanded these customized plans to interactive graphical representations coupled with text descriptions (Figure 1) and are embarking upon a prospective clinical study investigating the efficacy of customized insertion on post-operative electrode array location and audiological performance.

Intraoperative Quality Assessment

Even before investigating pre-op CI planning, our group utilized intraoperative CT scanning for quality assessment in the operating room (Figure 2). First, we addressed tip fold-over which has an incidence of between two and four percent,^{4,5} (Figure 3) and leads to poor auditory outcomes. We then utilized the near immediate feedback afforded by intraoperative CT scanning and image processing to see if this would allow surgeons to improve their technique. In doing so, we documented better peri-modiolar positioning over time via pulling back slightly on pre-curved CI electrode arrays after full insertion to snug the electrode against the modiolus.⁶ (Figure 4).

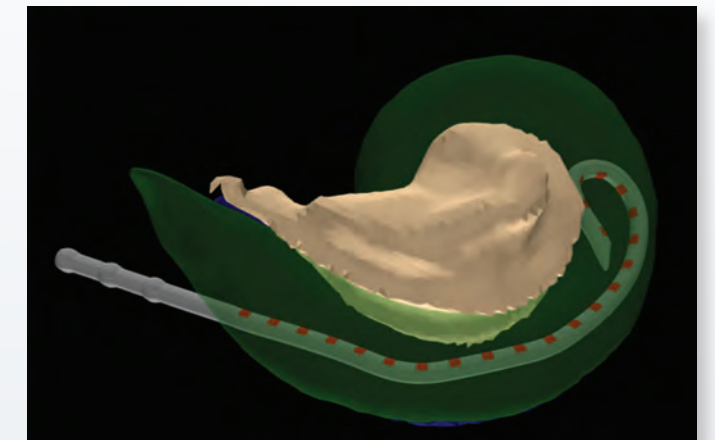


Figure 3. Tip fold-over occurs with an incidence of between two to four percent when using pre-curved electrode arrays. This suboptimal outcome occurs when the tip – upon deployment from the insertion stylet – folds back upon itself. The fold-over is not discernable by force feedback to the surgeon and should be tested for prior to leaving the operating room with either fluoroscopy or intraoperative CT scanning. CT scanning affords more utility than just tip fold-over identification including subsequent image processing for post-insertion mapping (Figure 5).

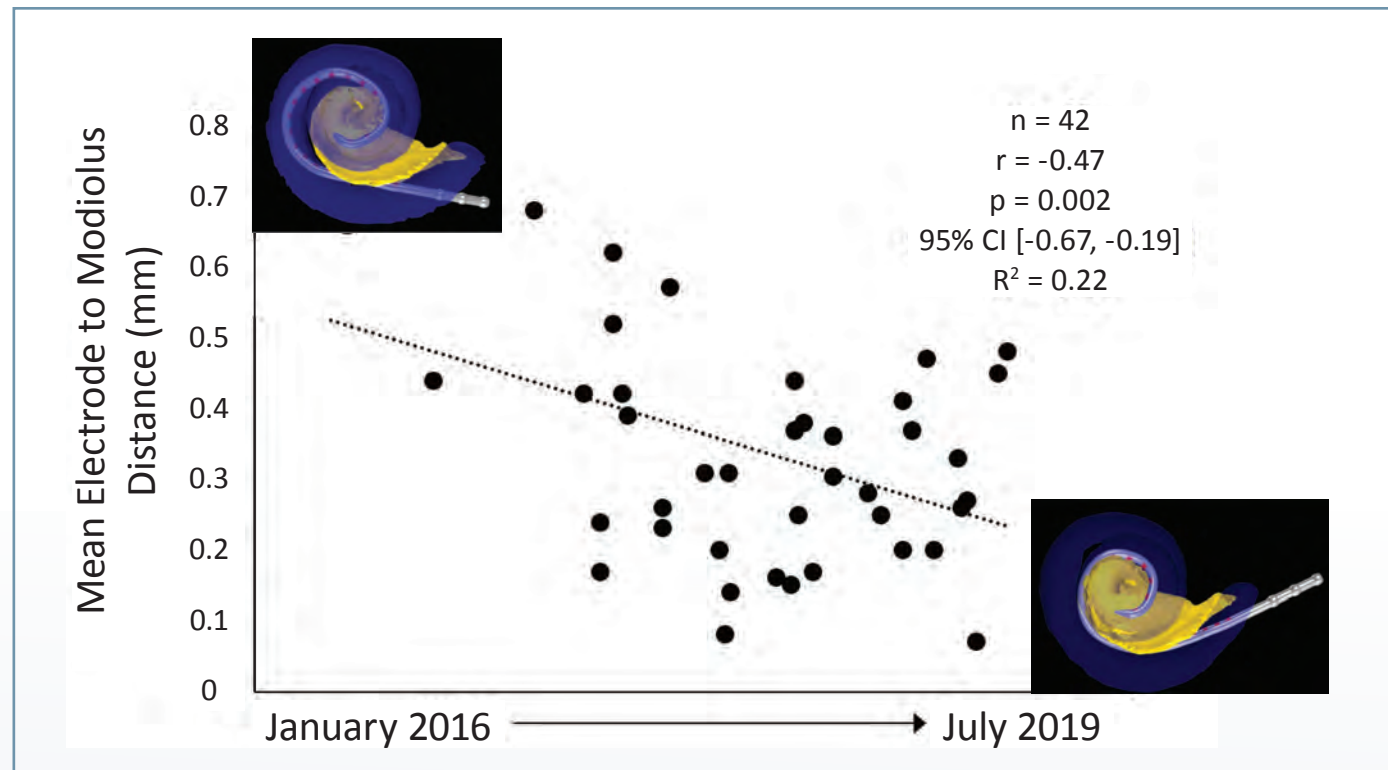


Figure 4. Based on temporal bone studies³, the surgical technique of insertion of a slim, pre-curved electrode array was altered to include pulling back slightly on the array after full insertion to the manufacturer's recommended insertion depth. Over a 3.5-year period, the wrapping of electrode arrays around the modiolus was documented to be significantly improved (data = black dots, regression = dotted line). The inserted images show (top left) poor wrapping with the mid-portion of the electrode array not positioned against the modiolus and (bottom right) good wrapping with the entirety of the electrode array positioned against the modiolus. Lower mean electrode to modiolus distance (y-axis) corresponds to better overall peri-modiolar proximity.

Post-Operative Mapping

In addition to improving surgical technique, the image processed CT scans can be used post-operatively when audiologists perform CI programming or “mapping” in which individual electrodes are assigned upper and lower stimulation levels—onto which the dynamic range for typical auditory stimuli is mapped—as well as electrode-specific frequency bands to fully capture the speech spectrum. Current standard-of-care consists of assigning electrode frequency bands in sequence assuming each electrode is near the neural characteristic frequencies they are intended to stimulate. This assumption is rarely true, and we have found that it is very common to have a neighboring electrode closer to the intended neural stimulation area especially when the electrode array buckles out against the outer cochlear wall (e.g., top left panel, **Figure 4**). Working with this reality, we selectively activate electrodes maintaining at least 8 to 10 active electrodes (**Figure 5**). This process has been carried out on thousands of patients at multiple medical centers

including Vanderbilt University Medical Center (VUMC) and, beginning with our collaboration in 2016, Medical University of South Carolina (MUSC). In addition, patients seeking improvement in sound perception have traveled from more than half of the United States and multiple foreign countries to Vanderbilt to try selective activation with group averages showing significant improvement for multiple dimensions of auditory processing, including speech recognition in quiet and noise.^{7,8} For the few patients who do not show improvement, a standard map can be re-implemented (i.e., selective activation is totally reversible) without compromising patient outcomes.

Regarding cost, a central goal of translational research is to implement bench discoveries to bedside not only in major academic medical centers but more broadly. Towards this end, we have done a cost analysis of the intraoperative CT scanner we utilize and have shown that if used only to detect and correct tip fold-over, the return on investment occurs over one to five years depending on volume of CI surgery.⁹

This analysis did not include use of the scanner in an office setting for routine sinus and temporal bone scans which increases the return on investment considerably.

Regarding radiation exposure, while our current process does depend upon ionizing radiation from a CT scanner, we have utilized a cone beam scanner which has lower radiation exposure than traditional multi-slice scanners. A portable cone beam CT scanner is being ordered for use at MUSC. And, recognizing the trend of using MRI as the preferred imaging modality in the pediatric population, we have begun developing image processing algorithms which work with MRI.

In Summary

The power of image processing within surgical fields is in its infancy. To put this in perspective, the first CT scanner was clinically introduced about the same time the first video game, Pong, was available. While video game technology has progressed exponentially with interactive 3-D video the current standard, surgeons utilize CT scans largely the same way that they were first introduced by paging through axial, coronal, and sagittal scans to mentally reconstruct 2-D images into 3-D. One can imagine the potential improvement in surgical procedures and outcomes with more widespread use of such image processing technology.

References

- Hardy M. The length of the organ of Corti in man. *Am J Anat.* 1938;62(2):291-311
- McRackan TR, Reda FA, Rivas A, Noble JH, Dietrich MS, Dawant BM, Labadie RF. Comparison of cochlear implant relevant anatomy in children versus adults. *Otol Neurotol.* 2012;33(3):328-334.
- Labadie RF, Noble JH. Preliminary Results With Image-guided Cochlear Implant Insertion Techniques. *Otol Neurotol.* 2018 Aug;39(7):922-928.
- Zuniga MG, Rivas A, Hedley-Williams A, Gifford RH, Dwyer R, Dawant BM, Sunderhaus LW, Hovis KL, Wanna GB, Noble JH, Labadie RF. Tip Fold-over in Cochlear Implantation: Case Series. *Otol Neurotol* 2017 Feb;38(2):199-206.
- Friedmann DR, Kamen E, Choudhury B, Roland JT Jr. Surgical Experience and Early Outcomes With a Slim Perimodiolar Electrode. *Otol Neurotol.* 2019 Mar;40(3):e304-e310.
- Labadie RF, Schefano AD, Holder JT, Dwyer RT, Rivas A, O'Malley MR, Noble JH, Dawant BM. Use of intraoperative CT scanning for quality control assessment of cochlear implant electrode array placement. *Acta Otolaryngol.* 2020 Mar;140(3):206-211.
- Noble JH, Labadie RF, Gifford RH, Dawant BM. Image-guidance enables new methods for customizing cochlear implant stimulation strategies. *IEEE Trans Neural Syst Rehabil Eng.* 2013 Sep;21(5):820-9.
- Noble JH, Gifford RH, Hedley-Williams AJ, Dawant BM, Labadie RF. Clinical evaluation of an image-guided cochlear implant programming strategy. *Audiol Neurootol.* 2014;19(6):400-11.
- Mitchell MB, Labadie RF. Cost-Effectiveness of Intraoperative CT Scanning in Cochlear Implantation in Fee-for-Service and Bundled Payment Models. *Ear Nose Throat J.* 2020 Aug 31. Epub ahead of print.

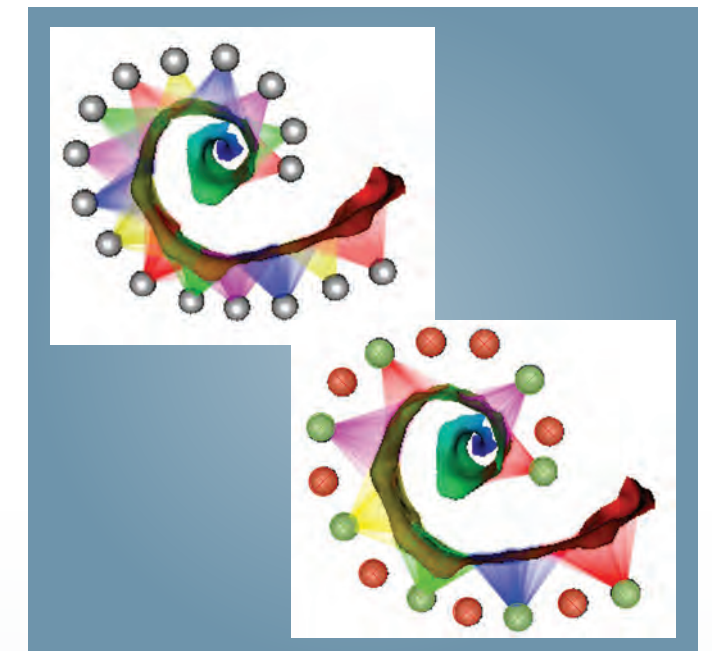


Figure 5. Using image processing of the post-insertion CT scan, spread of electrical signal from individual electrodes (gray spheres in left panel) to the spiral ganglion is depicted as cones of various colors. Largely because of distance variation from individual electrodes to the modiolus, these cones of electrical signal often overlap causing a smearing of the signal. By activating a select group of electrodes (green spheres in right panel), the entire spiral ganglion can be covered and overlapping signal can be minimized. This technique has been implemented on thousands of patients with objective and subjective improvement in approximately 70 percent of individuals. For the few who do not show improvement with selective activation, the standard of care map with all electrodes “on” can be reimplemented.

