The Triological Society Combined Sections Meeting

JANUARY 25 - 27, 2024

Palm Beach County Convention Center

West Palm Beach, Florida

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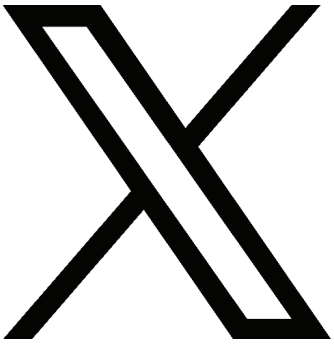

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Message from the Vice Presidents

Welcome to West Palm Beach and our Triological Combined Sections Meeting. It has been a pleasure to serve the membership as the Section Vice Presidents and we are very proud of the outstanding program that has been assembled by the Program Chair, Dr. Sujana Chandrasekhar, along with our outstanding Program Committee members. Back by popular demand are two Speed Networking Sessions and the Women in Otolaryngology Reception so be sure to make time to attend these unique networking events. This year's panels and invited speakers are thought provoking, engaging and offer something for everyone. Top off your first day of sessions by joining us for our Vice President's Welcome Reception on Thursday evening outside on the Hilton Event Lawn and close out the meeting on Saturday evening at the Meet the Authors Poster Reception. Additional activities on Friday include the Thesis Seminar, Resident Bowl and the Annual Golf Outing. We encourage you to take time to network and engage during the breakfasts, lunches and the receptions provided. And, as always, we ask that you please visit with the exhibitors who help support our meeting. Kiosks are available for you to view their products and services and even set up one on one meetings while you are here in West Palm.

For those of you who are not Triological Society members or Fellows, we welcome the opportunity to answer your questions regarding how you can become part of this Noble organization. The Society awards $600,000 per year in support of research efforts of otolaryngologist-head and neck surgeons, disseminates the latest basic science and clinical information in the *Laryngoscope*, and our Open Access journal, *Laryngoscope Investigative Otolaryngology* as well as sharing important and timely otolaryngology updates in *ENTtoday*. The Society continues to support resident, medical student and Fellow presenters through our institutional travel awards.

We hope you find your time at the 2024 Combined Sections Meeting to be enjoyable and worthwhile. Thank you for attending.

Robert M. Kellman, MD FACS
Eastern Section
Vice President

Jay Paul Willging, MD
Middle Section
Vice President

Cherie-Ann Nathan, MD FACS
Southern Section
Vice President

Maie A. St. John, MD PhD
Western Section
Vice President

THURSDAY AT A GLANCE

7:00	Breakfast with Exhibitors/View Posters - Grand Ballroom Foyer
	General Session - Grand Ballroom
8:00 - 9:05	Welcome and Introduction of Special Guests
9:05	Eleventh Annual Patrick E. Brookhouser, MD Award of Excellence
9:10	Presidential Address
9:25	Presentation of Binderup Prize
9:35 - 10:00	Break with Exhibitors/View Posters - Grand Ballroom Foyer & Ballroom AB
10:00 - 10:19	Resilience and Grit
10:20 - 10:34	Management of Gunshot Injuries to the Face
10:40 - 11:09	Great Debate: Kids These Days - The 80 Hour Workweek and Rampant Subspecialization in Otolaryngology
11:10 - 11:44	This Is How I Do It Video Session
11:45 - 12:15	Speed Networking I - Starting the Conversation *Mentors and topics located on inside back cover.*
12:15 - 1:00	Lunch/View Posters - Ballroom AB
1:00 - 3:15	**Concurrent Session A: Head & Neck Papers and Panel - Grand Ballroom**
1:00 - 3:15	**Concurrent Session B: Otology Papers and Panel - Ballroom C**
3:15 - 3:45	Break with Exhibitors/View Posters - Grand Ballroom Foyer & Ballroom AB
3:45 - 5:40	**Concurrent Session C: Rhinology/Allergy Papers and Panel - Grand Ballroom**
3:45 - 5:40	**Concurrent Session D: Laryngology/Bronchoesophagology Papers and Panel - Ballrom C**
5:40	Adjourn
5:45 - 7:00	Vice Presidents Welcome Reception - Hilton Event Lawn

FRIDAY AT A GLANCE

6:00 - 7:00	Satellite Symposium Dual Inhibition: Targeting Systemic and Localized Type 2 Inflammation in Chronic Rhinosinusitis with Nasal Polyps (CRSwNP) (open to all attendees) - Ballroom C - Sponsored by Sanofi Regeneron
6:30 - 7:30	Business Meetings (Fellows Only) Southern Section - Room 2DE Western Section - Room 2BC
	General Session 7:30 - 9:05 - Grand Ballroom
7:30 - 8:19	Triological Best Practices Panel
8:20 - 8:50	PANEL: Working Smarter, Not Harder
8:50 - 9:05	We Need You! The How and Why of Doing Great Peer Reviews
9:20 - 11:15	**Concurrent Session E: Facial Plastic & Reconstructive Surgery Papers and Panel - Grand Ballroom**
9:20 - 11:15	**Concurrent Session F: General & Sleep Medicine Papers and Panel - Ballroom C**
11:10 - 11:25	Break with Exhibitors/View Posters - Grand Ballroom Foyer & Ballroom AB
11:25 - 1:10	**Concurrent Session G: General, Rhinology, Allergy, Sinus Papers and Panel - Grand Ballroom**
11:25 - 1:10	**Concurrent Session H: Pediatrics, Laryngology/Bronchoesophagology Papers and Panel - Ballroom C**
1:10	Lunch
1:10	Golf Outing (pre-registration required)
1:20 - 2:00	PANEL: How'd You DO That? Practice and Life Pearls from Amazing Careers
1:20 - 2:00	Triological Thesis Seminar (pre-registration required) - Room 2BC
2:00 - 3:00	Resident Bowl (pre-registration required) - Grand Ballroom
3:30 - 5:00	Women in Otolaryngology Networking Reception - Grand Ballroom Foyer

SATURDAY AT A GLANCE

6:30 - 7:30	Business Meetings (Fellows Only) Eastern Section - 2BC Middle Section - 2DE
	General Session 7:30 - 9:30 - Grand Ballroom
7:30	Announcements by Paul Willging, MD and Introduction of Vice President Elects by Section VPs
7:35 - 7:43	2024 Thesis Award Presentation
7:47 - 8:29	PANEL: Establishing and Growing a Research Program in Your Residency Training Program
8:30 - 8:59	PANEL: Making Frenemies - Understanding How AI Can Move Medicine Forward
9:00 - 9:30	GUEST LECTURE: Life Happens - Pivoting from an Otolaryngology Career to Autism Advocacy
9:30 - 10:00	Break with Exhibitors/View Posters - Grand Ballroom Foyer & Ballroom AB
10:00 - 12:15	**Concurrent Session I: Head & Neck Papers and Panel - Grand Ballroom**
10:00 - 12:15	**Concurrent Session J: Otology Papers and Panel - Ballroom C**
12:15 - 1:15	Lunch/View Posters - Grand Ballroom Foyer and Ballroom AB
12:15 - 1:15	Neely Physician/Scientist Meeting - Room 2BC
1:15 - 3:30	**Concurrent Session K: Facial Plastic & Reconstructive Surgery, Pediatric Otolaryngology Papers and Panel - Grand Ballroom**
1:15 - 3:30	**Concurernt Session L: General, Head & Neck Papers and Panel - Ballroom C**
3:33 - 3:50	Break
	General Session 3:50 - 5:45 - Grand Ballroom
3:50 - 4:19	PANEL: Practice Management - Where Ethics, Finance and Medicine Collide
4:20 - 4:50	MILITARY PANEL: Learning from Theater - Traumatic Brain Injury and Acoustic Trauma in Civilian Life

SATURDAY AT A GLANCE

4:55 - 5:45	Speed Networking II - Continuing the Conversation *Mentors and topics listed on inside back cover.*
5:45	Adjourn
5:50 - 7:00	Meet the Authors Poster Reception - Ballroom AB

2024 Combined Sections Meeting

January 25-27 • Palm Beach County Convention Center • West Palm Beach, Florida

About the Triological Society

The American Laryngological, Rhinological and Otological Society, Inc., aka The Triological Society, was founded in 1895 in New York, NY. Since its founding, the Triological Society has attracted the best and brightest in academic and clinical otolaryngology. Membership in the Triological Society brings the distinction of being elected to the most prestigious society in otolaryngology. Active Fellowship is achieved by presenting a thesis in the field of otolaryngology considered acceptable to a panel of peers. For those entering the field of otolaryngology, the Society provides role models. For those who are committed to research and related scholarly activity, the Society offers fellowship with like-minded peers who share common values, interests, and concerns.

The Society disseminates scientific information by presenting the latest basic science and clinical information at scientific meetings and through publication of its scientific journals, The Laryngoscope and Laryngoscope Investigative Otolaryngology. The Society promotes research into the causes of and treatments for otolaryngic diseases by attracting promising physicians to scholarly otolaryngology research and supporting their development, providing financial support for the research efforts of young scientists, and promoting the highest standards in the field of otolaryngology-head and neck surgery.

Mission Statement

The mission of the Triological Society is to assist physicians and other health care professionals in maintaining and enhancing their knowledge of and skills in otolaryngology-head and neck surgery in pursuit of improved patient care.

Learning Objectives for This Activity

This activity is designed for otolaryngologists-head and neck surgeons and other health professionals. At the conclusion of this activity, the learner should be able to:

- Identify the causes and explain appropriate interventions of various common and uncommon disorders of the ear, nose, throat, head and neck.
- Apply knowledge of new technologies to enhance patient and practice outcomes in otolaryngology.
- Distinguish healthy and unhealthy reactions to challenging life experiences in order to minimize physician distress.
- Manage multidisciplinary teams with appropriate expectations of each team member so that care is streamlined, efficient, and patient and family-centered.
- Assess their own level of competence in various aspects of otolaryngology clinical practice, education, research, and practice management to identify knowledge gaps and address them effectively.

Exhibits

Exhibitors will include representatives of pharmaceutical companies, instrument companies, diagnostic equipment companies, and others. We encourage attendees to visit the exhibit hall for information that may assist in their pursuit of improved patient care. Exhibitor arrangements are in compliance with the Accreditation Council for Continuing Medical Education (ACCME) Standards for Commercial Support.

Information presented by exhibitors and oral and poster presenters does not represent an endorsement by the Triological Society.

Disclosure Information
In accordance with the ACCME Accreditation Criteria, the American College of Surgeons must ensure that anyone in a position to control the content of the educational activity (planners and speakers/authors/discussants/moderators) has disclosed all financial relationships with any ineligible company held in the last 24 months. Please note that first authors were required to collect and submit disclosure information on behalf all other authors/contributors, if applicable.

Please see the insert to this program for the complete disclosure list.

Program Evaluation and CME Certificates
Participant comments on program evaluation forms assist Program Advisory Committees in determining the direction of future educational activities. We appreciate your input and request that you complete a program evaluation in exchange for a CME certificate of attendance. Records are maintained in the Administrative Office of the Society and maintained by the American College of Surgeons for Fellows of the College.

Award of CME credits by ACS is based on compliance of the program with the ACCME accreditation requirements and does not imply endorsement by ACS of the content, the faculty, or the sponsor of the program.

Successful completion of this CME activity, which includes participation in the evaluation component, enables the learner to earn credit toward the CME of the American Board of Surgery's Continuous Certification program.

CONTINUING MEDICAL EDUCATION CREDIT INFORMATION

Accreditation
This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of American College of Surgeons and Triological Society. The American College of Surgeons is accredited by the ACCME to provide continuing medical education for physicians.

AMA PRA Category 1 Credits™
The American College of Surgeons designates this live activity for a maximum of **18.5** *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

ACS AMERICAN COLLEGE OF SURGEONS

ACCME ACCREDITED WITH COMMENDATION

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Guests of Honor

Eastern Section	Warren Schubert, MD FACS
Southern Section	Jennifer R. Grandis, MD FACS
Western Section	Gerald S. Berke, MD FACS
Middle Section	Claire K. Miller, PhD MHA CCC-SLP

Citation Awardees

Eastern Section	Barry L. Wenig, MD MPH MBA FACS
	Peak Woo, MD FACS
	Donald A. Leopold, MD FACS (posthumous)
Southern Section	Jeffrey P. Harris, MD PhD FACS
	Fred J. Stucker, MD FACS
Western Section	Dinesh K. Chhetri, MD
	Cherie-Ann Nathan, MD FACS
Middle Section	Andrew Georgilis
	Dana M. Thompson, MD FACS

Middle Section George Adams, MD Young Faculty Award

Victoria S. Lee, MD

11th Annual Patrick E. Brookhouser, MD Award of Excellence

Gerald S. Berke, MD FACS

Binderup Prize

Michael G. Stewart, MD MPH FACS

Guests of Honor

Honored by Eastern Section ● Warren Schubert, MD FACS

Warren Schubert MD, is a general plastic surgeon who has been based at Regions Hospital for 33 years. It is the main Level 1 Trauma Hospital for the University of Minnesota Plastic Surgery residency training program. The University residents rotate through multiple hospitals for their training but spend over 50% of their total Plastics training at this hospital. His primary interests are maxillofacial trauma and reconstruction, hand surgery, work in developing countries, and teaching residents and students. Past residency training include Family Practice in San Antonio, Texas, General Surgery at McGill in Montreal, Quebec, Canada, Plastics in Cleveland, Ohio, a Maxillofacial Trauma fellowship in Atlanta, Georgia, and two years of research.

He is Professor of Surgery and of Orthopaedics, University of Minnesota. His past posts include: Immediate Past Chair, AO Craniomaxillofacial (AOCMF) International Board, serving for 6 years; Past President, American Society of Maxillofacial Surgeons; Past Chair, Department of Plastic & Hand Surgery, Regions Hospital, which he chaired for 24 years; Chair, Annual meeting, American Society for Peripheral Nerve (ASPN), Vancouver, 1998; Co-Chair Hand / Microsurgery Scientific Committee, American Society of Plastic Surgery (ASPS), San Diego, 2003, and Philadelphia, 2004; Chair, Annual meeting of the American Association for Hand Surgery (AAHS), Palm Springs, 2004; Chair, Annual meeting, American Society of Maxillofacial Surgeons (ASMS), New Orleans, 2012; Chair, Scientific Cranio / Maxillofacial / Head and Neck Committee, American Society of Plastic Surgery (ASPS), New Orleans, 2012; Past Board Examiner, American Board of Plastic Surgery.

Past/present board memberships: AOCMF (AO Craniomaxillofacial) International Board; AOCMF (AO Craniomaxillofacial) North American Board; American Society of Maxillofacial Surgeons; American Association for Hand Surgery; American Society for Peripheral Nerve; Minnesota Surgical Society; Institute for Basic and Applied Research in Surgery (IBARS), University of Minnesota

Surgical Missions to help the poor and disenfranchised -- forty-three surgical missions to ten of the following countries: Bhutan; Bolivia; Columbia; Ecuador; Guatemala; Nicaragua; Peru; Poland (helping war injured Ukrainian civilians and soldiers); Philippines; Vietnam.

Honored by Southern Section ● Jennifer R. Grandis, MD FACS

Dr. Jennifer R. Grandis is a physician scientist who is interested in the impact of gender on career development in medicine and science. Her cancer research is focused on elucidating and targeting key signaling pathways and genomic alterations in head and neck cancer with the goals of enabling precision medicine studies. She has leveraged her access to head and neck cancer patients and their biospecimens to optimize translational research studies that include developing novel therapies in the laboratory for clinical application as well as generating and interrogating relevant preclinical models to determine the underlying mechanism of clinical findings. In her institutional roles at the University of Pittsburgh and since 2015, at UCSF, she has facilitated collaborations between clinicians and investigators with an emphasis of developing a robust research infrastructure to support clinical and translational cancer studies. She has published over 400 papers in the peer-reviewed literature and been continuously funded by the NIH since joining the faculty in 1993. Dr. Grandis is an elected member of the American Society for Clinical Investigation the Association of American Physicians and the National Academy of Medicine. She is an American Cancer Society Clinical Research Professor.

Honored by Western Section ● Gerald S. Berke, MD FACS
11th Annual Patrick E. Brookhouser, MD Award of Excellence

Currently Professor and Chair Emeritus in the UCLA Department of Head and Neck Surgery and director of the UCLA Voice Center for Medicine and the Arts, which he founded, Dr. Berke is considered by his peers to be an international authority on laryngeal physiology. Born and raised in Southern California, he began developing his interest in the voice and ultimately his medical specialty, as a rock musician and songwriter. Dr. Berke came to UCLA to complete his surgical residency, after graduating from both undergraduate and medical school at the University of Southern California, and became an assistant professor, then advanced to become Professor and Chair of UCLA Head and Neck Surgery. Dr. Berke has authored over 175 papers in print and 30 grants based on laryngeal physiology and voice disorders in addition to mentoring numerous research fellows. Dr. Berke was on the National Institute on Deafness and Other Communication Disorders Advisory Council for six years. He performed the first functioning larynx transplant in animals and developed the only surgical treatment for adductor spasmodic dysphonia. Dr. Berke has also pioneered many of the techniques now used by laryngologists to treat patients in an office setting. One of Dr. Berke's main clinical and research focus has always been laryngeal function and the professional voice.

Honored by Middle Section ● Claire K. Miller, PhD MHA CCC-SLP

Claire Kane Miller is the Senior Clinical Director of the Division of Speech-Language Pathology at Cincinnati Children's Hospital Medical Center. She holds an adjunct assistant professor appointment in the Department of Communication Sciences and Disorders at the University of Cincinnati and as Field Service Associate Professor-Affiliate, Department of Otolaryngology/ Head & Neck Surgery. Her research and clinical interests are in pediatric dysphagia, with a focus on instrumental swallowing assessment and the clinical management of medically fragile infants and children with congenital and acquired airway and digestive anomalies. She has authored numerous publications and presented nationally and internationally on aspects of pediatric dysphagia.

Citation Awardees

Eastern Section ● Barry L. Wenig, MD MPH MBA FACS

Barry L. Wenig, MD MPH MBA FACS is the Mario D. Mansueto, MD, Professor and Chair of the Department of Otolaryngology-Head and Neck Surgery at the University of Illinois College of Medicine at Chicago. He treats patients with malignant and benign tumors of the head and neck, with the goal of eradicating cancer while maintaining quality of life issues. He is a nationally recognized expert in robotic surgery as well.

Dr. Wenig is a graduate of the Sackler School of Medicine in Tel Aviv, Israel. He did his residency training at Long Island Jewish Medical Center, then fellowship training in Head and Neck Surgical Oncology at the Memorial Sloan Kettering Cancer Center in New York City. He also earned an MPH in Health Policy Administration and an MBA with a Management concentration from the University of Illinois at Chicago. His list of publications numbers more than 100

peer reviewed articles as well as and more than 25 texts and book chapters. His research activities focus on identification and treatment of head and neck malignancies.

Dr. Wenig is a Diplomate of the American Board of Otolaryngology and has been active in leadership within a number of professional organizations such as the American Academy of Otolaryngology-Head and Neck Surgery and the American Head and Neck Society.

Dr. Wenig has been married to Shula, a marital and couples therapist, for forty-five years and they are the proud parents of four children and eleven grandchildren.

Eastern Section ● Peak Woo, MD FACS

Peak Woo is Clinical Professor of Otolaryngology at the Icahn School of Medicine.
He is a graduate of the Boston University 6-year BA-MD program. He did his post graduate training at the University of Pennsylvania Hospital and his residency training in the Combined Boston University Tufts University Otolaryngology program. From 1983 through 1994, he was on the academic faculty at the State University of New York Upstate Medical Center. From 1994-1996 he was the vice-Chairman of the Otolaryngology department at Tufts University. In 1996, he became the Grabscheid Professor of Otolaryngology and the director of the Grabscheid Voice Center at the Mount Sinai School of Medicine, Department of Otolaryngology, Head and Neck Surgery. Since 2008, he has been in clinical practice with academic appointment as clinical professor and co-director of laryngology fellowship training program at the Icahn School of Medicine.

Dr. Woo was a past president of the American Bronchoesophaglogical Association and the a past president of the American Laryngological Association.

His main clinical and research interests are in the medical and surgical treatment of laryngeal diseases. He has lectured extensively on diagnosis and management of voice disorders. He has participated in laryngology fellowship training of international and national fellows since 1996.

Eastern Section ● Donald A. Leopold MD FACS

A stalwart of modern rhinology, Donald Leopold, passed away on June 11, 2022. He was born in Cleveland, Ohio, on September 27, 1947, and grew up adjacent to Lake Erie -- building his life around family, athletics, and an interest in the sciences. While at the University of Michigan he nurtured a lifelong interest in learning and teaching, studied mechanical engineering, and explored interests in medicine and music. His life was guided by ambition and discovery, and the constant yearning to understand and to connect with the world around him. Don believed in the merits of hard work, eschewed elevators, and saw the immense beauty in the art of the possible. During his internationally recognized career in olfaction and rhinology, he focused his energies on patient care, education, and research. He was a leader within Otolaryngology for decades, serving as president of the American Rhinologic Society as well as the Chair of Otolaryngology at both Johns Hopkins Bayview Medical Center and the University of Nebraska. The consummate teacher and academician, Donald trained hundreds of students, residents and fellows over his almost 40 year career at SUNY Upstate, Johns Hopkins University, the University of Nebraska, and the University of Vermont.

He acknowledged that for “rhinology, as perhaps in no other area of surgery, has a disparity between

biologic knowledge and surgical activity been so well demonstrated" Dr. Leopold has trained many of the foremost names in our field today during his time as faculty and chair at the University of Nebraska and the University of Vermont. Professor Leopold was involved in olfactory disease and management well before it become an NIH priority. He ran a chemosensory rhinology fellowship for many years, training our current leaders in rhinology, and remained a contributor to even recent consensus documents on smell disorders. He changed the face of modern rhinology by providing an academic basis and assessment of clinical practice.

Southern Section ● Jeffrey P. Harris, MD PhD FACS

Jeffrey P. Harris, MD, PhD, is an academic surgeon-scientist, and one of the longest serving Chairs of Otolaryngology now in his 38th year. He is a tenured, Distinguished Professor of Otolaryngology and Neurological Surgery at the University of California San Diego. Dr. Harris received his MD, PhD (immunopathology) at the University of Pennsylvania and did his Residency in Otolaryngology at Mass Eye and Ear/Harvard. He did additional Neurotology/ Skull Base fellowship training at the University of Zurich under Professor Ugo Fisch. He has published over 300 articles, 5 books, 72 chapters, and has 17 patents. His clinical practice covers the broad spectrum of Neurotology but his special focus has been immune causes of hearing loss, AIED, Meniere's disease, and surgery for otosclerosis. He is the Past-President of the American Otological Society (AOS) and the Association for Research in Otolaryngology. He was awarded the Shambaugh Prize by the Collegium Oto-Rhino-Laryngologicum Amicitiae Sacrum (CORLAS) in Rome, Italy and the Award of Merit from the AOS. He has also been the recipient of the Triological Society's Vice President's Citation Award for the Western Section. Outside of medicine, he enjoys oil painting, spending time with his family and traveling.

Southern Section ● Fred J. Stucker, MD FACS

Fred J. Stucker, MD is an Emeritus Professor at LSU Health Shreveport, Department of Otolaryngology/Head & Neck Surgery. Serving as Chairman from 1982-2011 and remaining active faculty until 2022.

Fred was born and reared in Chicago. He is a graduate of St Joseph's College with a BS and his MD from the University of Michigan. He interned at the Naval Hospital in San Diego. Following his submarine and diving duty he served his residency in Otolaryngology at the Oakland Naval Hospital, then was assigned to the Yokosuka Naval Hospital in Japan as Chief of Ophthalmology and Otolaryngology with additional duties as the medical officer for the Submarine Flotilla Seven and the Medical Diving Officer for the Far East.

Subsequent tours included Chair of the Residency Program at the Naval Medical Center, Philadelphia, where he introduced the novel idea of tri-service specialty regionalization which salvaged a previously struggling program for lack of clinical material.

His final tour in the Navy was as Chairman of the National Naval Medical Center with additional duty as the Consultant to the Surgeon General for the specialty of Otolaryngology/Head and Neck Surgery. He was named the Professor and Chief of the Division of Otolaryngology/HNS at the National Military Medical School in Bethesda Maryland.

Following his military career he accepted the position of Professor and Chair at the Department of Otolaryngology/Head and Neck Surgery at LSU Medical School in Shreveport Louisiana. He guided the program for 29 years progressing from a probationary status with 1 resident per year to 3 residents per

year with 27 years of continuous full accreditation. Dr. Stucker has also served as a Program Director for a Facial Plastic Reconstructive Surgery Fellowship, through which he has mentored 29 Fellows.

Dr. Stucker has been President of 4 national societies. He has served on the residency review committee and as a site visitor for the RRC for 16 years. He has served as delegate to the AMA and was a specialty governor to the ACS for 16 years. Dr. Stucker has authored over 200 chapters and peer reviewed articles, as well as written and served as editor for several textbooks. Dr. Stucker is the recipient of numerous awards in both the military and academic arenas.

His most proud achievement is as a Residency Program Chairman for 40 years (11 in the Navy and 29 and LSUH), every resident that has matriculated through his programs have achieved Board Certification.

Western Section ● Dinesh K. Chhetri, MD

Dr. Dinesh Chhetri is Professor of Head and Neck Surgery and Vice Chair of the Department of Head and Neck Surgery at University of California, Los Angeles (UCLA). He obtained his MD from UCLA, where he graduated with distinction, and then completed both his residency training in Otolaryngology-Head and Neck Surgery and Fellowship training in Laryngology from UCLA. His academic practice is focused on Laryngology and Head and Neck Surgery, and he has authored over 130 peer reviewed publications. He is NIH funded for basic science research on the neuromuscular control of the larynx. Dr. Chhetri currently serves as director of the UCLA Swallowing Disorders Program, Head and Neck Cancer Survivorship Program, and the Laryngology Fellowship Program. He is also serving as current president of the American Laryngological Association (ALA), and Associate Editor for Laryngology for Laryngoscope. Additionally, he is Fellow of the American College of Surgeons and the American Head and Neck Society. He is particularly passionate about training head and neck surgeons throughout the world and has led many international medical missions.

Western Section ● Cherie-Ann Nathan, MD FACS

Cherie-Ann Nathan, MD, FACS, is the Jack Pou Endowed Professor and Chair of the Department of Otolaryngology/Head and Neck Surgery at LSU-Health in Shreveport. She is also Director of Head and Neck Oncologic Surgery and Research at the Feist-Weiller Cancer Center and has a gratis appt. in the Dept. of Biochemistry & Molecular Biology. She completed her Otolaryngology/HNS residency and head and neck fellowship in 1995 at University of California, San Diego. She was a post-doctoral fellow at Johns Hopkins where she started her research career. Following her fellowship, she began her academic career at LSU-Health Sciences Center, Shreveport.

Her passion to improve outcomes for patients with head and neck cancer was the reason she moved from Mumbai India, where she went to medical school. She is a Surgeon-Scientist that maintains a busy practice treating head and neck cancer, thyroid, parathyroid, salivary gland tumors and skin cancer and she also leads an active research team. The National Cancer Institute has funded her translational research since 2000 and her work focuses on targeted therapy for head and neck squamous cell cancer patients. She is recognized nationally and internationally for her seminal work on molecular analysis of surgical margins. She has pioneered multi- institutional clinical trials using mTOR inhibitors in HNSCC patients. She has also received NIH funding for chemoprevention of cancer with curcumin and has a patent for a curcumin chewing gum. Her current RO1 “Targeting the FGFR-2 pathway for cutaneous SCC” holds potential for patients with aggressive cSCC. She has published extensively, has approximately 250 publications in peer reviewed journals, and has authored multiple textbooks and encyclopedia chapters.

She has given over 220 invited national and international lectures.

Dr. Nathan is the immediate Past President of the Association of Academic Depts. of Otolaryngology/ Head and Neck Surgery, the Past President of the American Head and Neck Society and the current Vice President for the Southern Section of the Triological Society. She serves on many national committees some of which include the Board of Director for the American Board of Otolaryngology/HNS, American Academy of Otolaryngology/HNS Board of Directors, American College of Surgeons Board of Governors, ACGME Review Committee, Executive Board of Directors for the Head and Neck Cancer Alliance, Council Member for the Society of University Otolaryngology, Vice President of the US Collegium group, on the committee for Stand Up to Cancer and has served on the NCI Steering committee, the Larynx Preservation Guideline Panel for ASCO and the American Cancer Society-CDC HPV Steering Committee. She was chair for the ASTRO-ASCO-AHNS Multidisciplinary meeting. and was Section Editor for "Laryngoscope Investigative Otolaryngology". At the local level she is active, having been on the board of directors for Shreveport Medical Society, Disaster Reform committee and the Science Museum.

The Shreveport-Bossier Commerce Department awarded her the Athena Award for community service and she was inducted into Shreveport's 2019 Business Hall of Fame. She has been nominated as the Champion of Hope Honoree by the American Cancer Society, Northwest LA 2020. She received the Leonard Tow Humanism award from the Arnold Gold Foundation and was also nominated into AOA by the medical students. The Board of Regents in Louisiana established the "Cherie-Ann Nathan Endowed Professorship in Otolaryngology/Head and Neck Surgery" initiated by grateful patients to honor her dedication and expertise. She has consistently been recognized in the "Best Doctors of America" and received the AHNS, Academy of Oto/HNS and Western Section of the Triological Society Presidential Citation & Distinguished Service awards. She received the 2020 Margaret Butler Outstanding Mentor of Women in Head & Neck Surgery Award.

Dr. Nathan is married to pulmonary and critical care physician Raghu Nathan, and they have two boys Sean and Neil. Her favorite hobby was to perform with the "Nathan Family Trio" to raise money for the Arts and Cancer research in Shreveport.

Middle Section ● Andrew Georgilis

Andrew graduated from Indiana University with a BS degree in paleo botany. After working for over twenty years in medical sales including pharmaceuticals, capital equipment and medical devices, he founded his own company, Bryan Medical. He initially worked as a distributor, selling tracheostomy tubes, instruments, and ENT furniture. In 2014 he designed his first medical device; a silicone tracheostomy tube followed by a balloon dilatation catheter for the airway. He has since developed several other niche products focusing on head and neck. Since 2019 he has been manufacturing these devices in house. These products have been developed alongside some of the best minds in the industry and have truly changed patient outcomes.

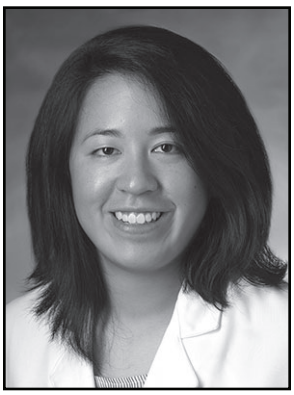
Middle Section ● Dana M. Thompson, MD MS MBA FACS

Dr. Thompson serves as the Lauren D. Holinger Professor Chair of Pediatric Otolaryngology at the Ann & Robert H. Lurie Children's Hospital of Chicago and Northwestern University Feinberg School of Medicine. She has held faculty positions at premier institutions including the Mayo Clinic and University of Cincinnati College of Medicine/Cincinnati Children's Hospital. In 2011 she achieved the academic rank of Professor, making her the first African American woman professor in the specialty of Otolaryngology Head and Neck Surgery in the United States. The leadership journey navigating a career as an underrepresented woman of color in surgery has driven her to become a thought leader in areas of conscious and unconscious bias and impact in health care delivery.

She has a unique hybrid of expertise in the surgical treatment and management of airway, voice, and swallowing disorders for infants, children, and adults. Her other clinical interests include infant apnea, airway and extraesophageal manifestations of GERD, aerodigestive manifestations of eosinophilic esophagitis, oropharyngeal swallowing, airway protection, neurolaryngology, laryngomalacia and innovative care access and delivery models. She brings 24 years of experience as an internationally recognized airway surgeon and leader in aerodigestive medicine. The collective research contributions in laryngomalacia have influenced the surgical and medical management of the disease and she is considered one of the world's authorities on the topic. She received the prestigious Mosher Award from the Triological Society for excellence in clinical research for her seminal work elucidating the etiology of laryngomalacia. She has published over 100 scientific articles and 15 book chapters. She serves as the Assistant EVP for the Triological Society and was the previous chair of the thesis committee and VP of the Middle Section.

Middle Section George Adams, MD Young Faculty Award

Victoria S. Lee, MD



Dr. Lee is currently an Assistant Professor in Rhinology, Sinus & Skull Base Surgery, at the University of Illinois Chicago. She completed her subspecialty training in sinus and skull base surgery at the Johns Hopkins Hospital and her otolaryngology residency at the University of Washington. She earned her medical degree from Northwestern University. She is board certified in Otolaryngology - Head and Neck Surgery. As a specialist in sinonasal disease, her areas of expertise include nasal obstruction, allergy, sinusitis, nasal polyps, and sinonasal tumors. She specializes in minimally invasive endoscopic approaches to treat sinonasal as well as skull base and orbital pathology. She is also actively involved in rhinologic outcomes research, exploring the effects of social and environmental factors on sinonasal disease. She has received both peer reviewed and industry funding for her research, including a Triological Society Career Development Award. Dr. Lee is also a NIH funded K12 University of Illinois Chicago Building Interdisciplinary Research Careers in Women's Health (BIRCWH) Program Scholar. She serves on the Editorial Board of both the International Forum of Allergy & Rhinology and Rhinology. Dr. Lee is also a member of the AAO-HNSF Outcomes Research and Evidence-Based Medicine and Rhinology & Allergy Education Committees as well as the ARS Awards and Research and Grants Committees.

Binderup Prize

Michael G. Stewart, MD MPH FACS

Michael G Stewart, MD, MPH is Professor and Chairman of the Department of Otolaryngology-Head & Neck Surgery at Weill Cornell Medical College and New York-Presbyterian Hospital/Weill Cornell, and Senior Associate Dean for International Affairs and Affiliations at Weill Cornell. He received a B.E. degree summa cum laude from Vanderbilt University, and an M.D. from Johns Hopkins University School of Medicine. He completed residency training at Baylor College of Medicine and received his M.P.H. degree from the University of Texas School of Public Health, Houston. Dr. Stewart joined the Otolaryngology faculty at Baylor after residency training, before coming to Weill Cornell as Chair. He is the author of 2 textbooks, and more than 30 book chapters and 130 peer reviewed publications. He has been a visiting professor at more than 40 institutions. He has received 3 Distinguished Service Awards from the American Academy of Oto-HNS and Presidential or Vice Presidential Citations from 4 national societies. He is the former Editor-in-Chief of The Laryngoscope journal and a past-President of the American Board of Otolaryngology - Head & Neck Surgery as well as other national societies. He also currently serves as Executive Vice President of the American Rhinologic Society.

THANK YOU

The Society extends a special thank you to the following for their contributions to the 2024 Combined Sections Meeting:

Sujana Chandrasekhar, MD, has given her time and expertise in planning the 2024 Combined Sections Meeting Program. This is the second year of her three-year term as Program Chair.

Daniel Deschler, MD, as Thesis Chair, conducts the Thesis Seminar each January which is open to all candidates for Fellowship as well as potential candidates.

Shawn Newlands, MD, has continued to coordinate the annual Physician/Scientist seminar named after its founder, J. Gail Neely, MD, who passed away in 2017.

Drs. Michael Hoffer, Al Merati, Stacey Gray, Sarah Bowe and Lamont Jones who plan and execute the Resident Bowl.

The Triological Society wishes to recognize and thank the following companies for their monetary commercial promotion: Boston Medical, Bryan Medical, Inc., Cook Medical, Grace Medical, Mitaka USA, Inc., Presidio, Regeneron, Sleep Source, Xoran Technologies, and Zeiss.

Please visit the Exhibit Hall and Kiosks in the Grand Ballroom Foyer and thank them for their support.

Thank you to the Program Committee, moderators, panelists, and all podium and poster presenters.

TRIOLOGICAL SOCIETY COMBINED SECTIONS MEETING
JANUARY 25-27, 2024
PALM BEACH COUNTY CONVENTION CENTER, WEST PALM BEACH, FL

THURSDAY, JANUARY 25, 2024

7:00 **BREAKFAST WITH EXHIBITORS/VIEW POSTERS - Grand Ballroom Foyer**

General Session 8:00 - 12:15 - Grand Ballroom

8:00 **Welcome by Western Section Vice President, Maie A. St. John, MD PhD, Los Angeles, CA**

8:05 **Eastern Section Guest Introductions by Robert M. Kellman, MD FACS, Syracuse, NY**
Citation Awardees
Barry L. Wenig, MD MPH MBA FACS, Chicago, IL
Peak Woo, MD FACS, New York, NY
Donald A. Leopold, MD FACS (posthumous)
Guest of Honor
Warren Schubert, MD FACS, St. Paul, MN

8:15 **Southern Section Guest Introductions by Cherie-Ann Nathan, MD FACS, Shreveport, LA**
Citation Awardees
Jeffrey P. Harris, MD PhD FACS, La Jolla, CA
Fred J. Stucker, MD FACS, Shreveport, LA
Guest of Honor
The Importance of Peer Mentorship
Jennifer R. Grandis, MD FACS, San Francisco, CA

8:30 **Western Section Guest Introductions by Maie A. St. John, MD PhD, Los Angeles, CA**
Citation Awardees
Dinesh K. Chhetri, MD, Los Angeles, CA
Cherie-Ann Nathan, MD FACS, Shreveport, LA
Guest of Honor
We're So Lucky to Be Otolaryngologists
Gerald S. Berke, MD FACS, Los Angeles, CA

8:45 **Middle Section Guest Introductions by Jay Paul Willging, MD, Cincinnati, OH**
Citation Awardees
Andrew Georgilis, Cincinnati, OH
Dana M. Thompson, MD FACS, Chicago, IL
Guest of Honor
The Value of Collaboration
Claire K. Miller, PhD MHA CCC-SLP, Cincinnati, OH

Presentation of Middle Section George Adams, MD Young Faculty Award
Victoria S. Lee, MD, Chicago, IL

9:05 **Presentation of 11th Annual Patrick E. Brookhouser, MD Award of Excellence to Gerald S. Berke, MD FACS, Los Angeles, CA**
Presented by Andrew Goldberg, MD MSCE FACS, President

9:10 Presidential Address
Relevance
Andrew N. Goldberg, MD MSCE FACS, San Francisco, CA

9:25 Presentation of the Binderup Prize to Michael G. Stewart, MD MPH FACS, New York, NY
Presented by Executive Vice President, Myles L. Pensak, MD FACS, Cincinnati, OH

9:30 Sections Meeting Highlight Overview by Program Chair, Sujana S. Chandrasekhar, MD FACS, New York, NY

9:35 - 10:00 BREAK WITH EXHIBITORS/VIEW POSTERS - Grand Ballroom Foyer & Ballroom AB

10:00 - 10:19 Keynote: Introduced by Southern Section Vice President, Cherie-Ann Nathan, MD FACS, Shreveport, LA
Resilience and Grit
Anna Pou, MD, Covington, LA

10:20 - 10:34 Eastern Section Guest of Honor Lecture Introduced by Robert M. Kellman, MD FACS, Syracuse, NY
The Management of Gunshot Injuries to the Face
Warren Schubert, MD FACS, St. Paul, MN

10:35 - 10:40 Q&A

10:40 GREAT DEBATE: Kids These Days - The 80 Hour Workweek and Rampant Subspecialization in Otolaryngology
Moderator
Sarah N. Bowe, MD FACS, Ft. Sam Houston, TX
Debaters
Albert L. Merati, MD, Seattle, WA
v.
Sujana S. Chandrasekhar, MD FACS, New York, NY

11:10 TRIOLOGICAL VIDEO SESSION: This Is How I Do It
Moderator
Vikash K. Modi, MD, New York, NY, Video Editor at Laryngoscope
Panelists
Posterior Palatal Expansion via Subnasal Endoscopy (2PENN) for Maxillary Deficiency
Michael J. Hutz, MD, Rush Medical Center

Endoscopic-Indocyanine Green Angiography Assisted Microtia Reconstruction
Gabriel Gomez, MD, Children's Hospital of Los Angeles

Robotic Thyroidectomy via Posterior Neck Approach Using the Da Vinci Single Port System
Michael P. Wu, MD FACS, Massachusetts Eye and Ear Infirmary

Full Extension Eyebrow Approach with Supraorbital Nerve Preservation for Frontal Sinus Tumors
Carlos D. Pinheiro Neto, MD PhD, Mayo Clinic

11:45 - 12:15 SPEED NETWORKING SESSION 1 - Starting the Conversation
Moderator

Dana M. Thompson, MD FACS, Chicago, IL

Take this opportunity to chat with senior members of the Triological Society and pick their brains! This session is open to all attendees - students, trainees, early, mid, and late career professionals - and will cover 3 subjects for 10 minutes each. **The list of topics and mentors can be found here**.

12:15 - 1:00 LUNCH/VIEW POSTERS - Grand Ballroom Foyer & Ballroom AB

THURSDAY AFTERNOON CONCURRENT SESSIONS

Concurrent Session A - Head & Neck
1:00 - 3:15
Grand Ballroom

Moderator: Amy Anne D. Lassig, MD FACS, Minneapolis, MN

1:00 Hypocalcemia after Thyroidectomy in Patients Taking Proton Pump Inhibitors
Maxwell Rossip, BS, Hershey, PA; F. Jeffrey Lorenz, MD, Hershey, PA; Neerav Goyal, MD MPH FACS, Hershey, PA; David Goldenberg, MD FACS, Hershey, PA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the risks posed by proton pump inhibitors on patients undergoing thyroidectomy and their possible mechanisms.

Objectives: The long term use of proton pump inhibitors is associated with metabolic derangements, including hypocalcemia. Hypocalcemia is a known complication of thyroid surgery. We sought to determine the rate of hypocalcemia following thyroidectomy in patients taking proton pump inhibitors. Study Design: This is a retrospective cohort study utilizing the TriNetX Research Network database. Methods: The TriNetX Research Network was queried to identify patients with a history of thyroid disease treated with total thyroidectomy between 2012 and 2022. The incidence of short term (0-6 months following thyroidectomy) and permanent (6-12 months following thyroidectomy) postoperative hypocalcemia was compared between patients using proton pump inhibitors and those who were not. Results: Of 33,309 patients, 21.3% (n = 7,081) were taking proton pump inhibitors before surgery. Patients taking proton pump inhibitors were significantly more likely to experience hypocalcemia at 0-1 month (RR, 95% CI, P) (1.05, 1.03-1.08, less than 0.001), 1-6 months (1.47, 1.37-1.57, less than 0.001), and 6-12 months (1.49, 1.38-1.61, less than 0.001), and were also more likely to be evaluated in the emergency department after surgery (1.86, 1.71-2.01, P less than 0.001). Conclusions: Patients taking PPIs may be at increased risk of short term and permanent hypocalcemia after thyroid surgery. The current study is the largest to date, indicating an increased risk of hypocalcemia after thyroidectomy in patients taking proton pump inhibitors.

1:06 Anaplastic Thyroid Cancer Improved Survival with Immunotherapy
Haidee Chen, BA, Los Angeles, CA; Lauran Evans, MD MPH, Los Angeles, CA; Alex Cronkite, MD, Los Angeles, CA; Wanxing Chai Ho, MD, Los Angeles, CA; Deborah Wong, MD PhD, Los Angeles, CA; Maie St. John, MD PhD, Los Angeles, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to describe a retrospective anaplastic thyroid cancer cohort as it relates to immunotherapy use and patient outcomes.

Objectives: Anaplastic thyroid cancer (ATC), an undifferentiated thyroid cancer, is one of the most

aggressive and fatal thyroid malignancies. Currently, there still exists a paucity of literature studying the relationship between available ATC immunotherapies and survival. We aim to understand the effects of immunotherapy on patient outcome and survival. Study Design: Retrospective cohort. Methods: A single tertiary care academic institution chart review of 60 patients diagnosed with ATC between 2000-2023 was performed. Results: 50% of patients were female, and the average age was 69.3 years old. 42% underwent placement of a tracheostomy. Trametinib (13 patients) and dabrafenib (10 patients) were the most common immunotherapies used. Other immunotherapies included pembrolizumab (6 patients), lenvatinib (4 patients), and vemurafenib (4 patients). The most common mutations identified were BRAF (17 patients), p53 (10 patients), and p63 (6 patients). Improved survival was associated with immunotherapy use and the presence of p63 mutation ($p<0.05$). Survival was not associated with age, BRAF or p53 mutations, sex, chemotherapy use, or external beam radiation. Conclusions: In this cohort of 60 patients with ATC, immunotherapy use was associated with improved survival, and should be considered when treating patients with ATC.

1:12 Adjuvant Radioactive Iodine in Differentiated Thyroid Carcinoma: A Systematic Scoping Review with Meta-analysis

Brian Andrew Keith, BS, Charleston, SC; Evan Skakel Chernov, BS, Charleston, SC; Shaun A. Nguyen, MD FAPCR, Charleston, SC; William G. Albergotti III, MD, Charleston, SC

Educational Objective: The American Thyroid Association (ATA) guidelines for the use of adjuvant radioactive iodine (RAI) therapy in intermediate and high risk differentiated thyroid carcinoma (DTC) are supported by low and moderate quality evidence. According to the 2015 ATA guidelines, the use of RAI following total thyroidectomy in intermediate risk DTC patients is a “weak recommendation” whereas the same intervention in high risk DTC patients is a “strong recommendation”. We could not identify any studies comparing outcomes of RAI in intermediate and high risk papillary thyroid carcinoma (PTC) versus follicular thyroid carcinoma (FTC). At the conclusion of this presentation, the participants should be able to understand the role of histology in predicting outcomes of RAI in intermediate and high risk DTC.

Objectives: To evaluate the treatment efficacy of RAI in adults with intermediate and high risk DTC with a specific focus on the efficacy of RAI in PTC versus FTC. Study Design: Systematic scoping review and meta-analysis. Methods: Cochrane Library, CINAHL, PubMed, and Scopus databases were searched from inception through July 2023 for the following concepts: “adjuvant radioactive iodine”, “papillary thyroid carcinoma”, and “follicular thyroid carcinoma”. Studies with 10 or more adult patients with ATA intermediate or high risk PTC/FTC were included. Data collected included disease free survival (DFS), overall survival (OS), and overall recurrence (OR). A meta-analysis of continuous measures (mean and 95% CI) and proportions (%) were conducted. Results: A total of 26 studies (N=184,784) were included for meta-analysis. The mean age was 47.2 years (range: 39.8-54.6) with 25.3% males (95% CI: 23.6-26.9, p less than 0.0001). The mean followup was 9.5 years (range: 5.4-13.6 years). There were 440 patients with FTC and 84,087 patients with PTC. When comparing RAI versus no RAI for all patients, no significant difference in OR was observed ($p=0.221$). There was no significant difference in 10 year OS in intermediate and high risk PTC patients that received RAI ($p=0.4443$). Conclusions: The outcomes available for meta-analysis were found to be statistically nonsignificant due to the lack of specific studies examining RAI versus no RAI. The current published literature offers little data for comparing DFS and cause specific survival for this intervention and population. To address these limitations, a multi-centered prospective study or a retrospective cohort study utilizing a cancer database may be necessary.

1:18 Stages of Viral Infection in HPV Driven Disease

Mary C. Bedard, PhD, Cincinnati, OH; Alessandro de Alarcon, MD, Cincinnati, OH; Aaron D. Friedman, MD, Cincinnati, OH; Kathryn A. Wikenheiser-Brokamp, MD PhD, Cincinnati, OH; David F. Smith, MD PhD, Cincinnati, OH; Susanne I. Wells, PhD, Cincinnati, OH

Educational Objective: At the conclusion of this presentation, the participants should be able to define

states of HPV infection in epithelium including latency, viral amplification, and transformation.

Objectives: HPV causes major disease burden worldwide, yet heterogeneous benign and malignant disease presentations are insufficiently understood in the context of viral replication. In classical schematic depictions of HPV infection, the productive viral life cycle (defined by virion production) is the primary criterion for active infection. However, equating active HPV infection with virion production excludes potential nonproductive viral states that promote disease. Our objective was to 1) profile HPV genomes and gene expression in patient biopsies harboring HPV driven disease; and 2) incorporate the resulting data into an updated model of clinically relevant HPV infection. Study Design: Literature review and qualitative discovery science. Methods: Immunofluorescence (IF) and in situ hybridization (ISH) was performed on biopsies from patients with recurrent respiratory papillomatosis (RRP). Viral assessments included genome amplification [DNA-ISH], viral gene expression [RNA-ISH], and expression levels of p16 (IF), a surrogate clinical marker of HPV infection. Virion production was considered absent in tissues wherein HPV L1, which is essential for viral capsid formation, was minimally expressed. Results: We successfully profiled viral genomes, p16, and L1 expression patterns in patient biopsies with HPV driven papillomas. Interestingly, robust L1 production was not detected in a subset of biopsies, implicating a nonproductive HPV life cycle despite clinically significant disease. Conclusions: HPV driven clinical disease can occur in the absence of abundant virion production, supporting contribution of a nonproductive viral state to HPV driven disease that is not represented in the classical HPV infection model. We propose an updated clinical model to include nonproductive HPV replication in human disease pathogenesis.

1:24 Data Driven Body Mass Index Threshold Associated with Increased Risk of 30 Day Complications following Total Thyroidectomy Surgery: Results from the ACS NSQIP Dataset

Abhisri Ramesh, BS MBA, Washington, DC; Shu Lin, BS, Ft. Lauderdale, FL (Presenter); Esther Lee, BS DO, Washington, DC; Rachna C. Reddy, BS, Erie, PA; Punam Thakkar, BS MD, Washington, DC

Educational Objective: At the conclusion of this presentation, the participants should be able to understand how data driven BMI thresholds can be used to improve patient specific outcomes and improve preoperative risk stratification for personalized healthcare following total thyroidectomy in contrast to previous research in the field, which primarily relied on discrete BMI categories defined by utilizing an arbitrary tiered system.

Objectives: This study aims to identify data driven BMI thresholds that are associated with varying risk of surgical and medical complications following total thyroidectomy (TT). Study Design: Retrospective cohort study. Methods: The American College of Surgeons National Surgical Quality Improvement Program database was used to identify patients undergoing TT (CPT - 60240) from 2005 to 2019. The primary outcome was the creation of data driven BMI strata maximizing the likelihood of 30 day all cause complications using stratum specific likelihood ratio (SSLR) analysis. Patient demographics and clinical comorbidities were compared using chi-squared analysis and student t-tests, where appropriate, for each stratum. To control for confounders, multivariate logistic regression was conducted. Results: In total, 76,448 patients undergoing TT were included. SSLR analysis identified two BMI categories: 19-41 and 42+. Relative to the 19-41 BMI cohort, the 42+ BMI cohort was more likely to have 30 day all cause complications after surgery (odds ratio [OR]: 1.26, P = 0.028). The 42+ BMI cohort had significantly higher odds for 30 day major medical complications (OR: 1.30, P = 0.049), surgical site infections (OR: 1.48, P = 0.033), pulmonary complications (OR: 1.53, P = 0.004), and unplanned reintubation (OR: 1.67, P = 0.007). Conclusions: A data driven BMI threshold of 42+ was associated with a significantly increased risk of 30 day complications following TT. This is the first TT study to observe BMI on a continuum and observe at what point BMI is associated with increased risk of 30 day complications. Our identified BMI strata can be incorporated to improve risk stratifying models during preoperative planning.

1:30 - 1:35 Q&A

Moderator: Cynthia B. Fisher, MD, Lewes, DE

1:35 Vocal Cord Mobility Restoration Is Associated with Better Recurrence Free Probability after Larynx Preservation Treatment: A Single Arm Prospective Trial

Dauren Adilbay, MD PhD, Shreveport, LA; Ameya Asarkar, MD MHA FACS, Shreveport, LA; Rema Anisha Kandula, MD, Shreveport, LA; Tara Moore-Medlin, MPH, Shreveport, LA; Cherie-Ann Nathan, MD FACS, Shreveport, LA

Educational Objective: At the conclusion of this presentation, the participants should be able to know the significance of vocal cord restoration after definitive laryngeal preservation treatment. Patients with restored vocal cord mobility after treatment have a better local recurrence free probability, compared to patients with remaining vocal cord immobility.

Objectives: Vocal cord fixation is one of the main upstaging features of laryngeal cancer. In our retrospective study, vocal cord (VC) mobility restoration after chemoradiotherapy was a favorable prognostic feature. In this prospective trial, we examined the significance of VC mobility restoration after definitive treatment as a prognostic feature. Study Design: Single arm observational prospective trial. Methods: In this trial, we enrolled 30 patients with squamous cell carcinoma (SCC) of the larynx with VC fixation (T3, T4) who underwent definitive chemoradiotherapy with complete response. Video laryngoscopy before and at 3 months after treatment was used to evaluate VC mobility. The primary endpoint of the study was the local recurrence free probability. Secondary endpoints included recurrence free probability, disease specific survival (DSS), and overall survival (OS). Results: The median age of patients was 62 years (IQR 54-67) and most of the patients were males (n=21, 70%). The primary subsites were the glottis (n=13) and supraglottis (n=14). After treatment 18 (60%) patients had a full recovery of VC mobility and 12 (40%) patients' VCs were fixed or sluggish. Five year local recurrence free probability was worse in VC fixed group compared to a group with restored VC mobility (46% vs 80%, p=0.039). Recurrence free probability, OS, and DSS differences were not statistically significant in both groups. Conclusions: In this prospective study, we show that the absence of VC mobility restoration is associated with worse local recurrence free probability after definitive laryngeal preservation treatment and these patients warrant closer followup to detect recurrence early. Salvage laryngectomy earlier could explain no change in OS.

1:41 Knowledge and Confidence of Primary Care Providers in Recognizing Patients with Laryngeal Cancer: A Survey Study

Eleni Mijalis, MD, Jackson, MS; William Townsend, MS, Jackson, MS; Anne Kane, MD, Jackson, MS

Educational Objective: At the conclusion of this presentation, the participants should be able to identify knowledge gaps in primary care providers (PCPs) recognizing symptoms of laryngeal cancer.

Objectives: Assess knowledge and confidence of PCPs regarding signs and symptoms of laryngeal cancers. Evaluate interest in further education for PCPs on head and neck cancers. Study Design: A multiple choice survey was sent to 545 primary care providers practicing in the five counties with the highest incidence of laryngeal cancer in one U.S. state. Methods: Data was analyzed using descriptive statistics. Results: Survey response rate was 10.5%. Only 36.8% of PCPs felt confident in identifying early signs of laryngeal cancer. While 100% identified voice changes as a symptom of head and neck cancer, only 52% recognized that ear pain can be an associated symptom. Symptoms that are not typical for head and neck cancer, such as headache and dizziness, had high erroneous response rates. 57% of providers were unaware of the correlation between stridor and late laryngeal cancer. Many providers were unaware that laryngectomy patients with could talk (56%) or swallow (16%). 69% agreed that an educational program on early warning signs of head and neck cancers would benefit their practice and 77% of providers expressed willingness to attend programs to improve their knowledge in these areas. Conclusions: This survey is the first of its kind to evaluate PCP knowledge on head and neck cancer and identifies a need for additional education on this

subject matter. Our results emphasize the potential benefit of targeted educational initiatives to boost diagnostic confidence and improve early detection rates in high risk populations.

1:47 Race Independently Predicts Surgical and Medical Complications following Head and Neck Free Flap Surgery: A NSQIP Study
Esther Lee, DO, Washington, DC; Abdulla Ahmed, BS, Washington, DC; Punam G. Thakkar, MD, Washington, DC; Neelima Tummala, MD, Washington, DC

Educational Objective: At the conclusion of this presentation, the participants should be able to learn that black and African American race had higher surgical and medical complications following head and neck free flap surgery with microvascular anastomosis.

Objectives: To investigate the independent association of race with surgical and medical complications in patients undergoing head and neck free flap surgery with microvascular anastomosis. Study Design: Retrospective cohort analysis utilized the National Surgical Quality Improvement Program (NSQIP) between 2011-2021. Methods: Patients who underwent free flap surgery with microvascular anastomosis by otolaryngologists were identified using Current Procedural Terminology codes. The three most common racial were categorized into “white”, “black or African American”, or “Asian”. The primary outcomes were surgical and medical complications. Binary logistic regression analysis was conducted to control for demographic and comorbidity confounders. Results: A total of 1,579 patients undergoing free flap surgery with microvascular anastomosis were included in the study. Among white patients, 28.8% (n= 783) had a surgical complication and 25.6% (n= 697) had a medical complication following their surgery. For black or African American patients, 37.4% (n= 85) had a surgical complication and 32.6% (n= 74) had a medical complication following their surgery. Lastly, for Asian patients, 30.7% (n= 51) had a surgical complication and 30.1% (n= 50) had a medical complication following their surgery. Patients in black and African American category had increased risk of surgical complications (odds ratio [OR]: 1.782; p = 0.010) and medical complications (odds ratio [OR]: 1.922; p =0.004) compared to patients in white and Asian categories. Conclusions: Our study demonstrated that black and African American race had higher surgical and medical complications following head and neck free flap surgery with microvascular anastomosis. Further study is warranted to develop targeted interventions to mitigate these disparities and to improve surgical outcomes for all patients irrespective of their racial or ethnic background.

1:53 WITHDRAWN - Future Advancements for a Novel HER2 Staging Protocol in Head and Neck Cancers: A Review - Presenter: Quinton Elijah Blount, MD, Nashville, TN

1:59 A Scoping Review of Palliative Care Outcome Measures in Head and Neck Cancer
Shreya Sriram, BS, Baltimore, MD; Deborah Xie, MD, Baltimore, MD; Rebecca Anna Gersten, MD, Baltimore, MD; Christine Gourin, MD MPH, Baltimore, MD

Educational Objective: At the conclusion of this presentation, the participants should be able to identify key outcome measures for use in evaluating the impact of palliative care interventions. Participants will be able to describe and recognize a variety of tools used in palliative care outcome measurement, including instruments that are specific to head and neck cancer patients.

Objectives: The palliative care (PC) needs of head and neck cancer (HNC) patients are complex, due to high and unique symptom burdens. Uniform outcome measures are critical to assessing the impact of PC interventions in HNC. Study Design: A scoping literature review of outcome measures used in HNC patients receiving PC was performed using PubMed, Embase, and Web of Science from January 1980 to November 2022. Methods: Studies that addressed at least one PC outcome in patients with HNC with quantitative data were included. Outcome domains were categorized into physical health, mental health, social health, health related quality of life (HRQoL) and advanced care planning (ACP). Results: After screening 721 nonduplicate titles, 20 studies were eligible. There were 2 randomized controlled

trials, 8 retrospective reviews, and 10 prospective reviews. Nineteen unique instruments were identified which assessed 7 HRQoL, 5 mental, 22 physical, 4 social, and 9 ACP unique outcomes. Instruments were underutilized, with a larger proportion of outcomes measurable for instruments used than were actually reported (HRQoL: 63% vs 40%; physical: 79% vs 60%; mental: 63% vs 40%; social: 42% vs 15%). The average instrument assessed 2.5 domains whereas the average study only reported outcomes from 2 domains. Retrospective chart review was the only method of assessing ACP outcomes (45%). Conclusions: There is significant heterogeneity in both the use of outcome measures in HNC patients receiving PC and in studies evaluating its effectiveness. Further research is needed to develop core PC outcome measures for use in HNC care.

2:05 3D Specimen Mapping: The Pathology Report of the Future
Carly Fassler, BS, Nashville, TN; Yuna Chung, Nashville, TN; Spencer Yeuh, BS, Nashville, TN; Liyu Huang, Nashville, TN; Jim Lewis, MD, Nashville, TN; Michael C. Topf, MD, Nashville, TN

Educational Objective: At the conclusion of this presentation, the participants should understand the feasibility of incorporating 3D specimen maps into a standard pathology report and recognize the utility of a visual record of the oncologic specimen.

Objectives: The current standard of care pathology report relies on written descriptions of the surgical specimen, tumor, and margins sampled. We have previously demonstrated the feasibility and utility of ex vivo 3D scanning of head and neck surgical specimens to improve intraoperative communication of surgical margin sampling sites. In this case series, we demonstrate the feasibility of incorporating our 3D specimen models into the final pathology report. Study Design: Retrospective case series. Methods: Ex vivo surgical specimens are 3D scanned prior to standard of care pathologic analysis per our previously published protocol. The virtual 3D model is virtually marked, or mapped, using computer aided design (CAD) software alongside the pathology team to replicate sectioning and inking of the specimen. The 3D specimen maps are then incorporated into the pathology report for an easy to understand, visual representation of the specimen. Results: 3D specimen pathology reports were created for a lower lip resection, anterior mandibulectomy composite resection, and salvage base of tongue resection. For the lower lip resection and anterior mandibulectomy composite resection the 3D specimen pathology reports were used to communicate the exact anatomic location of close surgical margins. For the salvage base of tongue resection, the 3D specimen pathology report was used to communicate a positive dorsal tongue margin. Conclusions: 3D scanning and specimen mapping creates a visual record of the oncologic specimen and its pathologic processing. In this study we establish the feasibility of a novel pathology report that includes 3D scans and mapping and its applications in surgical oncology.

2:11 - 2:16 Q&A

2:17 PANEL: Head & Neck Cancer Tumor Board
Moderator
Maie A. St. John, MD PhD, Los Angeles, CA
Panelists
Christine G. Gourin, MD FACS, Baltimore, MD
Scharukh M. Jalisi, MD MA FACS, Boston, MA
Urjeet A. Patel, MD FACS, Chicago, IL
Adam M. Zanation, MD, Chapel Hill, NC

3:15 - 3:45 BREAK WITH EXHIBITORS/VIEW POSTERS - Grand Ballroom Foyer & Ballroom AB

Concurrent Session B - Otology
1:00 - 3:15

Ballroom C

1:00 DEBATE: Point-Counterpoint: Endoscopic v. Microscopic Otologic Surgery

Moderator

Quyen T. Nguyen, MD PhD, San Diego, CA

Debaters

Mia E. Miller, MD, Los Angeles, CA

v.

Simon I. Angeli, MD, Miami, FL

1:21 PANEL: What's New in Tinnitus Assessment and Management

Moderator

Michael D. Seidman, MD FACS, Celebration, FL

Panelists

David J. Eisenman, MD, Baltimore, MD

Alan G. Micco, MD FACS, Chicago, IL

Moderator: Wayne E. Berryhill, MD, Norman, OK

1:56 Association of Hearing Loss Etiologies and Onset with Psychosocial Outcomes among Older Adults in the United States

Tyler J. Gallagher, BS, Los Angeles, CA; Janet S. Choi, MD MPH, Los Angeles, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to recognize the differential association of hearing loss with social isolation and depression by hearing loss onset and etiology among older adults in the U.S.

Objectives: Hearing loss (HL) is associated with negative psychosocial outcomes in older adults. We investigated whether HL etiology and onset has differential association with avoidance of social interaction and depression. Study Design: Cross-sectional study. Methods: Study cohort included older adults (greater or equal to 70 years) from 2017-2020 National Health and Nutrition Examination Survey who completed audiometry exam and questionnaires (n=3,369). Multivariable regression models assessed association between HL etiologies, onset, and psychosocial outcomes. Results: In this nationally representative cohort, 39.9% (95% CI: [31.7-48.7]) of older adults with audiometry proven HL reported avoiding social interaction due to HL and 10.8% (95% CI: [8.0-14.6]) reported depressive symptoms. In multivariable models (OR [95%CI]) adjusting for relevant factors including age and audiometry measured hearing, older adults with HL from ear related diseases (i.e., otosclerosis, Meniere's disease, tumor; grouped by survey) were more likely to report avoiding social interaction (2.6 [1.2-5.5]) and depression symptoms (7.4 [1.8-29.8]) than those with aging related HL. There was no difference in report of social avoidance or depression symptoms between older adults with aging related HL compared to noise exposure (1.9 [0.5-6.8] and 1.0 [0.4-2.6]) or ear infections (1.7 [0.8-3.5] and 1.5 [0.4-5.7]). Older adults who report onset of HL before 70 years had higher likelihood of social interaction avoidance than those who report onset of HL 70+ years (2.2 [1.3-3.6]) in a multivariable model. Conclusions: Many older adults with HL reported depression symptoms and avoiding social interaction due to HL, especially those with HL from ear related diseases and HL onset at earlier ages. Future studies should explore the impact of interventions targeting at risk groups by etiology and onset on modifying psychosocial outcomes related to HL.

2:02 Nationwide Hearing Loss Trends from 1999 to 2018 using the United States National Health and Nutrition Examination Survey

David O'Neil Danis, MD, Boston, MA; Kathryn Y. Noonan, MD, Boston, MA

Educational Objective: At the conclusion of this presentation, the participants should be able to

understand nationwide hearing loss trends over time based on National Health and Nutrition Examination Survey (NHANES) survey and audiological results.

Objectives: Hearing loss (HL) is one of the most common chronic health conditions in the United States (U.S.). This study aims to evaluate changes in HL prevalence among U.S. adults over the past two decades. Study Design: Cross-sectional study. Methods: Audiometric data of adults from the National Health and Nutrition Examination Survey (NHANES) from 1999-2018 were analyzed in two year intervals to evaluate changes in HL over time in using odds ratios (ORs). Demographic and associated noise exposure and cardiovascular factors were also analyzed. Multivariate logistic regression was used to control for age, gender, and associated risk factors. Results: 13,468 participants were included. Each two year interval included participants either aged 20-69 or 70 and greater. HL prevalence in participants aged 20-69 decreased from 16.4% in 1999-2000 to 15.6% in 2015-2016 and from 75.8% in 2005-2006 to 71.7% in 2017-2018 in participants aged 70 and greater. Adjusting for age and sex, participants aged 20-69 in 1999-2000 and 2003-2004 had significantly higher odds of HL when compared to those in 2015-2016 (ORs 1.376,1.363; 95% CIs 1.024-1.849, 1.005-1.849). Adjusting for age, gender, and associated risk factors, participants aged 20-69 in 2001-2002 had significantly higher odds of HL when compared to those in 2015-2016 (OR 1.307; 95% CI 1.014-1.684). Conclusions: Controlling for age, gender, and associated risk factors, HL prevalence in subjects aged 20-69 may be decreasing in the U.S. HL continues to have a high economic cost impact and on quality of life as the population ages, and interventions are needed to further decrease the prevalence and impact of HL.

2:08 A Biologic with Otologic Consequences: Analysis of Hearing Loss and Teprotumumab Using the FDA Adverse Event Reporting System

Pauline P. Huynh, MD, Oakland, CA; Elias S. Saba, MD, Oakland, CA; Alexander Rivero, MD, Oakland, CA; Robert Peralta, MD, Oakland, CA; Jonathan Liang, MD MPH, Oakland, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand that patients on teprotumumab for Graves' orbitopathy have an increased risk of developing otologic adverse events (OAE), including hearing loss (OAE-HL). This information is important to further aid patient counseling prior to starting this therapy.

Objectives: Teprotumumab was approved to treat Graves' orbitopathy in 2020. Otologic adverse events (OAE) such as hearing loss have been reported with this new biologic. We aim to evaluate OAEs among patients taking teprotumumab using the FDA Adverse Events Reporting System (FAERS). Study Design: Retrospective database review. Methods: FAERS was queried for cases involving teprotumumab from 2020Q1 to 2023Q1. Patient demographics and adverse reactions (OAE and OAE-HL) were evaluated. Logistic regression was used to predict OAE and OAE-HL, and disproportionality analysis was performed using OpenVigil. Results: A total of 2109 teprotumumab-AE were reported, of which 296 (14.05%; mean age 55.46 years) were OAEs. Of these, 149 (7.06%) reported OAE-HL, and 147 (6.97%) reported other OAE (e.g., tinnitus, ear discomfort, vertigo). Age was associated with a reported odds ratio (ROR) of 1.02 (95% CI 1.01, 1.04) and 1.04 (95% CI 1.02, 1.07) for developing OAE and specifically OAE-HL, respectively ($p<0.01$). Age 50 and 65 years and older were associated with an ROR of 2.54 (95% CI 1.16, 6.38) and 3.36 (95% CI 1.75, 6.53), respectively, for OAE-HL ($p<0.05$). Sex was not a significant predictor. Disproportionality analysis showed a ROR for OAE-HL of 44.33 (95% CI 37.40, 52.55; $p<0.001$). Conclusions: This study demonstrates an increased risk of OAE, specifically hearing loss, associated with teprotumumab. Increasing age was a significant predictor of OAE. Audiometric counseling and evaluation should be considered with teprotumumab therapy in Graves' orbitopathy patients, especially in older patients.

2:14 Diagnostic Epidemiology of Superior Canal Dehiscence Syndrome

Ryan Alexander Bartholomew, MD, Boston, MA; Marta M. Williams, BS, Boston, MA; Brigette L. Wang, BS, Boston, MA; Daniel J. Lee, MD FACS, Boston, MA; Carelton Eduardo Corrales, MD,

Boston, MA; Neil Bhattacharyya, MD MA FACS, Boston, MA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the diagnostic incidence of SCDS, and alternative diagnoses identified, amongst diagnostically undifferentiated patients for which SCDS is on the differential diagnosis.

Objectives: To characterize the diagnostic yield of patients undergoing diagnostic evaluation for SCDS, and identify alternative conditions diagnosed in patients suspected of, but not ultimately diagnosed with, SCDS. Study Design: Retrospective cohort study. Methods: Diagnostically undifferentiated adult patients suspected of having SCDS were identified using a key terms search of the medical record between 2016-2021 at a tertiary academic medical system. Patients were categorized by diagnostic testing, presence of radiographic SSC abnormality, asymptomatic vs symptomatic, evaluating clinician specialty, and operative intervention. Differences among groups were assessed for statistical significance. Results: Of 1242 candidate patients, 477 patients met inclusion criteria -- evaluation by a clinician with SCDS on their differential diagnosis prior to diagnostic imaging. The mean (SD) age was 53.0 (15.0) years and 70.6% were female. 364 patients underwent subsequent diagnostic imaging, and amongst these, 164 (45.1%) had a radiographic superior semicircular canal (SC) abnormality with 99 (27.2%) ultimately receiving a diagnosis of SCDS (2 cases of “near dehiscence syndrome”). One third (33.3%) of patients with SCDS underwent operative repair. Most clinicians with the initial suspicion for SCDS were otolaryngologists (90.6%), who had greater diagnostic yield than clinicians from other specialties (22.2% vs 6.7%, p=0.012). Patients suspected of, but not ultimately diagnosed with, SCDS alternatively received 21 unique diagnoses and 52.1% (138/265) were not definitively diagnosed with any condition. Conclusions: This study is the first to characterize the diagnostic incidence of newly identified radiographic SSC abnormalities and SCDS amongst people suspected of having SCDS. Considerable overlap in presentation between SCDS and other conditions exists, and there is need for improvement in effectively diagnosing patients with SCDS and audiovestibular complaints in general.

2:20 Association between Superior Canal Dehiscence Syndrome and Anxiety and Depressive Disorders

Brigette L. Wang, BS, Boston, MA; Lillian W. Dattilo, MD, Boston, MA (Presenter); Ryan A. Bartholomew, MD, Boston, MA; Marta M. Williams, BS, Boston, MA; Daniel J. Lee, MD, Boston, MA; Neil Bhattacharyya, MD MA FACS, Boston, MA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand whether there is a potential association between superior canal dehiscence syndrome (SCDS) and anxiety and depressive disorders.

Objectives: To determine whether superior canal dehiscence syndrome (SCDS) patients have a higher prevalence of anxiety and depressive disorders relative to a matched control population. Study Design: Retrospective case control study. Methods: Adult patients were identified using a key terms search of the medical record with a diagnosis of SCDS between 2016-2021. Diagnosis of an anxiety or depressive disorder was determined by International Classification of Diseases, Tenth Revision (ICD-10) diagnosis codes. Differences in the prevalence of these disorders between patients with SCDS and age, sex and comorbidity 2:1 matched controls were statistically assessed. Results: The study included 630 patients (210 cases, 420 controls) with a mean age of 56.3 +/- 12.6 years in the case cohort and 56.4 +/- 13.0 years in the matched control cohort. Both groups consisted of 64.3% female patients. Significant differences were found between groups for rates of anxiety disorders, with 31.4% (66/210) for the case cohort versus 21.9% (92/420) for the matched control cohort (p = 0.011); and depressive disorders, with 22.9% (48/210) for the case cohort versus 14.8% (62/420) for the matched control cohort (p = 0.014). Conclusions: SCDS has several symptomatic manifestations, and its diagnosis may be circuitous, both of which may result in patients’ mental stress. This study identifies significant associations between SCDS and anxiety and depressive disorders, which may indicate a need for better psychiatric support of those diagnosed with

SCDS. Further research is needed to understand the connection between SCDS and these psychiatric disorders.

2:26 Access to Otology Care at Urgent Care Centers
Afash Haleem, BA, Boston, MA; Zachary Rosenthal, BA, Boston, MA; Daniel J. Lee, MD, Boston, MA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand insurance related disparities in access to urgent care centers (UCCs) for a common otologic emergency.

Objectives: To evaluate the ability of UCCs to recognize sudden hearing loss and compare the influence of Medicaid or private insurance coverage on UCC triage patterns. Study Design: Prospective cross-sectional "secret shopper" study. Methods: Using a standardized script, we called 50 random UCCs in states without Medicaid expansion and 50 random UCCs in states with Medicaid expansion posing as a family member seeking care for a patient with a 5 day history of single sided hearing loss. Each clinic was called once as a Medicaid patient and once as a private insurance (PI) patient for 200 calls. Calls were evaluated for insurance acceptance, out of pocket price, advanced practice provider (APP) referral, and emergency department (ED) referral. Fisher's exact tests were performed to evaluate significant differences. Calls ended before answering questions were not included in the analysis. Results: The acceptance rate for Medicaid was significantly lower than PI (70.0% vs 98.9%, $p<0.001$). The median out of pocket cost for an initial visit was $160 (standard deviation [SD] = 56.7). UCCs in Medicaid expansion states were significantly more likely to accept Medicaid (66.7% vs. 33.3%, $p=0.024$). Only 15.0% of clinics said they could not accept out of pocket payments from a Medicaid patient. Significantly more Medicaid patients were told to go to the ED than PI patients (10.4% vs 0.0%, $p=0.002$). 79.2% of UCCs offered an APP first. Only 2.1% of UCCs expressed urgency to the caller. Conclusions: Many UCCs frequently do not recognize a potentially emergent otology issue nor refer these patients to the ED, especially when a patient has private insurance. UCCs should be advised on presentations of otologic emergencies to avoid delay to care.

2:32 - 2:38 Q&A

Moderator: Yu-Lan Mary Ying, MD, Newark, NJ

2:38 Speech Quality Outcomes in Patients Undergoing Cochlear Implants for Single Sided Deafness
Scott M. Kelly, BS, New York, NY; Megan E. Kuhlmey, AuD, New York, NY; Meghan A. Despotidis, AuD, New York, NY; Isaac L. Alter, AB, New York, NY; Anil K. Lalwani, MD, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to 1) understand how the SQI captures subjective perception of speech quality; and 2) understand how perceived speech quality in cochlear implanted ears differs from normal hearing ears.

Objectives: Despite advances in speech recognition outcomes, cochlear implant (CI) users often complain that the quality of speech perceived through their CI is mechanical or unpleasant, yet speech quality remains largely unmeasured. In this study, we investigate speech quality following cochlear implantation for single sided deafness (SSD) and compare it to normal hearing (NH) using the validated speech quality instrument (SQI). Study Design: This study is a cross-sectional analysis of speech quality in CI users with SSD. Methods: Nine SSD CI users were recruited from tertiary academic medical centers. Participants completed an online demographic questionnaire. The SQI was administered with the participant listening to nine audio clips emphasizing specific qualities of speech and rating them on 14 qualities of speech (cartoonish, clear, like/dislike, breathy, smooth, echo-y, tinny, soothing, natural, mechanical, hoarse, pleasant, male/female, and sounds like speech) using a 10 point visual analog scale. Speech quality was assessed in three conditions: CI only, NH only, and CI + NH together. Results: The average SQI score was

poorer in CI only condition compared to NH (47.7 vs 65.5, p = 0.0002) and CI+NH (47.7 vs 63.4, p = 0.0003) conditions. Compared to NH only, listening with the CI only was less clear, less soothing, more mechanical, more hoarse, sounded less like speech, and was less accurate at gender ID. Conclusions: Speech quality with cochlear implant is significantly worse and is characterized by negative qualities of speech. Speech processing strategies should focus on improving both speech recognition and quality to improve patient experience.

2:44 Prognosis of Bilateral Sudden Sensorineural Hearing Loss: A Systematic Review and Meta-Analysis

Akash M. Bhat, BS, Charleston, SC; Douglas P. Nanu, BS, Charleston, SC; Shaun A. Nguyen, MD FAPCR, Charleston, SC; Ted A. Meyer, MD PhD, Charleston, SC; Robert F. Labadie, MD PhD, Charleston, SC

Educational Objective: Few studies have characterized the two subtypes of bilateral sudden sensorineural hearing loss, simultaneous (Si-BSSHL) and sequential (Se-BSSHL) bilateral sudden sensorineural hearing loss, in relation to unilateral sudden sensorineural hearing loss (USSHL). At the conclusion of this presentation, participants will be able to understand the characteristics and steroid responsiveness of Si-BSSHL and Se-BSSHL compared to USSHL.

Objectives: To comprehensively examine the characteristics and steroid responsiveness of simultaneous (Si-BSSHL) and sequential (Se-BSSHL) bilateral sudden sensorineural hearing loss compared to unilateral sudden sensorineural hearing loss (USSHL). Study Design: Systematic review and meta-analysis. Methods: A systematic review of four databases (Cochrane Library, CINAHL, PubMed, and Scopus) were searched from inception to July 17, 2023, for studies reporting patient characteristics and audiometric outcomes of Si-BSSHL, Se-BSSHL, or both. A meta-analysis of continuous measures, proportions (%), mean difference (Δ), and proportional difference (Δ%) were performed. Results: A total of 11 studies included 201 Si-BSSHL, 167 Se-BSSHL, and 2705 USSHL patients. USSHL had the highest prevalence at 88.1% (95% CI: 81.2%-93.6%), followed by Si-BSSHL at 20.9% (95% CI: 11.6%-32.1%), and Se-BSSHL at 9.9% (95% CI: 5.9%-14.6%). USSHL group had the highest mean post-treatment PTA improvement of 22.3 dB (95% CI: 21.8-22.9, P-value=0.0001), followed by Se-BSSHL improvement of 19.1 dB (95% CI: 3.5-34.8, P-value=0.02), and Si-BSSHL improvement of 9.5 dB (95% CI: 5.0-14.0, P-value less than 0.0001). Post-treatment PTA improvement of Si-BSSHL was significantly worse than USSHL by 12.8 dB (95% CI: 10.5-15.1, P-value less than 0.0001). Patient recovery rate after treatment was significantly worse in Si-BSSHL compared to USSHL (Δ 22.8%, 95% CI: 10.5%-33.9%, P-value=0.0002) and in Se-BSSHL compared to USSHL (Δ 30.9%, 95% CI: 19.4%-40.6%, P-value less than 0.0001). Conclusions: Si-BSSHL and Se-BSSHL represent rarer disease entities compared to USSHL with worse treatment outcomes, particularly in Si-BSSHL. The current literature offers little data regarding the risk of Se-BSSNHL after USSNHL.

2:50 Validating an Auditory Evoked Potential System for Extracochlear Electrocochleography during Cochlear Implantation: Foundations for Preoperative Transtympanic Electrocochleography

Jordan John Varghese, MD, St. Louis, MO; Amit Walia, MD, St. Louis, MO; Amanda J. Ortmann, PhD, St. Louis, MO; Matthew A. Shew, MD, St. Louis, MO; Jacques A. Herzog, MD, St. Louis, MO; Craig A. Buchman, MD, St. Louis, MO

Educational Objective: At the conclusion of this presentation, the participants should be able to understand transfascial recess electrocochleography (tfrECochG) and appreciate the potential of preoperative transtympanic electrocochleography (ttECochG) to predict CI performance.

Objectives: To validate ECochG between an auditory evoked potential (AEP) machine and an established CI manufacturer ECochG system. Study Design: Prospective cohort study at a tertiary referral center. Methods: Patients were adults and children undergoing cochlear implantation. Intraoperative ECochG was measured with both the Intelligent Hearing Systems (IHS) Duet and Cochlear ECochG platform. Tone bursts

were presented from 250 Hz to 2 kHz (98 to 109 dB SPL). Recording electrodes captured extracochlear measurements through a standard facial recess (tfrECochG). A fast Fourier transform of tfrECochG waveforms at key frequencies was summed into a total response (tfrECochG-TR). Pearson's correlation was utilized after confirming normality with Shapiro-Wilk test. Results: Fifteen patients with an average age of 60.2 years (range 3-82) were enrolled. Etiology of hearing loss included presbycusis (n=9), Meniere's (n=3), SSHL, ANSD, and CPA tumor. Median preoperative LFPTA was 70 dB HL (range 11.6-125). IHS tfrECochG-TR (mean 9.6 decibel microvolt, SD=23.6) and Cochlear tfrECochG-TR (mean 5.1 decibel microvolt, SD=23.2) were found to be strongly correlated, (r = 0.932, 95% CI: 0.808-0.978, p less than 0.001). Four patients underwent IHS ttECochG for feasibility and achieved similar responses. Conclusions: Extracochlear ECochG has been predictive of CI speech perception performance. Early results indicate the two ECochG systems are similar. Future work will evaluate IHS ttECochG preoperatively.

2:56 Hearing Loss and Discrimination: Evidence of Intersectionality in the All of Us Database

Michael W. Denham, MPhil, New York, NY; Lauren H. Tucker, BA, New York, NY; Justin S. Golub, MD MS, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to appreciate the interplay between hearing loss, discrimination, and race in the United States.

Objectives: Hearing loss (HL) has significant implications on social functioning. Here we study the relationship between HL, race, and these combined categories as risk factors for discrimination in the large national All of Us cohort. Study Design: Cross-sectional national epidemiologic study. Methods: Data entered in the National Institutes of Health All of Us database was analyzed for individuals who completed the Everyday Discrimination Survey between November 2021 and January 2022. HL and potential medical confounders were defined per ICD-10 codes. Multivariable linear regressions analyzing the relationship between HL and discrimination were adjusted for potential confounders, including age, sex, race, ethnicity, other demographic factors, and relevant medical conditions, such as depression and dementia. Additional regressions were conducted to evaluate how combined HL and race categories were associated with discrimination risk. Results: 8,722 individuals > / = 18 years old had complete data. The mean age was 65 years (SD=13.0 years) and 41% were women. Individuals with HL, compared to those without, were more likely to report discrimination in 6 out of 9 questions on the Everyday Discrimination Survey ($p<0.05$, with effect sizes ranging from -0.05 to -0.16 on a 6 point scale from 0 = "almost everyday" to 5 = "never"). Notably, for 5 out of those 6 questions, combined black race and HL was associated with a risk of discrimination that exceeded the sum of these individual risk factors. Conclusions: This study offers evidence of HL as a risk factor for self-reported discrimination. Further, this study provides support for an intersectional understanding between discrimination, race, and HL.

3:02 Hooked on a Feeling: Assessing the Impact of Bilateral Cochlear Implantation on Emotional Responses to Music

Isaac Lalakea Alter, AB, New York, NY; Megan E. Kuhlmey, AuD, New York, NY; Meghan A. Despotidis, AuD, New York, NY; Scott Kelly, BS, New York, NY; Anil K. Lalwani, MD, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to 1) understand valence and arousal as validated measures of emotional response; 2) describe the effects of bilateral cochlear implantation on a listener's ability to "correctly" identify emotional content of a musical stimulus; and 3) identify areas in which CI users experience constricted emotional ranges in response to music.

Objectives: The deficits in music perception and enjoyment among cochlear implant (CI) recipients have been well documented. On the other hand, emotional response to music, though a central facet of music listening, remains poorly studied, and has not been studied in patients with bilateral cochlear implants. In this study, we investigate the impact of bilateral cochlear implantation on emotional responses to music.

Study Design: Cross-sectional analysis. Methods: Bilateral CI users and normal hearing (NH) controls were recruited from a tertiary academic medical center and via outreach from the Hearing Loss Association of America. An online survey was developed to collect demographic data and administer ten 15 second musical clips representing multiple genres and a wide range of both arousal (excitement vs. calm) and valence (happiness vs. sadness); these clips were previously validated in a separate NH cohort. Participants listened via external speakers in their home environment and rated the musical clips on validated nine point visual analog scales of arousal and valence. Results: Fourteen CI users and 15 NH controls completed the survey. CI users demonstrated a significantly constricted range of arousal (4.3 vs. 6.0, p=0.008), but a preserved range of valence (5.2 vs. 5.6, p=0.57), compared to NH controls. Additionally, CI users demonstrated significant error in rating both valence and arousal compared to NH controls. Conclusions: Bilateral CI users' emotional response to music is significantly different and constricted compared to NH controls. Blunted appreciation of emotional content likely contributes to reported reduced music enjoyment among cochlear implantees and is a critical target for improvement.

3:08 - 3:15 Q&A

3:15 - 3:45 BREAK WITH EXHIBITORS/VIEW POSTERS - Grand Ballroom Foyer & Ballroom AB

Concurrent Session C - Rhinology & Allergy
3:45 - 5:40
Grand Ballroom
Moderator: Robert C. Kern, MD FACS, Chicago, IL

3:45 Daytime Somnolence and Sleep Apnea Are Associated with Dizziness in the Elderly
Betsy Szeto, MD MPH, Charlottesville, VA; Bradley W. Kesser, MD, Charlottesville, VA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the relationship between dizziness and sleep apnea/daytime somnolence and consider addressing sleep issues with the elderly dizzy patient.

Objectives: Dizziness is a debilitating multifactorial disorder commonly affecting the elderly. Daytime somnolence and sleep apnea have been linked to idiopathic dizziness, but previous studies were limited by small sample sizes. The purpose of this study was to examine the relationship between dizziness and daytime somnolence, as well as symptoms of sleep disordered breathing (snoring and apnea), in a nationally representative sample of elderly adults, while adjusting for possible confounders and mediators. Study Design: Using the NHANES (2017-2020 pre-pandemic data), data from 1490 participants aged >= 70 y were analyzed in a cross-sectional manner using survey methods. Methods: Rao-Scott chi-square tests were used to evaluate the association between dizziness and categorical variables. Multivariable logistic regression was used to examine the relationship between dizziness and daytime somnolence, snoring, and apnea, while adjusting for covariates (gender, age, BMI, hearing loss, and various medical conditions found to be associated with dizziness at the $P < 0.10$ level). Results: Frequent daytime somnolence 5 or more times monthly (OR 2.13; 95% CI: 1.49, 3.06) and presence of apnea (OR 1.65; 95% CI 1.20, 2.27) were found to be associated with greater odds of dizziness when adjusting for medical comorbidities. A significant association was not found between snoring and dizziness. Conclusions: In the elderly, daytime somnolence and apnea were independently associated with increased risk of dizziness, even after adjusting for medical comorbidities. Optimizing sleep may help reduce symptoms of dizziness in this population, but prospective studies would be required to confirm these findings.

3:51 Characterizing Sinonasal Related Symptoms among a Minority Population
Ryan Chung, BA, Los Angeles, CA; Matthew Lin, BS, Los Angeles, CA; Yun Ji Kim, BA, Los Angeles, CA; Benjamin Tam, BS, Los Angeles, CA; Alison Yu, MD, Los Angeles, CA; Kevin Hur, MD, Los

Angeles, CA

Educational Objective: Participants will be able to learn about the prevalence of sinonasal symptoms among the Chinese/Taiwanese population residing in our state and the demographic and clinical characteristics underlying the symptomology.