Acknowledgements

This work is a high-level summary of over 15 years of collaboration between multiple investigators especially those represented by the labs of Benoit Dawant, Ph.D. (Dept of Electrical and Computer Engineering (ECE), Vanderbilt University (VU)), Rene Gifford, Ph.D. (Dept of Hearing and Speech Sciences, VUMC) and Jack Noble, Ph.D. (Dept of ECE, VU). This work has been funded by multiple grants from the National Institute of Deafness and Other Communication Disorders (NIDCD). The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIDCD or the National Institutes of Health. □

Revitalized & Restructured

Our Head & Neck Oncology and Reconstructive Surgery Division is undergoing a major restructuring. Many in the Division have moved on and we have a new Division Director and a number of new faculty to complement our two reconstructive surgeons, **Evan M. Graboyes, M.D., MPH, FACS** and **Judith M. Skoner, M.D.**

It is not often one has the opportunity to build a Division “from the ground-up” and especially in the setting of substantial support from the institution. The ability to create a group with the ideal mix of clinical expertise, research interest, level of experience, and diversity has been incredibly exciting.

We are pleased to introduce these new faculty highlighted here (more to come next year). In addition, allow me to note several parallel developments:

- A major expansion of our Head & Neck Clinic which will double its size to over 9,000 square feet is underway.
- Our Board of Trustees recently approved a state-wide MUSC Cancer Network. The Division Director will have a significant leadership role in this initiative.
- A number of new clinical care sites with integrated telemedicine are scheduled to open next year.
- We continue to leverage our NCI-funded research in head and neck cancer disparities and cancer survivorship to enhance clinical care, equity and outcomes for patients with head and neck cancer treated at MUSC/HCC and across the state.

The entire Department has enthusiastically embraced this opportunity to create a unique Division focused on enhancing care for patients with head and neck cancer in South Carolina and beyond. We appreciate the strong support from our Hollings Cancer Center and from Health Systems leadership at all levels.

Truly an exciting time!

Paul R. Lambert, M.D.

Division Director

Jason G. Newman, M.D., FACS

received his medical degree from Thomas Jefferson University Medical School in 1997 and completed residencies in Otolaryngology at Manhattan Eye, Ear & Throat Hospital, New York, NY, (1998-1999), New York Presbyterian Hospital of Columbia and Cornell, and Memorial Sloan Kettering Cancer Center (1999-2002). Following residency, Dr. Newman completed his fellowship in Head and Neck Surgery/Oncology and Microvascular Surgery at the University of Pennsylvania Perelman School of Medicine in 2005. After fellowship, Dr. Newman remained on faculty at Penn, where he was a Professor of Otorhinolaryngology - Head and Neck Surgery, Director of the Cancer Service Line at Pennsylvania Hospital, Director of Head & Neck Surgery, Co-Director of the Cranial Base Center, and Director of the Head and Neck Fellowship.

Dr. Newman is board certified in Otorhinolaryngology and holds membership in the American Academy of Otolaryngology. His areas of expertise include head and neck mucosal and cutaneous cancer surgery, robotic surgery, anterior cranial base surgery and complex thyroid surgery with special interest in minimally invasive approaches. Dr. Newman also is actively involved in research focused on head and neck cancer clinical trials, genetic signatures for head and neck cancer, and quality of life for head and neck cancer and cranial base patients.

As the Director of the Cancer Service Line of the Abramson Cancer Center at Pennsylvania Hospital, Dr. Newman has helped to create a disease-based team approach to cancer care delivery and research. This has helped to strengthen the delivery of cancer care, improve patient outcomes, create leadership pathways, increase patient volumes, increase access to clinical trials, and minimize variations in the delivery of care.



Leila J. Mady, M.D., Ph.D., MPH

is a clinical instructor in Otolaryngology – Head & Neck Surgery. Dr. Mady completed advanced training in head and neck cancer and reconstruction through the University of Pennsylvania Head and Neck Oncology and Microvascular Reconstruction Fellowship Program. Her clinical practice focuses on removing benign or malignant (cancer) growths of the head and neck. She is uniquely trained in the area of Transoral Robotic Surgery (TORS) and organ preservation surgery.

In addition to clinical practice, Dr. Mady is a researcher focusing on health services and population health, including improving the delivery of cancer care and head and neck cancer outcomes. She has presented her work nationally and internationally, and has written over 65 peer-reviewed articles on these topics. Her research has been funded through multiple granting agencies.

Dr. Mady was born and raised in New Jersey. She graduated with honors from the Leonard N. Stern School of Business at New York University with a bachelor's degree in Finance with a concentration in Chemistry. She then completed a joint M.D., Ph.D., MPH program at Rutgers University – New Jersey Medical School. Dr. Mady attended the University of Pittsburgh Medical Center for her otolaryngology residency with a T32 research year. She is passionate about mentoring students and was presented with the 2020 Women in Otolaryngology Exemplary Senior Trainee Award from the Academy of Otolaryngology - Head & Neck Surgery Foundation. After residency, she completed her fellowship in HN Oncology and Microvascular Reconstruction at the University of Pennsylvania. In that same year, she was selected as an Associate Fellow at the Penn Leonard Davis Institute of Health Economics.



Continuing Medical Education



F. Johnson Putney Lectureship in Head & Neck Cancer

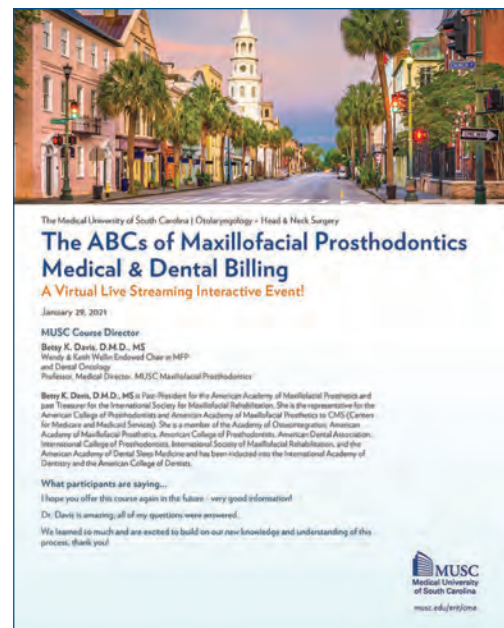
The 36th Annual Lectureship was held December 11, 2020 at the MUSC Hollings Cancer Center and also streamed live virtually under the direction of Terry A. Day, M.D., David M. Neskey, M.D., MSCR, FACS, and Evan M. Graboyes, M.D. MPH, FACS. The Keynote speaker, who lectured virtually, was Carole Fakhry, M.D., MPH,

Johns Hopkins Head and Neck Cancer Center. World class HN specialists discussed improving quality of health care for patients with HN cancer.



The Charleston Pharyngoesophageal Manometry Training Program

The 2021 course was held on January 15 and 16, both in-person and virtual! Directed by Ashli K. O'Rourke, M.D., this interactive course for physicians and speech pathologists covered pharyngoesophageal high-resolution manometry (HRM) with a focus on clinical application of HRM in the evaluation and treatment of pharyngeal dysphagia patients. Utilization of both pharyngeal and esophageal examinations were covered. We had 67 participants from 29 states, as well as Japan, Ireland, UAE, and the UK. We hope to see you next time in January 2022.



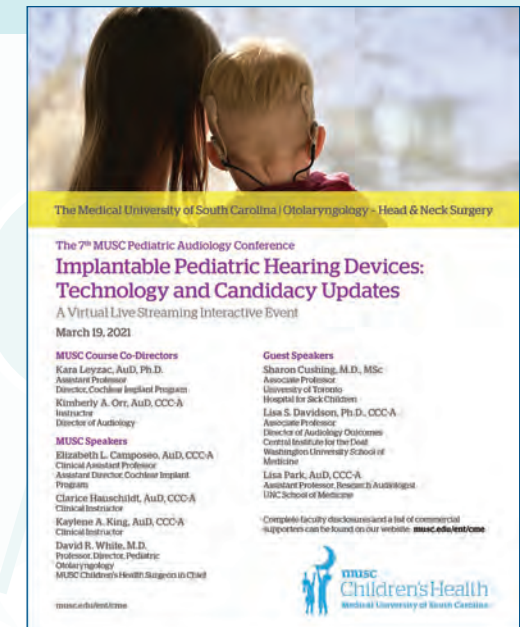
The ABCs of Maxillofacial Prosthodontics Medical & Dental Billing

This one day course directed by Betsy K. Davis, D.M.D. was held virtually on January 29, 2021. It was designed for dentists, prosthodontists, oral/maxillofacial radiologists and maxillofacial prosthodontists to review medical and dental billing for medically necessary dental treatment including: general dentistry, prosthodontics, radiology (including cone beam technology) and maxillofacial prosthodontics. Virtual participants attended from 13 states across the country.



Pediatric Audiology: Implantable Pediatric Hearing Devices Technology and Candidacy Updates

The 7th biennial Pediatric Audiology conference was held virtually on March 19, 2021, and was co-directed by Kara Leyzac, AuD, Ph.D. and Kimberly Orr, AuD. It included lectures by fellow MUSC faculty who discussed updates in implantable hearing technology and candidacy. Three invited speakers included Sharon Cushing, M.D., MSc (University of Toronto/Hospital for Sick Children), Lisa Park, AuD (University of North Carolina, Chapel Hill), and Lisa Davidson, Ph.D. (University of Washington, St. Louis). Attendees included audiologists, speech-language pathologists, hearing researchers, and teachers of the Deaf/Hard-of-hearing located throughout the state of South Carolina and across eight other states.



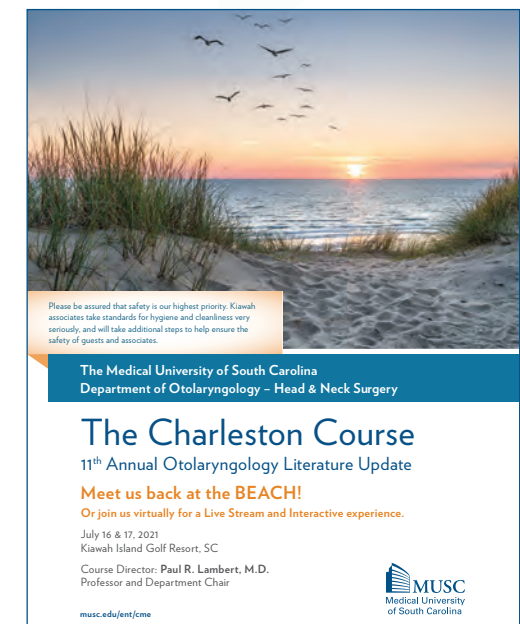
Southern States Rhinology Course

The Southern States Rhinology Course resumed in person meetings with a hugely successful meeting in April 2021 at the Kiawah Island Golf Resort. We had 61 attendees from all over the US. In addition to our regular faculty of John DeGaudio, M.D. (Emory), Stil Kountakis, M.D. (Augusta University), Rod Schlosser, M.D. (MUSC), Brent Senior, M.D. (UNC) and Mike Sillers, M.D. (Alabama Sinus and Nasal Institute), our guests of honor included David Kennedy, M.D. (Penn), Elina Toskala, M.D., Ph.D. (Jefferson) and Rick Chandra, MMHC, M.D. (Vanderbilt). We look forward to another great meeting at beautiful Kiawah Island in May 2022.



The Charleston Course: 11th Annual Otolaryngology Literature Update

Our 11th Annual Charleston Literature Update Course was held both in person and virtually on July 16 - 17 this year, directed by Department Chair Paul R. Lambert, M.D. Those who were able to attend in person enjoyed the beautiful weather and ambiance that Kiawah Island Golf Resort offers. Over 50 people attended representing 15 states (California to Texas to Florida to Wisconsin). They enjoyed the two days of our faculty's critical analysis of over 100 of the year's most relevant, evidence-based medical literature. I hope you will be able to join us in 2022!



Which Children with Obstructive Sleep Apnea Require Pre-Operative Echocardiogram Prior to Tonsillectomy and Adenoidectomy?

William W. Carroll, M.D.

Pediatric obstructive sleep apnea (OSA) is common with a prevalence ranging from 3 to 5.7 percent.^{1,2} Compliance with continuous positive airway pressure (CPAP) is low, and tonsillectomy and adenoidectomy (T&A) is a well described modality in treating pediatric OSA.^{3,4} Pediatric OSA has increased recently, likely as a result of both increased testing as well as the rise of childhood obesity. Data are emerging regarding the negative effects from OSA, which include neurologic, behavioral, metabolic, respiratory, and cardiovascular.⁵⁻⁷ While cardiac effects of OSA are well established in adults, we are learning more and more about the impact on cardiac function as pediatric OSA severity increases.⁸⁻¹⁰ However, a recent systematic review highlighted the inconsistencies in associations between cardiac abnormalities and OSA severity.¹¹ There is substantial inconsistency in reported cardiac changes found in OSA.^{12,13} In addition, there is mounting evidence that these cardiac changes often resolve after T&A.¹⁴⁻¹⁹ Still, it behooves the surgeon and peri-operative providers to have a clear understanding of cardiac risk assessment. This has historically been achieved with cardiology consultation and possible pre-operative echocardiography in select patients. We continue to grapple with the question of which patients should have a pre-operative cardiac evaluation and echocardiogram.