Objectives: To evaluate the prevalence and severity of sinonasal symptoms among the Chinese/Taiwanese population. Study Design: Cross-sectional analysis of REDCap survey data compiled through anonymous questionnaires distributed to target population. Methods: REDCap surveys written in English, simplified and traditional Chinese were distributed. Information on demographics, social determinants of health, access to care, and history of sinonasal symptoms were collected. Descriptive statistics were used to characterize our cohort. T-tests and chi-square were used to elucidate significant differences between subgroups. Results: Among our 91 respondents included 37 males and 54 females (mean age 40.2; SD 18.6). 58.2% of respondents took the survey in English, 37.1% in simplified Chinese, and 4.4% in traditional Chinese. 61.5% of respondents reported experiencing a sinonasal symptom for at least one month. The most frequently reported symptom was nasal congestion (41.8%) with 44.7% of these respondents having experienced symptoms for over 3 years. Current alcohol users and males were significantly more associated with seeing an MD for sinonasal symptoms compared to those who never drank alcohol and females respectively ($p<0.05$). However, female respondents were more significantly associated with taking home medications for symptoms ($p<0.05$), with OTC decongestants/antihistamines being the most used. Additionally, respondents born outside of the USA and respondents who spoke a non-English primary language were significantly associated with reporting it difficult to access care ($p<0.001$; $p<0.001$). Conclusions: Our study provides a baseline insight into the sinonasal symptoms prevalent in the Chinese/Taiwanese population, which can be used to better inform the unique symptom profile present among minority populations.

3:57 A Statewide Study of the Diagnosis of Food Allergy Anaphylaxis in the Emergency Department
Marilee S. Kneeland, BS, Vermillion, SD; Chengetai R. Mahomva, MD, Sioux Falls, SC

Educational Objective: At the conclusion of this presentation, the participants should be able to Identify trends in the incidence of food related anaphylaxis emergency department visits to raise provider level awareness of the disease and encourage appropriate patient education, counseling, and preparedness.

Objectives: Food allergies have become an increasing concern to patients, providers, lawmakers, and the media. The aim of this study was to determine the incidence and trends of food related anaphylaxis emergency department visits from a statewide emergency department database. Study Design: Retrospective statewide database review. Methods: A statewide emergency department database was queried from 2005 to 2021 to identify patients of all ages with an ICD-9 or 10 code for food related anaphylaxis visit diagnoses. Linear regression was used to assess trends in incidence among ED visits and identify the three most prevalent foods associated with anaphylaxis. Results: From 2005 to 2021 there was an increase in the total of food related anaphylactic diagnoses from 767 to 3628 (P less than 0.001) in the state's emergency departments. The average incidence in this database was 0.0064% and there was a statistically significant increase in the incidence from 0.0050% in 2005 to 0.0074% in 2021 (P less than 0.001). The three categories that had the biggest yearly increase in diagnosis were allergy to tree nuts/seeds, peanuts, and other foods (P less than 0.001). Conclusions: In this statewide study, there was a statistically significant increase in the incidence of emergency department visits for food allergy related anaphylaxis from 2005 to 2021. While the overall incidence remains low, given the high risk of mortality associated with anaphylaxis this study highlights the necessity of appropriate patient education and counseling on anaphylaxis management and prevention.

4:03 Prevalence of Olfactory Deficits in the Community: Assessment of Failure to Detect and Identify Natural Gas Odorant

Grant Benjamin Feuer, BS, New York, NY; Brandon J. Vilarello, BA, New York, NY; Patricia T. Jacobson, BSN, New York, NY; Jeremy P. Tervo, BS, New York, NY; Francesco F. Caruana, MD, New York, NY; Jonathan B. Overdevest, MD, PhD, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the prevalence of olfactory issues in an extended metropolitan community area with specific focus on the ability to detect and identify natural gas; the demographic factors that are correlated with detection and identification capabilities, and the necessity to identify individuals with this deficit due to the dangers of undetected and unreported natural gas exposure.

Objectives: Mercaptan is an odorant added to natural gas to facilitate leak recognition. However, individual factors and COVID-19-associated olfactory dysfunction (OD) may complicate detection. This study seeks to determine rate of detection and explore factors that correlate with correct detection and identification of mercaptan. Study Design: Data were prospectively collected from adults at a tertiary care facility in a large metropolitan area. Methods: Participants provided health and demographic information for screening. Mercaptan, lemon, and blank scent cards were presented, and participants stated whether a scent was present (detection), tried to identify the scent (unprompted identification), and selected the scent from a multiple choice list (forced choice). Analysis and logistic regression models were calculated in R. Results: Analysis (n=596) showed detection rates of 96% (95% CI: 0.9408 - 0.9728) and 97% (0.9589 - 0.9847) for mercaptan and lemon, respectively. 19% (0.15703 - 0.21947) of participants identified mercaptan as gas or a related odor. In forced choice, 71% (0.67204 - 074474) correctly identified natural gas, and 86% (0.82521 - 0.88164) correctly identified lemon. 69% (0.65242 - 0.72644) of participants with history of Covid associated OD correctly identified natural gas. Significant predictors of correct forced choice included self-reported smell function (p=0.002), age (p=0.0005), and female identity (p=0.020). Conclusions: Many individuals in a broad community sampling are able to correctly identify natural gas with a prompt, but certain factors may modify this ability. The dangers of gas leaks and prevalence of its use in the U.S. underscore the importance of the notable portion of the community unable to properly identify the natural gas odorant mercaptan.

4:09 Radiofrequency for Nasal Airway Obstruction and Chronic Rhinitis: A MAUDE Database Analysis
Emily S. Sagalow, MD, Las Vegas, NV; Muhammed F. Shand, MD, Las Vegas, NV; Paulina Awuah, MS, Las Vegas, NV; Kevin Hur, MD, Los Angeles, CA; Elisabeth Ference, MD, Los Angeles, CA; Jee-Hong Kim, MD, Las Vegas, NV

Educational Objective: At the conclusion of this presentation, the participants should be able to understand adverse events reported in the MAUDE database for the temperature controlled radiofrequency devices, VivAer and Rhinaer Systems (Aerin Medical, Sunnyvale, CA) and NEUROMARK (Neurent Medical, Galway, Ireland).

Objectives: After failure of medical treatment, nasal valve collapse and chronic rhinitis may require surgical intervention. Recently, radiofrequency devices were approved and offer noninvasive, incisionless, office friendly methods to improve nasal airway obstruction (NAO) and chronic rhinitis (CR). This study aims to explore the adverse effects (AE) of these devices. Study Design: Review of Food and Drug Administration's MAUDE database (Manufacturer and User Facility Device Experience). Methods: The MAUDE database was searched for all adverse events related to the VivAer, Rhinaer Systems (Aerin Medical, Sunnyvale, CA), and NEUROMARK (Neurent Medical, Galway, Ireland) (FDA approved in 2016, 2019, and 2021, respectively). Events reported in the database were categorized. Results: Three AEs were listed for VivAer System all categorized as "injury" occurring between 2020 and 2022. These adverse events include treatment related scarring, mucosal deterioration, and perforation. Two of the three patients' NAO remained improved even with these AEs, however, one patient reported persistent and even worsened NAO after scarring of tissue possibly related to treatment with VivAer System. For CR treatment with Rhinaer and NEUROMARK, 14 AEs were reported with 13 (92.9%) categorized as "injury" with all reporting

post-treatment epistaxis managed by packing or embolization. No bleeding related deaths were reported. 12/14 AEs were reported for Rhinaer specifically with 1 reported as "malfunction" thus the device was not used on a patient. Conclusions: Radiofrequency devices offer low risk, noninvasive, office based options for patients experiencing NAO and CR. Healthcare providers should be mindful in discussing these AE when consenting patients for radiofrequency treatments of the nasal cavity.

4:15 - 4:20 Q&A

Moderator: George A. Scangas, MD, Boston, MA

4:21 A 20 Year Review of the Rare and Aggressive Sinonasal Undifferentiated Carcinoma
Avigeet Gupta, MD, Oklahoma City, OK; Matthew S. Krutz, MD, Oklahoma City, OK; Kibwei A. McKinney, MD, Oklahoma City, OK

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the most contemporary and comprehensive review of the incidence, survival, and prognostic factors which guide treatment for sinonasal undifferentiated carcinoma (SNUC) with the use of a national database.

Objectives: Sinonasal undifferentiated carcinoma (SNUC) is a rare and aggressive neuroendocrine malignancy with limited data available regarding its incidence, survival, and optimal management. To the best of our knowledge, this study represents the most contemporary review of 20 years of national case based data for this malignancy. Study Design: A retrospective analysis of the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) database. Methods: The SEER database was queried for all cases of SNUC from 2000 to 2019. Cases were additionally assigned a modified Kadish stage based on available data (A, B, C, or D). Results: The age adjusted incidence of SNUC has increased 29% from 2000 to 2019, (0.170 to 0.219 per 1,000,000). 347 patients were included for analysis with the mean age at diagnosis being 57 years old (64% male predilection). Most patients with available data presented with an advanced modified Kadish stage (D, 149, 43%). Surgery was performed in 63% of cases, adjuvant radiation was performed in 46% of cases, and chemotherapy was provided in 73% of cases. 2 year and 5 year disease specific survival was noted to be 58% and 42%, respectively. On multivariate analysis, patients treated with surgery (0.633, [95% CI 0.481 to 0.833]) or radiation (0.383, [95% CI 0.268 to 0.547]) conferred a decreased mortality risk. Conclusions: The incidence of aggressive SNUC has increased over the course of 20 years and most patients present with advanced disease. Survival outcomes remain poor despite advances in imaging modalities and multimodal treatment. There is no well established treatment paradigm and further clinical investigation is warranted to improve survival.

4:27 Application of Frailty Indices in Assessing Post-Surgical Pituitary Adenoma Outcomes
Ryan M. Sicard, BS, New York, NY; Alex Devarajan, BS, New York, NY; Vikram Vasan, BS, New York, NY; Jonathan T. Dullea, BS, New York, NY; Ikaasa Suri, BS, New York, NY; Raj K. Shrivastava, MD, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the validity of different frailty indices in predicting patient outcomes following pituitary adenoma resection.

Objectives: Pituitary adenoma resection is a substantial portion of skull based surgical volume, and patient's selection is a key component of decision making. Frailty has gained traction for its multidimensional approach to describing patient outcomes and multiple indices have been developed. We compare the validity of two prominent indices within a cohort of patients receiving pituitary adenoma resections. Study Design: Single institution retrospective chart review. Methods: Charts of 420 patients who received surgery for skull based pituitary adenoma between 2016 and 2019 were reviewed. Pre and

postoperative morbidities, disease features, surgical course, adjuvant treatment, recurrence, and survival rate were recorded. Components of the modified frailty index (mFI) and Johns Hopkins Frailty Assessment (JHACG) were used to calculate each patient's mFI-11 and JHACG score. Indices were compared on incidence of adverse outcomes. Results: Both the mFI-11 and JHACG were significantly better than the American Society of Anesthesiologists (ASA) score and patient age at predicting length of stay ($p<0.01$). 75 patients had postoperative complications, and no significant difference between the mFI-11 and JHACG was identified in predicting postoperative complications ($p=0.23$). 13 patients experienced intraoperative complications and there was no significant difference between the mFI-11 and JHACG's predictive ability ($p=0.87$). The mFI-11 trended toward significance in predicting outcomes better than the JHACG ($p=0.09$). Conclusions: The mFI-11 and JHACG were found to be equal predictors of outcomes, intraoperative and postoperative complications, and length of stay in patients receiving pituitary adenoma resection. Both indices were superior to ASA status and age at predicting length of stay.

4:33 Application of Machine Learning Methods for Survival Prediction in Esthesioneuroblastoma
Aseem Jain, MSE, Cincinnati, OH; Nimesh Nagururu, BS, Baltimore, MD; Francis Xavier Creighton, MD, Baltimore, MD; Ahmad Sedaghat, MD PhD, Cincinnati, Oh; Katie Phillips, MD, Cincinnati, OH

Educational Objective: At the conclusion of this presentation, the participants should be able to understand how machine learning can applied to predict survival outcomes for patients with esthesioneuroblastoma and how such techniques can better guide clinical decision making.

Objectives: Traditionally, researchers have explored how factors like histologic grade, age, and Kadish stage correlate with survival in patients with esthesioneuroblastoma (ENB), a rare, aggressive neoplasm of the nasal cavity. We aim to integrate such factors into machine learning (ML) models to predict survival for ENB. Study Design: Our study involved a retrospective cohort of 853 patients diagnosed with ENB from the Surveillance, Epidemiology, and End Results (SEER) program database. Methods: We dichotomized the continuous survival data along three boundaries: two, five, and ten years. We incorporated various variables including age, grade, treatment modality, into ML models for survival prediction. Models tested include logistic regression, support vector machines, random forest, and boosted classification models. Overall accuracy and area under the receiver operator curve (AUC) were used to evaluate model performance. Results: The boosted classification models outperformed other models for all three survival boundaries. The boosted model identified patients surviving greater than two years with 79.1% accuracy (AUC = 0.776). Similarly, for 5 year and 10 year survival, the boosted models had an accuracy of 75.4% (AUC = 0.8208) and 84.8% (AUC = 0.913), respectively. The most critical predictor for the two year and five year model was the collaborative stage extension (CSE), which closely relates to the Kadish and T stage. Metastasis to the brain (MB) was the most important predictor for ten year survival. Conclusions: ML models can accurately predict survival for patients with ENB, important factors for these models include CSE and MB. Having such tools can facilitate improved patient counseling and medical decision making.

4:39 Impact of Allergic Rhinitis on Quality of Life in Patients with Chronic Rhinosinusitis
Amani Kais, MD, Morgantown, WV; Chadi A. Makary, MD, Morgantown, WV; Hassan H. Ramadan, MD MSc, Morgantown, WV

Educational Objective: At the conclusion of this presentation, the participants should be able to determine the impact of allergic rhinitis on patients with chronic rhinosinusitis.

Objectives: To evaluate the impact of allergic rhinitis (AR) on baseline quality of life (QoL) in patients with chronic rhinosinusitis (CRS). Study Design: Retrospective cohort review. Methods: Retrospective cohort study of adult patients with CRS presenting to our clinic between August 2020 and February 2023 was performed. AR was diagnosed based on positive skin or blood allergy test. Patients' characteristics, AR status, comorbidities, endoscopy scores, and SNOT-22 scores were collected. Results: A total of 515 CRS patients were included, with 268 (52%) patients with AR. CRS patients with AR were younger ($p=0.004$),

more likely to be female (p=001), and more likely to have asthma (p<0.001). Polyp status and endoscopy scores did not differ between patients with and without AR. Baseline SNOT-22 scores were slightly worse in the AR cohort (43.8 vs 39.2, p=0.013), which was mainly secondary to rhinologic (p=0.001), extrarhinologic (p=0.006), and ear/facial (p=0.006) subdomains. Worse rhinologic scores were associated with presence of AR (coef=1.5, p=0.019) after adjusting for confounding variables. Conclusions: Allergic rhinitis is prevalent in patients with CRS. Its impact on QoL is mainly on the nasal and extrarhinologic symptoms. It may be important to consider testing for it when treating CRS patients.

4:45 **Effect of Hormone Replacement Therapy on Chronic Rhinosinusitis Management**
Kevin W. Herrera, BS, Los Angeles, CA; Miti Parikh, BA, Los Angeles, CA; Kevin Hur, MD, Los Angeles, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to better understand how hormone replacement therapy (HRT) affects chronic rhinosinusitis (CRS).

Objectives: To investigate whether hormone replacement therapy (HRT) for menopause impacts healthcare resource utilization in the management of chronic rhinosinusitis (CRS) in older women. Study Design: Retrospective cohort. Methods: Using the TriNetX global health record database, women 55 years or older with a diagnosis of CRS were included and followed for 3 years. The cohort was stratified into 2 groups: women who received HRT at the beginning of the study were compared to women who did not receive HRT. The groups were matched by age, race, ethnicity, history of asthma, and history of nasal polyps. Outcomes included whether the patient underwent endoscopic sinus surgery (ESS) and frequency of antibiotic use. Measures of association, Kaplan-Meier analysis, and cohort descriptive statistics were calculated. Results: Of the 102,316 women included, patients were mostly white (77.95%) with a mean age of 61.8+/-10.1 years. 26.55% and 3.57% of patients had a history of asthma or nasal polyps respectively. Overall, 1.98% of CRS patients underwent ESS, with the HRT group less likely to undergo ESS [OR 0.32; 95%CI:0.29-0.35] compared to patients who did not receive HRT. When stratified by polyp status, HRT patients with nasal polyps were less likely to undergo ESS than HRT patients without polyps. The HRT group had a higher mean number of antibiotic prescriptions compared to the non-HRT group. Conclusions: HRT is associated with decreased utilization of ESS to treat CRS, with an even decreased likelihood for ESS among CRSwNP patients. However, HRT was associated with higher antibiotic utilization.

4:51 - 4:56 **Q&A**

4:57 **PANEL: Biologics and Beyond**
Moderator
Ashutosh Kacker, MD FACS, New York, NY
Panelists
Jean Kim, MD PhD FACS, Baltimore, MD
Ahmad R. Sedaghat, MD PhD FACS, Cincinnati, OH
Erin D. Wright, MD, Edmonton, AB Canada

Concurrent Session D - Laryngology/ Bronchoesophagology
3:45 - 5:40
Ballroom C

3:45 **PANEL: Office Laryngology Procedures - What Works and How to Do It**
Moderator
Paul C. Bryson, MD FACS, Cleveland, OH
Panelists
James A. Burns, MD FACS, Chicago, IL

Dinesh K. Chhetri, MD, Los Angeles, CA
Lesley F. Childs, MD, Dallas, TX

Moderator: Boris L. Bentsianov, MD, Brooklyn, NY

4:24 Proteomic Profile of Tracheal Tissue during Repair and Regeneration following Airway Reconstruction Infers Sustained Neutrophil Involvement
Diana Hallak, BS, Columbus, OH; Jazmin Calyeca, MS PhD, Columbus, OH; Sayali Dharmadhikari, MS, Columbus, OH; Lumei Liu, PhD, Columbus, OH; Zak Hussein, BS, Columbus, OH; Tendy Chiang, MD, Columbus, OH

Educational Objective: At the conclusion of this presentation, participants should have a better understanding of the proteomic profile during airway repair.

Objectives: Investigate the normal airway repair process after tracheal reconstruction surgery using a mouse microsurgery model. Study Design: Mass spectrometry (MS) proteomic data analysis of mouse tracheal tissue post-surgical reconstruction. Methods: Tracheal tissue from nonsurgical (N=3) and syngeneic tracheal grafts at 3 months post-replacement (N=4) were assessed using MS on 20 µg of protein from each sample. Statistical analysis of the data was done using MASCOT via Proteome Discoverer. Protein expression levels were categorized into upregulated, downregulated, and similarly abundant groups using log2fold change value. Enriched pathways were determined using Ingenuity Pathway Analysis and a GO tool. Results: MS revealed 818 proteins differentially expressed between surgical and control groups at 3 months post-surgery. 70.8% of the identified proteins were similarly abundant. Of the 29.2% dysregulated proteins, 36.4% were upregulated and 63.6% were downregulated. Evaluation of the upregulated proteins showed biologically significant processes associated with neutrophil function (23.9%) and ECM organization (24.3%). Notably, S100-A9, CD177, MMP-9, NE, and MPO ranked among the top 20 most upregulated proteins, all associated with neutrophil function. Additionally, similarly abundant proteins were enriched for such cellular functions as focal adhesion, RNA metabolism, and cytoplasmic translation. Conclusions: We conducted a comprehensive proteomic analysis which provided insight into the biological mechanisms active at 3 months post-tracheal reconstruction surgery. Validation of this proteomic analysis can be used in the future for therapeutic targets of airway surgery.

4:30 Animal Model of Sex Differences in Vocal Fold Scarring
Rodell Santuray, MD, Los Angeles, CA; Trent Sherman, BS, Los Angeles, CA; Haidee Chen, BS, Los Angeles, CA; Patrick Schlegel, PhD, Los Angeles, CA; Zhaoyan Zhang, PhD, Los Angeles, CA; Jennifer Long, MD PhD, Los Angeles, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand new knowledge regarding sex differences in vocal fold wound healing.

Objectives: Sex differences in response to trauma and physiologic stressors have recently been identified in numerous organ systems but have not yet been defined in the larynx. The objective of this study was to develop an endoscopic vocal fold injury model in rabbits, and to compare structural and functional outcomes between female and male subjects qualitatively. Study Design: Basic science. Methods: Two male and two female rabbits underwent unilateral endoscopic cordectomy. Animals were intubated with a size 3-0 neonatal endotracheal tube, and laryngoscopy performed with a 4 mm Hopkins rod telescope. While visualizing, a 2 mm cupped forceps grasped and resected the mid-membranous portion of the right true vocal fold. Larynges were then harvested after eight weeks. Excised larynx phonation with high speed videography and kymography were used to assess vibrational quality. Tissue elastic modulus was measured by indentation. Results: Injured larynges phonated with fundamental frequencies between 254-415 Hz. Phonatory vibration was significantly impaired in injured female larynges compared to the male larynges. Both male larynges achieved glottic closure and demonstrated only focal disruption of mucosal

waves. Female larynges, in contrast, showed little mucosal wave of the injured vocal fold, resulting in incomplete glottal closure. All scarred VF had increased elastic modulus compared to contralateral non-operated VF, in both males and females. Conclusions: We have demonstrated a model for VF scarring in rabbits. Vibrational outcome was worsened in the injured female larynges compared to males. This difference was not predicted by larynx size or tissue stiffness alone. Further basic study of sex differences in VF wound healing is warranted and has potential implications for laryngeal surgical outcomes in humans.

4:36 Correlation of the Swallowing Dysfunction Questionnaire to Modified Barium Swallow Study Findings: A Retrospective Study

Doreen Lam, MD, Philadelphia, PA; Randy Dubin, MA CCC-SLP BCS-S, Philadelphia, PA; Kevin Leahy, MD PhD, Philadelphia, PA; Natasha Mirza, MD, Philadelphia, PA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand whether the patient reported SDQ correlates with MBSS findings of dysphagia.

Objectives: Each year, approximately 1 in 25 adults experience a swallowing problem in the United States. The Swallowing Disturbance Questionnaire (SDQ) is commonly used by speech language pathologists (SLPs) as a screening tool. Although it was validated by comparing to fiberoptic endoscopic evaluation of swallowing (FEES) findings, no studies to date have investigated whether the SDQ correctly predicts modified barium swallow study (MBSS) findings of dysphagia. Study Design: Retrospective cohort study. Methods: Patients referred for MBSS within our health system in 2020 were identified. Inclusion criteria were SDQ completion and MBSS evaluation. Excluded were prospective lung transplant patients. Data abstracted from the electronic medical record included demographics, MBSS, and American Speech-Language-Hearing Association National Outcomes Measurement System (ASHA NOMS) Swallow Functional Communication Measure (FCM) levels. MBSS radiologist and SLP reports were reviewed by an SLP who catalogued abnormal findings. SDQ greater than 12.5 indicates patient reported swallowing disturbance. Statistical analysis was performed in R using the Kruskal-Wallis rank sum test and receiver operating characteristic (ROC) curve analysis. Results: 162 patients met inclusion criteria (82 female, 80 male; median age = 64 years). Our analysis found ASHA NOMS Swallow FCM level correlates with SDQ score, with a significant difference found in median SDQ for “2-CM” compared to “6-CI” and “7-CH” levels (median SDQ = 30 (IQR: 28-32) vs 10 (6-16), 8 (4-12); p=0.001). However, ROC curve analysis found SDQ greater than 12.5 does not predict MBSS findings of dysphagia, penetration, aspiration, or abnormal swallow response. Conclusions: A SDQ score of greater than 12.5 was not found to predict MBSS findings for dysphagia. This study highlights the discrepancy between patient reported complaints and instrumental swallow evaluation results and warrant further investigation.

4:42 Dehydration in Patients Receiving Thickened Liquids for Oropharyngeal Dysphagia as Measured by Acute Kidney Injury

Mark Landry, MD, Shreveport, LA; Karuna Dewan, MD, Shreveport, LA

Educational Objective: At the conclusion of this presentation, the participants should be able to appreciate the potential for increased risk of acute kidney injury when using texture modified diets and compare this to the purported benefits.

Objectives: Texture modified diets (TMD) are a key tool in management of oropharyngeal dysphagia. They have been shown to reduce aspiration on videofluoroscopy and increase pharyngeal movement. Thickened liquids are poorly palatable, and prior evidence has linked them with increased rates of dehydration. Additionally, the link between thickened liquids and aspiration pneumonia prevention hasn’t been proven. Given the link between TMDs and decreased fluid intake, one might assume that these patients experience higher morbidity related to fluid status. The purpose of this study is to determine if patients receiving thickened liquids for oropharyngeal dysphagia see a higher incidence of

acute kidney injury (AKI) compared to the general population. Study Design: Retrospective cohort study. Methods: Patients at a tertiary academic center with dysphagia, dehydration, and objective findings via modified barium swallow studies were included. Patients had TMD recommended by a speech language pathologist. Those with underlying renal impairment were excluded. Rates of AKI were compared to the general population using a one sample T test. Results: There was a statistically significant increase in rates of AKI in patients receiving TMD compared to different general population rates ($p = 0.00568$, $p = 0.04181$). Conclusions: Patients receiving thickened liquids demonstrated a statistically significant higher rate of AKI compared to the general population. This impact on patient health should be considered in selecting an appropriate diet. Kidney function should be monitored when recommending a TMD. Given no proven link between thickened liquids and aspiration pneumonia prevention plus morbidity of TMDs, treatment decisions should rely on the care team's clinical judgement.

4:48 Socioeconomic Determinants of Health and Reflux Management: Insights from a Tertiary Medical Center

Neil Osafo, BS, Wauwatosa, WI; Jonathan M. Bock, MD FACS, Wauwatosa, WI; Joel H. Blumin, MD FACS, Wauwatosa, WI; Jazzmyne A. Adams, MPH, Wauwatosa, WI; David R. Friedland, MD MPH, Wauwatosa, WI; Jake Luo, PhD, Milwaukee, WI

Educational Objective: At the conclusion of this presentation, the participants should be able to assess the impact of social determinants of health (SDOH) on the general care patterns related to gastroesophageal and laryngopahryngeal reflux disease (GERD).

Objectives: 1) Determine impact of SDOH on utilization rates for medication, reflux testing and surgical intervention for patients diagnosed with reflux; and 2) describe overall care patterns for GERD care at a tertiary academic facility. Study Design: Retrospective chart review. Methods: Patient demographics (age, gender, race, ethnicity, and insurance status) were extracted for adults diagnosed with reflux between 2009 and 2019. Odds ratios for the associations between sociodemographic factors and reflux treatment pathways were determined by chi-square analyses. Results: A total of 143,786 patients were evaluated during the study period with a diagnosis code of reflux. A total of 40,754 patients were referred for reflux testing including Bravo, dual pH impedance, manometry, EGD and esophagram. When considering race and gender, white (OR 2.43, 95% CI 1.56-3.70) and female (OR 1.37, 95% CI 1.05-1.79) patients were more likely to undergo fundoplication compared to black (OR 0.42, 95% CI 0.25-0.70) and male (OR 0.72, 95% CI 0.55-0.95) patients. Patients with private insurance (OR 1.58, 95% CI 1.23-2.04) were more likely to undergo fundoplication than public insurance (OR 0.65, 95% CI 0.50-0.84). Male patients were less likely to undergo fundoplication (OR 0.69, 95% CI 0.49-0.98) among patients evaluated for reflux with EGD. Conclusions: SDOH factors impact overall reflux management and care patterns at our tertiary care facility.

4:54 - 4:59 Q&A

Moderator: Stacey L. Halum, MD, Carmel, IN

5:00 TrachGPT: Appraisal of Tracheostomy Care Recommendations from an Artificial Intelligent Chatbot

Oluwatobiloba Ayo-Ajibola, BS, Los Angeles, CA; Neelaysh Vukkadala, MD, Los Angeles, CA; Karla O'Dell, MD, Los Angeles, CA; Mark S. Swanson, MD, Los Angeles, CA; Michael Johns, MD, Los Angeles, CA; Elizabeth A. Shuman, MD, Los Angeles, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to 1) characterize the content appropriateness, accuracy, and overall quality of tracheostomy care recommendations from ChatGPT; and 2) describe the utility and limitations of AI generated responses to patient queries.

Objectives: Safe home tracheostomy care requires engagement and troubleshooting by patients, who may turn to online, AI generated information sources. This study assessed the quality of ChatGPT responses to such queries. Study Design: Cross-sectional study. Methods: ChatGPT was prompted with 10 hypothetical tracheostomy care questions in three domains (complication management, self-care advice, and lifestyle adjustment). Responses were graded by 4 otolaryngologists for appropriateness, accuracy, and overall score. The readability of responses was evaluated using the Flesch Reading Ease (FRE) and Flesch-Kincaid Reading Grade Level (FKRGL). Descriptive statistics and ANOVA testing were performed with statistical significance set to $p < 0.05$. Results: On a scale of 1-5, with 1 representing the greatest appropriateness or overall score and a 4 point scale with 4 representing the highest accuracy, the responses exhibited moderate appropriateness (mean=1.90, SD=0.90), moderately high accuracy (mean=3.55, SD=0.50), and moderate overall scores (mean=1.98, SD=0.86). Scoring between response categories revealed no significant scoring differences. Suboptimal responses lacked nuance and contained incorrect information and recommendations. Readability indicated college and advanced levels for FRE (mean=39.5, SD=7.17) and FKRGL (mean=13.1, SD=1.47), higher than the sixth grade level recommended for patient targeted resources by the NIH. Conclusions: While ChatGPT generated tracheostomy care responses may exhibit acceptable appropriateness, incomplete or misleading information may have dire clinical consequences. Further, inappropriately high reading levels may limit patient comprehension and accessibility. At this point in its technological infancy, AI generated information should not be solely relied upon as a direct patient care resource.

5:06 Durable Recording of Superior Laryngeal Nerve Sensory Nerve Action Potentials in a Rodent Laryngeal Model

Zaroug Jaleel, MD, Seattle, WA; Mohammed Aboueisha, MD, Seattle, WA; Kelson Adcock, BS, Seattle, WA; David Perkel, PhD, Seattle, WA; Neel K. Bhatt, MD, Seattle, WA

Educational Objective: At the conclusion of this presentation, the participants should be able to describe a novel method for determining sensory nerve function in the superior laryngeal nerve in a rodent model.

Objectives: Superior laryngeal nerve (SLN) function is critical to laryngeal sensation. Sensory dysfunction mediated through the internal branch (iSLN) is theorized to be involved in several disease states including age and neurodegenerative related dysphagia and aspiration. However, objective analysis of iSLN sensory function is limited by difficulties in measurement of a sensory nerve action potential (SNAP) due to the anatomic location and small diameter. This study provides durable data regarding SLN sensory nerve function in a rodent model. Study Design: Animal study. Methods: Rat hemilaryngeal preparations were obtained from a cohort of four month old male Sprague Dawley rats. SNAP of the SLN were obtained by usage of a 160µm microcuff recording electrode placed distal on the iSLN with a 90mm bipolar stimulating electrode placed on the main trunk of the SLN. SNAPs were averaged over 10 stimulations at 1 Hz frequency. Laryngeal adductor reflex (LAR) threshold measurements were obtained with stimulation of the iSLN and laryngoscopic visualization. Sections of the iSLN and larynx were obtained for histologic analysis. Results: Durable SLN evoked sensory nerve response potentials were successfully obtained in 16 hemilaryngeal preparations with corresponding LAR threshold measurements. Mean (+/- 95%CI) SNAP latency, total duration, amplitude, negative durations, intensity were 2.14ms (+/- 0.14), 2.39ms (+/- 0.23), 855.3µ V (+/- 175.3) and 0.71mA (+/- 0.113) respectively. iSLN stimulation resulted in a LAR with a mean intensity of 0.98mA (+/- 0.35). Conclusions: This study demonstrates the feasibility of a rodent laryngeal model for durable and high fidelity recordings of SLN SNAP measurements. This work may lead to a tractable animal model for objective measurements of SLN neurophysiology with various disease states.

5:12 Risk of HPV+ Oropharyngeal Cancer for Patients with Recurrent Respiratory Papillomatosis

Katherine Xu, BS, Philadelphia, PA; Elizabeth Sell, BS, Philadelphia, PA; Krithika Kuppusamy, BS, Philadelphia, PA; Karthik Rajasekaran, MD FACS, Philadelphia, PA; Kevin Leahy, MD PhD, Philadelphia, PA; Natasha Mirza, MD, Philadelphia, PA

Educational Objective: The objective of the study is to assess risk of HPV mediated oropharyngeal cancer in patients with recurrent respiratory papillomatosis.

Objectives: Human papillomaviruses (HPV) are associated with both recurrent respiratory papillomatosis (RRP) and oropharyngeal cancer (OPC). The objective of the study was to investigate whether patients with RRP are at an increased risk for OPC. Study Design: We performed a retrospective review of patients with a pathologic diagnosis of RRP compared to reference cohort of patients with HPV+ OPC at our institution from 2013 to 2023. Methods: Patients with RRP and patients with OPC who underwent transoral robotic surgery (TORS) were identified via chart review. Demographic information, surgical airway examination, pathology and followup information were collected. Results: There were 162 RRP patients (2013-2023) and 179 HPV+ OPC patients (2018-2022). The cohorts were similar in age (56.2 vs 63.8, respectively). There were more male patients (72.2% vs 84.9%, $p < 0.01$), more patients with a smoking history (47.3% vs 38.8%, $p < 0.01$), and more patients identifying as white (73.5 vs 89.9%, $p < 0.01$) in the TORS cohort. Of the 162 RRP patients, three (2%) had OPC. Two had HPV+ tonsil cancer ipsilateral to their vocal cord papillomas and underwent TORS excision. The third patient also had tonsil cancer, but further records could not be retrieved. We identified three (2%) patients with biopsy proven RRP in the oropharynx without OPC and three (2%) RRP patients who later developed laryngeal squamous cell carcinoma. Conclusions: We identified several patients with RRP who also developed HPV OPC. This study provides data to better counsel patients with this rare disease on their risk of developing HPV related OPC in the future.

5:18 The Impact of Inter-Individual Variability in Airway Anatomy on Targeting Oral Nebulized Drugs to the Larynx

Joshua Wright, MBBS, Durham, NC; Michael Pitman, MD, New York, NY; Seth Cohen, MD, Durham, NC; Dennis Frank-Ito, PhD, Durham, NC

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the challenges of identifying best drug delivery parameters for targeting topical medication to the larynx due to variability in the airway anatomy.

Objectives: Patients with normal anatomy can often experience laryngeal mucosal disorders. This study investigates oral nebulized drug delivery characteristics, specifically aerosol particle size and velocity of aerosols that maximize drug particles depositing in the larynx. Study Design: Computational study using parametric analysis to investigate drugs delivery in “normal” laryngeal anatomy. Methods: Patient specific laryngeal airway models were constructed from computed tomography images of 4 subjects -- 1 healthy normal larynx (N) and 3 quasi normal larynxes (QN1- QN3) from virtual correction of patients’ stenotic airways to “normal”. Computational fluid and particle dynamics modelling was used to simulate resting inhalation at 15 L/min and oral nebulized drug delivery to the larynx under varying aerosol velocities (0 - 10 m/s) and particle sizes (1 - 30 microns) in each model. Results: Aerosol particle sizes with top three highest laryngeal deposition were: N=21-23 microns (deposition range=29-31%); QN1=7-9 microns (deposition range=32-34%); QN2=10-12 microns (deposition range=13-17%); and QN3=9-10 microns and 14-15 microns (deposition range=3-4%). Nebulized aerosol velocities with highest laryngeal deposition were consistently 0m/s (passive nebulization) and 1m/s across every laryngeal airway model. Conclusions: Oral nebulized aerosol particle sizes with highest laryngeal depositions varied by laryngeal airway model. Similarly, maximum deposition in the larynx varied widely from 4% to 34% across models. Nonetheless, maximum deposition was consistently achieved for every laryngeal airway model at lower aerosol particle velocities. In summary, preliminary findings suggest that anatomical variability may be a significant determinant of drug deposition in the larynx when using oral nebulization.

5:24 Endoscopic Distance and Its Impact on Vocal Fold Bowing in Patients with Age Related Vocal Atrophy

Mohamed A. Aboueisha, MD, Seattle, WA; Zaroug Bhatt, MD, Seattle, WA; Kelson Adcock, BS,

Seattle, WA; Hamzah Al-awadi, BS, Seattle, WA; Aria Jafari, MD, Seattle, WA; Neel K. Bhatt, MD, Seattle, WA

Educational Objective: At the conclusion of this presentation, the participants should be able to determine the effect of flexible laryngoscope distance on measurement accuracy of bowing index.

Objectives: The distance between flexible laryngoscope tip and target area affects measurement accuracy. Incorrect distance can cause image distortion and hinder depth perception, impacting measurements precision. No standardized endoscopic distance to assess vocal fold (VF) bowing exists, a common finding in age related vocal atrophy (ARVA). This study investigates whether the distance from the endoscope to VF affects the degree of VF bowing. Study Design: We performed a retrospective review of still images of VF in abducted position from ARVA patient's laryngostroboscopy. Methods: Images were classified into 2 groups: near condition (VF visualized without tongue base/epiglottis) and far condition (VF visualized with tongue base/epiglottis). Bowing index (BI) was calculated using a mobile application and paired Wilcoxon signed rank test used for analysis. Results: The study included 23 patients, mean age was 77 +/- 6.54 years, mean VHI-10 was 15.30 +/- 6.90 and CAPE-V was 25.09 +/- 12.91. BI measured at the far and near points with mean of 5.75 +/- 2.33, and 7.63 +/- 3.33, respectively, with mean difference (MD) (1.87, 95% CI: 0.83-2.91, p=0.002). When stratifying based on median BI measurement into 2 groups. Group below the median showed no significant difference between far (4.67 +/- 1.48) and near (5 +/- 1.05) MD (0.33, 95% CI: -0.69-1.36, p=0.43). However, group with BI above the median showed significant difference between far (6.94 +/- 2.56) and near (10.49 +/- 2.42) with MD (3.55, 95% CI: 0.59-2.22, p=0.003). Conclusions: The endoscopic distance affects the BI which was significantly higher in near condition compared to far condition. The difference in BI between near and far conditions was more pronounced when VF bowing increased. Physicians should be mindful of how endoscopic distance can influence quantitative measures and perception of VF bowing.

5:30 Streamlining Quantification of Age Related Vocal Atrophy

Hamzah A. Al-awadi, MAMS, Seattle, WA; Lisa A. Zughni, MS CCC-SLP, Seattle, WA (Presenter); Abbey Carlson, CCC-SLP, Seattle, WA; Mohamed A. Aboueisha, MD, Seattle, WA; Lisa Zughni, CCC-SLP, Seattle, WA; Albert L. Merati, MD, Seattle, WA; Neel K. Bhatt, MD, Seattle, WA

Educational Objective: At the conclusion of this presentation, the participants should be able to identify the point of care methods utilized at our facility and observe newly developed diagnostic tools for patients with age related vocal cord atrophy.

Objectives: Age related vocal atrophy (ARVA) has significant impact on voice, communication, and quality of life. Vocal folds appear bowed with incomplete glottal closure during phonation. Efficient quantification of vocal fold atrophy and collection of high quality voice recordings in clinic remains challenging. The primary focus of this study is to describe a novel method for quantifying vocal atrophy and obtaining high quality voice recordings in clinic among patients with ARVA. Study Design: Retrospective cohort study. Methods: ARVA patients were retrospectively reviewed. Data including demographics, Voice Handicap Index-10, and stroboscopy were reviewed. High quality voice recordings were collected during the clinic visit. A new application was used to quantify vocal fold atrophy, including the bowing index (BI). Acoustic data were analyzed following the clinic visit. Results: The study included ten patients with ARVA, with a mean age of 72.3 +/- 6.7 years and mean BMI of 24.9 +/- 2.4 kg/m2. All relevant study data were successfully collected in all patients. Calculation of BI was feasible with a mean of 9.9 +/- 1.8. On average, the audio recording took 2.6 +/- 0.4 minutes, and analysis required 10.4 +/- 0.1 minutes. Mean acoustic data were as follows: continuous speech F0 was 171.6 +/- 31.1 Hz, continuous speech SPL 59.1 +/- 8.3 dB, and cepstral peak prominence 7.3 +/- 1.4 dB. Conclusions: We present a feasible and streamlined method for obtaining high quality voice recordings and quantification of vocal fold atrophy in the clinic among patients with ARVA. This data may help clinicians in diagnosing vocal atrophy objectively and tracking treatment progress. Moreover, this method may improve research data acquisition without burdening

patients with additional time consuming tasks.

5:36 - 5:40 Q&A

5:40 ADJOURN

5:45 - 7:00 Vice President's Welcome Reception - Hilton Event Lawn

7:00 - 10:00 VP Dinner - Invited Guests Only - off site location

FRIDAY, JANUARY 26, 2024

6:00 - 7:00 **Satellite Symposium**
Dual Inhibition: Targeting Systemic and Localized Type 2 Inflammation in Chronic Rhinosinusitis with Nasal Polyps (CRSwNP) (open to all attendees) - Ballroom C - Sponsored by Sanofi Regeneron

6:30 - 7:30 **BUSINESS MEETINGS (Triological Fellows Only)**
Southern Section - Room 2DE
Western Section - Room 2BC

7:00 - 7:30 **BREAKFAST FOR ATTENDEES - Grand Ballroom Foyer**

General Session 7:30 - 9:05 - Grand Ballroom

7:30 **TRIO Best Practices Panel**
Moderator
Karen M. Kost, MD, Montreal, QC Canada
Panelists
What Is the Optimal Imaging Modality for Parathyroid Adenoma?
Samir S. Khariwala, MD, Minneapolis, MN
Functional Rhinoplasty - What Really Works?
Stephen S. Park, MD, Charlottesville, VA
Systemic Use of Bevacizumab for Recurrent Respiratory Papillomatosis: Who, What, Where, When, and Why?
Craig S. Derkay, MD, Norfolk, VA
Is Betahistine Effective in the Treatment of Meniere's Disease?
Gauri S. Mankekar, MD PhD DNB, Shreveport, LA
Is "See One, Do One, Teach One" The Best Way to Learn Procedures?
Mona M. Abaza, MD, Aurora, CO

8:20 **PANEL: Working Smarter, Not Harder**
Moderator
Cherie-Ann Nathan, MD FACS, Shreveport, LA
Panelists
Carol R. Bradford, MD MS FACS, Columbus, OH
Willard C. Harrill, MD FACS, Hickory, NC
Theodoros N. Teknos, MD FACS, Cleveland, OH
D. Bradley Welling, MD PhD FACS, Boston, MA

8:50 **We Need You! The How and Why of Doing Great Peer Reviews**
Samuel H. Selesnick, MD FACS, New York, NY, Laryngoscope
Romaine F. Johnson, MD MPH, Dallas, TX, Laryngoscope Investigative Otolaryngology

9:05 - 9:20 **BREAK WITH EXHIBITORS/VIEW POSTERS - Grand Ballroom Foyer & Ballroom AB**

FRIDAY MORNING CONCURRENT SESSIONS

Concurrent Session E - Facial Plastic & Reconstructive Surgery

9:20 - 11:10
Grand Ballroom

Moderator: Maya G. Sardesai, MD MEd, Seattle, WA

9:20 Masseteric Atrophy following Masseteric Nerve Transfer: A Source of Further Asymmetry in the Paralyzed Face?
Derek J. Vos, BS, Cleveland, OH; Patrick Byrne, MD, Cleveland, OH; Dane Genther, MD, Cleveland, OH; Michael Fritz, MD, Cleveland, OH; Peter Ciolek, MD, Cleveland, OH

Educational Objective: At the conclusion of this presentation, the participants should be able to describe the impact of masseteric nerve transfer on the muscle volume of the masseter.

Objectives: To characterize the effect of facial reanimation using masseteric nerve transfer on the masseter muscle itself, examining whether there is any demonstrable atrophy postoperatively. Study Design: Retrospective chart review. Methods: Electronic medical records of adult patients who underwent facial reanimation using masseteric nerve transfer at our institution over a 15 year period were reviewed to identify patients with available pre and postoperative cross-sectional imaging data to perform volume assessment of masseter in the pre and postoperative periods. Results: We report 19 patients who underwent masseteric nerve transfer and had available imaging to perform pre and postoperative masseter volume analysis, with a median age of 58 (32-88) at time of surgery. The most common indication for facial reanimation was radical parotidectomy with facial nerve sacrifice (n = 12, 63.2%), with intracranial neoplasm accounting for 6 cases (31.6%). Mean time between masseteric transfer and postoperative determination of masseter volume was 24.0 months (5.8-62.5). When examining the volume of the masseter following denervation for facial reanimation, we found an average reduction in volume of 10.87 cm3 or a 61.3% reduction when compared to preoperative volumes. Furthermore, a paired t-test comparing masseter volumes in the pre and postoperative period demonstrated a statistically significant reduction postoperatively ($p < 0.001$). Conclusions: Facial reanimation utilizing masseteric nerve transfer appears to result in atrophy of the denervated masseter when compared to the contralateral muscle. This volume deficit may lead to further facial asymmetry for patients undergoing comprehensive reanimation surgery.

9:26 The Impact of Frailty on Facial Nerve Recovery following Bell's Palsy
Sujay Ratna, BS, New York, NY; Vivek Annadata, BS, New York, NY; David W. Chou, MD, New York, NY; Joshua D. Rosenberg, MD, New York, NY; Mingyang L. Gray, MD, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the importance of frailty on Bell's palsy recovery to help better identify at risk patients and enable targeted interventions to optimize facial nerve recovery outcomes.

Objectives: Patients with Bell's palsy, the sudden onset of facial paralysis, have variable recovery. Frailty has been recognized as an important factor in predicting recovery. This study investigated the relationship between frailty and facial nerve recovery in Bell's palsy patients. Study Design: A retrospective review was conducted on 235 Bell's palsy patients at a single institution's department of otolaryngology from 2014 to 2022. Methods: A clinically relevant facial nerve recovery was defined as House-Brackmann (HB) score decrease greater than 1 between the initial and most recent visit. Patients without followup visits or initial HB scores less than 2 were excluded. Frailty was measured by modified frailty index-5 (mFI-5) at the time of Bell's palsy diagnosis. Elderly patients were those over 65 years at presentation (n=30). Frail patients had mFI-5 greater than 1 (n=8). Chi-squared analyses, Fisher's exact tests, and logistic regression models were conducted in SPSS. Results: The analytic sample included 101 patients (median age=56.2 years, IQR=24.1) presenting with an initial HB score greater than 2. 36% of patients' HB scores decreased by >/= 2 within the followup period. Frailty (unadjusted odds ratio (OR)=6.3, 95% CI=[1.2, 33.1], p=.023) was

associated with facial nerve recovery while age was not (unadjusted OR=1.07, 95% CI=[.44, 2.59], p=.889). The mFI-5 adjusted OR was 8.43 (95% CI=[1.38, 51.4], p=.021), when adjusting for age, gender, treatment modality, access to care, and followup duration in a logistic regression. Conclusions: Frailty correlated with enhanced facial nerve recovery after Bell's palsy in this cohort; age was not significantly associated. Further investigation into factors associated with frailty, including increased surveillance and treatment frequency, is warranted.

9:32 Artificial Intelligence Driven Analysis of Perceived Emotions after Depressor Anguli Oris Myectomy Smile Reanimation Surgery

Samuel P. O'Rourke, BS, Chapel Hill, NC; Matthew Q. Miller, MD, Chapel Hill, NC

Educational Objective: At the conclusion of this presentation, the participants should be able to 1) determine good candidates for depressor anguli oris myectomy; 2) describe how to perform depressor anguli oris myectomy; and 3) counsel patients on expected outcomes after depressor anguli oris myectomy.

Objectives: Depressor anguli oris (DAO) excision can improve clinician graded, objective, and patient reported smile outcomes in patients with nonflaccid facial paralysis (NFFP). However, no prior research has studied changes in perceived emotions with smiling after DAO excision. This study quantifies changes in perceived emotions with smiling after DAO excision in the largest case series presented to date. Study Design: This is a prospective cohort study. Methods: Prospectively collected data from NFFP patients undergoing DAO excision was reviewed. Patient reported, clinician graded, and objective smile metrics were compared before and after surgery. Smile videos were uploaded into commercially available artificial intelligence driven facial expression analysis software to quantify perceived emotions with smiling. Results: Sixty-one patients underwent DAO excision between August 2021 and May 2022. Patient smiles conveyed significantly more happiness and significantly less anger, sadness, and disgust after surgery. DAO excision produced significant improvements in oral commissure excursion, smile angle, and dental display smile symmetry. Patients reported improved smile symmetry and social function after surgery. Fifty-four patients (88.5%) reported they would choose to undergo DAO excision again after they had recovered from surgery. Conclusions: This study confirms the efficacy of DAO excision for improving smile outcomes and symmetry in NFFP patients. This study is the first to demonstrate DAO excision increases perceived happiness with smile, helping NFFP patients communicate better using facial expressions.

9:38 Evaluating Morphologic and Functional Differences between Autograft and Hydrogel Tube Repair in a Facial Nerve Injury Animal Model

Christine Mei, MD, Miami, FL; Barbara Marin, BS, Miami, FL; Liliana Ein, MD, Miami, FL; Courtney Dumont, PhD, Miami, FL; Shekhar Gadkaree, MD, Miami, FL

Educational Objective: At the conclusion of this presentation, the participants should be able to discuss aligned hydrogel tubules as a means of aiding facial nerve regeneration.

Objectives: Idiopathic facial paralysis affects approximately 23 per 100,000 people per year. Spinal cord injury research has identified many neurotherapeutic options that can be applied to facial nerve injury, including aligned hydrogel tubules. This study aims to show that implantation of aligned hydrogel tubes in injured facial nerve repair will lead to increased directed axonal regeneration as evidenced by morphologic and functional measures when compared to no repair, and similar regeneration compared to autograft repair. Study Design: 6 rats will be used to perform facial nerve injury and repair in this translational study. Methods: Immunohistochemical images will be quantified with imaging software for intensity of SC, neuron, and nuclei marker staining. Behavioral testing scores will be compiled. Comparison of groups will be performed with ANOVA testing with post-hoc Tukey procedure. Results: Immunohistochemical images will be quantified with imaging software for intensity of SC, neuron, and nuclei marker staining. Behavioral testing scores will be compiled. Statistical analysis will be performed with ANOVA testing with post-hoc

Tukey procedure. Conclusions: Hydrogel tubules represent a viable option for improving facial nerve regeneration, with facial nerve neurotherapeutics representing an emerging field that can complement reanimation procedures.

9:44 Cross-Facial Nerve Grafting for Facial Paralysis: Where Are We and What Do We Know?
Ethan Kallenberger, BS, Kansas City, KS; Kyle William Singerman, MD, Kansas City, KS; John Paul Flynn, MD, Kansas City, KS

Educational Objective: At the conclusion of this presentation, the participants should be able to describe the historical context in which cross-facial nerve grafting has been used for facial paralysis, and where we stand with relation to this procedure today.

Objectives: This study systematically reviewed the context in which cross-facial nerve grafting (CFNG) has been utilized as a primary modality for facial paralysis (FP). Study Design: Two independent literature reviews were performed to elicit papers investigating CFNG for FP. The reviews were performed following PRISMA guidelines. Methods: Only studies with multiple patients that reported outcomes of CFNG performed in isolation were included. The following parameters were garnered: age, sex, FP etiology, duration until surgery, reinnervation target, goal of intervention, type of outcome measure, and outcome. Results: A total of 22 studies met inclusion detailing 326 patients undergoing CFNG for both partial and complete FP were included. Patients had a median age of 34 years (range 6 months - 67). Skull base tumor was the most common etiology (n=53). CFNG occurred at a range of < 1 week to 24 years from FP, was performed in both one (n=122) and two (n=204) stages, and typically involved a combination of zygomatic and/or buccal branches coapted to one (n=234) or multiple (n=92) sural nerve graft(s). Diverse outcomes were reported which included clinician subjective (n=167), patient subjective (n=37), clinician objective (n=381) and EMG (n=99) measures investigating both smile/blink (n=146), smile only (n=103) blink only (n=66), and synkinesis (n=22). Conclusions: Literature regarding CFNG performed in isolation is a heterogeneous set of case series. CFNG has served a wide ranging and evolving purpose in the armamentarium of facial reanimation modalities over the years, with mixed results, and an apparent tendency towards restoring natural blink and improving synkinesis in recent decades.

9:50 Augmented Reality Rehabilitation in Patients with Bell's Palsy: A Systematic Review and Future Directions
Shaun Edalati, BS, New York, NY; Barak Spector, BS, New York, NY; Satish Govindaraj, MD, New York, NY; Alfred M. Iloreta, MD, New York, NY; Mingyang L. Gray, MD, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to grasp the significance of Bell's palsy, recognize the promising potential of augmented reality (AR) exercises in facial rehabilitation, understand the systematic review process employed, acknowledge the efficacy of diverse AR programs, and envision the transformative impact of advanced medical technologies on clinical care.

Objectives: Bell's palsy is a complex diagnosis with functional and psychosocial implications due to facial paralysis. Augmented reality (AR) exercises offer a novel approach for facial rehabilitation. This review explores the current literature on AR exercise effectiveness in treating Bell's palsy patients. Study Design: Systematic review. Methods: A systematic search was conducted in PubMed, Scopus, Web of Science, Science Direct, and Wiley. Rayyan (QCRI) was used to select the studies that met our objective. Results: The review highlights various AR based exercises and virtual therapy programs designed to improve facial muscle strength, symmetry, and emotional wellbeing in patients with facial paralysis. These programs and exercises included FaraPy, FACE2FACE App, eFace App, Canfeld, RealSense, and GY MEDIC. All these programs were demonstrated to be effective as a rehabilitation. Conclusions: In this systematic review, we conducted a thorough analysis of various augmented reality (AR) software solutions, including mobile apps and AI systems, for Bell's palsy (BP) management. The rapid technological advancements have revolutionized surgical approaches, encompassing preoperative planning, training, result assessment, and

patient interaction. The evolving landscape of virtual, augmented, and mixed reality, coupled with 3D and 4D imaging, is progressively integrating into clinical contexts. However, the practical integration of these innovations into routine healthcare requires further research and empirical validation to ensure their efficacy and utility.

9:56 - 10:00 Q&A

Moderator: Amar C. Suryadevara, MD, Syracuse, NY

10:00 Assessing the Role of an Open Source Chatbot as a Source of Perioperative Rhinoplasty Patient Queries

Nitika Vashisth Tripathi, MD, Washington, DC; Christopher Ply, BS, Washington, DC; Isabel Snee, BS, Washington, DC; Priyanka S. Tripuraneni, MD, Washington, DC; Amir A. Hakimi, MD, Washington, DC; Michael J. Reilly, MD, Washington, DC

Educational Objective: At the conclusion of this presentation, participants should understand the potential role of open source chatbots to assist in answering rhinoplasty patients' frequently asked perioperative questions.

Objectives: To review the understandability and actionability of an open source AI chatbot in answering frequently asked perioperative rhinoplasty questions. Study Design: Retrospective analysis. Methods: The ten most common pre and postoperative patient queries regarding rhinoplasty were selected based on a literature review. Each of the 20 perioperative questions were inputted into an open source chatbot (Chat-GPT). The answers generated by the chatbot were then analyzed by two independent reviewers to determine understandability and actionability using the Patient Education Materials Assessment Tool printable (PEMAT-P) score. Results: 100% of the pre and postoperative questions yielded an accurate response via ChatGPT. The average pre and postoperative responses were rated as highly understandable (PEMAT score greater than 70%) with understandability scores of 86.2% (range: 72.7%-91.6%) and 88.3% (range: 75.0%-91.6%), respectively. The average pre and postoperative actionability scores were rated as poorly actionable (PEMAT less than 70%) with actionability scores of 42.0% (range: 20.0%-60.0%) and 60.0% (range: 60.0%-60.0%), respectively. Conclusions: ChatGPT can reliably respond to the most common perioperative rhinoplasty questions and may be helpful for patients of varying health literacy levels. While the majority of responses to perioperative rhinoplasty patient questions were found to have high understandability, they were noted to have limited actionability. The utilization of chatbots in clinical practice may serve as an adjunct for patient education.

10:06 Comparing Anatomical Sites of Greatest Nasal Obstruction between Patients with Cleft Lip Nasal Deformity and Non-Cleft Patients with Nasal Airway Obstruction

Sarah Megan Russel, MD MPH, Chapel Hill, NC; Reanna Shah, BS, New York, NY; Jeffrey Robert Marcus, MD, Durham, NC; Dennis Onyeka Frank-Ito, PhD, Durham, NC

Educational Objective: At the conclusion of this presentation, the participants should be able to describe differences in anatomical contributors to nasal airway obstruction (NAO) between patients with cleft lip nasal deformity and non-cleft patients with NAO.

Objectives: Optimizing surgical outcomes requires understanding the anatomical subsites that are contributing the greatest nasal airway obstruction. This study aims to examine differences in anatomical sites of greatest obstruction (SGO) between patients with cleft induced nasal airway obstruction (NAO) and non-cleft associated NAO. Study Design: Prospective cohort study. Methods: CT images from 10 non-cleft and 9 cleft NAO subjects were used to create patient specific, three dimensional reconstructions of their nasal airways. Airflow simulations were performed under laminar conditions at a respiratory rate of 15L/min. Nasal passages were divided into 15 grid-like segments from the nasal vestibule to choana,

and these were further subdivided into superior, middle, and inferior segments. Airflow resistance was calculated at each subsite. A subsite was deemed SGO if the resistance there exceeded 3 times the resistance of the overall nasal passage. Paired t-tests were used to compare cleft and non-cleft cohorts. Results: The more obstructed sides had comparable SGOs in both cohorts, but the less obstructed side had more SGOs in cleft patients compared to non-cleft patients (cleft mean: 20.7, non-cleft mean: 14.1, p=0.011). The cleft cohort had more inferior airway SGOs on both the more obstructed (cleft mean: 8.8, non-cleft mean: 2.4, p=0.003) and less obstructed (cleft mean: 9.6, non-cleft mean: 3.6, p=0.003) sides compared to non-cleft patients. The middle and superior aspects of nasal airways were comparable in degree of obstruction between cohorts. Conclusions: Cleft patients experience more inferior nasal airway obstruction than non-cleft patients, and the less obstructed side in cleft patients is more obstructed compared to the less obstructed side in non-cleft patients with NAO.

10:12 Evaluating Followup Patterns and Nasal Obstruction in the Pediatric Cleft Population

Nicole G. DeSisto, BA, Nashville, TN; Mae Wimbiscus, BA, Nashville, TN; Alexandra S. Ortiz, MD, Nashville, TN; Shiayin F. Yang, MD, Nashville, TN; Priyesh N. Patel, MD, Nashville, TN; Scott J. Stephan, MD, Nashville, TN

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the frequency of nasal obstruction and cosmetic concerns in the pediatric cleft lip/palate population.

Objectives: Cleft lip with or without cleft palate (CLP) is a common craniofacial anomaly. To our knowledge, no study has used validated patient reported outcome measures to assess the degree of nasal obstruction and cosmetic satisfaction in CLP patients that have not undergone secondary cleft rhinoplasty. We aim to assess the incidence of nasal obstruction, aesthetic concerns, and the desire for future secondary cleft rhinoplasty in a large pediatric CLP population. Study Design: Cross sectional, survey based. Methods: Caregivers of children who underwent cleft lip/palate repair were contacted by phone for enrollment in the study. Patients under the age of 12, those with documented intellectual disability, and those receiving CLP care at an outside institution were excluded. A survey consisting of the Nasal Obstruction and Septoplasty Effectiveness scale (NOSE) and the CLEFT-Q were then administered to all pediatric patients and primary caregivers. The NOSE and CLEFT-Q have been validated in the literature for the analysis of patient reported nasal obstruction, cleft cosmetic outcomes, and quality of life in the pediatric population. Survey questions analyzing future interest in secondary cleft rhinoplasty were also administered. Results: 82 patient/primary caregiver pairs met initial inclusion criteria and were contacted via phone with 31 agreeing to participate. Over 50% of pediatric patients stated that nasal congestion or stuffiness was a moderate problem with 100% indicating at least mild nasal blockage or obstruction. Over 20% of patients were significantly bothered by nasal appearance with 47% of patient/primary caregiver pairs being interested in future secondary cleft rhinoplasty due to both cosmetic appearance and nasal breathing. Conclusions: A significant number of CLP patients experience nasal obstruction and aesthetic concerns following surgical intervention. Patient reported outcome measures should be routinely administered to identify patients that may benefit from secondary cleft rhinoplasty or other revision procedures.

10:18 Septal Chondrocyte Viability: Impact of Tissue Handling and Size Modification

Khodayar Goshtasbi, MD, Orange, CA; Theodore Nguyen, BS, Orange, CA; Ellen Hong, BS, Orange, CA; Katelyn K. Dilley, BS, Orange, CA; Naya Sterritt, Orange, CA; Brian J.F. Wong, MD PhD, Orange, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the effect of septal cartilage size modification and tissue handling on chondrocyte viability. The participants should also have a better understanding of the limitations of dicing septal cartilage, and at what point would chondrocyte death become significant.

Objectives: The modification of autologous cartilage grafts in rhinoplasty surgeries risk chondrocyte death. This study compares chondrocyte viability between diced, scaled, and pate samples, and computes percent viability as a function of sequential dicing. Study Design: Viability assay and computational analysis on various samples of human septal cartilage. Methods: Nasal septal cartilage from 11 individuals was prepared as follows: diced (0.5 mm cubic), scaled (shaved 1 mm translucent sheath), pate (0.02 g of scraped cartilage surface), positive control (2x2 mm diced) and negative control (2x2 mm diced soaked in 70%-EtOH for maximal cell death). Viability analysis was performed using live/dead assay and confocal microscopy. Surgical simulation of cartilage dicing in 0.05 mm increments was performed using MATLAB assuming 250 chondrocytes/mm3 with each average chondrocyte size of 65 µm2. Results: Chondrocyte viability was similar between diced cartilage and scaled cartilage samples, both of which also had similar viability compared to positive controls (all p-values greater than 0.05). Conversely, pate samples had significantly less viability compared to positive controls, diced samples, and scaled samples (all $p<0.05$). Pate samples had similar chondrocyte viability compared to negative controls ($p=0.36$). On computational modeling, cartilage viability decreased to 50% as the diced sample was cut from 1mm edge length to 0.7-0.8mm. Cartilage viability decreased to 26% at 0.55-0.65mm, 11% at 0.4-0.5mm, and <5% at <0.4mm edge length. Conclusions: Modifying septal cartilage grafts into 1 mm diced or scaled samples maintains ideal chondrocyte viability while the pate preparations result in significant chondrocyte death. Chondrocyte viability sharply decreases as the cartilage is diced below 0.7-0.8mm.

10:24 - 10:29 **Q&A**

10:30 **PANEL: Facial Plastic Surgery: Just Say No - But How?**
Moderator
J. Madison Clark II, MD FACS, Chapel Hill, NC
Panelists
P. Daniel Knott, MD, San Francisco, CA
Robin W. Lindsay, MD BA, Boston, MA
Stephen S. Park, MD, Charlottesville, VA
Anthony P. Sclafani, MD FACS, New York, NY

11:10 - 11:25 **BREAK WITH EXHIBITORS/VIEW POSTERS - Grand Ballroom Foyer & Ballroom AB**

Concurrent Session F - General & Sleep Medicine
9:20 - 11:10
Ballroom C

9:20 **PANEL: Harnessing Technology to Identify and Manage Sleep Issues**
Moderator
Reena Dhanda Patil, MD MBA, Cincinnati, OH
Panelists
Maria V. Suurna, MD FACS, Miami, FL
Taher S. Valika, MD FACS, Chicago, IL

Moderator: Julie L. Wei, MD, Akron, OH

9:56 **Evaluation of ChatGPT as a Tool for Conducting Otolaryngology-Head and Neck Surgery Systematic Literature Reviews**
Ajibola B. Bakare, PhD, New Orleans, LA; Young Lee, MS, Saginaw, MI; Jhuree Hong, BS, Saginaw, MI; Claus-Peter Richter, MD PhD, Chicago, IL; Jonathan P. Kuriakose, MD MS, Chicago, IL

Educational Objective: At the conclusion of this presentation, participants should be able to understand

the limitations of ChatGPT as a tool for systematic review within otolaryngology-head and neck surgery (OHNS).

Objectives: Recently, artificial intelligence tools like ChatGPT have sparked interest in the research community as a potential tool for literature review. In this study, we explored the viability of ChatGPT as a tool for conducting systematic literature reviews within otolaryngology-head and neck surgery. Study Design: Literature review and comparative analysis. Methods: Replicated the PRISMA review methodology of Healthcare Disparities in Pediatric Otolaryngology: A Systematic Review (Jabbour et al., 2017) using ChatGPT. Authors, titles, publication years, and journals of the 61 articles within the systematic review were collected. Three prompts utilizing search terms in Jabbour et al. were used to query ChatGPT and compared to one another. Results: Among the three prompts, prompt2 generated the most articles (35), while prompt1 and prompt3 yielded 20 and 30 articles, respectively. Only 10% of prompt1's articles were authentic, while none of prompt2-3 were genuine. Many discrepancies were observed in author names, publication years, and journals across the three prompts. None of the two authentic papers found by ChatGPT were in the reference article, Jabbour et al. Conclusions: Our study highlights the current limitations of using ChatGPT for systematic reviews, with only 2/85 being authentic and neither aligning with the reference paper. As such, we caution against applying standard systematic review methodology to ChatGPT. Instead, standard protocols (i.e., PRISMA) and the use of established academic databases should remain the preferred methodology for reliable, valid systematic review results.

10:02 An Analysis of Visiting Student Diversity Scholarships in Otolaryngology Residency Programs
Pablo A. Llerena, BS, Philadelphia, PA; Jefferson Dekole, BS, Philadelphia, PA; Kathryn Nunes, BS, Philadelphia, PA; Eric V. Mastrolonardo, MD, Philadelphia, PA; Joseph Curry, MD, Philadelphia, PA

Educational Objective: At the conclusion of this presentation, the participants should use this study as a resource for prospective URM otolaryngology applicants and as a reference for programs hoping to increase the diversity of visiting students.

Objectives: The average otolaryngology applicant participated in two away rotations with an associated cost of $1,800 in 2015. Underrepresented minority (URM) visiting student scholarships can help alleviate the financial constraints and provide an opportunity to recruit diverse applicants to the field of otolaryngology. Our goal is to review the characteristics and prevalence of URM visiting student scholarships in Electronic Residency Application Service (ERAS) participating otolaryngology programs. Study Design: Cross-sectional analysis of diversity scholarship opportunities offered through ERAS participating otolaryngology programs. Methods: We conducted a cross-sectional analysis of diversity scholarship opportunities offered by ERAS participating otolaryngology programs (n=124) for the 2023-2024 cycle and AAOHS Diversity Endowment URM Away Rotation Grant (n=67). We collected data on scholarship offerings, application requirements, and the amount of supplemental funding offered. Results: 54% (n=67) of programs are participating in the AAOHS Diversity Endowment URM Grant. 47% (n=57) of programs provide funding. The average value of the stipend, when offered, was $1,396 (range $500-$4000). Eligibility requirements for diversity scholarships included: letters of recommendations, Step 1 Score Report, a personal statement, and a rotation length of 2 to 4 weeks. Conclusions: Although diversity scholarships have become a popular initiative to recruit surgical applicants from diverse backgrounds, there is no centralized resource for these scholarships. This study offers a valuable resource to prospective URM otolaryngology applicants and as a reference for programs hoping to increase the diversity of visiting students.

10:08 Utility of GPT-4 as an Informational Patient Resource in Otolaryngology
Krish Suresh, MD, Boston, MA; Vinay K. Rathi, MD MBA, Charleston, SC; Matthew P. Partain, MD, Indianapolis, IN; Jordan T. Glicksman, MD, Boston, MA; Nathan Jowett, MD PhD, Boston, MA; Matthew G. Crowson, MD, Boston, MA

Educational Objective: At the conclusion of this presentation, the participants should be able to better understand the potential utility of ChatGPT as an informational resource for otolaryngology patients.

Objectives: To understand the potential utility of ChatGPT as an informational resource for otolaryngology patients. Study Design: Qualitative study based on expert opinion. Methods: Eighteen queries based on each of the American Academy of Otolaryngology's Clinical Practice Guidelines (CPGs) were designed and posed to the ChatGPT GPT-4 platform. Responses were evaluated in the context of a patient using ChatGPT as an informational platform. Evaluations were conducted by clinicians with expertise or subspecialty training corresponding to the CPG. The following response characteristics were assessed: safety, accuracy, and comprehensiveness. Descriptive statistics were utilized to summarize response characteristics. Results: 18/18 responses (100%) were determined to be safe. 14/18 responses (78%) were considered accurate, and 15/18 (83%) were considered comprehensive. An example of a response rated as safe, accurate, and comprehensive was the response to treatment of otitis externa in a patient with a nonintact tympanic membrane, which appropriately cautioned against the use of ototoxic topical antibiotics. Examples of inaccuracies contained in responses were the consideration of steroids for otitis media with effusion, vestibular testing for Meniere's disease, and computed tomography for sudden sensorineural hearing loss -- all of these are recommended against in the CPGs. Conclusions: We found that, overall, otolaryngology domain specific advice provided by GPT-4 in response to targeted questions was safe and unlikely to lead to patient harm. However, the evaluation of accuracy and comprehensiveness was mixed, with several responses found to contain inaccuracies and/or lack significant relevant content. This may limit the utility of GPT-4 as an informational resource for patients.

10:14 Cost Analysis of High Signal Approach in Otolaryngology-Head and Neck Surgery Residency
Taylor C. Standiford, MD, San Francisco, CA; Brooke Warren, BA, San Francisco, CA; Steven D. Pletcher, MD, San Francisco, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the concept of the high signal approach for otolaryngology-head and neck surgery residency applicants, along with its potential advantages, including the projected cost savings for both applicants and programs.

Objectives: The objective of this study is to analyze a high signal approach for otolaryngology-head and neck surgery (OHNS) residency applicants and predict cost savings for programs and applicants. Study Design: Two models were created to predict cost savings associated with a high signal approach to the residency application cycle. Methods: Model 1 assumed an 11% reduction in the number of applications per applicant based on the experience of the orthopedic surgery signaling initiative. Model 2 assumed that the number of applications per applicant would be equal to the number of signals allowed. Each model was also used to predict cost savings across the four other specialties participating in a high signal approach. Results: For model 1, cost savings for the entire OHNS applicant pool amounted to $150,696. In model 2, cost savings amounted to $894,516. When extrapolated to include all four high signal specialties, total cost savings amounted to $882,232 (model 1) and $4,980,411 (model 2). Programs were predicted to experience significant time savings, resulting in cost savings of $1,754 and $10,770 for models 1 and 2, respectively. Conclusions: The study highlights potential advantages of a high signal approach, including financial advantages or increased time for programs to engage in holistic review and diversify the pool of interview candidates. Cost savings in this study was shown to be significant when extrapolated across all specialties using a high signal approach. Further research is needed to optimize the signaling system and confirm the favorable interview distribution and equity data from the low signal OHNS experience with a high signal approach.

10:20 Evaluating Resident Education Practices in Endoscopic Sinus Surgery
Rose Dimitroyannis, BA, Chicago, IL; Dennis Tang, MD, Los Angeles, CA; Matthew K. Lee, MD, Los Angeles, CA; Christopher R. Roxbury, MD, Chicago, IL

Educational Objective: At the conclusion of this presentation, the participants should be able to discuss which training methods are most popular and most effective for endoscopic sinus surgery residency education at this time, according to program directors. They should also be able to discuss current ACGME requirements for ESS and possible additions to key indicator cases.

Objectives: This study surveys otolaryngology program directors (PDs) to describe currently utilized training methods for endoscopic sinus surgery (ESS), to assess PD opinions on which training methods are most effective, and to assess the current Accreditation Council for Graduate Medical Education (ACGME) requirements for otolaryngology training in ESS. Study Design: One hundred and twenty-eight otolaryngology PDs were surveyed nationally using an anonymized REDCap form. Methods: Survey questions addressing ESS training methodology were included, assessing the prevalence and perceived efficacy using a Likert scale. Teaching methods include formal, informal, rubric, and model/simulation. Feedback methods include verbal, written, shared, and personal grading scales. The number of graduating ESS cases and interest in adding other ESS procedures to graduation requirements was also assessed. Analysis was performed using R and Excel. Results: With a response rate of 25.8% (n=33), we found that informal teaching practices (51.5%) and verbal qualitative feedback (69.7%) were the primary training methods reported by PDs. Verbal qualitative feedback was rated more effective than written feedback, shared, and personal grading scales (p less than 0.05). Informal teaching methods were only rated more effective than rubrics (p less than 0.01). Over half of the participants (54.5%, n=18) believe maxillary antrostomy should be added as a key indicator case for otolaryngology residency requirements. Conclusions: Despite a current preference for informal training methods in ESS education amongst otolaryngology PDs, informal teaching methods were not rated more effective than formal or model based teaching methods. Regardless of the educational techniques utilized, most PDs support adding maxillary antrostomy as a key indicator for residency training.

10:26 Does Resident Involvement in Tonsillectomy Affect Outcomes?

Deepthi S. Akella, MS, San Antonio, TX; Jason C. DeGiovanni, MD, Buffalo, NY; Francesca C. Viola, MD, Buffalo, NY; Ellen M. Piccillo, MD, Buffalo, NY; Michele M. Carr, DDS MD PhD, Buffalo, NY

Educational Objective: At the conclusion of this presentation the participants should be able to recognize that in our study, resident involvement in pediatric tonsillectomy did not appear to increase postoperative bleeding rates or ER visits.

Objectives: Tonsillectomy is essentially a solo surgery with a well described complication profile and is a good context to evaluate the impact of the resident as surgeon. This study examined complications in children undergoing tonsillectomy by community surgeons (CS) or pediatric otolaryngologist supervised residents. Study Design: Retrospective chart review. Methods: Chart review of all children aged 12 and under who had tonsillectomy +/- adenoidectomy at a children's hospital between January 2019 and December 2020. Patient age, gender, BMI, indication for surgery, surgical technique, presence of a resident surgeon, primary bleeding, secondary bleeding, treatment of bleeding, other ER visits and clinic phone calls were recorded. Binary logistic regression was calculated. Results: 2051 total children (1092 (53%) males and 956 (47%) female, mean age 6.1 years (95% CI 6.0-6.2)) were included. 1908 (93%) underwent surgery for tonsillar obstruction. 1557 (76%) underwent monopolar cautery tonsillectomy. 661 (32%) had a resident surgeon. 170 (8%) had related clinic phone calls. 268 (13%) had a related ER visit within 14 days. 15 (0.7%) had a primary bleed, 157 (7.6%) had a secondary bleed. All primary bleeds and 45 or 29% of secondary bleeds were treated operatively. Binary logistic regression showed that only patient age (B=.126, p is less than .001) was significantly related to overall bleeding incidence. ER visits were related to patient age (B=.093, p is less than .001) and lack of resident involvement (CS cases) (B=.335, p=.04). Only age was significantly related to primary bleeding (B=.205, p=.03). There were no significant predictors of return to OR versus observation for secondary bleeding control. Conclusions: Resident involvement in pediatric tonsillectomy does not appear to increase postoperative bleeding rate or ER visits.

10:32 - 10:36Q&A

Moderator: Steven D. Pletcher, MD, San Francisco, CA

10:36 Factors Associated with Loss and Recovery of Smell and Taste after COVID-19 Infection
Diego Esau Razura, BS, Mountain Home, TN; Ido Badash, MD, Los Angeles, CA; Bozena B. Wrobel, MD, Los Angeles, CA; Kevin Hur, MD, Los Angeles, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to recognize independent predictors associated with COVID-19 infection and guide patient education based on these findings.

Objectives: Determine which factors are associated with loss and recovery of smell and taste after COVID-19 infection. Study Design: Cross-sectional national database study. Methods: The Integrated Public Use Microdata Series (IPUMS) 2021 National Health Interview Series (NHIS) database was used to analyze factors associated with loss and recovery of smell and taste in respondents who had a previous COVID-19 infection. Significant variables from univariate analysis were included in a stepwise backward regression model to identify independent predictors of loss and recovery of smell and taste after COVID-19 infection. Results: 3,844 individuals answered yes to having contracted COVID-19. 51.1% and 48.9% reported losing smell and taste, respectively. 95.7% recovered smell. 97% recovered taste. For smell loss, independent predictors included younger age ($p = .00$), female sex ($p = .002$), use of e-cigarettes ($p = .014$), and Mexican ethnicity (.004). Independent predictors of taste loss were younger age ($p = .000$), female sex ($p = .001$), separated marital status ($p = .02$), higher BMI ($p = .040$), and anxiety disorder ($p = .049$). Factors associated with only partial or no recovery of smell after COVID-19 were female sex ($p = .001$), nonmetropolitan inhabitant ($p = .037$), and history of chronic liver condition ($p = .016$). Independent predictors of partial or no recovery of taste were American Indian/Alaska Native ($p = .026$) and anxiety disorder ($p = .001$). Conclusions: Various factors may be associated with the loss and recovery of smell and taste after COVID-19 infections. Clinicians may use this information to better counsel patients with these symptoms.

10:42 My Patient Ghosted Me: Factors Influencing Surgical No-show Rates Pre and Post COVID-19 Pandemic
Lauren Linquist, BA, Shreveport, LA; Noah Michael Young, BS, Shreveport, LA; Amir Marwan Kaskas, BS, Shreveport, LA; Karuna Dewan, MD, Shreveport, LA

Educational Objective: At the conclusion of this presentation, the participants should be able to identify risk factors for patient failure to present for a scheduled surgical procedure.

Objectives: In otolaryngology no-show rates for scheduled surgery range from 6.6 to 28%. One minute of operative time costs $36-$37. Otolaryngologic surgery ranges from 1 to 12 hours in duration. Surgical no-shows can lead to wasted time and resources. The primary purpose of this study is to compare surgical no-show rates in otolaryngology before and after the COVID-19 pandemic. The secondary purpose is to determine risk factors associated with surgical no-shows. Study Design: Retrospective cohort study. Methods: All patients scheduled to undergo otolaryngologic surgery from January through March 2019 were compared to those scheduled for surgery during the same months in 2022 at a tertiary care medical center. Extracted data included patient demographics, home zip code, procedure urgency, surgical wait time, and subspecialty. In-patient consults and emergent cases were excluded. Results: 1135 surgical procedures were included. The overall no-show rate was 21.2%. There was no significant difference in no-show rate between 2019 and 2022. Rhinology patients were significantly most likely to no-show ($p=0.013$). Additionally, those undergoing elective surgery were significantly more likely to fail to no-show ($p=0.019$). Failure to attend preoperative testing is significant predictor of failure to present for surgery ($p < 0.001$).

Distance from home to surgical center, days elapsed between diagnosis and surgical date and age of the patient were not significantly related to likelihood to present for surgery. Conclusions: Conservation of scarce resources is essential. The ability to predict which patients are least likely to keep a surgical appointment may help healthcare professionals better plan operative schedules to conserve resources.

10:48 Operative Management of Acute Supraglottitis

John M. Sommerfeldt, MD, Honolulu, HI; Adeeba F. Ghias, MD, Honolulu, HI; Christopher M. Husson, MD, Honolulu, HI; Sungjin A. Song, MD, Honolulu, HI

Educational Objective: At the conclusion of this presentation, the participants should be able to better understand practical operative airway management considerations in patients with acute supraglottitis.

Objectives: Review presentation and optimal management of acute supraglottitis. Study Design: Retrospective case series and literature review. Methods: Review of medical records for two patients presenting with acute supraglottitis requiring awake nasotracheal intubation; review of published literature. Results: Two patients with acute supraglottitis required urgent operating room transfer for awake fiberoptic nasotracheal intubation. Although a pediatric bronchoscope was more easily maneuverable in restricted space, intubation with it was difficult due to the tortuous path produced by severe epiglottic and arytenoid edema. After converting to an adult bronchoscope, successful intubation occurred by advancing the tube in Seldinger fashion. Attempts to reduce patient agitation in one case led to additional midazolam administration, resulting in apnea prior to verification of adequate ventilation, creating a more pressing airway management scenario. Conclusions: Respiratory distress, dysphagia, drooling, and epiglottic abscess are indicators that operative airway intervention is likely necessary in patients with acute supraglottitis. We describe an efficient method of performing awake fiberoptic nasotracheal intubation by loading the nasotracheal tube over the largest bronchoscope that will fit through the tube, and advancing the tube only once the scope has reached the carina. Although the pediatric bronchoscope has a smaller diameter, using an adult bronchoscope is more reliable at guiding the tube through the tortuous supraglottis without being easily blocked by anatomic obstacles. Placing the tube in warm saline prior to intubation also increases pliability of the nasotracheal tube. Clear communication with anesthesia preoperatively and intraoperatively is crucial to ensure the patient remains spontaneously ventilating until appropriate tube position can be confirmed.

10:54 Stensen's Duct Dynamic Anatomy Assessed with Sialography

Piper Anna Wenzel, BS, Iowa City, IA; Ryan K. Thorpe, MD, Iowa City, IA; Joan E. Maley, MD, Iowa City, IA; Bruno Policeni, MBA MD, Iowa City, IA; Henry T. Hoffman, MD, Iowa City, IA

Educational Objective: At the conclusion of this presentation, the participants should be able to identify dynamic changes to parotid ductal anatomy as is relevant to sialendoscopy.

Objectives: Identify dynamic changes to the parotid gland by introducing a novel approach to analyze Stensen's duct based on dynamic infusion digital sialography. Study Design: Retrospective single center case series. Methods: Chart review of a consecutive series of 447 sialograms permitted selection of seven normal sialograms and seven sialograms with stricture(s). Dynamic (fluoroscopic) infusion (iopamidol/gadolinium) sialograms were assessed through blinded review by two radiologists employing the PACS system of the institution (2023 Koninklijke Philips N.V. Build 12.2.8.2130003). Measurements determined changes, in two dimensions, to the angle of the masseteric bend as well as duct length while the catheter was in place (in repose), during catheter withdrawal (stretch), and during recoil after withdrawal. Mean values were compared using the Student's t-test ($P<0.05$). Results: The mean angle of the masseteric bend was 117.0 degrees in repose versus 152.0 degrees during catheter withdrawal ($P=0.0002$, $N=14$). The length of the main duct increased by 7.7% ($N=14$) when on stretch in comparison to repose. The distance (mean +/- standard deviation) from catheter hub at Stensen's duct orifice to first major bifurcation was 80.1 +/- 16.4 mm in repose, 86.2 +/- 17.2 mm during catheter withdrawal, and 80.9 +/- 17.7 mm during

recoil following catheter withdrawal. Conclusions: Dynamic infusion digital sialography combined with the use of the catheter "pull out" method provides greater accuracy in assessing the dynamic nature and varying length and angulation of Stensen's duct than static imaging methods. These findings are relevant to clinical application in refining the advanced endoscopic and image assisted treatment of disorders of the parotid gland.

11:00 Acute Bilateral Necrotizing Tonsillitis: Case Report and Review of the Literature
Solymar Torres Maldonado, MD, Los Angeles, CA; Clare Moffatt, BS, Los Angeles, CA; Lauran K. Evans, MD MPH, Los Angeles, CA; Keith E. Blackwell, MD, Los Angeles, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to 1) describe the presentation, diagnosis and management of a rare case of bilateral necrotizing tonsillitis in an immunocompromised patient; 2) present the first reported CT imaging finding of emphysematous abscess of the tonsils; and 3) summarize the published literature on necrotizing infections of the tonsils.

Objectives: Necrotizing infections of the tonsils are uncommon, with only a handful of case reports available. We present a case of bilateral necrotizing tonsillitis in an immunocompromised patient with CT imaging findings of emphysematous abscess of the tonsils, which to our knowledge, has never been described before. Study Design: Case presentation and scoping review. Methods: Two independent reviewers searched for relevant terms in Medline, Embase and Scopus databases. Included publications ranged across 1993-2023. Patient presentation management and outcomes were summarized. Results: Case Presentation: A 38 year old male with a history of aplastic anemia presented with worsening tonsillitis. Exam revealed necrotic exudates of the bilateral tonsils. CT imaging demonstrated subcutaneous emphysema of the bilateral tonsils. The patient was managed successfully with initial intubation for airway protection, broad spectrum IV antibiotics and antifungals and surgical intervention with bilateral tonsillectomy and temporary tracheostomy. Scoping review: Necrotizing tonsillitis is more common in immunocompromised patients but can also present in healthy individuals. Associated pathogens include viruses (HSV, EBV), fungi (candida), gram positive (alpha and beta hemolytic streptococcus) and gram negative bacteria (fusobacterium). Management often requires intubation for airway protection and surgical drainage or tonsillectomy for clinical resolution regardless of immunocompromised status. Conclusions: Necrotizing tonsillitis is a rare but potentially life threatening infection which can progress rapidly, resulting in airway compromise and sepsis in both immunocompetent and immunocompromised individuals. In this case report, we described a unique CT finding of emphysematous tonsillitis which has never been reported in this location before. Early diagnosis and surgical intervention result in clinical resolution in most cases.

11:06 - 11:10Q&A

11:10 - 11:25BREAK WITH EXHIBITORS/VIEW POSTERS - Grand Ballroom Foyer & Ballroom AB

Concurrent Session G - General, Rhinology, Allergy, Sinus
11:25 - 1:10
Grand Ballroom

Moderator: Roy R. Casiano, MD FACS, Miami, FL

11:25 Impact of Intra-Phenotypic Nasal Vestibular Variation on Local Airflow Dynamics
Ryan M. Sicard, BS, New York, NY; Sarah M. Russel, MD MPH, Chapel Hill, NC; Dennis O. Frank-Ito, PhD, Durham, NC

Educational Objective: At the conclusion of this presentation, the participants should be able to

understand how the size of a notched indentation at the nasal vestibule in subjects with healthy normal nasal function impacts localized nasal airflow profile.

Objectives: Many subjects with healthy normal nasal anatomy and function have a prominent notch indentation at the junction of the ala and sidewall, around the anterior superior region of the unilateral nasal vestibule. This study examines how different sizes of a notched indentation at the nasal vestibule impact local nasal airflow patterns in the airway. Study Design: Retrospective study involving 25 healthy patients having at least one unilateral notched indentation nasal vestibule (39 airspaces total). Methods: Subjects were identified who had at least one unilateral airspace with a notched indentation nasal vestibule. Each subject's notched indentation was quantified. Computational fluid dynamics modeling was used to perform nasal inspiratory airflow simulations on each subject at 15L/min. Localized airflow distributions passing through the inferior, middle, and superior regions were calculated at three cross-sections (anterior, medial, and posterior). Results: The size of notched indentation across all subjects ranged 1.75-86.84mm2 with an average of 22.37mm2. At anterior cross-sections, notched indentation size was significantly correlated with airflow passing inferior regions (R=0.70, p=0.05) but not in the middle (R=0.58, p=0.13) or superior (R=0.003, p=0.99) regions. Medially inferior airflow volume had the strongest association with notched indentation size as well (inferior: R=0.66, p=0.07; middle: R=0.34, p=0.41; superior: R=0.22, p=0.59). On the contrary, localized airflow distributions through the inferior, middle, and superior regions demonstrated week correlation with notched indentation size at the posterior cross-section (inferior: R=0.38, p=0.36, middle: R=0.22, p=0.60; superior: R=0.24, p=0.56). Conclusions: The size of nasal vestibule notched indentation had stronger influence on localized airflow volume passing through the anterior inferior and medial inferior airway than other regions of the nasal passage.