In 2015, the American Heart Association (AHA) and American Thoracic Society (ATS) had advocated for preoperative



William W. Carroll, M.D., joined the Department of Otolaryngology- Head and Neck Surgery and MUSC Children's Hospital in August 2020, from the Medical College of Georgia where he was an attending pediatric otolaryngologist for two years. Dr. Carroll completed his fellowship in pediatric otolaryngology at the University of Minnesota.

Dr. Carroll grew up in North Carolina and graduated from Davidson College. During college, he played four years of varsity soccer for the mighty Davidson Wildcats. In 2012, he received his M.D. from the Medical University of South Carolina, where he subsequently completed his residency in otolaryngology. In 2018, he received his board certification from the American Board of Otolaryngology.

Dr. Carroll's clinical practice is focused on the care of children with ear, nose, and throat problems, with a particular emphasis on upper airway problems and speech/velopharyngeal disorders.



echocardiograms in children with severe OSA or in children with cardiometabolic risk factors with the goal of identifying cardiac abnormalities that would increase the risk of peri- or postoperative complications.^{20,21} However, studies focusing on severe OSA patients have been unsuccessful in finding associations between reliable predictors (such as apnea hypopnea index (AHI), respiratory depression index (RDI) and nadir oxygen saturation) and abnormal findings on echocardiogram.²²⁻²⁴ Other studies have been unable to characterize which OSA related cardiac changes are associated with an increased risk of perioperative complications.^{25,26} These inconsistent and unclear associations of echocardiography leave the clinician wondering: "Which patients with pediatric OSA should receive a pre-operative echocardiogram prior to surgery?" Even newer sophisticated echocardiography technology such as Tissue Doppler Imaging (TDI) echocardiography, while more sensitive to subclinical cardiac changes, have not been established as cost effective clinical adjuncts in pre-operative cardiac evaluation. Justification of our pre-operative cardiac investigations and resource utilization should be supported with comprehensive data.

Many agree that right now, we are likely obtaining pre-operative echocardiography on many children who either

have very low risk of a cardiac abnormality that would alter peri-op care or long-term care, (i.e. if there is small subclinical cardiac finding – it will likely either resolve after surgery, and will not change their peri-operative risk.) Most children who are candidates for pre-operative echocardiography are admitted after surgery based on OSA alone, so a cardiac finding that necessitated simply inpatient observation may not be clinically relevant. Because a child's safety under anesthesia and post-operatively is of utmost concern, we need high-powered, prospective studies to further evaluate which children should receive pre-T&A cardiac imaging. Clinicians should evaluate each child individually with respect to their co-morbidities and the available resources to decide on the utility of pre-T&A cardiac imaging for that child. In addition, the overall cost of resource utilization of all pre-T&A cardiac imaging remains unknown and needs investigation.

At MUSC we are dedicated to evidence-based, guideline-driven, high quality, and safe care in pediatric otolaryngology. The herein described conundrum of when to order pre-operative echocardiography and/or cardiac consultation prior to T&A for pediatric OSA, is one in which safety, guidelines, and evidence clash. The answer lies within our grasp through a well-designed, high-powered study. We should be unwaveringly dedicated to the safety of our patients, and just as dedicated to appropriate health care resource utilization. At MUSC, we are also dedicated to ongoing investigations into this topic that spans multiple levels of evidence. □

References

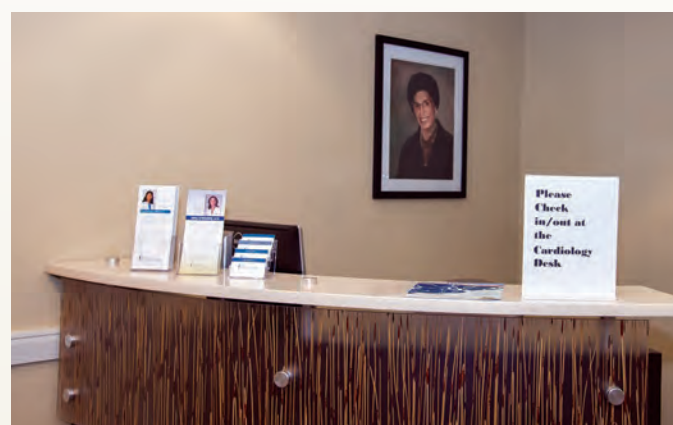
- Marcus CL, Brooks LJ, Ward SD, et al. Diagnosis and management of childhood obstructive sleep apnea syndrome. *Pediatrics*. 2012;130(3):e714-e755.
- Honaker SM, McQuillan ME, Mindell JA, Downs SM, Slaven JE, Schwichtenberg AJ. Screening for Problematic Sleep in a Diverse Sample of Infants. *J Pediatr Psychol*. 2021.
- Chinnadurai S, Jordan AK, Sathe NA, Fannesbeck C, McPheeters ML, Francis DO. Tonsillectomy for obstructive sleep-disordered breathing: A meta-analysis. *Pediatrics*. 2017;139(2).
- Cullen KA, Hall MJ, Golosinskiy A. Ambulatory surgery in the United States, 2006. *Natl Health Stat Report*. 2009(11):1-25.
- Li Z, Celestin J, Lockey RF. Pediatric Sleep Apnea Syndrome: An Update. *J Allergy Clin Immunol Pract*. 2016;4(5):852-861.
- Marcus CL, Brooks LJ, Draper KA, et al. Diagnosis and management of childhood obstructive sleep apnea syndrome. *Pediatrics*. 2012;130(3):e714-755.
- Capdevila OS, Kheirandish-Gozal L, Dayyat E, Gozal D. Pediatric obstructive sleep apnea: complications, management, and long-term outcomes. *Proc Am Thorac Soc*. 2008;5(2):274-282.
- Hui W, Slorach C, Guerra V, et al. Effect of Obstructive Sleep Apnea on Cardiovascular Function in Obese Youth. *Am J Cardiol*. 2019;123(2):341-347.
- Amin RS, Kimball TR, Bean JA, et al. Left ventricular hypertrophy and abnormal ventricular geometry in children and adolescents with obstructive sleep apnea. *Am J Respir Crit Care Med*. 2002;165(10):1395-1399.
- Amin RS, Kimball TR, Kalra M, et al. Left ventricular function in children with sleep-disordered breathing. *Am J Cardiol*. 2005;95(6):801-804.
- Pettitt-Schieber B, Tey CS, Nemeth J, Raol N. Echocardiographic findings in children with obstructive sleep apnea: A systematic review. *Int J Pediatr Otorhinolaryngol*. 2021;145:110721.



New Laryngology Clinic Up and Running

Ashli K. O'Rourke, M.D.

The new Evelyn Trammell Institute for Voice & Swallowing at the MUSC Health East Cooper Pavilion in Mount Pleasant is now in full swing. The space, which opened in February 2021, more than doubled our clinical footprint and updated our technical equipment to remain on the forefront of state of the art care. Dedicated procedure rooms allow improved access to timely in office procedures and an increase in expertly trained, dedicated staff ensures unparalleled care for our patients.



Ashli O'Rourke, M.D., MS, joined the MUSC Evelyn Trammell Institute for Voice & Swallowing in 2012. She began her professional career as a speech-language pathologist (SLP), earning her Master's degree in Speech-Language Pathology and Audiology from Florida State University. After more than seven years of clinical speech therapy practice at Emory University Hospital, she attended medical school at the Medical College of Georgia. She completed her residency in Otolaryngology – Head and Neck Surgery at the University of Virginia in Charlottesville, and her fellowship in Laryngology – Voice and Swallowing disorders at the Medical College of Georgia.

Dr. O'Rourke treats adult patients with problems in the larynx, airway, and/or the esophagus. This includes hoarseness or voice disturbances, dysphagia, or breathing difficulties due to airway narrowing or scar.

She is particularly interested in the diagnosis and treatment of swallowing disorders as well as laryngopharyngeal reflux disease. Her research interests include innovative technologies for the diagnosis and rehabilitation of swallowing disorders.

Dr. O'Rourke is board certified through the American Board of Otolaryngology and serves as a Senior Examiner for the Board. She is a Councilor on the Board of Directors for the Dysphagia Research Society and holds the Mark & Evelyn Trammell Endowed Chair in Otolaryngology.



Drasti Smyre, PA-C and Ashli K. O'Rourke, M.D.

Children with OSA...continued from page 9

12. Kaditis A. Blood pressure after adenotonsillectomy in children with obstructive sleep-disordered breathing. *American Journal of Respiratory and Critical Care Medicine*. 2008;178(8):882.
13. Chan JY, Li AM, Au CT, et al. Cardiac remodelling and dysfunction in children with obstructive sleep apnoea: a community based study. *Thorax*. 2009;64(3):233-239.
14. Abd El-Moneim ES, Badawy BS, Atya M. The effect of adenoidectomy on right ventricular performance in children. *International Journal of Pediatric Otorhinolaryngology*. 2009;73(11):1584-1588.
15. Çeliker M, Ceviz N, Olgun H, Yörük Ö, Kurt S. Effect of adenotonsillectomy on the right ventricular diastolic functions in children with adenotonsillar hypertrophy. *Journal of Clinical and Analytical Medicine*. 2017;8:133-136.
16. Sun YL, Yuan B, Kong F, Li XM. Effects of adenoidectomy or adenotonsillectomy on the cardiovascular system in children: a meta-analysis. *Eur Arch Otorhinolaryngol*. 2021.
17. Ehsan Z, Ishman SL, Kimball TR, Zhang N, Zou Y, Amin RS. Longitudinal cardiovascular outcomes of sleep disordered breathing in children: A meta-analysis and systematic review. *Sleep*. 2017;40(3).
18. Cincin A, Sakalli E, Bakirci EM, Dizman R. Relationship between obstructive sleep apnea-specific symptoms and cardiac function before and after adenotonsillectomy in children with adenotonsillar hypertrophy. *Int J Pediatr Otorhinolaryngol*. 2014;78(8):1281-1287.
19. Teo DT, Mitchell RB. Systematic review of effects of adenotonsillectomy on cardiovascular parameters in children with obstructive sleep apnea. *Otolaryngology - Head and Neck Surgery (United States)*. 2013;148(1):21-28.
20. Abman SH, Hansmann G, Archer SL, et al. Pediatric Pulmonary Hypertension: Guidelines From the American Heart Association and American Thoracic Society. *Circulation*. 2015;132(21):2037-2099.
21. Bitners AC, Arens R. Evaluation and Management of Children with Obstructive Sleep Apnea Syndrome. *Lung*. 2020;198(2):257-270.
22. Pettitt-Schieber B, Tey CS, Hill R, et al. The utility of preoperative echocardiography in pediatric obstructive sleep apnea. *Sleep and Breathing*. 2021.
23. Teplitzky TB, Pereira KD, Isaiah A. Echocardiographic screening in children with very severe obstructive sleep apnea. *International Journal of Pediatric Otorhinolaryngology*. 2019;126.
24. Clements AC, Walsh JM, Dai X, et al. Cardiopulmonary Testing before Pediatric Adenotonsillectomy for Severe and Very Severe Obstructive Sleep Apnea Syndrome. *Laryngoscope*. 2021.
25. Revenaugh PC, Chmielewski LJ, Edwards T, Krishna J, Krakovitz P, Anne S. Utility of preoperative cardiac evaluation in pediatric patients undergoing surgery for obstructive sleep apnea. *Archives of Otolaryngology - Head and Neck Surgery*. 2011;137(12):1269-1275.
26. Larrier DR, Huang ZJ, Wei Z, et al. Is routine pre-operative cardiac evaluation necessary in obese children undergoing adenotonsillectomy for OSA? *American Journal of Otolaryngology*. 2015;36(6):744-747.

Audiology Division Expansion

Kimberly A. Orr, AuD, CCC-A

During the onset of the COVID-19 pandemic in March 2020, **Kimberly Orr, AuD**, Director of the Division of Audiology within the MUSC Otolaryngology Department was exceedingly busy recruiting for newly created audiology positions. The “Audiology Initiative” for planned expansion of the division began in 2019 as the existing audiology team was stretched to support the growing need for audiology services essential to the Charleston community and the Department. With the assistance of Neurotologist, **Ted McRackan, M.D., MSCR** and **Christine Strange, AuD**, and with COVID restrictions in place, we resolved to be creative in our recruitment efforts. After receiving numerous applications from around the country, the search committee identified outstanding candidates for both the adult and pediatric audiologist positions. Virtual interviews were conducted and five top candidates officially joined our faculty in August 2020.