11:31 Predicting Rhinology CPT Codes from Operative Notes Using Machine Learning

Ryan Sicard, BS, New York, NY; Christopher Cheng, AB, New York, NY; Chris B. Choi, MD, New York, NY; Vikram Vasan, BA, New York, NY; David K. Lerner, MD, New York, NY; Alfred M. Iloreta, MD, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the ability of basic machine learning models to predict rhinology CPT codes from operative notes.

Objectives: Machine learning (ML) and natural language processing (NLP) can be used to streamline billing and decrease physician workload. In this study, ML analyzed operative notes to determine appropriate Current Procedural Terminology (CPT) code recognition. This study investigates which optimal word vectorizers and machine learning algorithms best predict rhinology CPT codes using operative notes. Study Design: Retrospective study at a single large urban academic hospital of patients who received endoscopic surgery. Methods: Deidentified operative notes of patients who received elective endoscopic sinus surgery under one of 6 CPT codes (61580, 31288, 31255, 31267, 31276, 30520) between March 2017 and April 2022 were collected. Surgeon name and associated CPT were recorded. Several vectorizers and ML algorithms were trained and tested to predict CPT codes from the operative notes. Results were compared to manually assigned CPT codes. Area under the curve (AUC) analysis was used to evaluate results. Results: Across all CPT codes and algorithms, AUC values ranged from 0.441 to 0.984. The combination of Word2Vec and Logistic Regression ML algorithm provided the greatest AUC for CPT codes 30520, 31255, 31267 (0.776, 0.704, 0.681 respectively) while CountVectorizer and Naive Bayes ML resulted in the greatest AUC for codes 31276, 31288, 61580 (0.671, 0.789, 0.984 respectively). There was no clear inferior combination of word vectorizer and ML algorithm. Conclusions: Using NLP and ML to generate rhinology CPT codes is a promising avenue of study for streamlining physician workload. More sophisticated algorithms should be studied to further optimize results.

11:37 Trends and Utilization in the Management of Chronic Rhinosinusitis with Nasal Polyps from 2016 to 2021: A Medicare Database Project

Abhishek Doshi, BS, Syracuse, NY; Kalena H. Liu, BS, New York City, NY; Maximillian S. Wu, BS, Syracuse, NY; Mark A. Arnold, MD, Syracuse, NY

Educational Objective: At the conclusion of this presentation, participants should be able to understand nationwide trends of chronic sinusitis with nasal polyp management among otolaryngologists and its potential impact on surgical burden for treatment.

Objectives: To assess the impact of FDA approval for biologics in 2019 on national provider trends in treating nasal polyps including the use of biologics in the Medicare Part D prescriber database and endoscopic polypectomy rates using the Medicare Physician & Other Practitioners by Provider and Service dataset. Study Design: Database analysis. Methods: Medicare Part D claims between 2019 to 2021 were surveyed for dupilumab usage among otolaryngologists. Variables assessed included claims, cost, and total supply. Endoscopic nasal polyp removal (CPT 31237) trends were surveyed using the Medicare Services dataset from 2016-2021, assessing the number of services, reimbursement and submitted charges. Linear regression and t-tests were used to assess trends in biologics and endoscopic usage over time. Results: Dupilumab claims increased by over 4000% from 2019 to 2021. Cost per claim of dupilumab increased 16% during this period, adjusted for inflation. Nasal polyp endoscopic removal declined significantly (20.5%) from 2016-2019 to 2020-2021 ($p=0.05$, two sample t-test). Paired t-tests comparing 2016-2018 and 2019-2021 for aggregate services, reimbursement and submitted charges showed no statistical significance. Average reimbursement and submitted charges for endoscopic nasal polyp removal remained unchanged from 2016 to 2021. Conclusions: Biologics usage has risen dramatically among otolaryngologists following FDA approval to treat chronic rhinosinusitis for nasal polyps. Decreasing endoscopic sinus surgery rates and rising biologics utilization suggest a shift in the management of nasal polyps. Yet, it is essential to consider the overall cost of treatment options for Medicare/Medicaid patients. Further research is necessary to identify the definitive treatment for nasal polyposis.

11:43 Automated Text Classification of Online Reviews of Otolaryngologists Using Artificial Intelligence Natural Language Processing

Jake Stenzel, MS, Phoenix, AZ; Nick Schultz, BS, Phoenix, AZ; Michael Marino, MD, Phoenix, AZ

Educational Objective: Participants will gain an understanding of using artificial intelligence natural language processing (NLP) algorithms to classify online physician reviews of otolaryngologists and examine associations with 1 and 5 star ratings in direct physician related

Objectives: The study aimed to extract online comments of otolaryngologists in the 20 most populated cities in the United States from HealthGrades.com, develop and validate an artificial intelligence NLP logistic regression algorithm for automated text classification of reviews into ten categories and compare 1 and 5 star reviews in direct physician related and non-physician related categories. Study Design: Cross-sectional study. Methods: 1,371 1 star and 7,995 5 star reviews were collected. The primary investigator manually categorized a training dataset of 274 1 star and 808 5 star reviews, while a validation subset of 100 5 star and 50 1 star reviews underwent dual manual categorization. Using scikit-learn, an NLP algorithm was trained and validated on the subsets, with F1 scores evaluating text classification accuracy against manual categorization. The algorithm was then applied to the entire dataset with comparison of review categorization according to 1 and 5 star reviews. Results: F1 scores for NLP classification ranged between 0.73 to 0.97. Significant associations emerged between 1 star reviews and treatment/medication, accessibility, wait time, scheduling, billing, and facilities (all $p<0.001$). 5 star reviews were associated with surgery/procedure and staff/midlevels (all $p<0.001$). No direct association was found between review ratings and physician bedside manner. Conclusions: The study successfully validated an NLP text classification system for categorizing online physician reviews. Negative reviews focused on non-physician related aspects, while positive reviews emphasized staff/midlevels and surgical procedures. No associations were found between review ratings and physician bedside manner, contrary to previous reports with smaller sample sizes.

11:49 Risk Factors for Intubation in Angioedema: A Nationwide Cohort Study
Joseph T. Bogart, BS, Cleveland, OH; Todd Otteson, MD MPH, Cleveland, OH

Educational Objective: At the conclusion of this presentation, the participants should be able to identify patient characteristics that are associated with the need for airway intervention in the setting of angioedema.

Objectives: To identify characteristics in patients presenting with angioedema that are associated with the need for airway intervention. Study Design: Population based retrospective cohort study. Methods: Using the TriNetX database, this study included 117,187 patients greater than 18 years old who presented with angioedema between January 2010-July 2023, 2,007 of whom required intubation within three days of presentation. Data were analyzed regarding demographics, comorbidities, and prescribed medications in patients with angioedema who did not require intubation versus patients who did require intubation. Results: Among angioedema patients who required intubation, 89% had hypertension, compared to 57% in the non-intubated cohort. In the intubated group, 42% were diagnosed with nicotine dependence and 24% with alcohol related disorders, compared to 19% and 7% respectively in the non-intubated group (p less than 0.0001). The intubated group also had significantly higher rates of treatment with calcium channel blockers (70% vs. 36%; p less than 0.0001), beta blockers (74% vs. 37%; p less than 0.0001), ACE inhibitors (57% vs. 30%; p less than 0.0001), and angiotensin II inhibitors (24% vs. 18%; p less than 0.0001) compared to the non-intubated group. Conclusions: Patients with angioedema that require endotracheal intubation are more likely to have underlying cardiovascular disease compared to angioedema patients that do not require airway intervention. Patient history of substance use disorder, hypertension, and treatment with antihypertensive medication may be clinically relevant predictors of airway compromise.

11:55 - 12:00Q&A

Moderator: Kourosh Parham, MD PhD, Farmington, CT

12:00 Differences in Negotiated Facility Fees for Otolaryngology Procedures at ASCs and Hospitals
Roy Xiao, MD MS, Boston, MA; Anika Walia, BA, Boston, MA; Daphne Hao, Princeton, NJ; Vinay K. Rathi, MD MBA, Charleston, SC; Rosh K.V. Sethi, MD MPH, Boston, MA; Stacey T. Gray, MD, Boston, MA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the differences in facility fees at ambulatory surgery centers and hospitals for otolaryngology procedures.

Objectives: Outpatient otolaryngology surgery is increasingly performed at ambulatory surgery centers (ASCs) in addition to hospitals. ASCs are expected to provide cost savings, though the magnitude is unknown. Through the Transparency in Coverage Act, CMS has required private payers to disclose negotiated prices with in-network providers since July 2022. Study Design: We performed a cross-sectional analysis of negotiated facility fees across ASCs and hospitals as collected by Turquoise Health ("Turquoise"). Methods: We analyzed facility fees from Turquoise's Rate Sense platform for the top 5 procedure CPT codes by Medicare volume in three subspecialty groups: rhinology, FPRS, and head/neck/laryngology. We calculated a median facility fee for each procedure at each center, normalized to wage index. For each procedure, we calculated a mean of medians across all ASCs and hospitals and compared means with student's t-tests. Results: A range of 3,627-4,008 ASCs and 1,349-1,730 hospitals were included depending on subspecialty and availability of prices. Across all subspecialties, facility fees were significantly higher at hospitals compared to ASCs (median relative markup 214%, IQR 200-229%, p<0.0001). As examples, for the most common procedure within each group, facility fees were significantly higher (p<0.0001) at hospitals compared to ASCs for inferior turbinate reduction ($4,500 vs. $1,386),

septoplasty ($5,221 vs. $1,739), and direct laryngoscopy with biopsy ($4,892 vs. $1,558). Conclusions: We observed significantly higher negotiated facility fees at hospitals compared to ASCs. For healthy and appropriately selected patients, further emphasis on ambulatory otolaryngology procedures at ASCs could help meet surgical demand while reducing overall costs.

12:06 Network Analysis of American Otolaryngologists

Niketna Vivek, BA, Nashville, TN; Evan A. Clark, BS, Nashville, TN; Kavita Prasad, BA, Medford, MA; Shenmeng Xu, MS PhD, Nashville, TN; Steven J. Baskauf, PhD, Nashville, TN; Alexander H. Gelbard, MD, Nashville, TN

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the collaboration landscape of American otolaryngologists and the relationship between their collaboration patterns and impact.

Objectives: The study harnesses new tools in network analysis to explore, visualize and quantify relationships between faculty physicians in U.S. ACGME accredited otolaryngology programs using peer reviewed manuscript coauthorships to define network connections. Results provide a comprehensive new methodology to examine the interrelationships, influence, and impact of individual surgeons, grouped networks, and subspecialties in academic otolaryngology. Study Design: Cross-sectional study. Methods: Utilizing all ACGME accredited otolaryngology residency programs (n=124), physician faculty were identified (n=2398). Professional details, ScopusIDs and corresponding h-indices were extracted. Publication and coauthorship data by identified physicians were pulled using ScopusAPI and processed using Python. After filtering to include only those who have collaborated with others from the pool, 23,240 publications coauthored by 2,217 otolaryngologists were included. Network maps with these 2,217 otolaryngologists and 26,770 connections among them were produced using Gephi. Network communities were detected using Louvain algorithm and optimized using elbow plot analysis. Each physician's propensity to collaborate with others was quantified using degree, betweenness, and Eigenvector centralities. Spearman's correlation analysis was performed to examine relationships between these centrality measures and h-indices. Results: Centrality measures and community detection revealed complex network structures and subgroups. Unbiased grouping analysis showed subgroup clustering based predominantly on subspecialty and more minorly on institution. Significant correlation between h-index and centrality measures was observed (h-index vs degree: r=0.777, h-index vs betweenness: r=0.7371, h-index vs Eigenvector: r=0.6818, p<0.0001). Conclusions: Quantitative measures of social connectedness (degree, betweenness, and Eigenvector centralities) in physician network maps correlate strongly with h-index offering a new way to identify influence and interconnected communities within academic otolaryngology.

12:12 Dysphonia and Hearing Loss are Additive Risk Factors for Depression in a National Cohort

Lauren H. Tucker, BA, New York, NY; Michael W. Denham, MPhil, New York, NY; Anais Rameau, MD, New York, NY; Yung Jee Kang, MD, Seoul, Korea; Nayeon Choi, MD, Seoul, Korea; Justin S. Golub, MD MS, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to appreciate the association between hearing loss, dysphonia, and depression.

Objectives: Hearing loss (a receptive communication impairment) is a known risk factor for depression. However, dysphonia (an expressive communication impairment), has received little study. We study hearing loss, dysphonia, and combined impairment as risk factors for depression in a large national cohort. Study Design: Cross-sectional national epidemiologic study. Methods: Data was analyzed from the Korean National Health and Nutrition Examination Survey (KNHANES) cycles 2008-2012 and 2019-2020. KNHANES was chosen because it uniquely contains both audiometry and dysphonia data. Hearing loss (yes/no) was defined as > / = 25 dB pure tone average. Dysphonia (yes/no) was defined by self-report.

Depression (yes/no) was defined by physician diagnosis. Odds ratios for depression were calculated using multivariable logistic regressions with hearing loss and dysphonia as predictors controlling for age and sex. Results: 8,524 individuals > / = 18 years old had complete data. The mean age was 57.3 years (SD=13.4) and 64% were women. All regressions controlled for age and sex. Those with hearing loss, compared to those without, had 1.27 times the odds (95% CI=1.07-1.52, p=0.007) of depression. Those with dysphonia, compared to those without, had 1.48 times the odds (1.22-1.78, p < 0.001) of depression. Those with hearing loss and dysphonia, compared to those with neither, had 1.79 times the odds (1.27-2.48, p < 0.001) of depression. Conclusions: This study demonstrates independent relationships between hearing loss and depression as well as dysphonia and depression. Combined hearing loss and dysphonia had nearly double the risk of depression. This is likely due to the additive effect of difficulty with incoming and outgoing communication streams.

12:18 Obesity as a Risk Factor for 30 Day Reintubation and Pneumonia following Palatopharyngoplasty Surgery: Results from the ACS NSQIP Dataset

Abhisri Ramesh, BS MBA, Washington, DC; Abdulla K. Ahmed, BS, Washington, DC; Philip M. Parel, BS, Washington, DC; Esther Lee, BS DO, Washington, DC; Punam Thakkar, BS MD, Washington, DC

Educational Objective: At the conclusion of this presentation, the participants should be able to understand how obesity can be incorporated into preoperative planning to improve risk stratifying models following palatopharyngoplasty surgery.

Objectives: Palatopharyngoplasty (PPP) surgery is a commonly performed procedure for the treatment of obstructive sleep apnea (OSA). Obesity has been identified as a significant risk factor for both OSA and surgical complications. However, the specific association between obesity and pulmonary complications following PPP remains unclear. This study aims to investigate the risk of 30 day pulmonary complications in obese patients undergoing PPP. Study Design: Retrospective cohort study. Methods: The 2005-2019 American College of Surgeons National Surgical Quality Improvement Program database was used to identify patients undergoing PPP (CPT-42145) and stratified into obese (BMI greater than 30.0 kg/m2) and non-obese (BMI: 18.5 - 30.0 kg/m2) cohorts. The primary outcomes were 30 day reintubation, pneumonia, and ventilator dependence for greater than 48 hours. Patient demographics and clinical comorbidities were compared using chi-squared analysis and student t-tests, where appropriate. Multivariate logistic regression analysis was conducted to control for demographic and comorbidity confounders. Results: In total, 4,915 patients undergoing PPP were identified, including 61.6% (n=3,026) who were obese and 38.4% who were not (n=1,889). Obese patients were significantly more likely to be female, have hypertension, history of COPD, dyspnea, and diabetes (all P < 0.05). The risk of postoperative reintubation (odds ratio [OR]: 3.16; P = 0.041) was independently associated with obesity. The risk of postoperative pneumonia ([OR]: 5.02; P = 0.035) was independently associated with obesity. Conclusions: Patients with obesity have a greater risk of reintubation and pneumonia within 30 days postoperative of PPP. BMI should be incorporated into risk stratifying models during preoperative planning.

12:24 Surgical Trends and Outcomes of Nonagenarians and Centenarians in Otolaryngology - Head and Neck Surgery: A National Surgical Quality Improvement Program Study

Yashes Srinivasan, BS, New York, NY; Anais Rameau, MD MPhil MS, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to describe national trends and outcomes of otolaryngologic surgeries in nonagenarians and centenarians.

Objectives: To describe types and outcomes of otolaryngological surgeries undergone by patients >/= 90 years of age, and to assess whether very old age is an independent risk factor for postsurgical complications and death. Study Design: Cohort study using a validated national prospective surgical outcomes database. Methods: The National Surgical Quality Improvement Program was used to identify

all patients aged 65 years and older who underwent otolaryngological procedures from 2011 to 2020. Study outcomes were minor complications, major life threatening complications, and 30 day mortality. Predictors of outcomes were identified using bivariate analyses and age was added into the final logistic regression models with stepwise selection. Results: A total of 42,546 patients met inclusion criteria; 678 (1.6%) patients were >/= 90 years of age. Females comprised 51.5% of the patient sample. Of the 65,842 procedures, 77.8% fell under head and neck surgery, 6.5% laryngology, 5.6% comprehensive otolaryngology, 4.4% facial plastics, 4.0% otology, 1.3% rhinology, and 0.5% sleep. The overall incidence of major life threatening complications, minor complications, and death was 970 (2.2%), 1,601 (3.8%), and 228 (0.5%), respectively. When added to the final models, age >/+ 90 was significantly associated with an increased risk of mortality, but not major or minor postoperative complications. Conclusions: Otolaryngologic surgery can be safe in relatively healthy nonagenarians and centenarians, though there is a significant albeit small increased risk of 30 day mortality. While older age can predispose patients to comorbid risk factors, age alone should not deter surgeons and patients from considering otolaryngologic procedures.

12:30 - 12:35Q&A

12:35 EXPERT PRESENTATION: Impact of Ozempic and other Weight Loss Drugs on Otolaryngology
Ramzi T. Younis, MD FACS, Miami, FL

12:50 EXPERT DISCUSSION: Allergy Assessment 2024
Discussants
Cecelia Damask, DO, Orlando, FL
Edward D. McCoul, MD MPH FACS, New Orleans, LA

Concurrent Session H - Pediatrics, Laryngology/Bronchoesophagology
11:25 - 1:10
Ballroom C

11:25 PANEL: Transgender Voice
Moderator
Natasha Mirza, MD FACS, Philadelphia, PA
Panelists
Adam T. Lloyd, SLP, Miami, FL
Mausumi N. Syamal, MD FACS, Chicago, IL
VyVy N. Young, MD FACS, San Francisco, CA

Moderator: Amy L. Rutt, DO FACS, Jacksonville, FL

12:00 Incidence and Implication of H. Pylori Infection in Reinke's Edema
Miranda Elizabeth Duhon, BS, Shreveport, LA; Jason Calligas, MD, Shreveport, LA; Karuna Dewan, MD FACS, Shreveport, LA

Educational Objective: At the conclusion of this presentation, the participants should be able to assess the incidence of H. pylori in Reinke's edema patients and evaluate and compare the disease severity of patients who are H. pylori positive with those who are H. pylori negative.

Objectives: Reinke's edema is a benign inflammatory swelling of the superficial lamina propria of the vocal folds most often associated with cigarette smoking, it is suspected that coincident infection with helicobacter pylori may worsen the severity of Reinke's edema. The purpose of this investigation is to assess the incidence of H. pylori infection in patients with Reinke's and assess the correlation of infection with disease severity. Study Design: Subjects were recruited at the time of diagnosis using flexible

laryngoscopy between March and December 2022. Methods: Participants completed a VHI-10 survey and underwent a H. pylori IgG blood test or laryngeal biopsy taken during surgery to identify infection. The severity of Reinke's, grade and type, were determined by a fellowship trained laryngologist. Results: 16 patients participated. Cohort was 13% male. 37.5% of the cohort had a positive H. pylori test. Men had significantly greater smoking exposure in pack years than women (p=0.003). The total VHI-10 score was significantly greater in patients with negative H. pylori (p=0.05). This was true for three of the VHI domains "People have difficulty understanding me in a noisy room." (p=0.04), "I feel left out of conversations because of my voice." (p=0.02), and "People ask, 'What's wrong with your voice?'" (p=0.05). Conclusions: There was no significant relationship between H. pylori status and severity of Reinke's edema, however, there is a significant relationship between H. pylori status and dysphonia, a subjective Reinke's symptom. The interim analysis shows H. pylori positive patients scoring significantly lower than H. pylori negative patients which perhaps suggests H. pylori infection provides a protective effect.

12:06 Failed Extubation after Primary Repair of Type C Esophageal Atresia: Frequency and Risk Factors
Pamela N. Scalise, MD, Boston, MA; Donna C. Koo, MD, Boston, MA (Presenter); Ali N. Kamran, MD, Boston, MA; Shawn Izadi, MD, Boston, MA; Farokh R. Demehri, MD, Boston, MA; Sukgi Choi, MD, Boston, MA; Benjamin Zendejas, MD, Boston, MA

Educational Objective: At the conclusion of this presentation, the participants should be able to identify risk factors associated with extubation failure in neonates with type C EA/TEF after primary repair.

Objectives: Early extubation following esophageal atresia and tracheoesophageal fistula (EA/TEF) repair can reduce ventilator associated morbidity. However, some infants require reintubation due to respiratory distress. This study examines the frequency of reintubation and identifies risk factors associated with extubation failure in newborns after primary EA/TEF repair. Study Design: We conducted a single center retrospective review of newborns with type C EA/TEF who underwent primary repair between 2010-2020. Methods: Data were collected on patient characteristics, intraoperative details, and postoperative respiratory outcomes. Patients who were successfully extubated initially were compared to patients who required reintubation. Results: Sixty-nine newborns underwent primary repair of type C EA/TEF. Sixty-two patients were successfully extubated and seven (10%) required a total of 10 reintubation episodes. Failed extubation was attributed to tracheobronchomalacia (n=4), mucous plugging (n=2), and pneumothorax (n=1). The presence of concomitant congenital anomalies was a significant predictor of reintubation. Patients who failed initial extubation had a mean of 3 congenital malformations in addition to EA/TEF, compared to 2 in those who were definitively extubated (p=0.05). Among anomalies that compose the VACTERL association, anorectal and renal anomalies were significantly more prevalent in the reintubation group. There were no significant differences in gestational age, surgical approach, and other preoperative and intraoperative characteristics between the successful extubation and reintubation groups. Conclusions: Roughly 1 in 10 newborns require reintubation after primary repair of type C EA/TEF. Patients with a greater number of concomitant congenital anomalies were more likely to require reintubation.

12:12 Noninvasive Vestibular System Masking for Recalcitrant Pediatric Vertigo Management
Anna V. Borodianski, Washington, DC; Hengameh K. Behzadpour, MSHS, Washington, DC; Tracey Ambrose, Aud CCC-A, Washington, DC; Eve Kronzek, Aud CCC-A, Washington, DC; Didier Depireux, CSO, Washington, DC; Diego Preciado, MD PhD, Washington, DC

Educational Objective: Participants will be introduced to nVSM, a device that offers low frequency inner ear stimulation for immediate symptom alleviation in children with vestibular dysfunction who have no other treatment options.

Objectives: In the pediatric population, untreated vertigo and dizziness can be a significant detriment to overall health and quality of life. Current therapies for vestibular dysfunction include medical management and vestibular physical therapy. For this investigation we trialed noninvasive Vestibular System Masking

(nVSM), a novel study device which imparts low frequency vibrations to the skull to alleviate common symptoms. In this pilot case series, we sought to determine the impact induced by this device as a treatment option. Study Design: Prospective pilot study at a tertiary, stand-alone children's hospital. Methods: Patients were tested in a computerized dynamic posturography (CDP) machine which created real world simulations to induce dizziness. CPD was completed twice during the testing appointment: once without the nVSM for baseline level and second round with the device (levels 1-4). Patients were administered the Pediatric Vestibular Symptom Questionnaire (PVSQ) before and after testing regarding symptom severity with and without the vestibular masker device. Results: Four patients were recruited into the trial, of which all were female, and average age was 15.75 years. All patients reported symptom improvement from baseline with the vestibular masker device: 2 at lower settings and 2 at highest. Those that reported level 4 had central or bilateral hypofunction with symptom duration of 18 months compared to less than 8 months with right vestibular hypofunction. Average PSVQ scores in the pre and post testing periods were indicative of decreased symptom severity by almost half (2.08, 1.08, respectively). Conclusions: In this pilot study, for patients with no other options, the nVSM based on low frequency inner ear stimulation shows promising effectiveness as a valuable and immediate treatment for symptom relief.

12:18 Pediatric Head and Neck Dog Bite Injuries in the U.S.

Sophia J. Peifer, BA, Miami, FL; Holly LoTurco, BS, Miami, FL; Karen Zhang, BA, Miami, FL; Nadine M. Javier, BS, Miami, FL; Bjorn Herman, MD, Miami, FL

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the increasing risk of head and neck dog bite injuries among the pediatric population, identify factors which could be mitigated via prevention, and recognize which patients may be admitted for otolaryngology consultation.

Objectives: To examine risk factors among pediatric head and neck dog bite patients, assess which factors are associated with admission, and inform prevention efforts. Study Design: National database. Methods: The National Electronic Injury Surveillance System (NEISS), a nationwide report of emergency room (ER) visits, was utilized to gather data for all patients who suffered head and neck dog bites from 2013-2022. Chi-square analysis was utilized to compare demographics among patients discharged from the ER and those with escalation of care (EOC) via admission, observation, or transfer. Results: There were 1142 total cases, 83.0% involved pediatric patients and 17.0% involved adults. Among pediatric patients, 57.2% were male, 43.4% were 2-6 years old, and face and mouth injury constituted 77.6% of cases. Attacks were commonly provoked (61.7%), occurred in the home (94.1%), involved the family dog (60.2%), and pit bull breeds (33.5%). The average laceration size was 2.44 cm (SD = 2.73) and 90.9% of dogs were vaccinated. Compared to patients discharged from the ER, EOC patients were more likely to experience an unprovoked attack (51.4% vs. 36.5% p= .009) and injure their orbit (12.2% vs. 4.0%, p <.001), especially those under 2 years old (29.7% vs. 15.7%, p= .019). Throughout the 10 year span, 37.7% of cases occurred from 2020-2022. Conclusions: Increased caution around particular dog breeds in households with children under 2 years old may decrease the incidence of severe head and neck dog bite injuries. While pediatricians are best suited to perform general safety education, enhanced knowledge of risk factors is essential for proper inpatient counseling by otolaryngologists.

12:24 The Effect of Cleft Palate Repair on Growth

Abdiasis Abdilahi, BS, Minneapolis, MN; Cassandra Meyer, PhD, Minneapolis, MN; Sivakumar Chinnadurai, MD MPH, Minneapolis, MN; Noelle Morrell, CCC SLP, Minneapolis, MN; Robert Tibesar, MD, Minneapolis, MN; Brianne Roby, MD, Minneapolis, MN

Educational Objective: At the conclusion of this presentation, participants should understand the challenges of feeding children with cleft palate and the impact surgical repair has on feeding.

Objectives: To assess the effect of palate repair on feeding difficulty and weight gain in orally fed children

with cleft palate. Study Design: A retrospective chart review was conducted of children with cleft palate repaired between 2006-2022 at a tertiary pediatric hospital. Children with complete weight data and postoperative followup of at least 6 months were included. Children requiring parenteral feeding were excluded. Methods: Data included were demographics, weight gain, weight percentile per the WHO growth chart, and confounding variables. Preliminary statistical analysis was done with paired t-test. Results: Eighty-two patients met the inclusion criteria. The average weight gain/week was 0.14 kg before surgery and 0.13 kg after. Mean weight percentile was 24.18 before and 27.12 after surgery. The mean difference in weight per week was -0.0103 kg (P-value: 0.74). Among this cohort, 50 patients' weight percentile increased after surgery, while 32 decreased. The mean difference in weight percentile was 3.01 (P-value: 0.04). Conclusions: This study demonstrates that cleft palate repair does not independently improve feeding and growth in children who were able to maintain an oral preoperative diet. While statistically significant, a change in growth percentile of 3% is not clinically meaningful. Palate repair alone is unlikely to improve feeding in this population if they struggle with feeding preoperatively.

12:30 - 12:34Q&A

Moderator: Sarah K. Rapoport, MD, Washington, DC

12:35 Endoscopic Sinus Surgery in Patients under Six Years Old
Chloe Harrington, MD, Washington, DC; Hengameh Behzadpour, MSHS, Washington, DC; Habib Zalzal, MD, Washington, DC

Educational Objective: At the conclusion of this presentation, the participants should be able to discuss the relative safety of endoscopic sinus surgery for pediatric patients, particularly for very young patients under the age of six years old.

Objectives: We aimed to study outcomes in a cohort of pediatric patients under the age of six who underwent endoscopic sinus surgery at our institution for the indications of either acute or chronic rhinosinusitis. Study Design: Retrospective chart review of a database of patients under five years old who underwent endoscopic sinus surgery for either acute or chronic rhinosinusitis between 2016 and 2023 at a freestanding pediatric hospital. Notably, there were no patients with invasive fungal sinusitis in this database. Methods: Chart review was completed for 25 patients who met inclusion criteria. Patients ranged from 1 month old to 5 years, 10 months old. The average age was approximately 4 years old. Eighteen of the patients underwent surgery for an indication of acute complicated rhinosinusitis and 7 patients underwent surgery for chronic rhinosinusitis (including recurrent acute rhinosinusitis). Results: In a database of 25 patients, there was only one surgical complication observed. This two year old patient had ocular firmness for which an intraoperative ophthalmology consult was obtained. Intraocular pressures were measured and found to be within normal limits but they did have a CN III palsy (vs decompensated exotropia) that resolved after ophthalmology intervention and eye patching. Ages were separated into three categories, <1y (n=1), 1-3y (n=3), 3-6y (n=21). Chi squared testing between these three age groups revealed no significant differences in revision rates. There were five children who required revision surgery, three of which had chronic rhinosinusitis. Ages of the children who required revision ranged from 2-4 years old. Conclusions: Endoscopic sinus surgery has been increasingly considered safe in pediatric otolaryngology, however, our database in particular focuses on a very young subset of these patients, those under 6 years old, in which it was also determined to be safe. In a review of 25 patients under 6 years old who underwent endoscopic sinus surgery for either acute or chronic rhinosinusitis at our institution, there was only one observed complication which did resolve. Revision surgery was noted to be more common in patients in the younger subset of our group, however, this could be considered part of the natural disease course of patients with chronic or recurrent acute rhinosinusitis. Further study of this population should be continued to determine long term outcomes; however, endoscopic sinus surgery should be considered a safe treatment option in patients requiring intervention for rhinosinusitis under six years old.

12:41 Interrater Reliability of Visual Assessment for Subglottic/Tracheal Stenosis

David Ahmadian, BS, Tucson, AZ; Nader Wehbi, BS, Phoenix, AZ; Helena Yip, MD, Tucson, AZ

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the interrater reliability of the Cotton-Myer and percent occlusion systems for grading of subglottic stenosis.

Objectives: A challenge in treating subglottic and tracheal stenosis (SGTS) is assessment of airway caliber before and after management. Physicians from multiple subspecialties treat this condition and use different scales for visual assessment of stenosis. Otolaryngologists treating adults use Cotton-Myer (CM) Scale without sizing with an endotracheal tube. Pulmonologists use percent occlusion. This study is to establish interrater reliability in the visual assessment of stenosis severity. Study Design: Cross-sectional physician survey. Methods: In-office tracheoscopy videos of 20 patients with SGTS were obtained. Physicians who routinely treat patients with SGTS were asked to evaluate the degree (% or grade) of stenosis in each patient. Intraclass correlation (ICC) was calculated to assess interrater reliability for each tracheoscopy video. Results: 9 physicians (3 fellowship trained laryngologists, 3 general otolaryngologists, 2 interventional pulmonologists, and 1 thoracic surgeon) completed the survey. Mean years of clinical practice for the cohort was 11.2. Mean number of tracheoscopies performed in the past year was 125.7. For % stenosis responses, ICC was 0.90 (95% CI 0.82-0.95) for the entire cohort, 0.91 (95% CI 0.83-0.96) for physicians performing 100+ tracheoscopies/year, and 0.92 (95% CI 0.84-0.96) for physicians with 10+ years of experience. For CM grade responses, ICC was 0.94 (95% CI 0.89-0.97) for the entire cohort, 0.82 (95% CI 0.67-0.92) for physicians performing 100+ tracheoscopies/year, and 0.90 (95% CI 0.80-0.96) for physicians with 10+ years of experience. Conclusions: Interrater reliability among all physicians showed excellent reliability, indicating that the CM and % stenosis grading systems are both consistent for evaluating stenosis in SGTS patients.

12:47 Tracheostomy Outcomes in Bronchopulmonary Dysplasia

Ada C. Sher, BS, Columbus, OH; Humra Shamim, MBBS MS, Columbus, OH; Jacob T. Stack, BS, Columbus, OH; Audrey N. Miller, MD, Columbus, OH; Prasanth Pattisapu, MD, Columbus, OH; Tendy Chiang, MD FACS, Columbus, OH

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the decannulation rate and mortality in patients with bronchopulmonary dysplasia requiring a tracheostomy.

Objectives: Tracheostomy related mortality in bronchopulmonary dysplasia (BPD) has not been sufficiently analyzed in current literature. This study investigated the long term survival, decannulation rate, and outcomes of infants with BPD who underwent tracheostomy. Study Design: Clinical study. Methods: A retrospective review was conducted on infants diagnosed with BPD and treated with tracheostomy at a single institution between January 2017-December 2018. Data were collected from hospitalization and followup visits. Results: In the study period, 35 infants (17 male, 18 female) with BPD underwent tracheostomy. The average gestational age at birth was 30.7 +/- 5.0 weeks. Tracheostomy occurred at 24 +/- 27 weeks corrected gestational age. The patients who survived were followed in clinic at NCH for an average duration of 3.4 years. 13/35 achieved successful decannulation, which occurred at an average age of 4.1 +/- 1 years. 12/35 patients died, with a median time to death following tracheostomy of 72 weeks (range: 7-297). The median age of death in the cohort was 106 weeks (range: 20-315). Tracheostomy was not identified as the cause of death in 8 out of 12 patients (causes: hepatoblastoma, worsening BPD, cardiomyopathy, small brainstem, cerebral edema, anoxic brain injury, congenital seizure, pulmonary vein stenosis). The cause of death remained unclear in 4 patients (insufficient record, cardiac arrest (x2), septic shock). None of the deceased patients were decannulated. Conclusions: In a cohort of BPD patients, tracheostomy was not identified as a cause of death. However, all patients who died were never

successfully decannulated. The findings provide valuable insights into the survival and decannulation rates for this specific patient population.

12:53 Rolling Hazards: Unraveling Head and Neck Baby Walker Injuries in Young Children
Thomas Haupt, MD, Washington, DC; Tonja Hollis, BS, Washington, DC; Millicent Collins, MD, Washington, DC; Earl H. Harley, MD, Washington, DC

Educational Objective: By the end of this presentation, participants will have acquired an understanding of the potential hazards associated with baby walkers and their relevance to head and neck injuries. This presentation aims to establish foundational knowledge for pediatric otolaryngologist consultants and showcase prevalent types of head and neck injuries and the most frequently encountered mechanisms leading to such injuries.

Objectives: Baby walkers have long been associated with severe injuries in young children due to falls. In 2010, a safety mandate aimed at reducing such injuries was enacted. Our objective is to analyze head and neck injuries resulting from baby walkers, which were treated in U.S. emergency departments for children under two years of age. This analysis aims to describe injury patterns and trends. Study Design: Retrospective cohort study utilizing a single database. Methods: National Electronic Injury Surveillance System (NEISS) data on head and neck injuries from baby walkers between 2012 and 2021 were analyzed. We explored demographic characteristics and injury patterns, employing linear regression to assess trends in injury frequency. Results: Approximately 21,983 children under two received treatment for baby walker related head and neck injuries in US emergency departments. The mean age was 10.1 +/- 3.22 months, with 61.1% being boys. Most injuries (97.7%) occurred at home. Common injury diagnoses included internal injuries (42.6%), contusions/abrasions (18.2%), lacerations (10.5%), and fractures (7.3%). A total of 45% of the injuries were related to falling downstairs, with an average of six stairs. Of the cases, 93% were treated and released. The linear regression analysis demonstrated a significant annual increase in cases from 2012 to 2020, estimating 184.2 (95% CI: 90.3-278.2) more cases per year (p=0.002). Conclusions: Despite the safety mandate implemented in 2010, baby walker related head and neck injuries continue to lead to visits to emergency departments and are on the rise. Ongoing efforts are necessary to mitigate the severity and frequency of these injuries.

12:59 A Case Series of Surgical and Nonsurgical Management of Nontuberculous Mycobacterial Cervical Lymphadenitis
Claudia N. Gutierrez, MD MS, Charlottesville, VA; Hannah Jacobs-El, BS, Charlottesville, VA; Ariana Greewell, MD, Charlottesville, VA

Educational Objective: At the conclusion of this presentation, the participants should be able to identify and manage nontuberculous mycobacteria (NTM) cervical lymphadenitis in the pediatric population.

Objectives: To present a case series of pediatric patients who underwent successful surgical and nonsurgical management of NTM cervical lymphadenitis. Study Design: Retrospective case series. Methods: The presentation and management of NTM cervical lymphadenitis was reviewed via PubMed. Patient medical records, diagnostic tests, imaging, and operative reports were assessed with IRB approval. Results: We present eight patients (88% female, predominately white), aged 15 months to 8 years, who received multidisciplinary treatment from pediatric infectious disease and otolaryngology at a tertiary care facility. The majority (88%) underwent initial neck ultrasounds. Among five patients who had a tuberculin skin test, three were positive. However, subsequent interferon gamma release assays were negative, highly suggestive of NTM. Half of patients underwent CT or MRI for surgical planning. Serology for EBV, bartonella, and CMV, based on exposure history, was performed in 50% of the patients and returned negative. Two patients had resolution with azithromycin and rifampin alone. The other six required surgery due to treatment resistant progression. All six showed necrotizing granulomatous lymphadenitis on surgical pathology and four out of six had intraoperative cultures positive for mycobacterium. The

other two had no growth on acid fast culture. Postoperatively, all patients achieved resolution with 2-6 months of antibiotics. Conclusions: In immunocompetent patients, NTM typically resolves spontaneously within one-two years. However, patients often develop draining fistulous tracts which can result in facial scarring. Timely recognition and referral to a multidisciplinary team are critical to avoid diagnostic delays, caregiver anxiety, and unnecessary procedures. This case series demonstrates successful management strategies using both surgical and nonsurgical methods.

1:05 - 1:10 Q&A

1:10 Grab lunch in the Foyer and come back for Friday afternoon sessions

1:10 Golf Outing (pre-registration required)

1:20 - 2:00 PANEL: How'd You DO That? Practice and Life Pearls from Amazing Careers - Ballroom C
Moderator:
Michael M. Johns III, MD, Los Angeles, CA
Panelists
Jimmy J. Brown, MD FACS, Gainesville, FL
Jennifer R. Grandis, MD FACS, San Francisco, CA
Andrew H. Murr, MD FACS, San Francisco, CA
Myles L. Pensak, MD FACS, Cincinnati, OH

1:20 - 2:00 TRIO THESIS SEMINAR (pre-registration required) - Room 2BC
Daniel G. Deschler, MD FACS, Boston, MA

2:00 - 3:30 RESIDENT BOWL (pre-registration required) - Grand Ballroom
Albert L. Merati, MD, Seattle, WA
Michael E. Hoffer, MD FACS, Miami, FL
Sarah N. Bowe, MD FACS, Ft. Sam Houston, TX
Stacey T. Gray, MD FACS, Boston, MA
Lamont R. Jones, MD MBA FACS, Detroit, MI

3:30 - 5:00 WOMEN IN OTOLARYNGOLOGY NETWORKING RECEPTION (open to all) - Sponsored by Cook Medical -Grand Ballroom Foyer

SATURDAY, JANUARY 27, 2024

6:30 - 7:30 BUSINESS MEETINGS (Triological Fellows Only)
Eastern Section - Room 2BC
Middle Section - Room 2DE

7:00 - 7:30 BREAKFAST FOR ATTENDEES - Grand Ballroom Foyer

GENERAL SESSION 7:30 - 9:30 - Grand Ballroom

7:30 Announcements by Paul Willging, MD and Introduction of Vice President Elects by Section VPs

7:35 - 7:43 Introduction of 2024 Thesis Award Presentation
Dana M. Thompson, MD FACS, Chicago, IL
2024 WITH DISTINCTION AWARD
Fluoroscopic Assisted Tongue Suspension: Advancement and Innovation in the Management of Complex Pediatric Obstructive Sleep Apnea
Taher S. Valika, MD FACS, Chicago, IL

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the role of glossoptosis in patients with obstructive sleep apnea and its surgical management via tongue base suspension.

Objectives: The primary aim of this study is to describe a novel surgical technique developed for tongue base suspension. The second aim of this study is to assess efficacy of the developed procedure by quantifying preoperative and postoperative polysomnographic outcomes for pediatric patients undergoing fluoroscopic assisted tongue suspension (FATS) with the Encore System. Our hypothesis is that our FATS technique will provide at least a 50% reduction in the Apnea/Hypopnea Index (AHI), including in the medically complex pediatric population. Study Design: Retrospective case series. Methods: An electronic medical record review was conducted of patients who underwent FATS by a single surgeon at a tertiary care medical center between December 2019 and June 2022. Inclusion criteria included all patients < 18 years old with evidence of OSA or sleep disordered breathing and who had glossoptosis on sleep endoscopy. Data extracted from the medical record included age, gender, medical comorbidity history, reason for referral, history of airway surgeries, length of hospital stay, surgical complications data, and preoperative and postoperative polysomnographic data. Surgical success was defined by at least a 50% reduction in AHI. Results: Thirty patients (53.3% male) with mean age of 6.3 (±5.3, 0.16-17) years underwent FATS over the study period. Most patients (93%) had an underlying comorbidity: cerebral palsy (37%), chromosomal abnormalities (23%), Down syndrome (13%), Pierre-Robin sequence (10%), and obesity (10%). The majority of patients (77%) were explicitly referred for tracheostomy placement secondary to failed management of OSA. 21 patients completed both preoperative and postoperative polysomnograms. The mean preoperative AHI, obstructive AHI (oAHI), and respiratory disturbance index (RDI) were 28.8 (±19.8), 30.8 (± 19.6), and 30.5 (± 19.3), respectively. The mean postoperative AHI, oAHI, and RDI were 7.3 (± 9.2), 7.5 (± 9.1), and 7.9 (± 9.3), respectively. Mean change in AHI was -21.5 (± 21.4) events/h ($p<0.01$, 95% CI -29.0 to -11.4 events/h). The mean percentage decrease in AHI was 74.7%. Mean change in oAHI and RDI were -23.3 (± 21.9) events/h ($p<0.01$ 95% CI- 39.9 to -21.4 events/h) and -22.5 (± 21.5) events/h ($p<0.01$, 95% CI- 31.5 to -12.4 events/h), respectively. The mean percentage decrease in oAHI and RDI was 75.6% and 73.8%, respectively. Surgical success occurred in 16 of the 21 (76%) patients. Of the 23 patients referred explicitly for tracheostomy placement, 21 (91%) were able to avoid tracheostomy placement secondary to improvements in OSA. Conclusions: Patients undergoing

fluoroscopic assisted tongue base suspension revealed statistically significant improvements in AHI, oAHI, and RDI, with an overall surgical success rate of 76%. Complication rates were minimal, despite the complex nature of the study population. FATS should be considered a viable surgical approach in pediatric patients with identified base of tongue obstruction and OSA.

7:44 - 7:46 Q&A

7:47 PANEL: Establishing and Growing a Research Program in Your Residency Training Program
Moderator
Jay F. Piccirillo, MD FACS, St. Louis, MO
Panelists
Christine T. Dinh, MD, Miami, FL
Andrew N. Goldberg, MD MSCE FACS, San Francisco, CA
Stacey T. Gray, MD FACS, Boston, MA
Shawn D. Newlands, MD PhD MBA FACS, Rochester, NY

8:30 PANEL: Making Frenemies - Understanding How AI Can Move Medicine Forward
Moderator
Anais Rameau, MD MPhil, New York, NY
Panelists
Paul C. Bryson, MD FACS, Cleveland, OH
Eric A. Gantwerker, MD MS MMSc(MedEd) FACS, New Hyde Park, NY

9:00 - 9:30 GUEST LECTURE: Life Happens - Pivoting from an Otolaryngology Career to Autism Advocacy
Lecturer
Lisa Liberatore, MD, New York, NY
Post-Talk Discussant
Mark S. Persky, MD FACS, New York, NY

9:30 - 10:00 BREAK WITH EXHIBITORS/VIEW POSTERS - Grand Ballroom Foyer & Ballroom AB

SATURDAY MORNING CONCURRENT SESSIONS

Concurrent Session I - Head & Neck
10:00 - 12:15
Grand Ballroom

Moderator: Bruce H. Haughey, MBChB FACS, Celebration, FL

10:00 WITHDRAWN - A Retrospective Cohort Analysis of a Multimodal Analgesic Protocol (MMA) to Reduce Postoperative Pain and Opioid Usage in Head and Neck Free Flap Reconstruction -
Presenter: Amanda Walsh, MD, Washington, DC

10:06 Understanding Risk Factors for Compliance with Preoperative Enhanced Recovery after Surgery (ERAS) Protocol among Head and Neck Free Flap Patients
Anjali Devgan, MS, Boston, MA; Lucy Xu, MD, Boston, MA; Jeremy Goldfarb, MD, Boston, MA; Mark Varvares, MD, Boston, MA; Jeremy Richmon, MD, Boston, MA; Allen Feng, MD, Boston, MA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand hospital-level risk factors for non-completion of ERAS preoperative packet.

Objectives: The preoperative ERAS protocol aims to optimize patients prior to head and neck free flap reconstruction. Our study aims to understand the risk factors associated with ERAS protocol compliance. Study Design: Retrospective cohort analysis. Methods: We performed a retrospective cohort analysis of patients undergoing head and neck free flap reconstruction at our institution from 2019 to 2023. Information was obtained from chart review and institutional infection control data. Statistical analyses were performed in Python. This study was granted exemption by the Human Research Office. Results: Of 461 eligible patients, 334 (73%) received a preoperative ERAS packet. 180 patients (54%) completed the full packet, and an additional 20 (6%) completed one or more components. Patients with in-person preoperative anesthesia evaluation were significantly more likely to receive and complete the preoperative ERAS packet than those with remote evaluations ($p < 0.01$). Among patients who received a preoperative packet, there was no statistically significant association between completion and demographic factors such as age, race, ethnicity, preferred language, or state of residence. Conclusions: We found that an ERAS preoperative packet is more likely to be received and completed by patients who underwent in-person preoperative anesthesia evaluation despite an option for mail delivery. For those who received the ERAS packet, there were no significant demographic predictors of completion. As healthcare shifts towards providing more remote services, it is critical to ensure ERAS systems adapt to provide patients with necessary supplies for preoperative optimization.

10:12 Postoperative Pneumonia in Major Head and Neck Cancer Surgery

Grant Borne, BS, Shreveport, LA; Isabella Fabian, BS, Shreveport, LA; Ivan Alvarez, BS, Shreveport, LA; Liam Ordoyne, BS, Shreveport, LA; Cherie-Ann Nathan, MD FACS, Shreveport, LA; John Pang, MD, Shreveport, LA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the factors most associated with postoperative pneumonia and its prevalence among patients undergoing major head and neck cancer surgery.

Objectives: The prevalence of postoperative pneumonia in patients undergoing major head and neck cancer surgery has not been well established. This study used the Nationwide Inpatient Sample (NIS) to determine the prevalence of postoperative pneumonia and to identify associated factors on a national level. Study Design: For this retrospective cohort study of patients undergoing major head and neck cancer surgery, a sample of 10,037 patients from 2017 and 2019 were identified through the Nationwide Inpatient Sample. Once the cohort was identified, SPSS was used to run the statistical analysis. Methods: Data from the National Inpatient Sample (NIS) from the years 2017 to 2019 was analyzed using ICD-10 codes to allow for examination of patient demographics, comorbidities, length of hospital stay, total hospital charges, and postoperative outcomes. Outcomes in patients with and without postoperative pneumonia were compared, and multivariate regression for factors associated with pneumonia was performed. Results: Of 59,912 patients with HNC, 10,037 underwent major HNC surgery. Major HNC surgery includes laryngectomy, pharyngectomy, glossectomy, neck dissection, mandibulectomy, and maxillectomy. Of those 10,037 patients, 285 had a pneumonia diagnosis. Pneumonia patients had longer hospitalizations (15 +/- 14 vs. 6 +/- 6, $P < .001$; median +/- IQR) and had greater hospital charges (241,308 +/- 216,006 vs. 104,697 +/- 122,137, $P < .001$; median +/- IQR). Regression models revealed that anemia was the greatest predisposing factor for pneumonia (OR 3.3, 95% CI 2.6-4.2) among other comorbidities such as COPD (OR 2.0, 95% CI 1.6-2.7), hypertension (OR 1.3, 95% CI 1.0-1.7), and dementia (OR 1.4, 95% CI 1.0-1.9). The surgical interventions of glossectomy (OR 2.7, 95% CI 1.6-4.3), maxillectomy (OR 2.47, 95% CI 1.3-4.9), and laryngectomy (OR 1.4, 95% CI 1.0-1.8), also demonstrated a significant increase in the odds of postoperative pneumonia. Pneumonia was also an independent risk factor for increased patient length of stay (OR 7.0, 95% CI 5.4-9.4) and increased total charges (OR 4.5, 95% CI 3.4-6.0). Conclusions: In one of the population's largest datasets, postoperative pneumonia was the strongest predictor of increased length of stay and hospital charges in patients undergoing major head and neck cancer surgery. Surgical pathways should directly target decreasing pneumonia rates to improve outcomes and lower costs.

10:18 Tracheostomy Cap that Provides Variable Positive End-Expiratory Pressure for the Treatment of Postoperative Atelectasis

Stephanie Soo-Joong Kim, BS, Hanover, NH; Justin Y. Ye, BEng, Sunnyvale, CA; Mariane H. Kim, BEng, Sunnyvale, CA; Joseph A. Paydarfar, MD, Hanover, NH

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the limitations when preventing and treating atelectasis in patients with tracheostomies and appreciate a novel device that helps to overcome this limitation.

Objectives: Atelectasis is a common complication postoperatively and is generally prevented using incentive spirometers. Newer methods to address atelectasis include positive end expiratory pressure devices. Patients with tracheostomies however do not have access to the same tools to prevent and treat atelectasis. This study outlines the conception and design of a tracheostomy cap that can help prevent and treat atelectasis in patients with tracheostomies. Study Design: Feasibility study. Methods: Initial prototype for an adaptor that connects a respiratory device to a tracheostomy tube was built from commonly found respiratory tubing. The design was improved to reduce dead space and was eventually iterated into a tracheostomy tube cap. Renditions of the cap were designed using TinkerCad and modeled using SimScale, a fluid dynamic simulator. Results: This study demonstrated successful design of a tracheostomy cap (with a bottom diameter of 2cm, top diameter of 4cm and height of 3.3cm) that provides variable positive end expiratory pressure. The cap consists of a one way valve behind an aperture which allows unobstructed inhalation while allowing for variable pressure during exhalation with closure of the aperture. Dynamic fluid simulation successfully demonstrated that the device can offer a positive end expiratory pressure range of ~0-30 cmH2O with closure of the aperture. Conclusions: This feasibility study successfully designs a compact tool to help prevent and treat atelectasis in patients with a tracheostomy.

10:24 Female Authorship in Head and Neck Surgery: A 10 Year Analysis

Tatiana Ferraro, BS, Washington, DC; Alisha Pershad, BS, Washington, DC; Jamie Cole, BS, Washington, DC; Timothy Brandon Shaver, MD, Washington, DC; Stephanie Sawicki, MPH, Washington, DC; Punam Thakkar, MD, Washington, DC

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the trends in female authorship within head and neck surgery across the last decade and identify deficits.

Objectives: While otology, neurotology, skull base surgery, rhinology, allergy, laryngology, and cosmetic surgery have published data on trends of female authorship within their respective subspeciality, there is no comprehensive study of authorship within head and neck surgery. We aim to address this gap by reporting changes in female authorship over a 10 year period and convey the current state of female authorship in head and neck surgery, as a subspecialty of otolaryngology. Study Design: Retrospective data analysis. Methods: Four researchers recorded the gender of first and senior (last) authors from head and neck subspecialty papers (defined as head and neck oncology, endocrine surgery (thyroid/parathyroid), salivary gland surgery and microsurgeries and reconstruction) derived from eight journals in otolaryngology. Author gender, study design, funding, geographic location of affiliate institution, and highest degree attained at time of publication was recorded from journal issues in the years 2013, 2016, 2019 and 2022. Results: The identity of 5,571 authors were analyzed for this study, 28.5% of authors throughout the total years studied were identified as female. 33.6% of first authors and 22.9% of senior authors were identified as female. The number of first female authors and senior female authors significantly increased between 2013 and 2022 ($p<0.05$). When subcategory of papers were analyzed, female authors were underrepresented in articles on reconstruction and microsurgery (11.1%), compared to male counterparts. Conclusions: While female authorship in the head and neck subspecialty has

increased, female authors remain underrepresented in the literature, especially as senior authors.

10:30 - 10:35Q&A

Moderator: Adam M. Zanation, MD, Chapel Hill, NC

10:36 Treatment Options for Head and Neck Lymphatic Malformations in Children
Sejal McDonough, MD, Boston, MA; Imran M. Khawaja, BA, Newark, NJ; Afash Haleem, BA, Newark, NJ; Mina Ghajar, MLS, Newark, NJ; Prachi Patel, MD, Boston, MA; Jessica Levi, MD, Boston, MA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the outcomes of pediatric lymphatic malformations in the head and neck through different treatment modalities.

Objectives: To comprehensively review the treatment modalities and outcomes of pediatric lymphatic malformations (LM) in the head and neck. Study Design: Systematic review. Methods: 28 studies published between 1992 and 2022, with a total of 1,332 patients, were assessed by the authors to extract information regarding patient age, LM location, size, treatment type, complications, and outcome. Patient data was stratified according to treatment modality. Results: 20 retrospective case series and 8 prospective randomized studies were analyzed. The mean age of the 1,332 patients was 3.52 years (0.25-10.4 years). The average followup period after treatment was 2 years (1-3.58 years). Common therapies included sclerotherapy (n=452) and surgery (n=400). With respect to treatment cohorts, 100% LM resolution was seen in sclerotherapy with bleomycin (6.5%, n=20), doxycycline (23.5%, n=8), and OK-432 (18.3%, n=20). 58.3% (n=233) of patients treated with surgery experienced complete resolution while 0% achieved this result with laser therapy alone. Nearly half of the patients (46.4%, n=26) undergoing surgery and sclerotherapy experienced a complete reduction compared to 2.6% (n=1) who underwent radiofrequency ablation. 20.5% (n=40) of patients experienced a resolution of LM with observation alone. Conclusions: Treatment for pediatric lymphatic malformations of the head and neck can be successfully achieved through various methods, including surgery and sclerotherapy, among others.

10:42 Development of a Cutting Guide for Osteocutaneous Radial Forearm Free Flap Harvest
Carly Fassler, BS, Nashville, TN; Alexis Miller, BS, Nashville, TN; Doug Weikert, MD, Nashville, TN; Kyle Mannion, MD, Nashville, TN; Michael C. Topf, MD, Nashville, TN; Sarah Rohde, MD, Nashville, TN

Educational Objective: At the conclusion of this presentation, the participants should understand the feasibility of utilizing a cutting guide to achieve optimal radius harvest in osteocutaneous radial forearm free flaps (OCRFFF).

Objectives: The OCRFFF is frequently utilized for reconstruction of head and neck defects. Since the radius is a weight bearing bone, precise harvesting is required to maintain structural integrity and prevent postoperative fracture. The use of a cutting guide may allow head and neck reconstructive surgeons to be more precise and confident in performing the osteotomy portion of the case. Study Design: Prospective feasibility study. Methods: A radius cutting guide has been developed through an iterative process with 5 head and neck microvascular surgeons and 1 hand surgeon. Institutional review board approval has been obtained. A total of 10 patients scheduled to undergo OCRFFF will be recruited. A patient specific radius cutting guide will be created for each patient using preoperative CT scans. Length and width measurements of the amount of bone harvested will be recorded and compared to the preoperative plan. A postoperative survey will be given to surgeons to assess their experience using the cutting guide. Results: Prototype #5 of the radius cutting guide has been approved by all surgeons. Accepted revisions to the prototypes included: a single partial wrap cutting guide from ulnar to radial based on perforator

anatomy, straight distal and proximal osteotomy cuts, increased osteotomy slit height to 5 mm, fewer fixation holes in harvested radius bone, addition of fixation holes to non-harvested radius for stability. The final prototype has been successfully tested on two cadavers. Conclusions: This ongoing prospective study aims to evaluate the feasibility of a cutting guide for harvesting radius during OCRFFF head and neck reconstruction.

10:48 Visualizing Surgical Instruments in an Augmented Reality Platform
Anusha Naik, BS, Philadelphia, PA; Kush Panara, MD, Philadelphia, PA; Celeste Shaw, MSN, Philadelphia, PA; Tiffany Chao, MD, Philadelphia, PA; Robert Brody, MD, Philadelphia, PA

Educational Objective: At the conclusion of this presentation, the participants should be able to describe methodology of how augmented reality technology could be harnessed to train surgical staff on surgical instrument use.

Objectives: Augmented reality (AR) systems are gaining popularity in surgical care, most notably for use in virtual surgical planning and surgical instrument navigation. At our institution, training of surgical staff requires approximately three months with extensive hands-on time to gain proficiency in surgical instrument use. This proof of concept study explores the use of AR technology as an educational tool, specifically to virtually model surgical instruments with the aim of training surgical staff on the platform. Study Design: Experimental study. Methods: We obtained a surgical tray formatted for radical neck dissections, including 65 unique surgical instruments with functions ranging from retraction to dissection, elevation to probing, etc. The 65 instruments were 3D scanned using an Artec 3D scanner and Aesub scanning spray and were subsequently visualized in an AR format using a Microsoft HoloLens. Instruments with dynamic function were animated to preserve function in the AR setting. Results: The user was able to visualize and interact with each of 65 surgical instruments in an AR setting. The user could learn the instrument's name, appearance, and dynamic function through visualization and interaction. Conclusions: This study demonstrates the feasibility of modeling surgical instruments in an AR platform. We intend to build upon this finding by creating AR training modules that surgical staff can utilize as a learning environment. Such training modules would aim to improve staff onboarding with goals of increased efficiency and decreased cost, with the ultimate goal of improving surgical care for patients.

10:54 Impact of a Novel Virtual Reality/3 Dimensional Case Enhancement Protocol (VR/3D-CEP) on Head and Neck Surgeon Task Load Burden and Positive Margin Events: A Pilot Study
Kathryn Nunes, BA, Philadelphia, PA; Victor Jegede, BS, Philadelphia, PA; Derek Mann, BS, Philadelphia, PA; Ayan Kumar, MD, Philadelphia, PA; Joseph Curry, MD, Philadelphia, PA

Educational Objective: At the conclusion of this presentation, the participants should be able to assess the feasibility and impact of VR/3D case enhancement protocol on surgeon task load burden and positive margin events.

Objectives: Positive surgical margin status in head and neck cancer (HNC) is an important prognostic indicator and recurrence predictor. Amongst solid tumors, oral cavity cancer continues to have one of the highest rates of positive margins. We aimed to measure the feasibility and impact of a novel VR/3D case enhancement protocol on HNC surgeons' perceived task load burden and positive margin events. Study Design: Thirty-six adult patients seeking surgical resection for head and neck cancer were enrolled in a randomized case control trial. Methods: Patients were randomized to either standard surgical planning or standard with VR surgical planning. Surgeon task load burden was assessed with the NASA-TLX survey. Defect driven margins, positive margins, and re-resection rates were evaluated. Results: There was no significant increase or decrease in surgeon demand (mental, physical, or temporal), effort or frustration with VR. Defect driven margins were significantly lower in the VR cohort ($p=0.018$). There was no significant difference in positive frozen margins or re-resection rates, however when calculating an overall margin event score (defect driven, positive frozen, and positive final margins), the difference

between cohorts was significant (p=0.018). Conclusions: VR surgical planning is a feasible addition to surgical planning for a range of head and neck surgeries. VR was associated with significantly lower margin event score and defect driven margins, suggesting that preoperative VR planning may be associated with improved primary tumor resection without adding to surgeon task load burden. Additional research is needed to further elucidate the significance of VR surgical planning on surgical outcomes and across institutions.

11:00 Chronic Rhinosinusitis in Head and Neck Cancer after Maxillectomy and Microvascular Reconstruction
Michael T. Werner, MD PHD, New Hempstead, NY; Ryan Carey, MD, Philadelphia, PA; Kush Panara, MD, Philadelphia, PA; Steven Cannady, MD, Philadelphia, PA

Educational Objective: At the conclusion of this presentation, the participants should be able to identify maxillary cancer patients who may be suffering from CRS as a survivorship issue.

Objectives: Chronic rhinosinusitis (CRS) can be associated with tumors involving the maxillary sinus, but outcomes after undergoing maxillectomy with free flap reconstruction remain unclear. Study Design: Retrospective chart review. Methods: Medical records including radiographic surveillance data were thoroughly evaluated for evidence of CRS in patients who underwent maxillectomy with free flap reconstruction at a single tertiary care academic institution from 2013 through 2020. Results: Eighty-four patients were assessed. Nineteen (22.6%) patients were diagnosed with CRS after surgery, 23 (27.4%) patients were treated for sinus symptoms, and 49 (58.3%) had radiographic evidence of sinus inflammation for more than 6 months. Risk factors for requiring sinus treatment included chemotherapy (p=0.025) and preoperative use of sinus medication (p=0.005). Conclusions: CRS may be underdiagnosed in patients undergoing maxillectomy with microvascular reconstruction. More aggressive management following definitive neoplastic surgery may lead to a higher quality of life in some long term survivors.

11:06 - 11:11Q&A

11:12 PANEL: Salivary Gland Cancer - Treatments and Novel Approaches
Moderator
Steven J. Wang, MD, Tucson, AZ
Panelists
Timothy M. McCulloch, MD FACS, Madison, WI
Bhuvanesh Singh, MD FACS, New York, NY
Donald T. Weed, MD FACS, Miami, FL

11:45 PANEL: Treating the N0 Neck/Parotid for High Risk Cutaneous SCC
Moderator
Cecelia E. Schmalbach, MD MSc FACS, Philadelphia, PA
Panelists
Michael L. Hinni, MD FACS, Phoenix, AZ
Nitin A. Pagedar, MD MPH, Iowa City, IA
Christopher H. Rassekh, MD FACS, Philadelphia, PA

Concurrent Session J - Otology
10:00 - 12:15
Ballroom C

10:00 PANEL: Cholesteatoma - Complicated Cases
Moderator

Jacques A Herzog, MD, Creve Coeur, MO

Panelists

Samantha Anne, MD FACS, Cleveland, OH
Daniel I. Choo, MD FACS, Cincinnati, OH
Peter C. Weber, MD FACS, Boston, MA

10:37 PANEL: Ossicular Reconstruction

Moderator

Adrien Eshraghi, MD, Miami, FL

Panelists

H. Jeffrey Kim, MD, Washington, DC
Anil K. Lalwani, MD FACS, New York, NY

Moderator: Benjamin Crane, MD, Rochester, NY

11:14 Efficacy of Natural Language Processing Chatbots in Answering Frequently Asked Questions about Common Otologic Diagnoses and Procedures

Afash Haleem, BA, Boston, MA; Samantha Shave, BA, Boston, MA; Keegan Yap, Boston, MA; Daniel J. Lee, MD, Boston, MA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the ability of novel natural language processing (NLP) chatbots to accurately and reliably answer questions about common otologic diagnoses and procedures.

Objectives: To evaluate the reliability and accuracy of natural language processing (NLP) chatbots in answering questions regarding common otologic conditions and procedures. Study Design: Prospective evaluation of NLP chatbots. Methods: The follow terms were searched on Google: “cochlear implant” (CI), “stapedectomy”, “tympanostomy”, “otosclerosis”, “cholesteatoma”, and “eustachian tube dysfunction” (ETD). We collected the first 20 questions from the “People also asked” section, excluding redundant queries, to generate frequently asked questions (FAQs). The FAQs were queried through ChatGPT-3.5, Google Bard (GB), and Bing AI (BA). Answers and sources were recorded except for ChatGPT-3.5, which does not provide sources. Sources were categorized as government, hospital, nonprofit organization, blog/amateur, manufacturer, journal, or other. All answers were evaluated for accuracy. Queries were run on newly installed browsers. Results: For otosclerosis, cholesteatoma, and stapedectomy, ChatGPT and GB both yielded 20/20 correct answers. For tympanostomy, only ChatGPT yielded 20/20 correct answers. For ETD, only ChatGPT yielded 20/20 correct answers. Google consistently yielded the lowest number of correct answers for an individual diagnosis/procedure (11/20 - 19/20). For all diagnoses, Google most frequently cited hospital sources (33.3%-38.5%). For cholesteatoma and ETD, BA most frequently cited hospital sources (31.7%, 36.0%). For tympanostomy, stapedectomy, and CI, Google primarily cited hospitals (72.2%), governments (43.8%), and nonprofit organizations (30.0%), respectively. For tympanostomy and stapedectomy, BA primarily cited hospitals (39.4% and 28.3%), and health advice websites for CI (29.5%). ChatGPT and GB did not reliably provide sources. Conclusions: NLP chatbots may provide more accurate and reliable otology FAQ answers. Developers of NLP chatbots should prioritize peer reviewed sources when training models.

11:20 A Month of Vestibular Migraine: In Depth Symptom Characterization Using Ecological Momentary Assessment

Jasmeet Saroya, BS, San Francisco, CA; Max Humwell, BS, San Francisco, CA; Adam Gardi, BS, San Francisco, CA; Ricky Chae, BS, San Francisco, CA; Isabel Allen, PhD, San Francisco, CA; Jeffrey Sharon, MD, San Francisco, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to

understand the daily patterns of vestibular symptoms in patients with vestibular migraine (VM), as captured through ecological momentary assessment (EMA). Participants should be able to comprehend the significance of a lack of difference in symptomatology between probable VM and VM characterizations as per Barany Society and understand the need for possible revisions in diagnostic criteria to better reflect the natural history of VM.

Objectives: The study sought to examine the daily pattern of dizziness in patients with vestibular migraine (VM) to enhance understanding of the disease's natural history, using ecological momentary assessment (EMA). Study Design: The design involved a one month baseline period of two clinical trials, focusing on both probable VM (pVM) and VM cases per Barany Society's criteria. This was a noninterventionist observational study. Methods: 66 adult subjects with pVM or VM per Barany Society criteria were recruited. They were each followed without active intervention for one month as part of the baseline period for two clinical trials. They provided self-reported symptoms to an automated text system, rating their dizziness over the prior 24 hours as none, mild, moderate, or severe. Definitive dizzy days (DDDs) were defined as days with moderate or severe dizziness. A t-test was conducted to compare the number of DDDs between VM and pVM patients. Results: Subjects provided data for an average of 29 days (SD=1.4). On average, there were 3.5 (SD=6.5) symptom free days, 9.1 (SD=6.7) days with mild symptoms, 11 (SD=6.1) with moderate symptoms, and 5.4 (SD=6.3) with severe symptoms. Of the participants, 52 were classified as VM and 14 were pVM. The average number of DDDs between VM (17, SD=8.3) and pVM (15, SD=10) did not differ significantly (p-value=0.44). Conclusions: Employing EMA revealed that a typical VM patient experiences some level of vestibular symptoms almost daily, averaging over 15 DDDs per month. The findings suggest that the diagnostic criteria might need to be revised to better reflect the natural history of VM.

11:26 Delayed Facial Nerve Dysfunction following CyberKnife for Vestibular Schwannoma

James Dixon Johns, MD, Washington, DC; Peter H. Ahn, MD, Washington, DC; Abdul X. Rahid, PhD, Washington, DC; Dylan R. Conroy, MD, Washington, DC; Paul F. Chisolm, MD, Washington, DC; Hung Jeffrey Kim, MD, Washington, DC

Educational Objective: At the conclusion of this presentation, the participants should be able to recognize association of radiation dose and location as possible contributors to facial nerve dysfunction following Cyberknife stereotactic radiosurgery. This is an important and under recognized complication of stereotactic radiosurgery that should be considered during counseling for treatment options of vestibular schwannoma.

Objectives: The incidence and risk factors for facial nerve dysfunction (FND) following CyberKnife therapy for vestibular schwannoma (VS) remains poorly understood. This study investigates whether the location of tumor or type of radiation treatment may contribute to FND. Study Design: Retrospective cohort study. Methods: Patients were identified who underwent CyberKnife radiosurgery for VS at a single institution. Basic demographics, tumor characteristics, and facial nerve function (House-Brackmann (HB) scale) were collected. Total radiation doses to tumor site, internal auditory canal (IAC), and labyrinthine and geniculate ganglion of facial nerve (FN) were evaluated. Results: 5 patients were identified who experienced FND following CyberKnife treatment for VS. Tumor size (average 2.16 cm3 [0.22-4.49 cm3], total radiation dose (five fractions, average 2450 cGy [2250-2500 cGy]), and prescription isodose line (average 83% [80-90%]) were analyzed. Average post-treatment FND was HB 3.2/6 [2/6-6/6]. Average time to FND was 21.1 months [3-54.2 months]. Average radiation doses included tumor site (2944 cGy [2647-3125 cGy], IAC (2916 cGy [2606-3125 cGy]), and FN (2281 cGy [1406-2946 cGy]. The two patients with FND HB 4/6 or greater were noted to have larger tumor volumes (3.74 v. 1.11 cm3), shorter time to FND (4 v. 33 months), and higher maximum doses to FN (2749 v. 1969 cGy) compared to those with less than HB 4/6 FND, respectively. Conclusions: Delayed FND is likely an underrecognized sequelae of CyberKnife radiosurgery for VS that can occur many months following treatment. It is important to determine whether radiation dose and location many contribute to this complication.

11:33 The Hidden "Ear-Way": A Cohort Analysis of Otologic Manifestations in Aspirin Exacerbated Respiratory Disease

Richard Antonio Pellizzari, BS, Oakland, CA; Julia Wei, MPH, Oakland, CA; Swapnil Shah, BS, Omaha, NE; LaBryson Greene, BSEd, Macon, GA; Elias Saba, MD, Oakland, CA; Alexander Rivero, MD, Oakland, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to 1) appreciate the association between aspirin exacerbated respiratory disease (AERD) and the presence of otologic symptoms; and 2) appreciate the association between sinonasal inflammation severity and otologic manifestations in this cohort.

Objectives: This study aims to report otologic symptoms in a cohort of patients with aspirin exacerbated respiratory disease (AERD) to determine if severity of sinonasal inflammation is associated with presence of otologic symptoms. Study Design: Retrospective cohort study. Methods: All AERD patients treated at a tertiary care center between 2009-2016 were included in analysis. Demographics, Sino-nasal Outcome Test (SNOT-22) results, Lund-Mackay (LMK) scores, number of previous sinus procedures, and the presence of several otologic symptoms were recorded. Multivariable analysis was performed. Results: Of 255 AERD patients, 58.4% were female with a median age of 50. The majority (52.2%) had otologic symptoms, most commonly: otitis media requiring antibiotics (n=89, 34.9%), vertigo (n=59, 23.1%) and middle ear effusion (n=44, 17.3%). 76 patients (29.8%) had hearing loss. Pure tone average ranged from 13.3-61.7 dB for the cohort, with no significant difference between those with and without otologic symptoms. Five patients with otologic manifestations completed the SNOT-22 questionnaire with scores ranging from 0-59. 32 patients with otologic manifestations had LMK with a mean of 17.1 (SD 6.4). Patients with otologic symptoms had a significantly greater number of sinus procedures than those without otologic symptoms (median 2.4 and 1.8 respectively; p=0.01). Conclusions: Otologic manifestations may result as a sequela of eustachian tube dysfunction secondary to sinonasal and middle ear mucosal inflammation. Congruent with prior literature, our analysis showed a significant association between severity of sinonasal inflammation and the presence of otologic symptoms in this AERD cohort. A workup for otologic symptoms should be considered in patients with AERD.

11:39 - 11:43Q&A

Moderator: Fred F. Telischi, MD FACS, Miami, FL

11:44 Rare Benign and Malignant Soft Tissue Masses of the External Auditory Canal: A Single Center Retrospective Case Series

Thomas Haupt, MD, Washington, DC; Jackson Randolph, MD, Washington, DC; H. Jeffrey Kim, MD, Washington, DC

Educational Objective: In summary, at the conclusion of this presentation, participants should have been provided with a list of rare soft tissue masses occurring in the external auditory canal. Moreover, they should grasp the concept that nonulcerative soft tissue masses within the ear canal can stem from diverse causes, with symptoms frequently lacking specificity. An essential takeaway would be the participants' increased awareness of the histopathology and a fundamental understanding of treatment approaches for various etiologies of soft tissue masses within the EAC.

Objectives: This study aims to present the clinical features, histopathology, and treatment of uncommon soft tissue lesions within the external auditory canal (EAC), with the goal of optimizing diagnosis and surgical management. Study Design: Single center retrospective case series. Methods: We conducted a retrospective case series involving primary benign and malignant ear canal pathologies at a solitary tertiary academic center between 2010 and 2022. Lesions such as osteomas, exostoses, and ulcerative

malignancies like basal cell and squamous cell carcinoma were excluded from the analysis. Patient records, radiographic imaging, and histopathology were examined. Results: A total of 54 patients were identified with a primary soft tissue lesion within the EAC. The average age was 49.4 +/- 19.2, with the majority being males (59%). Prominent presenting symptoms included hearing loss (60%), ear canal discomfort and fullness (45%), intermittent tinnitus (30%), and otorrhea (25%). Benign pathologies included epidermoid inclusion cysts, intradermal melanocytic nevi, cavernous hemangiomas, and one case of angiofibroma within the EAC. While most benign lesions were observed, certain lesions were excised using an endaural approach. Primary malignant lesions comprised adenoid cystic carcinoma and ceruminous gland adenocarcinoma of the EAC. Among patients diagnosed with malignant lesions, three underwent treatment involving lateral temporal bone resection followed by postoperative radiation therapy. Conclusions: The potential etiologies of nonulcerative soft tissue masses in the ear canal are diverse, and the associated presenting symptoms are frequently nonspecific. Early clinical assessment, imaging, and biopsy are imperative for establishing a precise diagnosis and guiding appropriate treatment.

11:50 Audiometric Outcomes following Tympanoplasties Using Temporalis Fascia and Loose Areolar Fascia Grafts: A Multi-Institutional Study

Diana Hallak, BS, Columbus, OH; Robert Macielak, MD, Columbus, OH; Roberto Cueva, MD, San Diego, CA; Edward Dodson, MD, Columbus, OH; Oliver Adunka, MD, Columbus, OH; Yin Ren, MD PhD, Columbus, OH

Educational Objective: At the conclusion of this presentation the learner should have a better understanding of the potential impact of graft type on audiometric outcomes after tympanoplasty.

Objectives: Investigate the efficacy and longitudinal frequency specific audiometric outcomes after tympanic membrane (TM) perforation repairs using different graft materials. Study Design: Retrospective chart review. Methods: A multi-institutional review of patients with TM perforations who underwent tympanoplasty without mastoidectomy via medial and lateral grafting techniques from May 2017 to August 2022. Clinical and audiometric outcomes were compared based on grafting material. Results: In total, 127 cases were included. The average patient age was 46.1 years, and the mean followup was 6.8 months. There were 81 (63.8%) primary repairs and 46 (36.2%) revisions. Overall, the perforation was successfully closed in 113 (89.0%) patients. Loose areolar fascia (LAF) was used in 41 (32.3%) cases and temporalis fascia (TF) in 52 (40.9%). Change in pure tone average (PTA) and air bone gap (ABG) closure for LAF was statistically higher than TF (6.8 dB vs -0.6 dB, p=0.003; and 7.3 dB vs 2.5 dB, p=0.007, respectively). Low frequency (500 and 1000 Hz) ABG closure improved significantly more using LAF compared to TF (12.2 dB vs 2.6 dB, p=0.0009); but high frequency (4000 Hz) ABG closure was not significant. Audiometric outcomes were not statistically significant in cases that utilized TF; however, when only considering a medial technique (N=18), a significant improvement in PTA and ABG closure was observed (7.4 dB, p=0.03; and 9.4 dB, P=0.0003, respectively). Conclusions: Closure rate during tympanoplasty is high irrespective of graft material. PTA improvement and ABG closure may favor LAF grafts over TF grafts, especially in low frequency hearing, but this improvement may be similar when considering the medial underlay technique.

11:56 Management of Temporal Bone Gunshot Wounds: A Case Series of 15 Survivors

Natalie L. Demirjian, MS, Tucson, AZ; David Grande, MD, Chicago, IL; Terence E. Imbery, MD, Chicago, IL; Thomas J. Muelleman, MD, Kansas City, MO; Nicholas A. Dewyer, MD, Tucson, AZ

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the assessment and management of patients with temporal bone gunshot wounds (TBGSW).

Objectives: Rising prevalence of civilian owned low velocity handguns has led to an increase in survivorship following TBGSW. This case series aims to detail the evaluation and management of these survivors. Study Design: Multi-institutional case series. Methods: Retrospective chart review of 15

patients across 3 institutions who survived greater than 30 days following TBGSW. Results: Time from injury to otolaryngology evaluation ranged from less than 24 hours to 22 days. Four patients had profound sensorineural hearing loss, and audiogram was not performed in 7 patients. Facial nerve paralysis (FNP) was found in 12 patients with onset immediate in 3, delayed in 3, and unknown in 6. Eleven patients underwent surgery, and subtotal petrosectomy with obliteration was the most common procedure (n=7). FNP was the most common surgical indication (n=8), followed by CSF leakage (n=4). Time from injury to surgery was less than 48 hours for 1 patient, between 48 hours and 2 weeks for 4 patients, and greater than 2 weeks for 6 patients. Two patients developed delayed external auditory canal (EAC) stenosis, both of which had surgery 1 month after injury. Two patients developed cholesteatoma, 1 of which never underwent surgery following injury. Six patients had additional operations after initial surgery, and only 1 obtained a hearing implant. Conclusions: Optimal management of TBGSW is not yet well defined, but prompt otologic evaluation and long term followup should occur. Common reasons for acute surgical intervention are FNP and CSF leak, while EAC stenosis, cholesteatoma, and hearing loss are long term complications. Assessment and management of associated hearing loss is challenging due to medical complexity and lack of long term followup.

12:02 Race Based Disparities in Reconstructive Pediatric Microtia Surgery
Kalena H. Liu, BS, New York, NY; Alex J. Gordon, MD, Philadelphia, PA; Zahrah Taufique, MD MBA, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to identify disparities in the timeline to treatment and surgical practices for external ear reconstruction in pediatric microtia patients based on race.

Objectives: To assess differences based on race/ethnicity in total surgeries and time to treatment for pediatric microtia patients undergoing hearing intervention and external ear reconstruction. Study Design: Cross-sectional. Methods: A retrospective chart review was performed in pediatric patients diagnosed with congenital ear deformities evaluated by an otolaryngologist or audiologist from January 1, 2013, to December 1, 2021, at a large surgical institution. Variables analyzed included demographics, patient conditions, time to surgery, and total surgeries. Results: 118 microtia patients were identified (45% female, 55% male). 15.3% were Asian, 5.9% were African American, 32.2% were Hispanic, 40.7% were white, and 5.9% were unknown. There was a significant association between race and income ($p<0.001$) and education ($p<0.001$) as identified by zip code, but no association with insurance status ($p = 0.372$). There was no significant association in race and patient conditions, including microtia laterality ($p=0.982$), presence of an underlying syndrome i.e., Goldenhar, CHARGE ($p=0.758$), or aural atresia ($p=0.288$). There was no significant difference in time to hearing intervention ($p=0.372$), but there was a significant difference for time to external ear reconstruction across all race groups ($p=0.046$). White patients had the shortest time to external ear reconstruction surgery (1525.38 days), while Hispanic patients (2117.13 days) and other/unknown (4063.29 days) had the longest time to surgery. Minority patients had an increased number of reconstructive surgeries ($p=0.003$) (white 0.812, Asian 1.67, African American 2, Hispanic 1.74, other/unknown 3.14) and an increased total number of microtia related surgeries ($p=0.02$) (white 1.42, Asian 2.06, black 2.71, Hispanic 2.24, other/unknown 3.29). Conclusions: Disparities in time to surgery and number of surgeries related to race/ethnicity were identified in microtia patients, potentially related to income level and education. Further investigation is needed to address disparities in pediatric microtia surgery for equitable interventions.

12:08 - 12:15Q&A

12:15 - 1:15 LUNCH/VIEW POSTERS - Grand Ballroom Foyer and Ballroom AB

12:15 - 1:15 NEELY PHYSICIAN/SCIENTIST MEETING - Room 2BC

SATURDAY AFTERNOON CONCURRENT SESSIONS

Concurrent Session K - Facial Plastic & Reconstructive Surgery, Pediatric Otolaryngology
1:15 - 3:30
Grand Ballroom

Moderator: Laura R. Garcia-Rodriguez, MD, West Bloomfield Township, MI

1:15 Role of Combined Mucoperichondrial Rotation Flaps with Autologous Temporoparietal Fascia and Polydioxanone Plate Construct in Recalcitrant Cases
Weston L. Niermeyer, MD, Washington, DC; Timothy Brandon Shaver, MD, Washington, DC; Tom Shokri, MD, Washington, DC

Educational Objective: At the conclusion of this presentation, the participants should be able to describe a combined approach for septal perforation repair and understand the utility of the approach in refractory perforation cases.

Objectives: 1) Describe surgical technique for nasal septal perforation repair with combined mucoperichondrial rotation flaps with autologous temporoparietal fascia (TPF) and polydioxanone (PDS) plate construct; 2) understand the role of the combined approach in prioritizing anterior perforation closure; and 3) examine the patient characteristics of a series of recalcitrant cases successfully treated using this approach. Study Design: Retrospective case series. Methods: Patients with nasal septal perforation refractory to prior closure attempts were treated with a combined repair approach. This involves using mucosal rotational flaps with a TPF and PDS plate construct that provides 5 layers of material in the closure over which remucosalization can occur. Patients, number of nasal surgeries, comorbidities, and size of perforation were examined. Results: Nine patients having nasal septal perforations with failed closure by various methods including nasoseptal flap were identified. All patients had compromise of the nasal L-strut cartilage. Each patient was treated with the combined approach and had followup for a minimum of 6 months, with a 100 percent perforation closure rate. Conclusions: The combined nasal septal perforation repair approach using mucoperichondrial rotation flaps and an autologous TPF and polydioxanone PDS plate construct has the benefit of 5 layers of material in the closure. This approach is important to consider for patients who are complex due to large perforations, associated structural nasal deformities, and at risk of poor wound healing.

1:21 Morbidity of Free Flap Reconstruction in Patients with Immunologic Skin Disorders
Farshid Taghizadeh, MD, Portland, OR; Eric Mastrolonardo, MD, Philadelphia, PA; Carissa Thomas, MD PhD, Birmingham, AL; Anne Kane, MD, Jackson, MS; Doreen Lam, BA, Philadelphia, PA; Mark Wax, MD, Portland, OR

Educational Objective: At the conclusion of this presentation, the participants should be able to discuss the ability to safely utilize free tissue transfer in individuals with immunologic skin disorders.

Objectives: Determine if patients with immunologic skin disorders have adverse donor site and recipient site healing. Study Design: Multi-institutional retrospective chart review. Methods: Patients with immunologic skin disorders (psoriasis, Raynaud's, eczema, and scleroderma), from 5 institutions, receiving a free flap, were reviewed for patient demographics, modifications immunosuppression medication, donor and recipient site healing, and flap complications, were compared in a. 2:1 propensity match to compare outcomes. Results: 156 free flaps for HN defects from 5 institutions were included. Psoriasis 41 (53%), eczema 25 (32%), Raynaud's 8 (10%), and scleroderma 4 (5%). M:F ratio was 1:.1 Mean age 65. Primary lesions included mainly oral cavity (n=47, 30%) and cutaneous (n=38, 24%) malignancies. No significant

difference in type of lesion (benign versus malignant) or reconstructive tissue utilized. Patients with immune skin disorders or more likely to be on immunosuppressants than the control group 18% versus 2% (P < 0.001). On multivariate analysis no difference between patients with immune skin disorders or the control group as it relates to: wound dehiscence (p=.32), vascular thrombosis (p=.16), or donor site complications (p=.32). Flap survival and overall outcomes between groups are equal. There was a significant difference between groups for control greater than immune skin disorders requiring revision of anastomosis (p=0.03) and delayed wound healing (p=-.001). Conclusions: Patients with immunologic skin disorders (psoriasis, Raynaud's, eczema, and scleroderma) may undergo free tissue transfer with comparable outcomes to those without skin disorders. Flap and donor site morbidities are equivalent. Overall wound healing appears to be better and may be related to better overall skin care in this patient population.

1:27 Semaglutide - What the Facial Plastic Surgeon Needs to Know

Bao Yue Sciscent, BS, Hershey, PA; David Goldrich, MD, Hershey, PA; Hanel Watkins Eberly, BS, Hershey, PA; Scott G. Walen, MD FRCS, Hershey, PA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the effects of semaglutide on facial appearance, treatment modalities for this effect, and its potential uses and cautions in different fields of medicine.

Objectives: Ozempic face is a trending phrase for the appearance of facial aging from semaglutide use. Significant weight loss from semaglutide has led to an undesirable loss of volume and fullness in patients' faces causing a surge in plastic surgery referrals. This study aims to provide a comprehensive overview of the mechanism of semaglutide's effect on facial appearance, treatment modalities for this effect, and its potential uses in different medical fields. Study Design: Narrative review. Methods: The current literature on semaglutide was analyzed to understand semaglutide's effect on the body with a focus on plastic surgery. Results: Facial aging is influenced by the quantity and quality of fat which is variably distributed but is broadly compartmentalized into superficial dermal and deep subcutaneous layers. Rapid weight loss, not specific to semaglutide, does not allow time for the dermal matrix to adjust leading to saggy skin and wrinkles. Fillers and fat grafts can augment fat and target the appearance of an aged face, but do not address the underlying issue of rapid weight loss. Semaglutide has also been reported to treat polycystic ovarian syndrome, psoriasis, and metabolic effects from antipsychotics. However, its use is not benign and may be a risk factor for aspiration during general anesthesia for procedures such as rhytidectomy, due to its association with delayed gastric emptying. Conclusions: Ozempic face is a misnomer and the gaunt facial features seen in patients are not specific to semaglutide. Due to its success in weight loss, its effects are being seen in multiple fields of medicine, particularly facial plastics.

1:33 The Use of Oxymetazoline Hydrochloride 0.1% Ophthalmic Solution for Acquired Blepharoptosis : A Systematic Review and Meta-Analysis

Mary Newland, BS, Hershey, PA; Hanel W. Eberly, BS, Hershey, PA; Cheng Ma, MD, Hershey, PA; Jessyka G. Lighthall, MD FACS, Hershey, PA

Educational Objective: At the conclusion of this presentation, the participants should be able to explain the efficacy of oxymetazoline hydrochloride, 0.1% ophthalmic solution for acquired blepharoptosis.