With the 2019 opening of the MUSC Children’s Health R. Keith Summey Medical Pavilion in North Charleston, which offers comprehensive outpatient services for children, **Arielle Abrams, AuD** was recruited to provide comprehensive diagnostic and rehabilitative services specifically for pediatric patients. Dr. Abrams is a tremendous asset to the pediatric team which includes audiologists **Kimberly Orr**, **Michelle Sewell**, **Clarice Hauschildt** and **Kaylene King**. Dr. Abrams received her Doctor of Audiology degree from the University of North Carolina at Chapel Hill and has a remarkable ability to connect with children with hearing loss and their families. She openly shares her own experience with hearing loss and cochlear implantation.

Kaylene King, AuD was heavily recruited by the MUSC cochlear implant team. She also received her Doctor of Audiology degree from the University of North Carolina at Chapel Hill and brings both clinical and research experience with pediatric and adult cochlear implant recipients. Dr. King practices at Rutledge Tower and the R. Keith Summey Medical Pavilion. She is the third full-time cochlear implant audiologist at MUSC and a wonderful addition to the team.

Due to the tremendous growth of the MUSC Vestibular Program under the direction of Neurotologist, **Habib G. Rizk M.D., MSc**, **Nicole Ritter, AuD** and **Danielle Cassels, AuD** were recruited to work specifically with adult patients with hearing and balance problems in our Rutledge Tower

location. Dr. Ritter graduated at the top of her class with her Doctor of Audiology degree from Ohio University. She is intelligent and compassionate, and a true asset to our team. Dr. Cassels joined the MUSC Audiology team in September 2021. After receiving her Doctor of Audiology degree at the University of Pittsburgh, Dr. Cassels gained extensive experience in facial nerve testing using evoked electromyography/electroneuronography. In addition to supporting our vestibular patients, Drs. Ritter and Cassels also work with our adult amplification team to treat hearing loss.

With over five percent of the world’s population requiring habilitation to treat disabling hearing loss, we recruited **Hannah Burrick, AuD** and **Lauren Costello, AuD** to provide hearing services in our downtown Rutledge Tower location, and satellite offices East Cooper Medical Pavilion and North Charleston Medical Pavilion. Dr. Burrick received her Doctor of Audiology degree from Washington University School of Medicine in St. Louis and brings significant experience with osseointegrated bone conduction devices and hearing aids. She is attentive to state-of-the-art hearing technology for use with her patients. Dr. Costello received her Doctor of Audiology degree from the University of Akron. She also has extensive training and experience with top manufacturers of hearing technology and is focused on diagnosing and treating adults with hearing loss.

MUSC Audiology is dedicated to diagnosis and treatment of hearing and balance disorders for both pediatric and adult patients. Our staff of 14 audiologists offers a full range of services at facilities which are conveniently located in downtown Charleston, North Charleston, and Mount Pleasant. Services include specialized testing for infants and children, comprehensive diagnostic testing for adults, full vestibular testing, hearing aid and assistive device dispensing, and cochlear implant evaluations and programming.

Even with the addition of six audiologists since 2020, the team is hard at work with phase two of the “Audiology Initiative”. We look forward to further advancements of our division, including recruitment of additional audiologists and expansion of hearing services with our ENT physicians on Kiawah Island in 2022. The future of the MUSC Division of Audiology is incredibly bright given the addition of such talented and caring audiologists, and we look forward to continued growth. □



Six audiologists joined our team since August 2020 (left to right), Hannah Burrick, Nicole Ritter, Lauren Costello, Danielle Cassels, Arielle Abrams, and Kaylene King.



The Audiology Division provides diagnosis and treatment of hearing and balance disorders for pediatric and adult patients.

Kimberly A. Orr, AuD is the Director of Audiology at the Medical University of South Carolina. She received her undergraduate degree at West Virginia University, her Master of Arts degree at the Ohio State University and her Doctor of Audiology degree from A.T Still University. Dr. Orr specializes in identification and management of hearing loss in children. She is a member of the MUSC Cochlear Implant Team, the MUSC Multidisciplinary Down Syndrome Team, and the MUSC Craniofacial Anomalies Team. In addition to her clinical practice, Dr. Orr serves as a mentor for other audiologists and actively participates in clinical research.



ENT PUBLICATIONS

Reid L, Carroll W. Treacher Collins Syndrome in the United States: Examining Incidence and Inpatient Interventions. *Cleft Palate Craniofac J*. 2021 Mar 31.

[William W. Carroll, M.D.](#)

Moseley SL, Heine C, Valente T, Stone D, Levy DA, Downs JB, Nguyen SA, Pecha PP, Clemmens C. Effects of Parental Presence During Induction of Anesthesia on Operative and Perioperative Times in Pediatric Patients Undergoing Adenotonsillectomy. *Int J Pediatr Otorhinolaryngol*. 2021 Jan

[Clarice S. Clemmens, M.D.](#)

Yan F, Knochelmann HM, Morgan PF, Kaczmar JM, Neskey DM, Graboyes EM, Nguyen SA, Ogretmen B, Sharma AK, Day TA. The Evolution of Care of Cancers of the Head and Neck Region: State of the Science in 2020. *Cancers (Basel)*. 2020 Jun 11;12(6):1543.

[Terry A. Day, M.D.](#)

Eckert MA, Harris KC, Lang H, Lewis MA, Schmiedt RA, Schulte BA, Steel KP, Vaden KI Jr, Dubno JR (2021). Translational and interdisciplinary insights into presbycusis: A multidimensional disease. *Hear Res* 402, 108109. Invited article for 2021 Mar 15 Special Issue on Presbycusis.

[Judy R. Dubno, Ph.D.](#)

[Mark A. Eckert, Ph.D.](#)

[Kelly C. Harris, Ph.D.](#)

[Kenneth I. Vaden Jr., Ph.D.](#)

Graboyes EM, Sterba KR, Li H, Warren GW, Alberg AJ, Calhoun EA, Nussenbaum B, McCay J, Marsh CH, Osazuwa-Peters N, Neskey DM, Kaczmar JM, Sharma AK, Harper J, Day TA, Hughes-Halbert C. Development and Evaluation of a Navigation-Based, Multilevel Intervention to Improve the Delivery of Timely, Guideline-Adherent Adjuvant Therapy for Patients with Head and Neck Cancer. *JCO Oncol Pract*. 2021 Mar 10.

[Evan M. Graboyes, M.D., MPH, FACS](#)

Taylor RJ, Patel R, Wolf BJ, Stoll WD, Hornig JD, Skoner JM, Hand WR, Day TA. Intraoperative Vasopressors in Head and Neck Free Flap Reconstruction. *Microsurgery*. 2021 Jan;41(1):5-13.

[Joshua D. Hornig, M.D., FRCS\(C\)](#)

Tipton CB, Halstead LA. Laryngopharyngeal Congenital Anomalies Diagnosed in Adulthood: Hypervigilance in Childhood Needed to Prevent Permanent Physical and Psychosocial Sequelae. *J Pediatr Congenit Dis*. 2021;6(1):111.

[Lucinda A. Halstead, M.D.](#)

Gupta A, Koochakzadeh S, Nguyen SA, Brennan EA, Meyer TA, Lambert PR. Pharmacological Prevention of Noise-induced Hearing Loss: A Systematic Review. *Otol Neurotol*. 2021 Jan;42(1):2-9.

[Paul R. Lambert, M.D.](#)

Schwartz-Leyzac KC, Zwolan TA, Pfungst BE. Using the Electrically-Evoked Compound Action Potential (Ecap) Interphase Gap Effect to Select Electrode Stimulation Sites in Cochlear Implant Users. *Hear Res*. 2021 Jul.

[Kara Leyzac, AuD, Ph.D., CCC-A](#)

Zhang K, Yan F, Nguyen SA, Meyer TA. Subtotal Petrosectomy with Cochlear Implantation or Osseointegrated Hearing Rehabilitation: A Single Institutional Study. *Otol Neurotol*. 2021 Aug 20.

[Ted A. Meyer, M.D., Ph.D.](#)

McRackan TR, Hand BN, Velozo CA; Cochlear Implant Quality of Life Consortium; Dubno JR. Validity and Reliability of the Cochlear Implant Quality of Life (Ciqol)-35 Profile and Ciqol-10 Global Instruments In Comparison to Legacy Instruments. *Ear Hear*. 2021 Jul-Aug 01;42(4):896-908.

[Theodore R. McRackan, M.D., MSCR](#)

Huang VW, Imam SA, Nguyen SA. Telehealth in the times of SARS-CoV-2 infection for the Otolaryngologist. *World J Otorhinolaryngol Head Neck Surg*. 2020 Nov;6(Suppl 1):S49-S53.

[Shaun A. Nguyen, M.D., FAPCR](#)

Zhao EE, Nguyen SA, Salvador CD, O'Rourke AK. A Meta-Analysis of the Association Between the Voice Handicap Index and Objective Voice Analysis. *J Speech Lang Hear Res*. 2020 Oct 16;63(10):3461-3471.

[Ashli K. O'Rourke, M.D.](#)

Van Swol, Joshua; Wolf, Bethany Jacobs; Toumey, Julia; Discolo, Christopher; Patel, Krishna. Follow-Up Care Barriers for Patients with Orofacial Clefts. *Cleft Palate Craniofacial Journal*. 2021

[Krishna G. Patel, M.D., Ph.D.](#)

Yan F, Levy DA, Wen CC, Melvin CL, Ford ME, Nietert PJ, Pecha PP. Rural Barriers to Surgical Care for Children with Sleep-Disordered Breathing. *Otolaryngol Head Neck Surg*. 2021 Mar 2.

[Phayvanh P. Pecha, M.D.](#)

Rizk HG, Liu YF. Interviewing and Counseling the Dizzy Patient with Focus on Quality of Life. *Otolaryngol Clin North Am*. 2021 Jul 20;S0030-6665(21)00110-9.

[Habib G. Rizk, M.D., MSc](#)

Del Signore AG, Greene JB, Russell JL, Yen DM, O'Malley EM, Schlosser RJ. Cryotherapy for Treatment of Chronic Rhinitis: 3-Month Outcomes of a Randomized, Sham-Controlled Trial. *Int Forum Allergy Rhinol*. 2021 Aug 6.

[Rodney J. Schlosser, M.D.](#)

Sridharan SS, Ramprasad VH, Keller RG, Day TA, Lentsch EJ, Skoner JM. Scapular Free Flap Reconstruction of Pharyngoesophageal Defects. *Clin Otolaryngol*. 2021 Sep;46(5):1110-1113.

[Judith M. Skoner, M.D.](#)

Soler ZM, Schlosser RJ, Bodner TE, Alt JA, Ramakrishnan VR, Mattos JL, Mulligan JK, Mace JC, Smith TL. Endotyping Chronic Rhinosinusitis Based on Olfactory Cleft Mucus Biomarkers. *J Allergy Clin Immunol*. 2021 May;147(5):1732-1741.e1.

[Zachary M. Soler, M.D., MSc](#)

Horton JD, Corrigan C, Patel T, Schaffer C, Cina RA, White DR. Effect of a Standardized Electronic Medical Record Order Set on Opioid Prescribing after Tonsillectomy. *Otolaryngol Head Neck Surg*. 2020 Aug;163(2):216-220.

[David R. White, M.D.](#)

Wilkerson BA, Zebroski HL, Finkbeiner CR, Chitsazan AD, Beach KE, Sen N, Zhang RC, Birmingham-McDonogh O. Novel Cell Types and Developmental Lineages Revealed by Single-Cell Rna-Seq Analysis of the Mouse Crista Ampullaris. *Elife*. 2021 May 18.

[Brent A. Wilkerson, Ph.D.](#)

The Department published 189 journal articles in national and international journals within the last year. This is just a sampling of the recent publications.

RO1 Awarded: Study of Olfactory Dysfunction in Aging Adults

Rodney J. Schlosser, M.D.

The Rhinology Division is excited to announce the receipt of another RO1! This proposal was awarded to **Rod Schlosser, M.D.** (PI) and will study Olfactory dysfunction (OD) in aging adults. The division has had previous NIH funding: Determinants of olfactory dysfunction in CRS (**Zach Soler, M.D.** and **Tim Smith, M.D.** Co-PIs), Role of Vitamin D metabolism in CRS (**Jennifer Mulligan, Ph.D.** PI), and Epithelial cell complement production in CRS (**Jennifer Mulligan, Ph.D.** and **Carl Atkinson, Ph.D.** Co-PIs). This current proposal in age-related olfactory dysfunction expands into a new area for our group by leveraging expertise in clinical olfaction research (Drs. Schlosser and Soler), age-related hearing loss (**Judy Dubno, Ph.D.**, Otolaryngology), cognition and imaging (**Mark Eckert, Ph.D.**, Otolaryngology and **Adriana Benitez, Ph.D.** Neurology), as well as colleagues from Statistics and Epidemiology.