Objectives: Oxymetazoline hydrochloride has been shown to be effective in some studies for acquired blepharoptosis and for aesthetic upper eyelid elevation. This study aims to review the primary literature on the use of topical oxymetazoline as a treatment for acquired blepharoptosis. Study Design: Systematic review and meta-analysis. Methods: A systematic review of studies published between 2013-2023 following PRISMA guidelines was performed using the PubMed, Scopus and Cochrane databases. Primary outcomes included pre- to post- treatment change in mean reflex distance (MRD1) after treatment with topical oxymetazoline, and mean difference (pre-to-post treatment) in MRD1 vs. control. Results: Five

articles included data from 494 patients for analysis. Meta-analysis demonstrated significant improvement in MRD1 measurements post-treatment in patients treated with oxymetazoline (1.40 mm; 95% CI [0.41 mm, 2.40 mm]). In addition, when compared to controls, patients treated with oxymetazoline demonstrated greater increases in MRD1 values (0.83 mm; 95% CI [0.10 mm, 1.55 mmm]). Heterogeneity, measured by I-2 statistic, was high in all studies (85% - 95%). Conclusions: The use of oxymetazoline 0.1% ophthalmic solution significantly improves MRD1 in patients with acquired blepharoptosis. Further studies comparing this treatment to others in acquired blepharoptosis should be conducted.

1:39 - 1:44 Q&A

1:45 PANEL: Adjuvant Aesthetic Procedures
Moderator
Liana Puscas, MD MHS MA, Durham, NC
Panelists
Shekhar Gadkaree, MD, Miami, FL
Lamont R. Jones, MD MBA FACS, Detroit, MI

2:20 PANEL: It's Really Not So Simple: Tubes, Tonsils and Adenoids
Moderator
Valerie A. Flanary, MD FACS, Milwaukee, WI
Panelists
John M. Carter, MD, New Orleans, LA
David E. Tunkel, MD FACS, Baltimore, MD

2:55 PANEL: Recurrent Respiratory Papillomatosis
Moderator
Jennifer L. Long, MD PhD, Los Angeles, CA
Panelists
Alessandro de Alarcon, MD MPH, Cincinnati, OH
Julina Ongkasuwan, MD, Houston, TX
Alisha N. West, MD, Los Angeles, CA

Concurrent Session L - General, Head & Neck
1:15 - 3:30
Ballroom C

1:15 PANEL: Nasal Obstruction - The Nasal Valve
Moderator
Robin W. Lindsay, MD BA, Boston, MA
Panelists
Robert H. Deeb, MD, Detroit, MI
Stephen S. Park, MD, Charlottesville, VA
Brent A. Senior, MD FACS, Chapel Hill, NC

1:43 PANEL: Eustachian Tube Dysfunction
Moderator
Ralph B. Metson, MD FACS, Boston, MA
Panelists
Nasir I. Bhatti, MD FACS, Baltimore, MD
Subinoy Das, MD FACS, Columbus, OH
Peter A. Weisskopf, MD FACS, Phoenix, AZ

Moderator: J. Dale Browne, MD FACS, WinstonSalem, NC

2:06 Immediate Postoperative Changes in Obstructive Sleep Apnea in Patients Undergoing Expansion Pharyngoplasty Versus Hypoglossal Nerve Stimulation
Phoebe Kuo Yu, MD MPH, Boston, MA; Victoria Wong, Boston, MA; Stacey Gray, MD, Boston, MA; Phillip Huyett, MD, Boston, MA

Educational Objective: At the conclusion of this presentation, the participants should be able to describe postoperative sleep changes in patients undergoing obstructive sleep apnea procedures.

Objectives: Patients with obstructive sleep apnea (OSA) have increased risk for perioperative cardiopulmonary complications. Our objective is to compare the postoperative effects of hypoglossal nerve stimulation implantation (HGNS) versus palatal surgery on longitudinal sleep measures. Study Design: We are conducting a prospective longitudinal cohort study of patients with OSA undergoing HGNS and expansion pharyngoplasty. Methods: Eligible patients had baseline apnea-hypopnea index (AHI) of at least 5/hr. Sleep studies were performed with the NightOwl Mini device. Participants underwent 2 baseline sleep studies prior to surgery, followed by nightly sleep studies for the first postoperative week and on postoperative nights (PON) 10 and 14. Results: 24 patients were enrolled (16 HGNS, 8 expansion pharyngoplasty). The mean age was 52.3 and 75.0% were male. The mean baseline AHI was 17.0/hr. On PON1, the mean difference in AHI from baseline for HGNS was -1.1/hr, compared to +10.4/hr for palate surgery (p=0.21). On PON2, the mean difference in AHI from baseline for HGNS was -0.5/hr, compared to +19.4/hr for palate surgery (p=0.03). On PON3, the mean difference in AHI from baseline for HGNS was +1.3/hr, compared to 16.8/hr for palate surgery (p=0.13). There were no significant differences between HGNS and expansion pharyngoplasty in the postoperative percentage of time with oxygen saturation below 90% compared to baseline. Conclusions: In the immediate postoperative period, AHI did not change significantly after HGNS. There were significant increases in AHI after expansion pharyngoplasty that peaked on POD2. HGNS may be a safer treatment option in those with perioperative health concerns.

2:12 Phenotypic Differences in Airway Obstruction as Determined by VOTE Score
Andrew Stephen Franklin, BS, Memphis, TN; Meghana Chowdhary Chanamolu, MD, Memphis, TN; Chad Alexander Nieri, MD, St. Louis, TN; M. Boyd Gillespie, MD MSc, Memphis, TN

Educational Objective: At the conclusion of this presentation, the participants should be able to 1) identify the components of a VOTE score; 2) discuss the level and severity of obstruction as determined by VOTE score; and 3) understand the interplay of age and BMI in phenotypes of OSA.

Objectives: To investigate phenotypic differences in the level and pattern of airway obstruction, as determined by VOTE score, in a cohort of patients with obstructive sleep apnea (OSA) undergoing drug induced sleep endoscopy (DISE). Study Design: Single center retrospective cohort study. Methods: Patients greater than 18 years of age who underwent DISE by one surgeon at a tertiary care center from July 2016 to July 2022 were included. Patient demographics, BMI, AHI, and VOTE scores were extracted. Pearson correlation tests were utilized to examine relationships between variables. All statistical analyses were performed using IBM SPSS Statistics 28. Results: The study included 165 patients (61.2 years, SD 11.6; 31.0 BMI, SD 6.1). There was a significant relationship between increased BMI and higher levels of velum (R=.173, p=.031) and oropharynx (R=.263, p less than .001) obstruction, as well as total VOTE score (R=.182, p=.021). Increased age was negatively correlated with levels of oropharyngeal obstruction (R=-.167, p=.038) and positively correlated with tongue obstruction (R=.235, p=.003). Velum obstruction was significantly associated with concurrent oropharyngeal obstruction, (R=.471, p less than .001), whereas velum obstruction had a significant negative association with epiglottic obstruction (R=-.184, p=.022). Conclusions: Patients experiencing obstruction at the velum are significantly more likely to experience additional obstruction at the oropharynx, while having significantly less epiglottic obstruction. Older

patients may represent a specific phenotype of OSA with increased tongue and decreased oropharyngeal obstruction. As expected, increased BMI saw a significant increase in V, O, and overall VOTE scores. However, increased BMI had no significant relationship with tongue or epiglottis obstruction.

2:18 Outcomes in Patients with Obstructive Sleep Apnea and Complete Concentric Collapse of the Velum on Sleep Endoscopy
Justin T. Cole, MD, Rochester, NY; Sveta Karelsky, MD, Rochester, NY; Lee Porterfield, MD, Rochester, NY; Bartholomew Bacak, MD PhD, Philadelphia, PA

Educational Objective: At the conclusion of this presentation, the participants should be able to demonstrate that patients who are intolerant of positive airway pressure (PAP) therapy for obstructive sleep apnea (OSA) and have drug induced sleep endoscopy (DISE) patterns that initially disqualify them from hypoglossal nerve stimulator (HNS) therapy remain untreated. Treatment rates are low despite pursuit of surgical modalities to either achieve primary cure, convert DISE collapse pattern to one favorable for HNS therapy, or improve PAP compliance. It is therefore imperative to identify these patients, ensure adequate followup, and impart quality improvement initiatives to improve OSA treatment rates in this population.

Objectives: To demonstrate that patients with obstructive sleep apnea (OSA) and intolerance of positive airway pressure (PAP) therapy who undergo drug induced sleep endoscopy (DISE) with findings of complete concentric collapse (CCC) at the velum remain largely untreated. Further, we seek to inform future practice patterns and quality improvement initiatives. Study Design: This was a single institution, retrospective review of all patients undergoing DISE by the senior author between January 2013 and March 2023. Methods: Patients were identified based on review of operative notes of all patients undergoing DISE between the above dates by the senior author. Inclusion criteria were those employed to qualify patients for UAS, with the exception of DISE findings. All patients had CCC collapse at the velum per VOTE criteria. All patients required complete records to determine OSA treatment status post-DISE. Results: Of 112 patients, 30 were lost to followup. 80 were therefore included. 58 were male and 22 were female. Using Sher criteria, 25 patients (31%) were adequately treated, while 55 patients (69%) remained inadequately treated. Patients pursuing surgery to either improve PAP compliance, achieve primary cure, or convert to a favorable DISE collapse pattern, achieved treatment in only 44% of cases (11 of 25). Conclusions: Patients with OSA, PAP intolerance, and CCC collapse on DISE are likely to be untreated or undertreated. Many of these patients are lost to followup, and their treatment status is indeterminate.

2:24 - 2:28 Q&A

2:29 PANEL: Unusual Otolaryngologic Emergencies
Moderator
Anand Devaiah, MD FACS, Boston, MA
Panelists
Kenneth W. Altman MD PhD FACS, Danville, PA
Sandra L. Ettema, MD PhD CCC-SLP, Mattoon, IL

Moderator: Luc G.T. Morris, MD FACS MSc, New York, NY

3:00 An Educational Session for Improving Comfort and Knowledge Regarding Tracheostomy Care Incorporating Hands on Simulation
Arpan Bose, BS, Worcester, MA; Christopher Y. Mahir, BS, Worcester, MA; Arvind K. Badhey, MD, Worcester, MA

Educational Objective: At the conclusion of this presentation, the participants should be able to create an informational and hands on educational module for residents, medical students, and other hospital staff

that increases comfort and knowledge regarding tracheostomy care.

Objectives: While standardized and appropriate care of tracheotomies is imperative in reducing complications, there is currently minimal focus on this topic in medical school and residency curriculums. Previous studies have shown an impressive increase in caregiver comfort and knowledge regarding tracheostomies in roles that regularly treated otolaryngology postoperative patients. We aimed to reproduce and expand this study to include a wider range of medical caregivers including residents across several specialties and medical students without a focus on otolaryngology caregivers. Study Design: We designed this project based on a previously published educational section with assistance from our institution's simulation center. Methods: The main educational portion of the project included a PowerPoint explaining tracheostomy care basics with a focus on relevant details to the specialties' common exposures. Hands on practice was done in the form of handmade tracheostomy models as well as integration with the simulation center and model airways to perform tracheostomy procedures. Results: 55 participants across all specialties displayed a statically significant increase in their level of comfort across all 6 areas with an average increase in comfort of 67% ($p<0.05$). Furthermore, participants also scored higher on 5 out of 8 knowledge based questions ($p<0.05$) dealing with tracheostomies with an average % correct answer increase across all 8 fields of 26%. Conclusions: With the clear lack of undergraduate medial training in caring for patients with tracheostomies, our project shows that even a simple educational module greatly increases caregiver comfort and knowledge that is crucial in providing efficacious care.

3:06 Exploring Industry Payments among Otolaryngology Subspecialty Fellowship Directors: A Descriptive Analysis

Thomas Haupt, MD, Washington, DC; Abhishek Tippabhatla, MD, Washington, DC; Belal Yasinj, BS, Washington, DC; Adedoyin Kalejaiye, MD, Washington, DC

Educational Objective: By the conclusion of this presentation, participants will have gained a comprehensive understanding of the wide ranging nature of industry payments among subspecialty fellowship directors -- those who are poised to lead the future of otolaryngology.

Objectives: Previous research indicates that otolaryngologists exhibit fewer industry ties than other surgical specialists. However, concerns persist about industry influence on otolaryngology practice during early surgical training years. This study aims to quantify industry payments to otolaryngology fellowship program directors (FPDs), explore subspecialty trends, and address gender disparities. Study Design: Cross-sectional retrospective analysis of a single database. Methods: We examined general industry payments received by otolaryngology FPDs from 2016 to 2022, as reported by the CMS Open Payments Database and otolaryngology fellowship websites. Results: Among 303 otolaryngology FPDs, 48 (16%) were female, and 283 (93%) received industry funding, totaling $10,065,877 during the study period. The median payment per physician was $4,614 (IQR 17,936); 143 (47%) payments were under $5,000, while the top 10 physicians received $5,222,550 (52%) of the total. Consulting fees ($3.7 million, 37%) and compensation for non-consulting services ($2.6 million, 26%) constituted most industry payments. Gross payments decreased during the study period ($R = 0.026$, $p = 0.328$), likely due to the COVID-19 pandemic. Facial plastics ($5,080,121, 50%) and rhinology ($2,638,191, 26%) FPDs received the most industry support, while advanced otology ($133,335, 1%) received the least. Male FPDs received higher median compensation than females ($5,555 (IQR 19,344) vs. $1,004 (IQR 6,746), p less than 0.0001). Conclusions: Industry payments to otolaryngology FPDs are widespread, yet their extent varies by subspecialty. Gender disparities are evident, underscoring the need for action within otolaryngology practice. Facial plastics and rhinology receive substantial industry funding, possibly due to innovation related interactions. Sustaining transparency about industry support can foster equitable academic industry collaborations and mitigate conflicts of interest.

3:12 Diagnostic Capability of Large Language Models in Otolaryngology

Rohan Singh, BS, Newark, NJ; Akshay Warrier, BA, Newark, NJ (Presenter); Afash Haleem, BA, Newark, NJ; Michael Hegazin, DO, Newark, NJ; Jean Anderson Eloy, MD FACS, Newark, NJ

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the capabilities of large language models in diagnosing diseases in otolaryngology.

Objectives: Evaluate and compare the ability of large language models (LLMs) to diagnose various ailments in otolaryngology. Study Design: Prospective review. Methods: We collected all 100 clinical vignettes from the second edition of Otolaryngology Cases - The University of Cincinnati Clinical Portfolio by Pensak et al. With the addition of the prompt "Provide a diagnosis given the following history", we prompted ChatGPT-3.5, Google Bard, and Bing-GPT4 to provide a diagnosis for each vignette. These diagnoses were compared to the portfolio for accuracy and recorded. All queries were run in June 2023. Results: ChatGPT-3.5 was the most accurate model (89% success rate), followed by Google Bard (82%), and Bing GPT (74%). A chi-squared test revealed a significant difference between the three LLMs in providing correct diagnoses ($p = 0.023$). Of the 100 vignettes, 7 require additional testing results (i.e., biopsy, non-contrast CT) for accurate clinical diagnosis. When omitting these vignettes, the revised success rates were 95.7% for ChatGPT-3.5, 88.17% for Google Bard, and 78.72% for Bing-GPT4 ($p = 0.002$). Conclusions: ChatGPT-3.5 offers the most accurate diagnoses when given established clinical vignettes as compared to Google Bard and Bing-GPT4. LLMs may accurately offer assessments for common otolaryngology conditions but currently require detailed prompt information and critical supervision from clinicians. There is vast potential in the clinical applicability of LLMs; however, practitioners should be wary of possible "hallucinations" and misinformation in responses.

3:18 Cost Transparency in Otolaryngology: Availability of Outpatient Procedures Cost Information at New England Hospitals

Alec B. Chang, BA, Boston, MA; Monica O'Brien, BS MS, Boston, MA (Presenter); Samuel A. Ding, BS, Boston, MA; Kathryn Y. Noonan, MD, Boston, MA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the current state of patient accessibility to price estimates and hospital compliance to the CMS price transparency mandate.

Objectives: Healthcare costs have dramatically increased, resulting in a barrier to care for many Americans. In response to rising concerns, the Centers for Medicare and Medicaid Services (CMS) implemented a price transparency mandate. Improved price transparency helps patients make informed decisions and promotes accountability among healthcare systems. This study examines the accessibility and ease of use navigating cost transparency tools for ENT clinic procedures. Study Design: An empirical research study was conducted. Methods: Cost transparency was investigated using cost estimator calculators from websites of the seven New England hospitals ranked among the U.S. News top 50 list. Ten CPT codes were used to collect data on availability of cost information, cost comparison, and ease of use by six independent researchers acting as "patients" for each hospital and procedure. Results: Investigated hospitals all had cost estimator tools. The success rate of generating an estimate was 35.7%, with significant variance between hospitals (IQR 34.5%- 48.8%). Median time to find tools and generate an estimate was 35.69 seconds and 34.15 seconds respectively. Pre-insurance costs varied by hospital and procedure, control of nosebleed had little variation: $108.75 (IQR 108.75-108.75), while CT maxillofacial without dye varied significantly: $1288 (IQR 641-1816). Post-insurance costs were decreased compared to pre-insurance, with 3 exceptions. Median ease of access rating was 5.76/10. Conclusions: All hospitals complied with the CMS price transparency policy. However, obtaining the information can be difficult and frequently lacks specific estimates for common ENT procedures. The calculators often prove ineffective for financial decision making processes.

3:24 Patient Satisfaction with Pain Control Is Comparable among Opioid and Nonopioid

Management after Undergoing Common Otolaryngology Procedures
Ashwini Sarathy, BS, Burlington, VT; Clemens An, BS, Burlington, VT; Ty Bever, BS, Burlington, VT; Peter Callas, PhD, Burlington, VT; Mayo H. Fujii, MD, Burlington, VT; Mirabelle Sajisevi, MD, Burlington, VT

Educational Objective: At the conclusion of this presentation, the participants should be able to understand patient satisfaction with pain control using opioid medication compared to nonopioid medications following common otolaryngology procedures.

Objectives: Measure patient reported satisfaction with pain control using opioid and nonopioid medications after undergoing a range of otolaryngology surgical procedures including parathyroidectomy, thyroid lobectomy, total thyroidectomy, and bilateral tonsillectomy. Study Design: A prospective cohort study was performed at an academic medical center that included a telephone questionnaire and chart review. Opioid prescriptions, usage, and patient reported pain outcomes were recorded. Methods: Bivariate analyses were used to compare opioid and nonopioid users. Results: Of the 107 total patients undergoing otolaryngology procedures included in the study, 49 (45.8%) used an opioid for pain management postoperatively and 58 (54.2%) did not. Among the 81 patients who underwent endocrine procedures (parathyroidectomy, total thyroidectomy/lobectomy), most patients reported being "very satisfied" or "satisfied" with pain control whether they used opioids (n=27/30, 90%) or not (n=50/51, 98%). In the 26 patients who underwent bilateral tonsillectomy, 19 (73%) were prescribed opioids and among these, most (n=17/19, 89%) reported they were "very satisfied" or "satisfied" with pain control. In the nonopioid usage group, all patients (n=7/7, 100%) reported they were "satisfied" with pain control. There was no statistically significant difference in patient reported satisfaction with pain control between opioid and nonopioid users for any procedures listed. Conclusions: The results of our study suggest that patients who did not use opioids have a similar level of satisfaction with pain control compared to those using opioids after thyroid, parathyroid and tonsillectomy surgeries. Considering the magnitude of the opioid crisis in the United States, providers should reassess the need for opioid prescriptions following certain common otolaryngology procedures.

3:30 - 3:32 Q&A

3:30 - 3:50 BREAK

GENERAL SESSION 3:50 - 5:45 - Grand Ballroom

3:50 PANEL: Practice Management - Where Ethics, Finance and Medicine Collide
Moderator
Nina L. Shapiro, MD FACS, Santa Monica, CA
Panelists
Michael G. Stewart, MD MPH FACS, New York, NY
Baran D. Sumer, MD, Dallas, TX
Sunil P. Verma, MD, Orange, CA

4:20 MILITARY PANEL: Learning from Theater - Traumatic Brain Injury and Acoustic Trauma in Civilian Life
Moderator
Earl H. Harley, MD FACS, Washington, DC
Panelists
LaKeisha R. Henry, MD FACS, Las Vegas, NV
Peter A. Weisskopf, MD FACS, Phoenix, AZ

4:55 - 5:45 SPEED NETWORKING II - Continuing the Conversation

Moderator

Ralph Metson, MD FACS, Boston, MA

Take this second opportunity to continue dialoguing with senior members of the Triological Society! This session is open to all attendees - students, trainees, early, and mid, and late career professionals. **The list of topics and mentors can be found here.**

5:45 **ADJOURN**

5:50 - 7:00 **MEET THE AUTHORS POSTER RECEPTION - Ballroom AB**

ALLERGY/RHINOLOGY

1. The Multidisciplinary Approach of a Rhinology Clinic to Treat Chronic Rhinitis

Hajera Afreen, BA, Columbus, OH; Kolapo Dairo, BA, Columbus, OH; Aiden Vanek, BA, Columbus, OH; Alexandra Gach, BA, Columbus, OH; Isaac Kistler, MS, Columbus, OH; Charles Elmaraghy, MD, Columbus, OH

Educational Objective: At the conclusion of this presentation, the participants should be able to understand what treatment options are offered in a multidisciplinary rhinology clinic.

Objectives: The rhinology clinic at a tertiary level children's hospital was created in 2010 to offer a multidisciplinary care approach to treat patients with persistent chronic rhinitis. The various treatment plans and surgical interventions of this clinic have not yet been studied. Study Design: Descriptive retrospective chart review. Methods: Charts of 91 patients with at least one multidisciplinary rhinology clinic encounter from 2016-2022 were reviewed and analyzed for encounter reasons and subsequent treatments. Results: All patients were referred due to persistent chronic rhinitis. The median duration of symptoms until first referral to and subsequent encounter with rhinology was 5 months (IQR 1.8, 33.48). An allergist medically evaluated each patient at their respective rhinology encounters. Of the 91 patients analyzed in this study, 77 (85%) of patients received skin prick allergy testing at their initial encounter, and the remaining 14 (15%) patients received none because of testing prior to referral. Rhinology clinic also referred 32 patients (35%) for further sinonasal CT imaging, and 22 (69%) of these patients were eventually referred for surgery. A total of 44 patients (48.3%) were referred to surgery following rhinology referral, of which the most common interventions were turbinate reduction (n=30, 49%) and sinus surgery (n=27, 44%). Conclusions: A multidisciplinary rhinology clinic offers a novel approach to patients with persistent chronic rhinitis and addresses both surgical and medical aspects of symptom management. Understanding the treatment options available can further reveal the value of a multidisciplinary approach regarding the management of chronic rhinitis.

2. Creation of an Immersive Virtual Reality Classroom for Sinus and Skull Base Surgical Education

David Ahmadian, BS, Tucson, AZ; Jason Zhang, Tucson, AZ; Shireen Samargandy, MD, Tucson, AZ; Christopher Le, MD, Tucson, AZ; Michael B. Avery, MD, Tucson, AZ; Eugene H. Chang, MD, Tucson, AZ

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the potential for our novel virtual reality model for sinus and skull base surgical education.

Objectives: Virtual reality (VR) surgical simulation provides an immersive environment that is superior to traditional curriculum based methods for visuospatial localization. However, current VR models lack guided training and clinical based knowledge to translate this format as a useful adjunct for training physicians. Study Design: Validation of novel virtual reality simulator. Methods: We tested three different modalities for teaching sinonasal and skull base anatomy: a traditional curriculum based module, a patient specific 3D printed model, and a VR sinus and skull base anatomy model. Using trainee feedback when validating these models, we incorporated strengths from each of these areas to create an immersive VR classroom for sinus and skull base surgical education. Results: Using a patient specific CTA and MRI, we segmented 4 groups of anatomical structures: bone, sinonasal, skull base, and vasculature, in order to create the anatomical model in the Blender application. We then created a "classroom" where users could learn and test their knowledge on identifying these structures through guided modules and quizzes. By incorporating our hierarchical task analyses we also educated users on their functional importance as well as their potential morbidity if these structures were damaged. Conclusions: We created the first VR

classroom of sinus and skull base anatomy providing a format in which users could navigate and learn about the function and complications related to these structures in sinus and skull base surgery. In future iterations, we plan to also include videos of common procedures so that we can bridge the gap between classroom learning and operative experience.

3. Quantitative Comparison of Popular Chatbots on Common Pathologies in Rhinology

Jeffrey R. Bellinger, BS, Charlottesville, VA; Minhie W. Kwak, BA, Charlottesville, VA; Gabriel A. Ramos, BA, Charlottesville, VA; Jeffrey S. Mella, MD, Charlottesville, VA; Jose L. Mattos, MD MPH, Charlottesville, VA

Educational Objective: At the conclusion of this presentation, the participants should be more informed on the information that patients are receiving from the groundbreaking new chatbots powered by large language models. It is critical for healthcare providers to be aware of where patients are receiving information, and the limitations of these resources, so they tailor their care and patient education in a way to address misinformation and fill in knowledge gaps.

Objectives: This study is the first to quantitatively analyze and compare four of the most used chatbots available regarding treatments of common pathologies in rhinology. Study Design: The treatment of common rhinologic pathologies was asked to chatbots ChatGPT, ChatGPT Plus, Google Bard, and Microsoft Bing in May 2023. Methods: Individual responses were analyzed and scored by reviewers for readability, quality, understandability, and actionability using validated scoring metrics. Accuracy and comprehensiveness were evaluated for each response using a 5 point Likert scale by two experts in rhinology. Results: ChatGPT, Plus, Bard, and Bing had FRE readability scores of 33.17, 35.93, 46.50, and 46.32 respectively, indicating higher readability for Bard and Bing compared to ChatGPT ($p=.003$, $p=.008$) and Plus ($p=.025$, $p=.048$). ChatGPT, Plus, and Bard had mean DISCERN quality scores of 20.42, 20.89, 20.61 respectively, which was higher than the score for Bing of 16.97 ($p<.001$). For understandability, ChatGPT and Bing had PEMAT scores of 76.67 and 66.61 respectively, which were lower than both Plus at 92.00 ($p<.001$, $p<.001$) and Bard at 92.67 ($p<.001$, $p<.001$). ChatGPT Plus had an accuracy score of 4.39 which was higher than ChatGPT (3.97, $p=.118$), Bard (3.72, $p=.002$) and Bing (3.19, $p<.001$). Results for comprehensiveness followed a similar trend. Conclusions: Our results suggest responses vary across the chatbots over multiple domains, with Google Bard and ChatGPT Plus each demonstrating strengths in some areas. Understanding the strengths and weaknesses of chatbots as a source for patient information is critical for providers in the rising artificial intelligence landscape.

4. Patient Factors and Outcomes in Cerebrospinal Fluid Leak Repair: An Institutional Review

Diana J. Bigler, MD, Augusta, GA; Faris A. Mirza, MD, Augusta, GA (Presenter); Stilianos Kountakis, MD PhD, Augusta, GA

Educational Objective: At the conclusion of this presentation, the participants should be able to 1) report patient demographics and clinical factors associated with outcomes of cerebrospinal fluid leaks in patient who undergo repair of anterior skull base leak repairs; and 2) discuss options for medical and procedural management and outcomes of patients who undergo repair of anterior skull base leak repair.

Objectives: To evaluate patient demographics, clinical factors, and postoperative outcomes of patients with cerebrospinal fluid leaks (CSF) leaks who underwent repair at our institution. Study Design: Retrospective cohort study. Methods: All patients with CSF rhinorrhea referred to our tertiary care rhinology center from 2003 to 2023 with surgical intervention at our institution were included in this study. Data relating to comorbidities, gender, race, age at repair, subsite of leak, body mass index, and postoperative outcomes were collected. Results: 113 patients were included in this study, of which 84 (74.3%) were female. Spontaneous CSF leaks were the most common etiology (61.9%), followed by postoperative leak from anterior skull base resection (11.5%). The average body mass index (BMI) for

patients with spontaneous leaks was 39.1, versus a BMI of 32.5 for non-spontaneous leaks (p = 0.002). 71.4% of patients with spontaneous leaks had diagnosed hypertension, versus 55.8% in patients with non-spontaneous leaks (OR 1.98, CI 0.89 - 4.38). Twenty patients (17.7%) were diagnosed with meningitis as a complication of CSF leak; of these patients, 55% were those with spontaneous CSF leaks. There was an average patient followup of 27.5 months. 13 patients (11.5%) were noted to have recurrence of CSF leak, of which 6 had lumbar drain placement, while 7 did not (OR 2.87, CI 0.88 - 9.39). Conclusions: Although multifactorial, elevated BMI, and likely the presence of systemic hypertension, are implicated in spontaneous CSF rhinorrhea. Conservative management with dietary modifications or weight loss may be considered as adjunctive treatment options in this patient population.

5. Safety and Efficacy of the Selective Postganglionic Pterygopalatine Parasympathectomy (SP3) Procedure for Medically Refractory Nonallergic Rhinitis

David James Cvancara, BS, Seattle, WA; Sebastian M. Gulka, BS, Chicago, IL; Mohamed A. Aboueisha, MD, Seattle, WA; Dhruv Sharma, MD, Seattle, WA; Ian M. Humphreys, DO, Seattle, WA; Aria Jafari, MD, Seattle, WA

Educational Objective: At the conclusion of this presentation on the selective postganglionic pterygopalatine parasympathectomy (SP3) procedure, the participants should be able to 1) describe our current understanding of the efficacy and benefits; and 2) understand some of the commonly reported complications of this procedure.

Objectives: Nonallergic rhinitis affects around 30 million individuals in the United States, with significant influence on quality of life. Treatment often includes topical medications, but if ineffective or long term medical management is undesired, surgery may be considered. The recently introduced selective postganglionic pterygopalatine parasympathectomy (SP3) procedure may offer a less invasive alternative to vidian neurectomy. This study aims to evaluate the safety and efficacy of the SP3 procedure. Study Design: Retrospective case series. Methods: Patients with medically refractory nonallergic rhinitis who underwent the SP3 procedure between September 2021 and June 2023 were included. Pre and postoperative rhinitis symptoms (Total Nasal Symptom Score; TNSS) and sinonasal quality of life (SNOT-22) scores as well as intra and postoperative complications were recorded. Analysis of pre and postoperative scores was performed using paired t-tests. Results: Twelve patients underwent the SP3 procedure, with an average operative duration of 188 minutes and no reported intraoperative complications (0%). Postoperatively, participants showed improvement in SNOT-22 (mean difference: -18.67; 95% CI: -33.00, -4.33; p=0.0204) and TNSS (mean difference: -3; 95% CI: -5.14, -0.857; p=0.0129). Postoperative complications included epistaxis in one patient (8.3%), transient palatal numbness in two patients (<28 days; 16.6%), and temporary mild dry eye in two patients (<30 days; 16.6%). The median postoperative followup was 60 days (IQR: 30, 127). Conclusions: The SP3 procedure elicited sustained improvements in rhinitis symptoms and sinonasal quality of life with minor, transient postoperative complications.

6. The Impact of Race on Chronic Rhinosinusitis Outcomes

Sarit Dhar, BS, Memphis, TN; Nina Gallo, MD, Memphis, TN; Meghana Chanamolu, MD, Memphis, TN; Camille Reeves, BA, Memphis, TN; Sanjeet Rangarajan, MD MEng, Memphis, TN

Educational Objective: At the conclusion of this presentation, the participants should be able to list several disparities in outcomes between white and black patients with chronic rhinosinusitis.

Objectives: To determine if a disparity exists in outcomes for white patients with chronic rhinosinusitis compared to black patients with chronic rhinosinusitis within a healthcare system. Study Design: Race is an important determinant of health for many medical conditions in the U.S. The multifactorial etiology of chronic rhinosinusitis (CRS) often yields different treatments and outcomes among patients. This retrospective analysis compares the outcomes of two cohorts: white patients with CRS and black patients with CRS. Methods: Analysis using TriNetX datasets in one healthcare system from 2002-2022 compared

the outcomes of two cohorts: cohort 1 (49,940 patients) named white patients with CRS and cohort 2 (41,910 patients) named black patients with CRS. The following outcomes were measured: functional endoscopic sinus surgery (FESS), dexamethasone, antibiotics, inhaled anti-inflammatory medication, ED services, hospital observation services, and hospital inpatient services. Results: Results presented as risk ratio with 95% confidence interval (RR [95% CI]). Preliminary analyses show cohort 2 at a significantly increased risk for use of dexamethasone (0.851 [0.833, 0.869]), antibiotics (0.904 [0.896, 0.913]), inhaled anti-inflammatories (0.790 [0.775, 0.806]), ED services (0.482 [0.473, 0.492]) hospital observation services (0.552 [0.516, 0.592]), and hospital inpatient services (0.704 [0.671, 0.738]). There was no significant difference in risk of FESS. Conclusions: This analysis highlights the significant increase in the use of certain medications and healthcare services for CRS by black patients compared to white patients. This demonstrates the differences in healthcare approaches between racial groups in rhinologic disease. Further investigation may reveal causes of disparities, optimization of patient care across racial groups, and lead to reduction of healthcare inequity.

7. Comparison of Anti-Inflammatory Nasal Spray Prescriptions in Rhinology and Other Otolaryngology Clinicians

Ellen M. Hong, BA, Nutley, NJ; Theodore V. Nguyen, BS, Irvine, CA; Benjamin Bitner, MD, Irvine, CA; Daniella Chan, Irvine, CA; Edward Kuan, MD, Irvine, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the extent of the differences in prescription patterns between otolaryngology subspecialties.

Objectives: To examine the discrepancies in prescription trends between rhinologists and other subspecialties in otolaryngology by evaluating trends in total claims of highly used nasal sprays and allergy medications. Study Design: Retrospective review of Medicaid database. Methods: The 2015-2020 Medicaid database was queried for drug prescription information for the following classes of medications: intranasal corticosteroids, oral antihistamines, antileukotrienes, intranasal antihistamines, and intranasal anticholinergics. Information regarding providers' fellowship and type of institution (academic versus community) were then collected. Per provider, drug prescription was analyzed using the average total claims as a proxy per drug. Results: Azelastine HCl (20.9%, 58.7%), fluticasone propionate (-5.8%, -10.2%), levocetirizine (42.45%, 23.31%), mometasone (29.4%, -3.1%), montelukast (-16.6%, -3.1%), and desloratadine (-75.6%, 34.9%) had overall changes in average total claims between 2015 and 2020 (% change rhinologists, other subspecialties). Azelastine HCl, fluticasone propionate, levocetirizine, and mometasone were prescribed on average more by other otolaryngology subspecialties than rhinologists (p less than 0.05). However, prescription patterns for montelukast were not significantly different between rhinologists and other subspecialties. Desloratadine saw a switch in trend in 2017: previously, it was prescribed more on average by rhinologists, and the converse was observed after. Conclusions: Prescription patterns of anti-inflammatory nasal sprays between rhinologists and other otolaryngologists differ significantly. Further studies are needed to examine the motivations behind these disparities.

8. Impact of Obstructive Sleep Apnea on Quality of Life in Patients with Chronic Rhinosinusitis

Connor V. Hunt, BS, Morgantown, WV; Hassan H. Ramadan, MD, Morgantown, WV; Chadi A. Makary, MD, Morgantown, WV

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the impact that comorbid obstructive sleep apnea has on the quality of life of chronic rhinosinusitis patients.

Objectives: To evaluate the impact of obstructive sleep apnea (OSA) on baseline and post-treatment quality of life (QoL) in patients with chronic rhinosinusitis (CRS). Study Design: Retrospective cohort study. Methods: Retrospective cohort study of all adult patients with CRS presenting to our clinic between

August 2020 and February 2023 was performed. OSA was established based on positive polysomnography. Patients' characteristics, apnea-hypopnea index, comorbidities, endoscopy scores, and SNOT-22 scores were collected. Results: A total of 515 CRS patients were included, 130 patients with OSA and 385 without OSA. CRS patients with OSA were older ($p<0.001$), had higher BMI ($p<0.001$), more likely to be males ($p=0.026$), more likely to have asthma ($p<0.001$), and more likely to have COPD ($p=0.001$). Presence of nasal polyps did not differ between the two groups. Baseline SNOT-22 scores were worse in the OSA cohort (45.1 vs 40.4, $p=0.026$) secondary to worse sleep (13.4 vs 10.9, $p<0.001$) and psychological (14.4 vs 11.4, $p<0.001$) domains. After treatment, the OSA cohort had worse total SNOT score (36.6 vs 29.1, $p<0.001$) and its domains rhinological (10.3 vs 8.9, $p=0.005$), extrarhinological (5.2 vs 4.3, $p=0.001$), ear and facial (6.6 vs 5.7, $p=0.002$), sleep (10.7 vs 8.4, $p<0.001$), and psychological (11.7 vs 8.1, $p<0.001$). Worse SNOT scores were strongly associated with presence of OSA after adjusting for confounding variables. Conclusions: Comorbid OSA is an important contributor to QoL in CRS patients and is associated with significantly worse QoL. This is primarily secondary to extrarhinologic and sleep symptoms. It should be considered when treating CRS patients.

9. Computed Tomography and Cadaveric Analysis of the Relationships between the Maxillary Tooth Roots and Maxillary Sinus and Nasal Floors

Japnam Singh Jassal, MD, Detroit, MI; Marta Kwiatkowska, MD, Warsaw, Poland; Jacob G. Eide, MD, Detroit, MI; John R. Craig, jcraig1@hfhs.org, Detroit, MI

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the relationship between the maxillary tooth roots and the maxillary sinus and nasal floors.

Objectives: Some oroantral fistulas (OAFs) require endonasal repair, but endonasal relationships between OAFs and the nasal and maxillary sinus (MS) floors have been incompletely studied. This study analyzed relationships between maxillary tooth sockets and the nasal and MS floors using computed tomography (CT) and cadaveric analysis. Study Design: Retrospective and cadaveric dissection study. Methods: All maxillary dentition were extracted from 10 cadaver heads, and OAFs were created into the MSs when roots approximated MS floors. Via endoscopic Denker's approaches, tooth sockets' relationships to the MS and nasal floors were assessed endonasally. Sinus CTs were analyzed to measure the following dimensions: 1) length along the MS floor from the anterior to posterior wall of the MS; and 2) distance from MS/nasal floor junction to the MS floor, plus the width of the tooth socket (medial to lateral). Additionally, frequencies of anterior and posterior-most teeth approximating the MS floor were recorded. Results: Endonasally, maxillary tooth roots always coursed in a straight line from anterior to posterior, running immediately adjacent to the MS/nasal floor junction. Based on 100 sinus CT scans (200 sides), mean anterior to posterior MS floor length was 28.0 mm and mean medial to lateral dimension was 20.4 mm. The anterior-most teeth were second premolars (61.5%), first molars (20%), and first premolars (15%). The posterior-most teeth were third molars (53.5%) and second molars (37%). Conclusions: Maxillary tooth sockets coursed in a straight line from anterior to posterior, adjacent to the MS/nasal floor junction. Surgeons should study OAF locations before endonasal OAF closure to ensure adequate flap length and medial maxillary sinus wall removal.

10. Reduction of Intraoperative Aerosol Transmission Using a Nasal Port Device

Torri E. Lee, BS, Hanover, NH; Dylan Zerjav, BS, Lebanon, NH; Yuan Shi, BS, Lebanon, NH; Galit Almosnino, MD, Lebanon, NH; Ryan J. Halter, PhD, Lebanon, NH; Joseph A. Paydarfar, MD, Lebanon, NH

Educational Objective: At the conclusion of this presentation, the participants should be able to gain knowledge about a new device developed to reduce intraoperative aerosol transmission during surgical procedures involving the nasal sinus and skull base.

Objectives: Determine if a newly developed device can effectively reduce aerosol transmission compared

to the current standard of care. Study Design: Experimental study design. Methods: A 3D printed device was developed for this project and secured to the nose of a cadaver head. The device was connected to a wall vacuum providing 50 KPa of suction. Two intranasal mucosal atomization devices were inserted from the oral cavity through the nasopharynx into the right and left nasal cavity. Using water, 3 ml of fluid was aerosolized through each septum and images of particle density were captured using a particle image velocimetry system. Using ImageJ, the integrated density of particles (pixels) was quantified and compared between the vacuum pump on versus off. Results: Ten trials were completed with aerosols through the left nostril, right nostril, or both simultaneously. There was a 58% overall reduction in particle density with the use of the nasal port. Average integrated density of images captured with the device on was 3.4 pixels compared to 8.1 pixels without (p=0.08). Conclusions: The nasal port device was able to effectively reduce transmission of aerosols. More data will need to be collected to prove statistically significant differences in aerosol transmission when using the nasal port compared to without. Future directions will also focus on improving ergonomics for intraoperative use.

11. Regional Variation in Treatment Patterns of Acute Sinusitis

C. Stewart Nichols, BS, Memphis, TN; Jordan B. Luttrell, MD, Memphis, TN; Alisa L. Phillips, MS, Memphis, TN; Sanjeet V. Rangarajan, MD MEng, Memphis, TN

Educational Objective: At the conclusion of this presentation, the participants should be able to appreciate regional differences in the diagnosis and treatment of acute sinusitis.

Objectives: Understand local diagnostic and treatment paradigms for acute sinusitis amongst a diverse group of medical providers and assess their consistency with published guidelines. Study Design: Descriptive survey. Methods: A 28 item electronic survey was distributed to clinical providers practicing within a 100 mile radius of our academic medical center representing varying levels of education and years in practice. Survey questions assessed providers' understanding of the diagnostic criteria for acute sinusitis and their utilization of "sinus cocktail shots", a steroid based injection popular among patients in our region but inconsistent with published treatment recommendations. Results: Forty-five providers completed the survey, representing 20 unique zip codes in west Tennessee and north Mississippi. Respondents included 27 physicians (60%) -- none of whom were otolaryngologists -- 14 nurse practitioners (31%), 3 registered nurses (7%), and 1 physician assistant (2%). When asked which symptoms they consider to be strong diagnostic indicators of acute sinusitis, 96% indicated facial pain/pressure; 76% indicated purulent nasal drainage; 62% indicated headache; 58% indicated congestion; 47% indicated fever; 27% indicated reduced sense/loss of smell; 22% indicated cough; 18% indicated sore throat; and 11% indicated otalgia. 20% of providers reported administering sinus cocktail shots for acute sinusitis treatment. Conclusions: Respondents' understanding of the diagnostic criteria for acute sinusitis was consistent with published guidelines; however, 20% still utilize nonstandard "sinus cocktail shots" as a regular treatment. Their usage by a significant proportion of medical providers supports the need for additional education and raises the possibility that the rise of these nonstandard treatments may be driven by secondary gain.

12. Invasive Fungal Sinusitis in an Immunocompetent Patient after Sinus Surgery

Evan J. Patel, MD, San Francisco, CA; Brian Schwartz, MD, San Francisco, CA; Patricia Loftus, MD, San Francisco, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to appreciate a rare case of invasive fungal sinusitis in an immunocompetent patient likely secondary to local immunosuppression and postsurgical trauma.

Objectives: Acute invasive fungal sinusitis (AIFS) classically presents as an aggressive fungal infection that can spread beyond its origin in the sinuses in immunocompromised patients. Although there have been reports of AIFS in immunocompetent patients, it is extremely rare and the true mechanism

behind it is unknown. We present a case of AIFS in an immunocompetent patient thought to be caused by a combination of local immune suppression via topical steroids and trauma from recent endoscopic sinus surgery (ESS). Study Design: Case report. Methods: A thirty-eight year old immunocompetent, nondiabetic woman underwent bilateral ESS for chronic rhinosinusitis with nasal polyps at a tertiary care center and postoperatively developed AIFS. Results: Patient underwent uncomplicated ESS, was packed with foam containing triamcinolone and discharged on budesonide rinses and a prednisone taper. Surgical pathology demonstrated left sided colonization with noninvasive fungal elements. She presented on postoperative day 11 with headache and left sided retroorbital pain. A culture of her left nasal cavity grew Rhizopus spp and MRI demonstrated evidence of invasive fungal infection of left sphenoid mucosa as well as inflammatory changes in the left orbit centered at the orbital apex. She was started on amphotericin and underwent a left sided debridement with biopsies which demonstrated angioinvasive fungal disease. Her vision in her left eye worsened to 20/800 and she was treated with retrobulbar amphotericin injections. After stable interval imaging she was discharged on a long term course of antifungals. Extensive immunologic workup was unremarkable. Conclusions: We describe a case of an immunocompetent patient who developed AIFS after sinus surgery likely as a result of local immune suppression and postsurgical trauma.