Currently otorhinolaryngologists lack validated methods for organizing or classifying patients with OD in aging based upon either disease site or mechanism. This is in contrast to hearing loss where clinicians can quickly categorize patients into conductive, sensorineural or mixed loss and then develop a targeted treatment plan based upon the mechanism of hearing loss at specific anatomic sites. In order to develop targeted treatments for olfactory loss in aging adults, the goal of this study is to better classify patients based on the underlying site of disease and likely mechanism. Various anatomic sites along the olfactory pathway may be

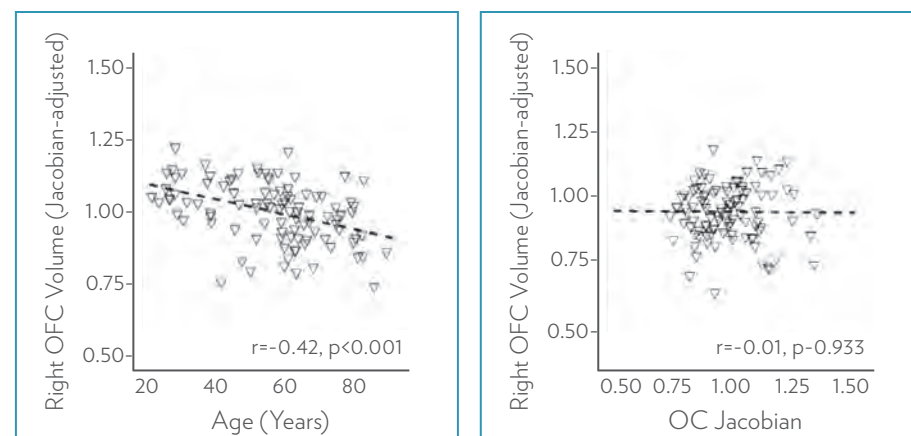


Figure 1: Digital Based Morphometry assessment using MRI of right orbitofrontal cortex (OFC) of 105 MUSC subjects after controlling for head size and sex demonstrates an age-related decrease (left graph, $r=-0.42$, $p<0.001$). OFC volumes are not associated with OC volumes, thus age-related changes in peripheral and central olfactory structures occur independently of one another.

involved in OD in aging, including the nasal cavity, olfactory neuroepithelium, olfactory nerves, central gray matter olfactory structures and intervening white matter tracts. At these anatomic sites, OD then likely occurs through distinct mechanisms that will be associated with unique olfactory-specific biomarkers. Our research team has developed techniques to simultaneously assess critical elements of the olfactory pathway, including analysis of olfactory-specific mucus proteins, olfactory cleft endoscopy, and site-specific radiologic metrics.

Otolaryngologists are well aware of the association between nasal polyps and olfactory loss in CRS, however, associations between various medical comorbidities that may be associated with aging OD are not well understood. Our prior work has shown that asthma and diabetes mellitus were associated with olfactory loss independent of the presence of

any CRS (Schlosser RJ, et al, IFAR 2020;10:7-14). How these conditions are associated with olfactory loss will require large numbers of patients and extensive examination of biomarkers along the entire olfactory pathway.

In examining olfactory mucus proteins, type 2 inflammatory profiles such as IL13 and IL5 are associated with CRS-associated olfactory loss (Smith TL, et al IFAR 2021, in press). This is in contrast to non-CRS olfactory loss, where our group has shown a number of proteins associated with chronic inflammation, senescence and various growth factors may play a unique role (Yoo F et al, IFAR 2019;9:1151-8).

In addition to using mucus proteins to assess changes in the local microenvironment, our group has used automated imaging methods to assess components of the olfactory pathway. We found that olfactory cleft volumes increase throughout adulthood (Worley M et al, Laryngoscope 2019;129:E55-

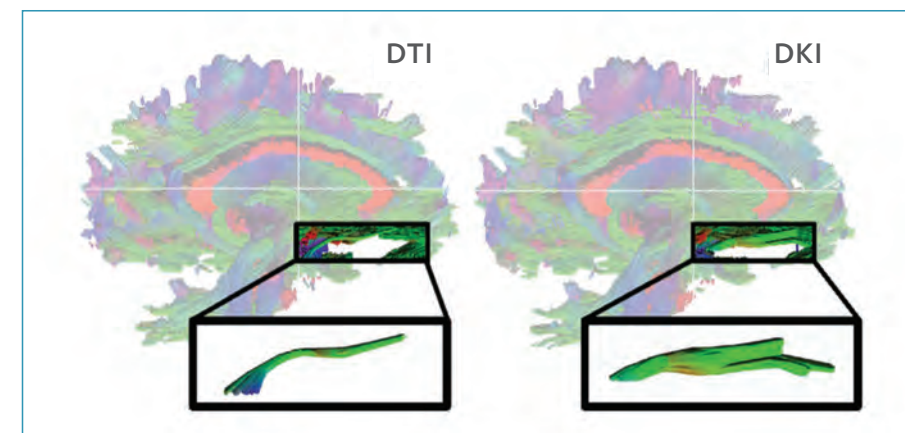


Figure 2: Tractography images of older adult brain highlighting olfaction relevant white matter tract between medial temporal and orbitofrontal cortex. Improved rendering using DKI vs DTI provides superior ability to resolve white matter with complex microstructure likely to play a role in olfaction.

60). It is unclear if these increased volumes represent fibrosis or atrophy of the olfactory neuroepithelium, however these peripheral changes occur independently of age-related decreases in central olfactory structures, such as the orbitofrontal cortex (**Figure 1**) and may represent separate mechanisms of OD. The clinical relevance of these independent, age-related changes along various points in the olfactory pathway remains an area for further study.

Central gray matter olfactory structures are connected by white matter tracts. Dr Benitez and her colleagues have developed novel methods that result in improved visualization of these white matter tracts that may be impacted in age-related OD (**Figure 2**).

In addition to this comprehensive assessment of the olfactory pathway and potential mechanisms, our group will examine the impact of olfactory loss upon patient quality of life,

nutrition, depression and cognitive function. Loneliness and social isolation are significant concerns among our elderly population. We have previously published the finding that loneliness, as measured by the De Jong Gierveld scale, is associated with impaired olfaction (Desiato VM et al, AJRA 2021;35(3):334-40). Mechanisms for this finding could include impacts upon nutrition, mental health or cognitive decline and remain an area to be studied. Finally, a longitudinal aim will gather valuable information to allow clinicians to better predict future olfactory loss for individual patients.

In summary, the overall goal of this study is to better understand why certain aging patients develop olfactory loss, pinpoint anatomic sites where this loss is occurring, understand how deficits at certain locations impact quality of life and how we can better develop personalized therapies to prevent or reverse age-related olfactory dysfunction. □

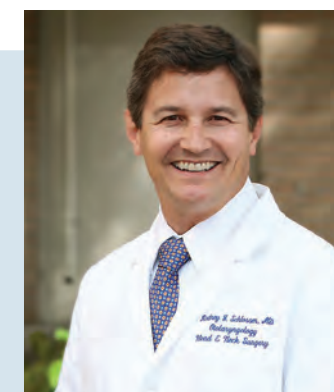
Rodney J. Schlosser, M.D. is Professor and Director of Rhinology and Sinus Surgery in the MUSC Department of Otolaryngology. He completed his Otolaryngology residency at the University of Virginia, his Rhinology fellowship at the University of Pennsylvania, and has been on staff at MUSC since 2002.

Dr. Schlosser's clinical areas of interest include complex sinus surgery, endoscopic repair of CSF leaks and skull base defects, resection of sinonasal and skull base tumors. His research interests include the mucosal immune response in various forms of chronic sinusitis, novel methods of drug delivery and clinical outcomes in patients undergoing medical and surgical treatment for chronic rhinosinusitis.

Dr. Schlosser has received research grants from the National Institute of Health, Veterans

Administration, American Rhinologic Society, American Academy of Otolaryngic Allergy, American Academy of Otolaryngology – Head and Neck Surgery, Cystic Fibrosis Foundation, Johnson and Johnson, Gyrus, Xoran, Acclarent and the Flight Attendant's Medical Research Institute.

He has published a textbook on endoscopic sinus surgery, as well as over 200 peer reviewed articles and seven book chapters, and has been an invited speaker throughout the U.S. and abroad.



Tackling Barriers to Equitable Care for Children with Sleep-Disordered Breathing

Phayvanh P. Pecha, M.D.

Phayvanh P. Pecha, M.D. (PI) from the Pediatric Otolaryngology Division was recently awarded the MUSC College of Medicine K12 Career Development Award. She is a clinician-scientist and health services researcher dedicated to reducing disparities and investigating equitable access to care for children with obstructive sleep-disordered breathing.

Obstructive sleep-disordered breathing affects up to one in every nine children in the United States and is the most common indication for pediatric tonsillectomy.^{1,2} Consequences of untreated sleep-disordered breathing include increased healthcare use, poor neurocognitive performance, academic deficits, and behavioral impairments.³⁻⁵ The American Academy of Otolaryngology-

Head and Neck Surgery has published clinical practice guidelines for both diagnostic polysomnography (PSG) and tonsillectomy. Despite these efforts to decrease practice variations, the literature continues to show persistent inequities for this common childhood condition.

We conducted a large cross-sectional study of outpatient tonsillectomy for children using the MarketScan Multistate Medicaid database.⁶ Among otherwise healthy children insured by Medicaid, African American and Hispanic children had significantly lower rates of not obtaining PSG or tonsillectomy compared to their White counterparts for obstructive sleep-disordered breathing. After adjusting for age and sex, we found that African American and Hispanic children were 45 percent and 38 percent less likely to receive

tonsillectomy, respectively, and had the longest mean time to surgery compared to their White peers.

These findings are important for several reasons. African American children and children from low-resourced families are disproportionately affected by sleep-disordered breathing.^{7,8} Untreated sleep-disordered breathing exacerbates other comorbid conditions that are more prevalent among these groups such as obesity, smoke exposure, poor school performance, and attention-deficit/hyperactivity disorder.⁹⁻¹¹ Prior research shows higher baseline rates of poor sleep duration and quality in African American youth, those from lower resourced families or single-parent homes as compared to their White or higher resourced peers.^{12,13} Thus, there is a critical need to identify the root causes and drivers of disparities in sleep-disordered breathing care, particularly among children who are already at increased risk of poor sleep and its negative downstream health consequences.

South Carolina is an optimal setting in which to investigate pediatric sleep-disordered breathing disparities due to a racially diverse and low-resourced population residing in both rural and urban settings. African American children

constitute nearly 30 percent of the population in the state.¹⁴ South Carolina has a 23 percent childhood poverty rate, which is five percent higher than the national average.¹⁵ Medicaid covers approximately three out of every five children in South Carolina with an eligibility criteria of 2.1 times the federal poverty level.¹⁶

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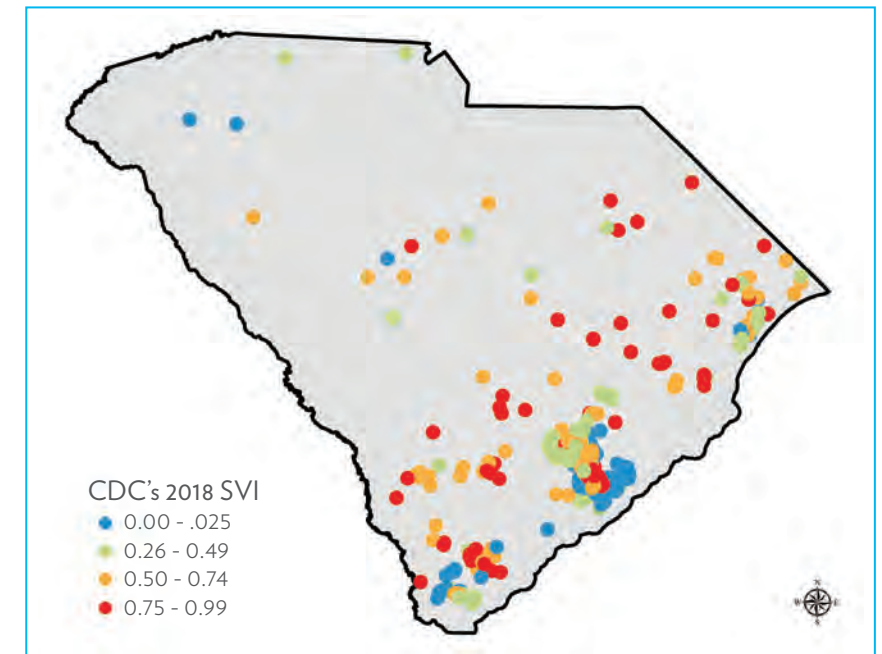


Figure 3. Cohort of children referred to otolaryngology for sleep-disordered breathing stratified by social vulnerability index (SVI) scores. Higher SVI score indicates higher vulnerability.

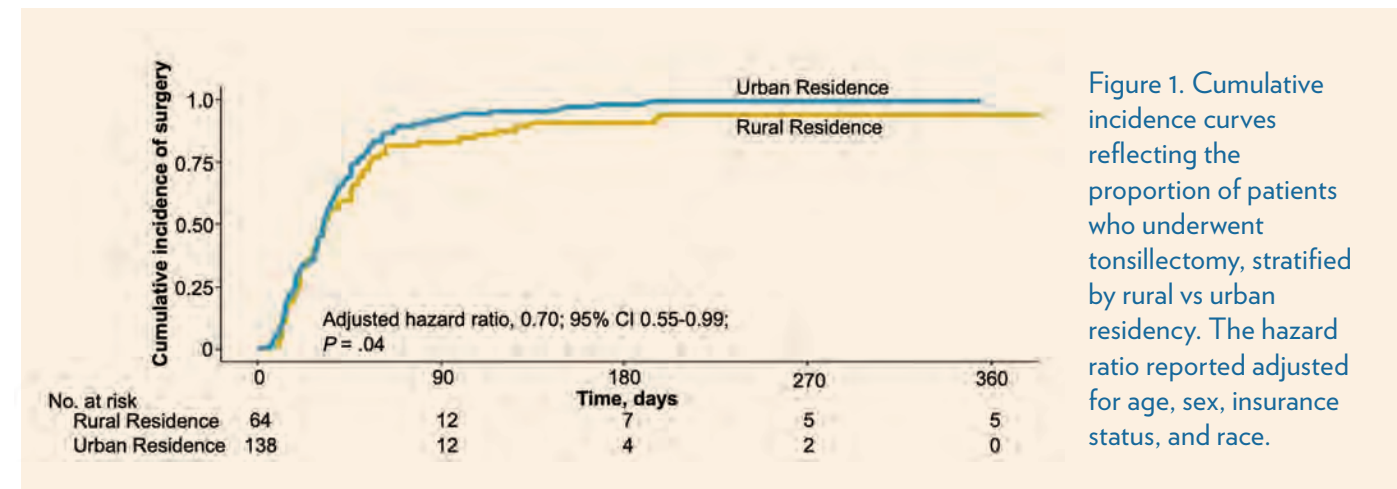


Figure 1. Cumulative incidence curves reflecting the proportion of patients who underwent tonsillectomy, stratified by rural vs urban residency. The hazard ratio reported adjusted for age, sex, insurance status, and race.

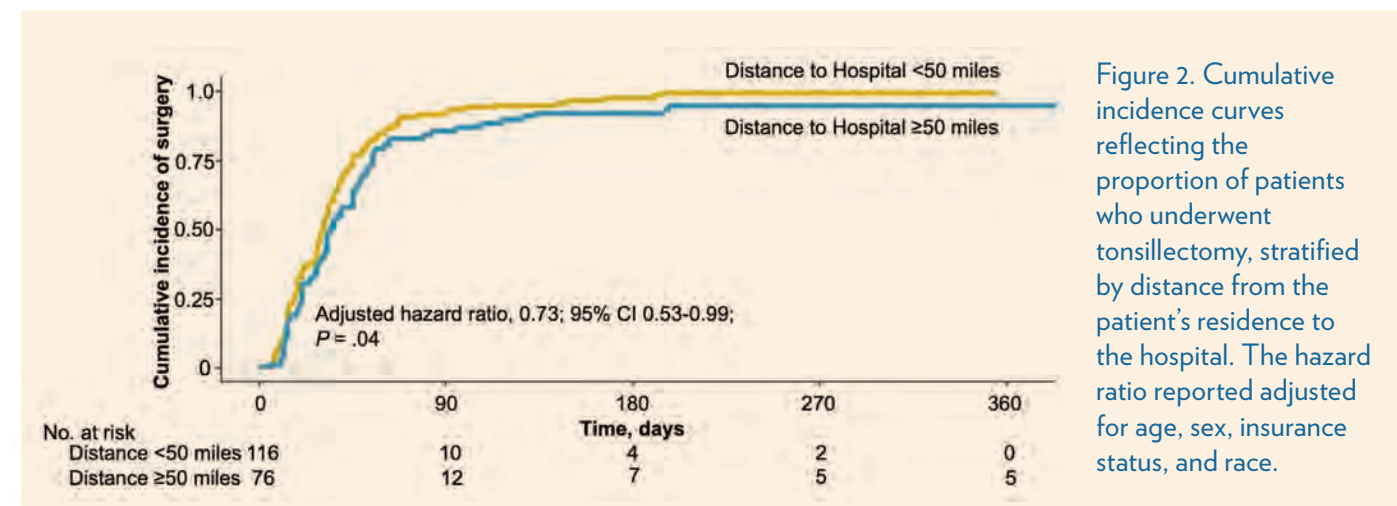
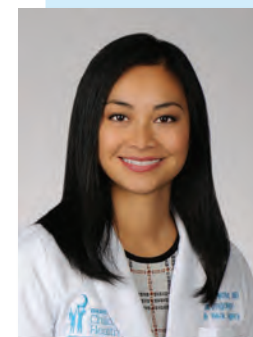


Figure 2. Cumulative incidence curves reflecting the proportion of patients who underwent tonsillectomy, stratified by distance from the patient's residence to the hospital. The hazard ratio reported adjusted for age, sex, insurance status, and race.



Phayvanh P. Pecha, M.D is an assistant professor and clinician-scientist in the MUSC Department of Otolaryngology-Head & Neck Surgery. As a fellowship-trained pediatric otolaryngologist, Dr. Pecha's clinical practice includes management and treatment of sleep-disordered breathing, hearing loss, chronic ear surgery, sinus disease and airway pathologies. Specific areas of expertise include mandibular distraction osteogenesis as well as cleft lip and palate surgery. She conducts prenatal visits and is a surgeon on the MUSC multidisciplinary Cleft and Craniofacial Team which is accredited by the American Cleft Palate-Craniofacial Association.

Dr. Pecha is a health services researcher with a focus on health disparities, particularly in the delivery of care for children with obstructive sleep-disordered breathing. She works with a multidisciplinary team of investigators to study innovative health care delivery and behavioral interventions to improve the equity of care for children with otolaryngology needs. Her research is funded through the MUSC College of Medicine Career Development Award. She has also received grants from the American Academy of Otolaryngology-Head and Neck Foundation, ACCEL Mentored Research Development Award, and NIH subaward from the National Heart, Lung, and Blood Institute. She has authored over 30 peer-reviewed publications related to pediatric otolaryngology.

Dr. Pecha was born in Laos and moved to Minnesota where she attended Carleton College. She received her medical degree from the University of Minnesota Medical School with honors and completed her residency at the University of Utah in Salt Lake City. She completed her fellowship in pediatric otolaryngology at MUSC in 2019 where she remains on faculty. She is currently pursuing an MPH in Health Behavior and Health Promotion from MUSC.




Tackling Barriers...continued from page 19

High poverty regions often include rural areas where children with poor geographic access to subspecialty care are often concentrated.¹⁷ Our own MUSC data shows that children from rural areas had a 30 percent lower rate of tonsillectomy attainment over time (Figure 1) and had a significantly longer median driving distance of 74.8 vs 16.8 miles compared to urban dwelling patients after adjusting for age, sex and insurance status (Figure 2).¹⁸ The total number of physicians in metro areas of South Carolina is 26.8 per 10,000 people compared to 12.1 per 10,000 people for rural areas of the state. Pediatricians in rural settings often have difficulty coordinating timely referral to surgical subspecialty consultations compared to their urban counterparts.¹⁹

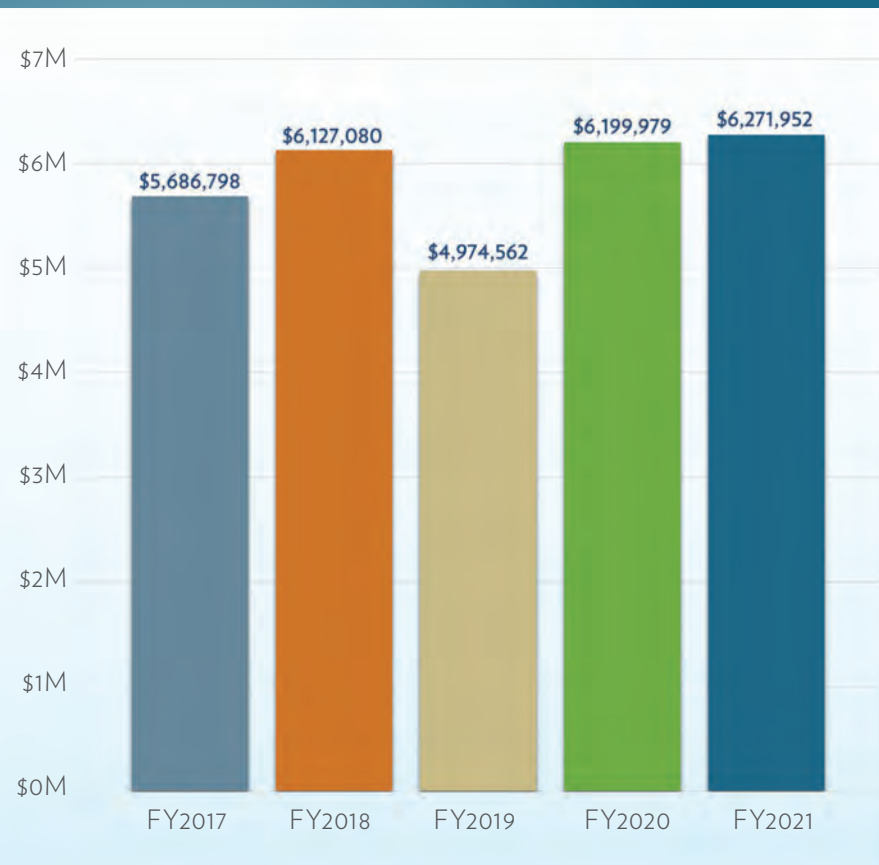
Our research shows significant differences in referral patterns for children needing evaluation for sleep-disordered breathing. Using multidimensional geospatial measures of health, we applied the social vulnerability index (SVI), a tool developed by the Centers for Disease Control and Prevention (CDC) in order to identify neighborhood level-differences in care for children with sleep-disordered

breathing (Figure 3). The SVI conglomerates 15 demographic characteristics of a census tract within areas including socioeconomic status, household composition and disability, minority status and language, and housing and transportation.²⁰ We found that African American and Hispanic children had 83 percent and 73 percent lower odds, respectively, than non-Hispanic White children of attending their otolaryngology referral for sleep-disordered breathing. Higher overall SVI score (corresponding to higher vulnerability) and higher SVI score for socioeconomic status were each associated with a significantly lower likelihood of attending the referral appointment.

As part of her K12 grant, Dr. Pecha will conduct surveys and interviews with guardians and clinicians who take care of children with sleep-disordered breathing as well as analysis of a large statewide database. In summary, the overall goal of this research is to better understand the drivers of disparities in evaluation and treatment of children with obstructive sleep-disordered breathing in order to design a targeted intervention for equitable care. 

Research Grant Awards

Awards for FY 2021 totaled more than \$6.2M, an increase of more than 10 percent since 2017, ranking the Department #10 in NIH funding for Departments of Otolaryngology. Continued growth is expected in FY 2022 due to new awards already received, many other submissions currently under review, and several more planned submissions this fiscal year.



Quarterly “I Am an MUSC Innovator” Awards

The MUSC Office of Innovation recognized the June 2021 recipients of the “I Am an MUSC Innovator” awards. Teams participated in the Shark Tank competition held on April 29. Two of the six teams that made it into the finals are from the Otolaryngology - Head & Neck Department led by **Drs. Ted Meyer and Krishna Patel.**

The “I Am an MUSC Innovator” campaign is designed to raise awareness of the many forms that innovation can take, to inspire others, and to recognize publicly the individuals and teams that are making an impact.



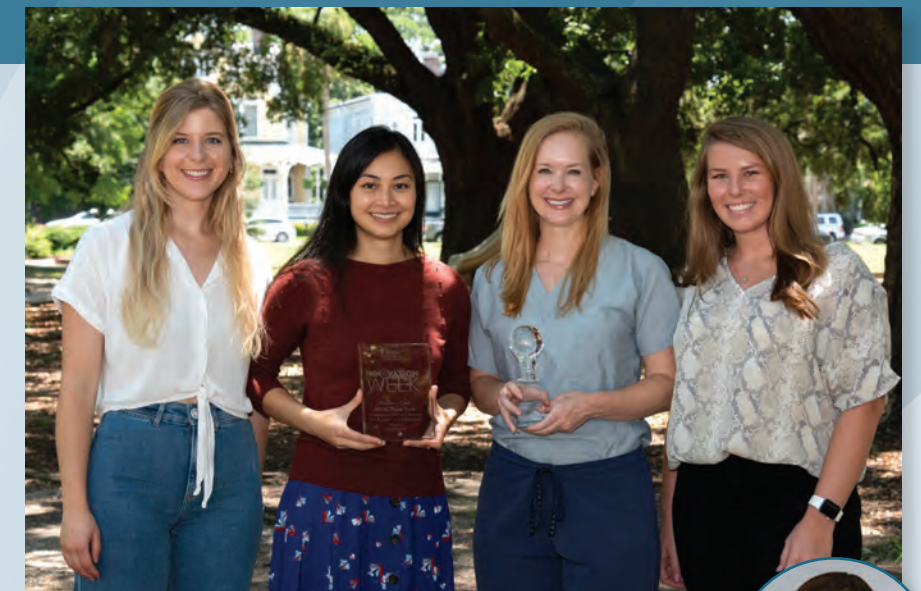
Ted A. Meyer, M.D., Ph.D. and M. Andrew Rowley

Team Meyer

M. Andrew Rowley, Royal M. Pipaliya, Mallory J. Raymond, M.D., Mitchell J. Isaac, M.D., and Ted A. Meyer, M.D., Ph.D. are working on the project “Measuring Otolologic Surgical Performance with Computer Vision (OTOVision).” The goal is to use an artificial intelligence framework to objectively measure surgical performance in a database of otologic surgical video clips and provide trainees with quick, objective analytics of videos in near realtime to drive improvement.

Team Patel

Heather McGhee, Melissa Montiel, Phayvanh Pecha, M.D., Julia Black, Kimberly McClure, Eric Barbarite, Diane Andrews, Heather Bonilha, and Krishna G. Patel, M.D., Ph.D. are creating an MUSC Craniofacial Team Care App for patients and parents that will be both a resource for information, as well as a guide for the care they will receive with our MUSC Craniofacial Cleft Lip and Palate team. The goal is to have information, such as all the multi-specialists that care for the patient in one easy to access place. It will also allow us to keep a checklist for them to follow their chronologic care plan that often relies on local providers and our team members. The app will unify all of this information for them.



Julia Black, Phayvanh P. Pecha, M.D., Heather McGhee, and Kimberly McClure



Krishna G. Patel, M.D., Ph.D.

Farewell Residents & Fellows



Department Chair Paul Lambert, M.D. (center) with Drs. Jordan Allensworth, Joshua Horton, Mark Ellis, and Mark Costello

2021 ENT Resident Graduates

Jordan J. Allensworth, M.D. leaves MUSC to pursue a practice at the PeaceHealth Southwest Medical Center in Vancouver Washington (outside Portland) as a general otolaryngologist. Dr. Allensworth was well-known for his kindness, teaching, diligence, and attention to detail. He continues to be often mistaken for the Arsenal Football (Soccer) Club Coach Mikel Arteta. Good looking guys. Jordan published two papers during his residency. He received several accolades for his research presentations. We wish Dr. Allensworth, his wife Katie, and their son Ira all the best in Oregon.

Mark S. Costello, M.D. leaves us to join the Christ Hospital Group in Cincinnati, Ohio as a general otolaryngologist. Mark had the biggest guns of any MUSC resident (in any program) ever. If you find your exercise routine challenging, please do not try to keep up with Mark. One day he decided to test his lungs, and his lungs erupted - ended up in the hospital. After a brief recovery, Mark resumed his pursuit of surgical perfection, where his surgical skills and professional demeanor propelled him through the residency program. Dr. Costello was known for his love of the Ohio State Buckeyes, but I hear the Bearcats are a close second this year. Mark published four papers as an MUSC resident. We wish Dr. Costello, his wife Julie, and their son Brady great success in Ohio.

Mark A. Ellis, M.D. leaves us to join Chattanooga ENT in Tennessee as a general otolaryngologist. Dr. Ellis was known for his love of all things outdoors - huntin', fishin', hikin', and golfin'. What is less known is his love of drag racin' co-residents through the streets of Charleston. Mark received many awards for his research at MUSC. He published at least 12 papers, one book chapter, and he received a CORE grant through AAO-HNS for his research with Dr. Evan Graboyes. Well done. We wish Dr. Ellis, his wife Sarah, and their children Andrew and Elizabeth all the best in Tennessee.

Joshua D. Horton, M.D. leaves us to join Jennie Stuart Medical Group in Hopkinsville, Kentucky near Nashville as a general otolaryngologist. Dr. Horton was known for his surgical skills, dedication, and teaching. He wrote a poignant article early in the COVID pandemic about Otolaryngology resident training during the pandemic that received national accolades. He published at least 13 papers and two book chapters as a resident. Dr. Horton received an MUSC Resident Physician of the Month award as well as first and second place awards for his resident research presentation at the 2018 and 2019 Charleston Magnolia Conferences. A great five years. We wish Dr. Horton and his girlfriend Sarah great success in Tennessee.

2020 Fellow Graduates

in Facial Plastic and Reconstructive Surgery, Head & Neck Oncology and Microvascular Reconstructive Surgery, Pediatric Otolaryngology, and Rhinology and Endoscopic Sinus/Skull Base Surgery

Mahmoud I. Awad, M.D. completed the 2020-2021 Facial Plastic and Reconstructive Surgery fellowship. He had also completed a fellowship at MUSC in 2019-2020 for Head and Neck Oncology and Microvascular Surgery. Dr. Awad plans to start his practice in head and neck surgery in Binghamton, New York at the Lourdes Hospital. We wish him happiness and success.

Joel C. Davies, M.D. completed the 2020-2021 fellowship in Head & Neck Oncology and Microvascular Reconstructive Surgery. Innovative and fun-loving, Joel exudes a positive vibe that makes everyone around him love work/flaps/surgery/head and neck cancer. It is impossible to be anything other than happy around Joel. His passion for head and neck surgery was contagious and he has the unique ability to elevate those around him. The next chapter of Joel's career is with Mount Sinai Hospital, Toronto.

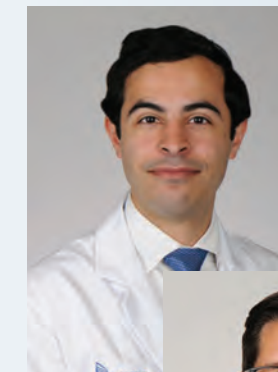
Tekin Baglam, M.D. completed the 2020-2021 fellowship in Pediatric Otolaryngology. He joined the faculty of the Department of Otolaryngology - Head and Neck Surgery at Case Western University in Cleveland, OH where he is an attending pediatric otolaryngologist at Rainbow Babies and Children's Hospital.

Amar Miglani, M.D. completed the 2020-2021 fellowship in Rhinology and Endoscopic Sinus/Skull Base Surgery. He, his wife, Leah, and their baby boy (arrival date in October!), returned to Mayo Scottsdale where they completed residency and will now join the faculty. We will miss Amar's big smile and hearty laughter and wish them the best!

Vilija Jo Vaitaitis, M.D. completed the 2020-2021 fellowship in Head & Neck Oncology and Microvascular Reconstructive Surgery. Meticulous and endearing, Vil was loved by all. We always knew that the residents, nursing staff, patient, and we were going to have a great day when Vil was in the room. She was a phenomenal educator who inspired those around her. Vil leaves us for Louisiana State University Health Sciences Center, New Orleans.



The residents honored **Eric J. Lentsch, M.D., FACS** with the annual Resident Teaching Award, again! It is recognition for an individual who spends hours with residents in the lecture room, cadaver lab, and operating theater to make sure they leave MUSC with excellent training and skills.



Welcome to MUSC!

New General ENT Clinic Now Open in Kiawah/Seabrook!



MUSC Health ENT at Sea Islands opened its doors on October 11, 2021. World class expertise in ear, nose, and throat (ENT) care is now available near Kiawah, Seabrook and Johns Islands. We deliver the latest treatments for problems ranging from common to complex for both adult and pediatric patients.

Dr. Ann Bogard is accepting new patients to treat a wide variety of ENT conditions, including nasal congestion, deviated septum, polyps, nose bleeds, loss of smell, ear ringing, dizziness, hoarseness, chronic cough, and more.

1003 Landfall Way, Unit B
Seabrook Island, SC 29455
Scheduling 843-792-3531



Ann L. Quinn-Bogard, M.D.
Clinical Instructor
M.D.: Medical College of Wisconsin
Residency: The Hospital of the University of Pennsylvania



2021-22 ENT Interns



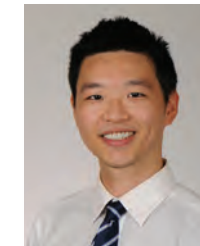
Michaela F. Close, M.D., is from Columbia, SC. She graduated from the University of South Carolina Honors College with a major in Biology, and minor in visual art. She then attended medical school at the Medical University of South Carolina, and completed a research fellowship with the MUSC Department of Otolaryngology in 2019-2020. Michaela loves to spend her free time playing tennis, doing yoga, playing board games, and trying new restaurants.



Sydney L. Moseley, M.D. was raised in Greenville, SC and graduated from Clemson University Honors College summa cum laude with a degree in Biological Sciences with a Psychology minor. While there she played for the Clemson Volleyball team for four years. She earned her M.D. from the Medical University of South Carolina and was then thrilled to be able to stay for residency. In her free time, she still enjoys volleyball, the beach, and supporting her Clemson Tigers!



Noah Z. Feit, M.D. Noah graduated from the University of Pennsylvania summa cum laude majoring in Philosophy, Politics, and Economics (PPE) and minoring in French. After briefly working as a consultant at Booz Allen Hamilton, Noah completed a post-baccalaureate premedical program at Johns Hopkins, matriculating directly into medical school at Weill Cornell. Noah enjoys cooking, tennis, and spending time exploring with friends and family.



Erick Yuen, M.D. was raised in Brooklyn, NY and graduated from Hunter College with a degree in Chemistry. Prior to medical school, he spent a year working as a surgical coordinator at an ocular oncology practice in Lower Manhattan. He then attended New York Medical College and was inducted into the Alpha Omega Alpha Honor Society. In his free time, Erick enjoys playing the piano, jogging, and exploring new sights in Charleston.

2021-2022 Fellows



Julian D. Amin, M.D.
Head and Neck Surgical Oncology Fellow
MD: University of Maryland
Residency: University of Maryland
Special Interests: Head and Neck Oncology, microvascular reconstruction



Mallory J. Raymond, M.D.
Neurotology Fellow
MD: University of Miami Miller School of Medicine
Residency: Emory University
Special Interest: Medical and surgical education, cochlear implant outcomes, the relationship between cognitive impairment and hearing loss



Alana N Aylward, M.D.
Head and Neck Surgical Oncology Fellow
MD: Columbia University
Residency: University of Utah
Special Interest: Head & Neck Oncology



Husein Smayli, M.D.
Pediatric Otolaryngology Fellow
MD: Saint Joseph University, Beirut, Lebanon
Residency: Hotel-Dieu de France Hospital, Beirut, Lebanon
Special Interest: Pediatric Otolaryngology, Craniofacial Surgery



Thomas S. Edwards, M.D.
Rhinology & Skull Base Surgery Fellow
MD: Tulane University
Residency: Emory University
Special Interest: Chronic sinusitis, endoscopic sinus surgery, skull base surgery, allergy

In addition to an extensive surgical experience, fellows benefit from a multidisciplinary approach by participating in outpatient clinics, rounds, and didactic conferences.



The Neurotology Eastern Region Virtual Education (NERVE)

series is an educational program of fellow-centered virtual didactic sessions occurring bimonthly and aiming to centralize the collective expertise of the otology/neurotology community, to widen the access of trainees to knowledge of the most up-to-date evidence and practices, and to create an easily accessible library of educational recordings. The series was borne out of the idea that neurotology programs are small and therefore educational activities are duplicated across the country. With the success of the general otolaryngology virtual COVID lecture series, why not have a similar, specialty-specific series to promote collaboration, community and access?

The NERVE series began on Monday July 19, 2021 with a talk on pulsatile tinnitus lead by **Douglas E. Mattox, M.D.**, Chair of the Otolaryngology Department at Emory University. **Paul R. Lambert, MD**, chair at MUSC gave a talk on Chronic Ear Disease on August 16. There have been other sessions to date with excellent virtual attendance. The audiovisual recordings are posted onto a YouTube channel, which is also gaining in popularity. The sessions will run as yearly cycles, and the line-up for the remainder of the 2021-2022 cycle is poised to be comprehensive, educational, and fun!




Mallory J. Raymond, M.D.
Neurotology Fellow

See more details and the full schedule on our website




Noteworthy Snippets




We welcomed Brent A. Wilkerson, Ph.D. to our research faculty.
Judy R. Dubno, Ph.D.

Otolaryngology Residency Program #5 in Doximity poll!
Ted A. Meyer, M.D., Ph. D.





Selected as Vice Chair for American Head and Neck Society Value and Quality of Care Committee. Awarded Hollings Cancer Center Clinical Scholars Grant.
Evan M. Graboyes, M.D., MPH, FACS

Elise Wilson was hired as our first full-time Cochlear Implant Coordinator.


Elected President of the Performing Arts Medicine Association.
Lucinda A. Halstead, M.D.

We matched our first Laryngology fellow and she will start July 2022.
Ashli K. O'Rourke, M.D.

Awarded a K23 grant from NIH/NIDCD.
Kara Leyzac, AuD, Ph.D., CCC-A

Invited to be on the board of directors of the Vestibular Disorder Association.
Habib G. Rizk, M.D., MSc



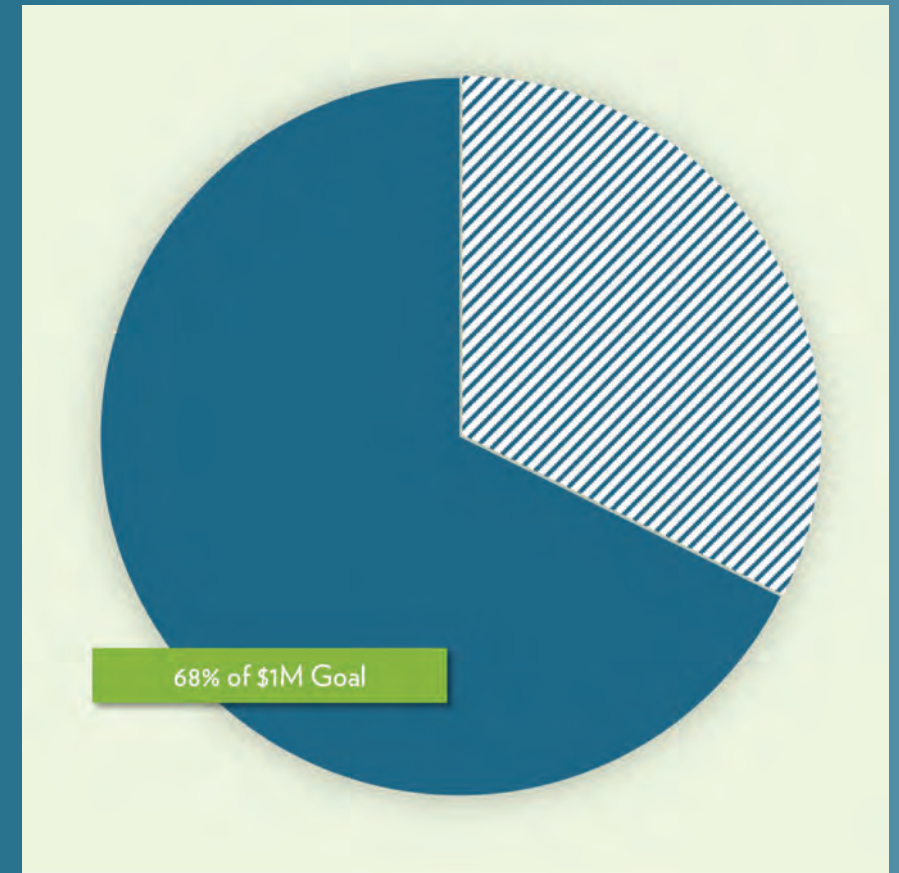
Paul R. Lambert, M.D. Endowed Chair in Otolaryngology - Head & Neck Surgery

Dr. Lambert steps aside as department chair in January 2022. The specific purpose of this fund is to help further the clinical, research, and teaching missions conducted by the chair of the department. The next outstanding chair will continue the excellence that characterizes our missions.

To date, we have raised nearly \$700,000 in cash and pledges and are working to complete the **Paul R. Lambert, M.D. Endowed Chair in Otolaryngology – Head & Neck Surgery**, hopefully in the next few months. We also have a 1:1 match on all gifts for this \$1 million initiative!

Dr. Lambert came to Charleston in 1999 and has been the department chair for over 22 years. He has dedicated his life to both building the Department and the care of patients. In addition, he has focused enormous time and effort into the training of the next generation of otolaryngologists and is proud of the residents and fellows who came through our program and went on to successful careers in the private and academic sectors.

To those of you who have made a gift, thank you so very much. We would be grateful for your participation to make a gift to honor Dr. Lambert if you have not done so yet. Please join us - any gift, no matter the size makes a difference! You can make your gift online at <https://connect2.musc.edu/ent> and select **Chairman's Endowed Chair – Lambert**.



You Can Make a Difference!

By making a gift to a special area of your choice, you help to enhance our lifesaving mission of caring for patients and their families, foster innovative education and learning, and advance new knowledge and scientific discoveries.



To learn more about our work or for questions about making a gift, please contact:

Beverly J. Harrington, MA, CFRE
Director of Development
harrinbe@musc.edu
843-792-3937

Visit our donations page:
giving.musc.edu/ent



*On behalf of Sound Pharmaceuticals, we would like to thank and congratulate **Dr. Paul Lambert** for his leadership, his significant contributions to science and medicine, his collaboration on our clinical trials over the last five years, and his 22-year tenure as department chairman. Because of these efforts, the Department of Otolaryngology-Head & Neck Surgery at MUSC has become a leading center for clinical studies and trials, and one of the most prolific in publishing and grant receipt in the nation.*

*In addition, we welcome **Dr. Robert Labadie** and look forward to working with him and the department over the next five years as we advance our lead drug into Phase 3 clinical trials across multiple indications in neurotology including hearing loss, tinnitus, Meniere's disease, and noise-induced hearing loss.*

Jonathan Kil, M.D.
Co-founder, CEO and Chairman
Sound Pharmaceuticals



- Five investigational new drug applications with the FDA
- Six completed clinical trials and three ongoing clinical trials in Ototoxicity, Meniere's disease, and COVID-19
- Phase 2 safety and efficacy of SPI-1005 in preventing noise induced hearing loss was published in The Lancet
- Several active collaborations with leading U.S. academic centers
- Strong history of collaborative funding from DoD, NIH, and private foundations

2021-22 Continuing Medical Education Events



The Charleston Vestibular Update

November 5-6, 2021

MUSC Hollings Cancer Center, also Virtual & Interactive Live Stream

This one-and-a-half day conference followed by a hands-on practical lab is designed for all providers involved in the care of patients with vestibular disorders. The course will cover many key topics on the evaluation and management of dizzy patients to provide current knowledge and the ability to employ best practices when servicing this population.

The Charleston Pharyngoesophageal Manometry Program

January 28-29, 2022

MUSC Campus and Virtual & Interactive Live Stream

This two half-day introductory/intermediate program, designed for speech language-pathologists, laryngologists, and otolaryngologists, will consist of didactic sessions to introduce participants to the basics of pharyngoesophageal high-resolution manometry (HRM). Case based examples will serve to expand participants' understanding of the clinical applications of HRM. Both pharyngeal and esophageal examinations will be covered. We will focus on the diagnostic and therapeutic capabilities of HRM as well as protocols for pharyngeal dysphagia patients. CEU credits will be available.

The Charleston Pediatric ENT Update

February 12, 2022

MUSC Campus and Virtual & Interactive Live Stream

A comprehensive full day course designed to provide pediatricians, family practitioners, and otolaryngologists with up-to-date guidelines to implement in their daily practice, promote quality and efficient care, and tackle challenging ENT diagnosis with confidence.

Southern States Rhinology Course

May 2022

Kiawah Island Golf Resort

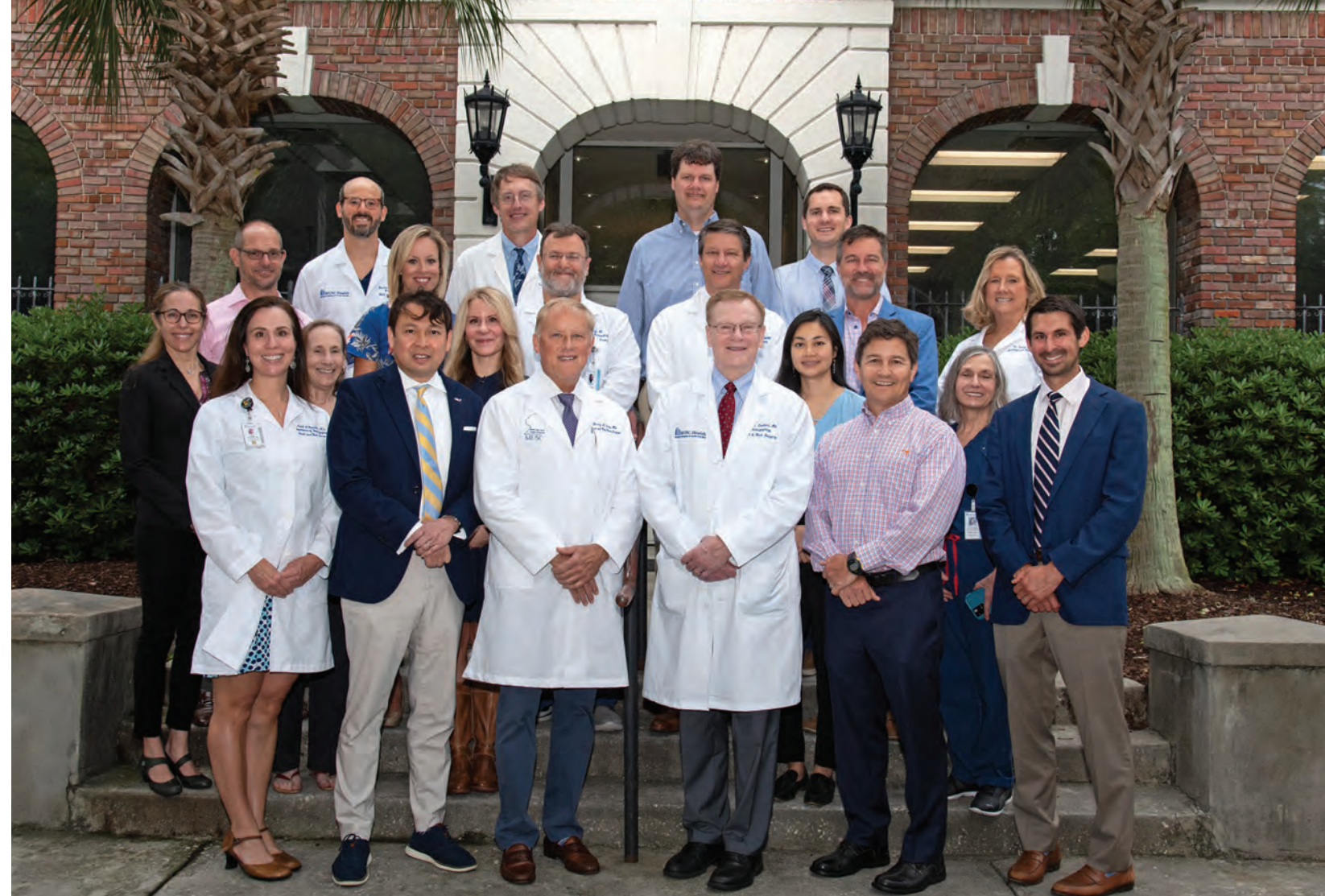
This course is intended for practicing Otolaryngologists and will feature presentations on topics for the practicing rhinologists and sinus surgeons. A hands-on laboratory dissection is available, featuring state-of-the-art endoscopic instrumentation, video, and image guidance systems.

The Charleston Course, 12th Annual Otolaryngology Literature Update

July 2022

Kiawah Island Golf Resort and Virtual Live Stream

This course is designed to help the busy clinician stay current in our rapidly expanding specialty. Fifteen of our faculty members are charged with reviewing last year's literature and choosing five to eight best articles in their subspecialty for critical review. In two days, more than 100 manuscripts will be reviewed, and those "pearls" important to your practice will be emphasized. There may be no better way to stay current in our field than with the Charleston Literature Course!



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EAR, NOSE, & THROAT

**BEST
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EAR, NOSE & THROAT
2021-22



Some details are still in the works! Visit our website for updates: musc.edu/ent/cme
For course registration or more information: Julie Taylor, taylorjul@musc.edu or 843-876-0943

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THE MEDICAL UNIVERSITY OF SOUTH CAROLINA

Founded in 1824 in Charleston, the Medical University of South Carolina is the oldest medical school in the South. Today, MUSC continues the tradition of excellence in education, research, and patient care. MUSC educates and trains more than 3,000 students and nearly 800 residents in six colleges, and has more than 17,000 employees. As the state's only integrated academic health science center and largest non-federal employer in Charleston, the university and its affiliates have collective annual budgets in excess of \$3.2 billion, with an annual economic impact of nearly \$4 billion and annual research funding in excess of \$284 million.

As the clinical health system of the Medical University of South Carolina, MUSC Health is dedicated to delivering the highest quality patient care available, while training generations of competent, compassionate health care providers to serve the people of South Carolina and beyond. Comprising some 1,600 beds, more than 100 outreach sites, the MUSC College of Medicine, the physicians' practice plan, and nearly 275 telehealth locations, MUSC Health owns and operates eight hospitals situated in Charleston, Chester, Florence, Lancaster and Marion counties. In 2020, for the sixth consecutive year, U.S. News & World Report named MUSC Health the No. 1 hospital in South Carolina.

Changing What's Possible