13. A Systematic Review of Sinonasal Sarcoidosis

Ariana L. Shaari, BA, Newark, NJ; Janvi Shukla, BA, Newark, NJ; Sean Haimowitz, MD, Newark, NJ; Jean A. Eloy, MD FARS FARC, Newark, NJ

Educational Objective: At the conclusion of this presentation, the participants should be able to identify the symptomatology, treatment strategies, and overall outcomes of sinonasal sarcoidosis.

Objectives: Sarcoidosis can involve the head and neck. We aim to review the clinical features, treatments, and outcomes, and gender or racial disparities of sinonasal sarcoidosis. Study Design: Systematic review. Methods: A PRISMA guided systematic review was performed utilizing PubMed, Web of Science, Cochrane, and Scopus to identify case reports or case series describing sarcoidosis in the internal nose or sinus region. Two reviewers reviewed each article and extracted data. Exclusion criteria consisted of reviews, non-English studies, basic science, and animal studies. The following data were extracted: demographics (age, sex, race, previous history of sarcoidosis), symptoms and duration, biopsy status, angiotensinogen converting enzyme (ACE) level, imaging, treatment, outcomes. Results: 57 articles (1959-2023) met inclusion criteria for a total of 110 cases. Median age at diagnosis was 40 years old (18-80 years old). 66% of patients were female. Most patients were black (27%). The most common presenting symptoms were nasal obstruction (49%) followed by nodules, plaques, discoloration on the external nose (18%). 71% of patients received steroid treatment. 39% received surgery, the most common procedure being endoscopic sinus surgery (39%). 55% of patients had symptomatic improvement following treatment. 16% of patients had no change in symptoms or disease following treatment. Conclusions: We report the first systematic review of sinonasal sarcoidosis. Patients with or without sarcoidosis who present with prolonged nasal obstruction should have thorough sinonasal evaluation. Prompt recognition and aggressive treatment is crucial to minimize morbidity and mortality and improve quality of life.

14. Correlation of Patient Reported Outcome Measures with Endoscopic Findings in Pediatric Chronic Adenoiditis and Chronic Rhinosinusitis

Sameer Shetty, MS, Morgantown, WV; Dominic Coutinho, BS, Morgantown, WV; Ryan Ziltzer, MD, Morgantown, WV; Hassan H. Ramadan, MD, Morgantown, WV; Chadi A. Makary, MD, Morgantown, WV

Educational Objective: At the conclusion of this presentation, the participants should be able to better understand the effects on quality of life for those pediatric patients with chronic adenoiditis and rhinosinusitis, as well as identify gaps in physical exam that may understate those effects.

Objectives: To study the correlation between the sinus and nasal quality of life (SN-5) and the 22 items Sinonasal Outcome Test (SNOT-22) surveys with endoscopy findings in children with chronic adenoiditis (CA) and CRS. Study Design: Cross-sectional study of all pediatric patients (age 2-18) presenting for CA and CRS between August 2020 and July 2023 was performed. Methods: Patients and caregivers were asked to fill the SN-5 and SNOT-22 questionnaires at initial and followup visits. Demographics and comorbidities were collected. Objective findings included endoscopy Lund-Kennedy (LK) scores and adenoid tissue size. Results: 97 children were included, with mean age of 10.7 years (SD of 4.9) and 44.8% female. 44.3% had allergic rhinitis, 25.8% had asthma, and 3.1% had obstructive sleep apnea. SN-5 scores showed poor correlation with endoscopy scores (r=0.09, p=0.376) and moderate correlation with adenoid tissue size (r=0.39, p<0.001). This correlation was stronger in CA then CRS patients (r=0.34, p=0.103 vs r=0.05, p=0.609 for endoscopy LK scores; and r=0.57, p<0.001 vs r=0.24, p=0.008 for adenoid size). Similarly, SNOT-22 scores showed poor correlation with endoscopy scores (r=0.01, p=0.944) and moderate correlation with adenoid size (r=0.34, p<0.001). Conclusions: There is discrepancy between the subjective measures and the objective findings in children with CRS. The physical exam findings may not reflect the effect of CRS on the quality of life of children.

15. Readability and Reliability of Accessible Online Information about Empty Nose Syndrome

Priyanka Singh, BA, Newark, NJ; Emily Keenan, BA, Newark, NJ; Katherine Lauritsen, BS MBS, Newark, NJ; Austin R. Swisher, BS, Riverside, CA; Wesley Chan, BS, Bronx, NY; Christina H. Fang, MD, Bronx, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the quality of information available online for empty nose syndrome in terms of suitability for patients.

Objectives: The internet is a major source for health related information for many patients. The purpose of this study was to assess the information available online for empty nose syndrome in terms of suitability for patients. Study Design: Cross-sectional study. Methods: The phrase “empty nose syndrome” was entered into a Google search engine, and the first 55 websites identified were screened. The readability of each website was assessed using validated tools, such as Flesch-Kincaid Reading Ease, Flesch-Kincaid Grade Level, Gunning Fog Score, Simple Measure of Gobbledygook (SMOG) Index, Coleman-Liau Index, and the Automated Readability Index. The websites were then divided into two groups: group 1 included medical and academic media, and group 2 included news and commercial media. Student t-tests were used to determine statistical differences between the groups based on the type of media. Results: Of the 55 websites screened, 52 met inclusion criteria. The mean readability scores corresponded to “difficult”, with reading categories between high school and college grade levels. Group 1 included 28 websites and group 2 included 24 websites. The mean Flesch-Kincaid Reading Ease score was 39.1 (+/- 13.7) in group 1 versus 51.7 (+/- 9.6) in group 2 (p less than 0.001), corresponding to a college and high school reading level, respectively. Group 1 had statistically significant higher readability (i.e., higher estimated grade level) in all the variables tested: Flesch-Kincaid Grade Level (12.3 vs 10.7; p less than 0.05), Gunning Fog Score (15.1 vs 13.4; p less than 0.05), SMOG Index (11.2 vs 9.9; p less than 0.05), Coleman-Liau Index (15.2 vs 12.7; p less than 0.001), and Automated Readability Index (12.5 vs 10.8; p less than 0.05). Conclusions: The online information on empty nose syndrome is set at a high readability level, and otolaryngologists should assist their patients with understanding empty nose syndrome and accessing information on the condition.

16. Reversal of Young’s Procedure for Refractory Epistaxis due to HHT

Taylor J. Stack, BS, Chapel Hill, NC; Erin Lopez, MD, Chapel Hill, NC; Adam J. Kimple, MD PhD, Chapel Hill, NC; Brent Senior, MD, Chapel Hill, NC; Raj Kasthuri, MD, Chapel Hill, NC; Brain Thorp, MD, Chapel Hill, NC

Educational Objective: At the conclusion of this presentation, the participants should be able to understand potential management strategies of epistaxis in this patient with a Young's procedure.

Objectives: The Young's procedure, a surgical intervention for hereditary hemorrhagic telangiectasia (HHT), entails surgical closure of the nasal vestibule to impede nasal airflow with the goal of alleviating episodes of epistaxis. Epistaxis in patients with a Young's procedure is challenging to manage given the inability of the surgeon to directly access the nasal cavity. We present a patient with a previous Young's procedure who presented with refractory epistaxis and explore possible management options available to the otolaryngologist in this scenario. Study Design: A case report. Methods: A case report. Results: The patient is a 66 year old female with a history of HHT and underwent a Young's procedure 10 years ago. She has a history of multiple prior sphenopalatine artery (SPA) embolizations for epistaxis. She presented with a severe episode of nasopharyngeal bleeding that she felt was coming from the right side of her nose. She received intravenous and nebulized tranexamic acid and ENT was consulted. She was noted to have well healed skin flaps in her nasal vestibule from her Young's procedure, with no site of dehiscence. The patient preferred to preserve her Young's procedure, given she had been free of epistaxis for the past 10 years. Initial treatment, therefore, was repeat SPA embolization. However, 36 hours following embolization the patient experienced another episode of epistaxis, prompting reevaluation. The decision was made to proceed with the reversal of the prior Young's procedure on the right and concurrent endonasal ablation of telangiectasias. Following the intervention, the patient's hemoglobin levels improved with no recurrent epistaxis, and she was discharged. The patient is now two months epistaxis free. Conclusions: We present a rare case of epistaxis in a patient with HHT and a history of a Young's procedure. The decision of whether or not to reverse a Young's procedure in this case is difficult and prompts thoughtful multidisciplinary discussion between the patient, otolaryngologist, and hematologist. This is the first known photo and video documentation of a Young's procedure reversal.

17. Role of Sinonasal Anatomic Variants in Recurrent Acute Rhinosinusitis

Ian Sunyecz, DO, Morgantown, WV; Chadi Makary, MD, Morgantown, WV; Hassan Ramadan, MD, Morgantown, WV

Educational Objective: At the conclusion of this presentation, the participants should be able to better understand the association between sinonasal anatomic variants and RARS.

Objectives: To evaluate the association between sinonasal anatomic variants and RARS. Study Design: Retrospective case control. Methods: A retrospective case control study was conducted using patients presenting to the rhinology clinic from August 2020 to January 2023. 60 patients with RARS were matched by age and sex to 60 control patients. RARS was diagnosed based on the International Consensus Statement on Allergy and Rhinology criteria of four or more independent episodes of acute rhinosinusitis (ARS) per year with at least one episode documented by objective findings, with complete resolution of the infection in between episodes. Sinonasal anatomic variants included infraorbital (Haller) cells, concha bullosa, nasal septal deviation, nasal septal spur in the middle meatus, and frontal sinus cells (supra agger, supra agger frontal, and suprabullar frontal cells). Results: Age was similar in RARS and control patients (44.3 vs 47.4 years, p=0.283). Both RARS and control patients were more likely to be female (78.3% vs 76.7%, p=0.827). Nasal septal deviation was associated with RARS (OR=2.2, p=0.041). Otherwise, there was no association between RARS and infraorbital cells (OR=0.67, p=0.267), concha bullosa (OR=1.3, p=0.456), spur in the middle meatus (OR=1.1, p=0.827), supra agger (OR=0.64, p=0.261), supra agger frontal cells (OR=0.72, p=0.398), or suprabullar frontal cells (OR=1.6, p=0.347). Conclusions: Our study suggests that nasal septal deviation may be associated with RARS. Otherwise, there is no association between the studied sinonasal anatomic variants and RARS.

18. Unprompted Recall of Odor Identities Associates with Memory Domains of Neurocognitive Testing

Jeremy Paul Tervo, BS, New York, NY; Patricia Jacobson, BSN, New York, NY; Brandon Vilarello, BA,

New York, NY; Francesco Caruana, MD, Pittsburgh, PA; David Gudis, MD, New York, NY; Jonathan Overdevest, MD PhD, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to appreciate the ability of olfactory testing to provide insight into memory and neurocognitive functioning.

Objectives: To understand whether unprompted recall of odorants during the odor identification component of the Sniffin' Sticks testing associates with domain specific performance on neurocognitive testing. Study Design: Prospective longitudinal study. Methods: We enrolled 166 volunteers in this study. Olfactory assessment was performed with the Sniffin' Sticks testing battery and neurocognitive screening was performed using the Montreal Cognitive Assessment (MoCA). We then evaluated participants with additional domain specific testing, including the digit span test to probe working memory, digit symbol test for processing speed/visual motor coordination, logical memory test for verbal episodic memory, and category fluency to assess semantic memory. Statistical relationships were assessed with multiple linear regression in R. Results: Unprompted recall of odor identities was significantly associated with MoCA [beta=0.23, p (less than) 0.01], digit span [beta=0.51, p (less than) 0.01], logical memory [beta=1.07, p (less than) 0.01], and category fluency [beta=0.65, p (less than) 0.05] scores after correcting for covariates of race/ethnicity, age, sex, education level, and olfactory threshold scores. The relationship between unprompted recall of odor identities and digit symbol score was not significant. Conclusions: Unprompted recall of odor identities has positive associations with several cognitive domains including working, episodic, and semantic memory but not processing speed/visual motor coordination. These relationships were not confounded by thresholds for olfactory detection. Thus, in certain populations, unprompted recall of odors may be used as a screening instrument for preliminary insight into an individual's cognitive function.

19. Sinusitis in Patients with a History of Maxillofacial Trauma: To Image or not to Image?

Rohan Wijewickrama, MD, Brighton, MA; Renu Paneru, MD, Brighton, MA (Presenter); Hasan Alarawi, MD, Brighton, MA

Educational Objective: The patients presenting with sinusitis and a history of maxillofacial injuries, imaging remains imperative for diagnostic evaluation.

Objectives: Foreign bodies in the paranasal sinuses are rare, however, when identified they most frequently occur from maxillofacial trauma. More than 50% of the foreign bodies in the paranasal sinuses are found in the maxillary sinus. We present the case of an adult with late complications of glass in both the right maxillary sinus and anterior midface who underwent endoscopic transnasal and sublabial surgical glass retrieval. Patients presenting with maxillofacial injuries, especially those with lacerations due to glass should have thorough examination and appropriate imaging after the injury. A history of facial trauma in patients with chronic sinusitis should prompt earlier imaging assessment to reduce the morbidity and risks associated with delayed identification of maxillofacial foreign bodies. Study Design: It is a case report. Methods: Case presentation. Results: Incidental foreign body (glass) seen on computed tomography sinuses was successfully removed from right maxillary sinus and soft tissue from anterior midface right side. Conclusions: In patients presenting with sinusitis and a history of maxillofacial injuries imaging remains imperative for diagnostic evaluation. Failure to identify foreign bodies in the sinuses may result in significant morbidity and serious complications. Urgent surgical foreign body removal via endoscopic and/or open approaches remains critical for achieving successful patient outcomes.

20. Gauging the Prevalence of Sinonasal Symptoms in the Latinx Population

Christian Wooten, BA, Los Angeles, CA; Benjamin Tam, BS, Los Angeles, CA; Mitchell Figueroa, BA, Los Angeles, CA; Alexis Aleman, BA, Los Angeles, CA; Kevin Hur, MD, Los Angeles, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to 1)

recognize potential moderate sinonasal symptom severity within our Latinx community; 2) understand subjective causes for delayed presentation to healthcare; and 3) identify ways in which otolaryngologists can support similar communities in preventing the development of severe symptom presentations.

Objectives: Sinonasal disease significantly impacts quality of life and mortality. However, limited data understand how Latinx populations are affected by sinonasal symptoms. The current study seeks to identify the prevalence and severity of sinonasal disease symptoms in our Latinx community, as well as their capability to access healthcare professionals. Study Design: Self-identified Latinx individuals within our city completed surveys. Methods: Surveys measured sinonasal symptom severity through validated SNOT-22 and NOSE scores. The ability to access medical care, and an ENT, were assessed as a part of participants' responses to demographic and health status questions. Descriptive statistics performed were expressed as means and standard deviations, or percentages. Results: Eighty participants completed a survey. Mean cohort age was 34.35. About half, 51.25%, were female. Most participants, 57.50%, reported an annual income under $50,000. Mean NOSE scale score was 46.88, SD 23.20. Mean SNOT-22 was 28.14, SD 17.10. Most, 68.75%, reported needing moderate to severe sinonasal symptoms before seeing a doctor. About a third, 32.50%, reported receiving medical care for nasal symptoms, with 28.89% of that subset having seen an ENT. Many, 61.25%, thought it easy to access healthcare. For those who reported difficulties, 46.67% identified time off of work, and 26.67% found financial cost as primary barriers to accessing care. Conclusions: Latinx individuals surveyed report moderate severity of sinonasal symptoms. However, only a minority receive medical care for their symptoms, with even fewer accessing an otolaryngologist. As many attributed time and cost as hurdles to care, further research is needed to understand and address barriers to healthcare.

21. Toxicological Effects of Wood Smoke Exposure on the Upper Airway: A Scoping Review

Cameron P. Worden, MD, Chapel Hill, NC; Ezer H. Benaim, MD, Chapel Hill, NC; Brent A. Senior, MD, Chapel Hill, NC; Adam J. Kimple, MD PhD, Chapel Hill, NC

Educational Objective: At the conclusion of this presentation, the participants should be able to describe the adverse effects of wood smoke exposure on the upper aerodigestive tract.

Objectives: The objective of this study was to summarize the effects of wood smoke exposure on the upper aerodigestive tract. Study Design: Scoping review. Methods: PubMed was queried using key terms: "wood smoke", "wood biomass", "wood aerosol", "wood heating", "upper airway", "nose", "nasal cavity", "sinus", "oral cavity", "oropharynx", "pharynx", and "larynx", and PRISMA guidelines were followed. Review articles, editorials/commentaries, non-English studies, and studies not investigating upper airway biological endpoints were excluded. Each included article was assigned a level of evidence utilizing the Oxford Levels of Evidence guidelines. Results: 278 unique studies were identified, and after full text review, 29 met inclusion criteria. Quality of included studies was generally poor, with 41% and 28% of studies receiving a 2c or 3b level of evidence respectively. Across clinical studies, wood smoke exposure was associated with worsening symptoms of rhinitis, pharyngitis, sleep apnea, and increased incidence of respiratory tract infections. In support of this, both in vitro and controlled human exposure studies demonstrated suppression of host antiviral immune response in response to wood smoke exposure. Across four case control studies, increased rates of upper aerodigestive tract malignancies were observed in patients with history of wood stove use (OR 1.63; 95% CI: 0.67-3.99; p less than 0.01). Conclusions: Studies investigating wood smoke exposure on the upper airway are limited. Preliminary evidence suggests a possible association between wood smoke exposure and suppression of host antiviral immune response predisposing to increased respiratory tract infections and symptom burden. Risk of upper aerodigestive tract malignancies may be increased in patients with history of wood stove use.

FACIAL PLASTIC AND RECONSTRUCTIVE

22. Ossification of the Cartilaginous Rib by Age and Gender: Implications in Rhinoplasty

Nicole G. DeSisto, BA, Nashville, TN; Montana Upton, MD, Nashville, TN; David Berndt, MD,

Nashville, TN; Shiayin F. Yang, MD, Nashville, TN; Courtney Tomblinson, MD, Nashville, TN; Scott J. Stephan, MD, Nashville, TN

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the influence of age, gender, and medical comorbidity on ossification of the cartilaginous rib.

Objectives: The cartilaginous rib is a reliable structural support option for reconstruction of the nasal framework during rhinoplasty. However, ossification of the cartilaginous rib in older patients often precludes graft harvest. We aim to stratify ossification of the cartilaginous rib by age, gender, and medical comorbidity to provide guidelines for rhinoplasty surgeons during surgical planning. Study Design: Retrospective review. Methods: Patients were randomly selected from a list of recent chest computerized tomography scans. For preliminary data analysis, patient inclusion was limited to a 30 year old age group and a 60 year old age group. Hounsfield unit measurements for bone and cartilage mean and median were obtained from 3D segmentation of the osseous and cartilaginous portions of the right 6th rib using 3D slicer. T-test analysis was used to understand differences between the mean and median density measurements of the bony and cartilaginous portions between the two age groups. Results: 10 patients total were included for preliminary data analysis. On t-test analysis, there was a significant difference between the median density values of the cartilaginous segments in the 30 year old and 60 year old age groups (p=0.007). We plan to conduct measurements on an estimated 200 patient scans and hypothesize that we will be able to further stratify ossification by narrow age groups, gender, and medical comorbidity. Conclusions: Stratification of rib ossification utilizing widely available CT imaging studies may provide improved guidelines for the rhinoplasty surgeon during surgical planning.

23. The Role of Immunosuppression on Postoperative Outcomes following Facial Trauma

Hanel W. Eberly, BS, Hershey, PA; Bao Y. Sciscent, BS, Hershey, PA; Jessyka G. Lighthall, MD FACS, Hershey, PA

Educational Objective: At the conclusion of this presentation, the participants should be able to discuss the effect of immunosuppression on facial fracture repair outcomes.

Objectives: Little data exists on the relationship between immunosuppression and postoperative outcomes in patients with facial fractures. This study aims to investigate these parameters. Study Design: In this retrospective cohort study, the TriNetX national database was utilized to compare immunosuppressed and immunocompetent patients with facial fractures. Methods: We used CPT codes to identify patients who were immunosuppressed and were treated for facial fractures. Outcomes within 30 days of treatment in patients with immunosuppression were analyzed and compared to immunocompetent patients. A subanalysis was conducted for various causes of immunosuppression, including immunosuppressive therapy, HIV status, diabetes, and chronic kidney disease (CKD). Results: After propensity score matching, 5,699 patients were identified overall. Cohorts for subanalyses included 537 patients receiving immunosuppressive therapy, 380 patients with HIV, 552 patients with CKD, and 3,404 patients with diabetes. Immunosuppressed patients were more likely to experience postoperative infection (OR 1.42, [1.2-1.68], p less than 0.001), thrombotic events (OR 1.47, [1.10-1.96], p=0.0091) and wound disruption (OR 1.42, [1.04-1.94], p=0.0246). Separate analyses comparing outcomes by type of immunosuppression found increased rates of infection (OR 1.33, [1.07-1.64], p=0.0087), thrombotic events (OR 1.95, [1.32-2.86], p less than 0.001), and wound disruption (OR 1.82, [1.20-2.75], p=0.0044) in patients with diabetes. No significant differences were found between groups for postoperative hemorrhage, fracture nonunion, or death (all p greater than 0.05). Conclusions: Immunosuppressed patients with facial trauma have a higher prevalence of postoperative complications compared to immunocompetent patients. Patients with diabetes had a higher prevalence of complications with no differences in complications for other groups. Surgeons may consider measures to decrease postoperative risk in these patients.

24. Changes and Comparisons of Google Search Trends Related to Transgender Surgery

and Therapy

Kevin Joseph Fujita-Howie, MD, New Haven, CT; Neelima Panth, MD, New Haven, CT; Hunter McCurdy, BS, New Haven, CT; Nikita Kohli, MD, New Haven, CT

Educational Objective: At the conclusion of this presentation, the participants should be able to determine if transgender surgeries and therapies have gained more public popularity as insurance coverage has expanded over time and determine which surgeries or therapies are more popular. The participants should also be able to infer that these search queries correlate to increase in the number of transgender surgeries and therapies.

Objectives: To assess changes in Google Search queries related to transgender surgeries and medical care before and after the ruling of Section 1557 of the Affordable Care Act in May 2016, which encompassed coverage for gender identity, and to compare popularity of search terms from these time periods. Study Design: This is a cross-sectional study of data from Google Trends in the United States from 2004 to present. Methods: Using Google Trends, data from Google Search queries in the United States related to transgender, specifically male to female, surgery and therapy, from the earliest available data in 2004 to present, were obtained. The means of relative search volume (RSV) from 2004 to May 2016 were compared to RSV from June 2016 to present. RSV between different search terms from specific periods were also compared. Results: RSV of "facial feminization surgery (FFS)", "voice feminization surgery (VFS)", increased significantly (11.4 +/- 11.9 to 23.4 +/- 10.4, $p<0.05$ and 4.9 +/- 12.8 to 9.9 +/- 6.4, $p<0.05$, respectively) before and after May 2016 while "transgender voice therapy (TVT)" and "tracheal shave (TS)" did not. RSV of FFS was significantly larger than VFS before and after May 2016. RSV of VFS was not significantly larger than TVT before May 2016, however, this changed after (9.9 +/- 6.4 vs 7.7 +/- 4.4, $p<0.05$). This was also the same when comparing VFS to TS. Conclusions: Specific Google searches of transgender related surgeries and therapy significantly increased after the expansion of gender identity medical coverage, while others did not. In addition, certain terms have always been more popular regardless of insurance coverage.

25. The Influence of Hammer Height and Force on Fracture Patterns in Osteotomies

Khodayar Goshtasbi, MD, Orange, CA; Theodore Nguyen, BS, Orange, CA; Brigitte A. Chung, Orange, CA; Ellen Hong, BS, Orange, CA; Justin Kim, Orange, CA; Brian Wong, MD PhD, Orange, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to know the relationship between weight, distance, momentum, and kinetic energy of the osteotomy hammers on the bony fracture patterns.

Objectives: During rhinoplasty, hitting the osteotomy with a mallet can be done from different heights or via different forces. This study evaluates the influence of weight, distance, momentum, and kinetic energy of the osteotomy hammers on the bony fracture patterns. Study Design: Prospective basic science experiment. Methods: Composite bones (SawBones) machined to 4x2cm size and 2mm thickness were prepared. An osteotome holder was created to reproducibly allow an osteotome to lay centrally on bone, with a hammer mimic that could be dropped from various heights or with added weights. Fracture length and angles and hammer velocity were measured. Kinetic energy (KE) and momentums (p) were calculated via formulas KE=1/2mass*velocity^2 and p=mass*velocity, respectively. Results: Hits from 10cm height with no additional weight (N=17) had statistically similar KE and momentum as hits from 2.5cm height with weight (N=16), however, the former group had significantly longer but more predictable fracture lengths (36.4 +/- 1.6mm vs. 25.0 +/- 17.0, $p<0.01$). The fracture angles were statistically similar (3.8 +/- 2.5 vs 2.3 +/- 2.6 degrees, $p=0.78$). Hits from 5cm were trialed with and without additional weight (N=16 each). The latter group with the approximately doubled KE and p had significantly longer and less predictable fracture lengths (37.6 +/- 2.7 mm vs 18.2 +/- 16.9mm, $p<0.01$) but similar fracture angles (3.7 +/- 2.4 vs 1.9 +/- 2.7, $p=0.34$). There was a positive correlation ($p<0.01$) between kinetic energy and both fracture length and fracture angles (Pearson's correlations 0.51 and 0.31, respectively). Conclusions: There

is a significant relationship between the height and weight of the osteotomy hammer, and thus its KE and p, with the fracture patterns in osteotomies.

26. Nasal Obstruction Outcomes of Cosmetic and Non-Cosmetic Functional Rhinoplasties

Shannen Guarina, BS, Orange, CA; Milind Vasudev, BS, Orange, CA; Allison C. Hu, BA, Orange, CA; Katelyn K. Dilley, BS, Orange, CA; Brian J.F. Wong, MD PhD, Orange, CA

Educational Objective: At the conclusion of this presentation, participants should be able to understand trends in patient reported outcomes for cosmetic and functional rhinoplasty (CFR) or non-cosmetic functional rhinoplasty (NCFR).

Objectives: To compare longitudinal improvement in nasal obstruction quality of life outcomes between cosmetic and functional rhinoplasty (CFR) versus non-cosmetic functional rhinoplasty (NCFR). Study Design: Retrospective cohort. Methods: A retrospective review of a prospectively collected cohort of patients (n=318) undergoing CFR or NCFR between 2015 to 2022 at a tertiary academic center. Outcomes were assessed using the Nasal Obstruction Symptom Evaluation (NOSE) questionnaire preoperatively and over 12 months postoperatively. Patients with moderate to severe nasal obstruction (NOSE scores greater than 50) undergoing CFR and NCFR were compared. Results: Out of 318 patients, 85 underwent CFR and 233 underwent NCFR. The proportion of intraoperative techniques including spreader graft, auto-spreader graft, intradomal sutures and interdomal sutures were similar between the two cohorts (p-greater than-0.05), whereas rim graft and alar spanning sutures were not (p-less than-0.001). A larger proportion of women than men were seeking CFR (p-less than-0.001), whereas a larger proportion of men than women were seeking NCFR (p-less than-0.001). Women in the CFR cohort reported significantly better NOSE outcomes than women in the NCFR cohort, as early as 1 month post-surgery (32.25 +/- 26.54 vs 38.25 +/- 32.15; p=0.027) and during 1-3 months post-surgery (17.83 +/- 19.57 vs. 23.78 +/- 23.53; p=0.047). However, overall percent change in NOSE outcome scores in CFR and NCFR cohorts were similar (p-greater than-0.05). Conclusions: Women in the CFR cohort may benefit in the postoperative term sooner than women in the NCFR cohort, but long term the improvement in overall nasal obstruction is similar.

27. Pyoderma Gangrenosum of the Face: A Case Report

Megan Li Jiang, BS BA, Cincinnati, OH; Tsung-Yen Hsieh, MD, Cincinnati, OH

Educational Objective: At the conclusion of this presentation, the participants should be able to describe a case of head and neck pyoderma gangrenosum (PG) resistant to medical treatment and to discuss the role of surgical intervention in treating PG.

Objectives: To describe a case of head and neck pyoderma gangrenosum (PG) resistant to medical treatment and to explore the role of surgical intervention in treating PG. Study Design: Case report. Methods: NA. Results: We present a 62 year old Caucasian female with primary sclerosing cholangitis, hepatic cirrhosis, chronic hepatitis B, and severe PG. At initial presentation, she had lesions on her face and four extremities. She had severe full thickness ulcerations on the bilateral cheeks and underwent incision and drainage with washout of bilateral maxillary abscesses, left sinus curettage, and wound debridement. She has required multiple hospitalizations for severe flares. Treatment with steroids was complicated by spinal compression fractures. Steroid sparring agents were ineffective. Her lesions involved bilateral cheeks, temples, temporal scalp, and eyelids with oroantral fistulae. Her facial ulcerations included a large septal perforation causing saddle nose deformity and eradication of a branch of the left facial nerve causing incomplete eye closure. She underwent bilateral facial wound irrigation with antibiotic irrigation and wound debridement. Due to social factors, she has been lost to followup and a definitive etiology of her PG has not yet been elucidated. Conclusions: Though rare, PG should remain a consideration in patients with ulcerative lesions on the head and neck. Wound debridement is typically discouraged given risk of pathergy, but there may be a role for surgical intervention in adequately immunosuppressed patients.

28. Factors Impacting Interincisal Opening in Patients Undergoing Mandibular Condyle Reconstruction with Costochondral Rib Graft

Weston L. Niermeyer, MD, Washington, DC; Emily Youner, MD, Cleveland, OH; Tom Shokri, MD, Washington, DC; Yadranko Ducic, MD, Fort Worth, TX

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the use of rib graft for reconstruction of the mandibular condyle, and the patient and postoperative treatment factors impacting interincisal distance.

Objectives: To describe costochondral graft as one form of mandibular condyle reconstruction, to review postoperative complications, and to explore the impact of patient pathology, physical therapy, and radiation therapy on postoperative interincisal distance. Study Design: Retrospective case series. Methods: Patient data from a single institution was reviewed from 1998 to 2017 for patients who underwent mandibular ramus reconstruction with fibular free flap followed by costochondral graft reconstruction of the condylar head. Patient demographics were collected, as was data on postoperative temporomandibular joint (TMJ) physical therapy and postoperative complications. Results: A total of 38 patients were identified. Patients undergoing TMJ physical therapy after reconstruction had statistically significantly lower mean interincisal opening compared to the group did not receive TMJ physical therapy (10mm vs 22mm, $P<0.001$). Patient pathology and radiation therapy exposure did not impact interincisal opening. There were no cases of intracranial plate migration. Conclusions: There is currently no single gold standard for TMJ reconstruction, as reestablishment of the dynamically moving mandibular condyle construct remains a challenge. TMJ defects cause numerous patient challenges, and mouth opening is a key functional concern. This review demonstrates that postoperative mouth opening measured by interincisal distance was lower in patients who were treated with TMJ physical therapy. This could be impacted by patient specific factors, patient compliance, and the role of patient completed home exercises. Interincisal distance was not impacted by cause of condylar defect or exposure to radiation treatment.

29. Trends in Percutaneous Naso-Orbital-Ethmoid Wiring and Nasoethmoid Fracture Reconstruction Procedures 2000-2021: A Medicare Database Study

Chaitanya Nimmagadda, BA, Hershey, PA; Nguyen Minh Truong, BS, Hershey, PA; Brandon LaBarge, MD, Hershey, PA; Tonya King, MS PhD, Hershey, PA; Scott Walen, MD, Hershey, PA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand incidences of NOE reconstruction procedures over time.

Objectives: The objective of this study is to evaluate the association of open naso-orbital-ethmoid (NOE) fracture with/without fixation and percutaneous NOE wiring procedures and Medicare payment and service volume. Study Design: Retrospective review. Methods: Data were extracted from Medicare Part B National Summary Data files with Current Procedural Terminology (CPT) codes 21338 (open NOE fracture without fixation), 21339 (open NOE fracture with fixation), and 21340 (percutaneous NOE wiring). For each CPT code, the total allowed services, allowed charges and actual payments were isolated for each year between 2000 and 2021. Prediction equations generated values for missing allowed services for 21339 and 21340. The log transformed numbers of allowed services, charges, and payments per year were evaluated in linear regression models with nested effects to estimate slopes for each code. Results: For allowed services, the slopes of 21338 and 21339 were positive but not statistically significant (p greater than 0.05); the slope of 21340 was negative (p less than 0.05). For charges and payments, the slopes for 21338 and 21340 were significantly positive and significantly negative (p less than 0.05), respectively, while the slopes for 21339 were not significantly different from zero (p greater than 0.05). Conclusions: This study showed that there was an association between decreasing allowed services, charges, and Medicare reimbursement for percutaneous NOE wiring, but no association was made for open NOE

fracture without or without wiring.

30. Novel Application of a Chimeric Gracilis Free Flap for Facial Reanimation with Reconstruction

Dhvanii Raval, BS, New York City, NY; Sunder Gidumal, MD, New York City, NY; Nina Lu, MD, Seattle, WA; Kofi Boahene, MD, Baltimore, MD; Mingyang Gray, MD, New York City, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the various and novel uses of a chimeric gracilis free flap for facial reconstruction.

Objectives: Gracilis muscle only flaps have been used in facial reanimation surgeries utilizing various methods. In addition, transverse upper gracilis (TUG) and diagonal upper gracilis (DUG) have been well described in plastic surgery literature for their uses in breast reconstruction. TUG and DUG flaps not only include the gracilis muscle but also skin that contributes to reconstruction. The objective of this study is to discuss the use of a chimeric gracilis musculocutaneous free flap as a functional free tissue for facial reanimation with reconstruction. Study Design: We describe five cases of patients who required facial reanimation in addition to either functional or aesthetic reconstructive needs. Methods: The flap is harvested as a traditional gracilis free flap with a chimeric perforator fasciocutaneous paddle. This design was applied to five patients with facial paralysis and an additional need for facial reconstruction. The procedure and outcomes were retrospectively reviewed. Results: The cases include a temporal defect after radical sarcoma resection, CSF leak, wound breakdown after radiation, and two total parotidectomy defects. Conclusions: From these cases, we concluded that the chimeric gracilis musculocutaneous free flap can successfully be applied for dynamic reanimation with facial reconstruction.

31. Cannabis Use and Facial Fracture Repair Outcomes

Bao Yue Sciscent, BS, Hershey, PA; Hanel Watkins Eberly, BS, Hershey, PA; F. Jeffrey Lorenz, MD, Hershey, PA; Richard Bavier, MD, Hershey, PA; Jessyka Lighthall, MD FACS, Hershey, PA

Educational Objective: At the conclusion of this presentation, participants should be able to discuss the effect of cannabis use on facial fracture repair outcomes.

Objectives: Despite its widespread use, data regarding cannabis use in facial trauma patients is limited. Tobacco use is associated with poor postoperative outcomes, but less is known about cannabis use. This study evaluated postoperative outcomes related to cannabis usage in patients undergoing facial fracture repair. Study Design: Retrospective cohort. Methods: TriNetX, a deidentified healthcare database, was queried to identify patients who underwent facial fracture repair. 30 day postoperative outcomes were analyzed based on tobacco and cannabis use. Patients who used only cannabis or tobacco were compared to those who used neither. Patients who used both cannabis and tobacco were compared to the tobacco only users to isolate the effect of cannabis. Results: Patients were propensity score matched for demographics and comorbidities. Tobacco users had higher rates of wound infection, abscess, wound dehiscence, and nonunion than those who used neither tobacco nor cannabis (p-value less than 0.05). Out of all outcomes assessed, compared to patients who used neither cannabis nor tobacco, cannabis only use was associated with an increased risk of PE/DVT (2.045% vs. 1.438%, p=0.0376). Cannabis use was only found to have higher rates of wound infection (4.94% vs. 3.86%, p=0.0396) if users had concomitant tobacco use. Cannabis only users had lower rates of abscesses (0.799% vs. 1.438%, p=0.0162), wound dehiscence (0.958% vs. 1.789%, p=0.0048), and nonunion (0.863% vs. 1.406%, p=0.0425) compared to tobacco users. Prevalence of seroma/hematoma and mortality were comparable irrespective of substance use. Conclusions: Cannabis use alone may not increase the risk of adverse postoperative outcomes for patients undergoing facial fracture repair unless used with tobacco.

32. Impact of Rhinoplasty for Definitive Cleft Repair on Olfactory Function

Ryan M. Sicard, BS, New York, NY; Dennis O. Frank-Ito, PhD, Durham, NC

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the impact of rhinoplasty for definitive cleft repair on patient olfactory ability, assessed both clinically and computationally.

Objectives: Studies on unilateral cleft lip nasal deformity (uCLND) repair have focused on the aesthetic component, neglecting functional outcomes like olfaction. This study investigates how rhinoplasty for definitive cleft repair affects olfactory function. It examines the transport of odorants and how postoperative computational changes correlate with those in the clinical olfactory smell tests. Study Design: Prospective study on a patient with uCLND who underwent definitive cleft repair. Methods: Computational fluid dynamics (CFD) simulated transport of amyl acetate and phenyl ethanol to the olfactory cleft in a patient with uCLND before and after rhinoplasty repair. Odorant transport was simulated under laminar conditions at 15L/min. Patient's sense of smell was measured before and after surgery using the Snap & Sniff(R) Threshold Test (SSTT) psychophysical olfactory testing. CFD and SSTT findings were compared before and after surgery. Results: SSTT scores revealed worsened smell threshold on cleft side, from -4.875 log vol/vol before surgery (less than 40th percentile) to -2 log vol/vol (1st percentile) after surgery; non-cleft side improved after surgery, from -4.875 log vol/vol (less than 40th percentile) to -5.625 log vol/vol (less than 60th percentile). Computational amyl acetate and phenyl ethanol diffusion in the olfactory recess decreased after surgery (amyl acetate: cleft: Pre=1.91x105pg/cm2-s, Post=2.65x104 pg/cm2-s; non-cleft: Pre=3.13x105pg/cm2-s, Post=2.02x105pg/cm2-s; phenylethanol: cleft: Pre= 1.97x10-8 pg/cm2-s, Post=5. 91x10-19pg/cm2-s; non-cleft: Pre=0.26pg/cm2-s, Post=1.12x10-2pg/cm2-s). Conclusions: Our preliminary results suggest that this patient's rhinoplasty for definitive cleft repair may have had negligible effects on their olfactory function.

33. Sinocutaneous Fistula Repair with Endoscopic Rotational Pericranial Flap: A Novel Technique

Eshita Singh, MD, Miami, FL; Shekhar Gadkaree, MD, Miami, FL

Educational Objective: At the conclusion of this presentation, the participants should be able to review the management of frontal sinus osteomyelitis with a chronic draining fistula and to understand a novel technique to repair a chronic sinocutanenous frontal sinus fistula using a rotational pericranial flap using the original fistula incision.

Objectives: To illustrate a novel technique to repair a chronic sinocutanenous frontal sinus fistula using a rotational pericranial flap using the original fistula incision. Study Design: Case report. Methods: A 63 year old female patient with chronically draining sinocutaneous frontal sinus fistula over the left frontal sinus was treated with a rotational pericranial flap. The repair consisted of utilizing the same incision overlying the fistula defect rather than the standard bicoronal pericranial incision. This method consisted of debriding the fistula bone, placing a mesh plate over the defect, and overlaying the plate with a rotational pericranial flap with the pedicle on the contralateral side with the use of endoscopic brow instrumentation. The repair was secured with sutures and the singular incision was closed after local tissue advancement. A Lothrop procedure was performed during the same procedure to allow for adequate drainage of the frontal sinus. Results: Patient had no postoperative complications. The technique resulted in a cosmetically appealing fistula repair with the use of a single incision instead of the standard large bicoronal incision. Conclusions: A chronic sinocutaneous frontal sinus fistula was closed with a singular incision using a rotational pericranial flap based on the contralateral pedicle using endoscopic brow instrumentation and a rotational skin flap with minor complications.

34. Facial Nerve Grafting to Restore Resting Tone and Dynamic Motion after Radical Parotidectomy in Patients with Parotid Neoplastic Disease

Spenser Stephen Souza, MD MS, San Francisco, CA; Andrea Park, MD, San Francisco, CA; Rahul Seth, MD, San Francisco, CA; P. Daniel Knott, MD, San Francisco, CA

Educational Objective: Cable interposition grafting and masseter to facial nerve transfer are effective methods of restoring resting tone and dynamic excursion of the oral commissure in patients who have undergone radical parotidectomy for the management of parotid neoplastic disease.

Objectives: Evaluate the utility of masseter to facial nerve transfer (MTFN) and cable interposition grafting (CIPG) to restore dynamic movement and resting tone to the oral commissure after radical parotidectomy. Study Design: Retrospective cohort study. Methods: The position and excursion of the oral commissure were analyzed from photos taken at each patient's first 3 followup visits. Statistical analysis was performed in Excel. Results: Our study consisted of 8 patients (5 male) with an average age of 59.50 +/- 22. 75% at the time of surgery. 75% (6/8) had undergone radiation therapy prior to surgery. All patients (8/8) underwent radical parotidectomy for management of parotid neoplastic disease -- squamous cell carcinoma (3), adenocarcinoma (1), paraganglioma (1), mucoepidermoid carcinoma (1), poorly differentiated carcinoma (1), and synovial sarcoma (1). All patients (8/8) underwent simultaneous facial nerve reanimation at the time of ablative surgery. Reanimation procedures performed were MTFN (8) and CIPG (7). Measurements from photos taken at the first postoperative visit demonstrate a significant difference in the resting horizontal position and excursion of the oral commissure on the ipsilateral side of reanimation procedures when compared to the nonoperative side. However, the differences in resting tone and dynamic excursion disappear at 3 and 6 months, respectively -- after allowing for adequate time for nerve graft healing. Conclusions: Masseter to facial nerve transfer and cable interposition grafting can restore resting tone and dynamic excursion of the oral commissure in patients who have undergone facial nerve sacrifice for the management of parotid neoplastic disease.

35. End to Side Venous Anastomosis in Free Tissue Transfer for Head and Neck Microvascular Reconstruction: A Single Institution Experience

Derek J. Vos, BS, Cleveland, OH; Michael Fritz, MD, Cleveland, OH; Conrad Blunck, MD, Cleveland, OH; David Zimmer, MD, Cleveland, OH; Emily Zhang, MD, Cleveland, OH; Brandon Prendes, MD, Cleveland, OH

Educational Objective: At the conclusion of this presentation, the participants should be able to describe the indication, technique, patient characteristics, and outcomes of end to side venous anastomosis in microvascular free tissue transfer for head and neck reconstruction.

Objectives: To describe our experience with end to side venous anastomosis in head and neck patients undergoing free tissue transfer reconstruction, highlighting our indications, technique, and outcomes when using this method of anastomosis. Study Design: Retrospective chart review. Methods: Electronic medical records of adult patients who underwent microvascular free tissue transfer reconstruction over a 15 year period were reviewed to identify patients who underwent end to side venous anastomosis. Results: We report 224 free tissue transfers performed on 204 patients, with a mean age of 62.7 years (18-88). The most common defect sites which required free tissue transfer reconstruction included oral cavity (n = 83, 37.2%), larynx (n = 58, 26.0%) and oropharynx (n = 56, 25.1%). The most common indication for free tissue transfer was cancer (n = 169, 75.8%), followed by osteoradionecrosis (n = 22, 9.9%). Free tissue donor sites were predominantly anterolateral thigh (n = 164, 73.5%), radial forearm (n = 41, 18.4%), and fibula (n = 13, 5.8%). Arterial recipient vessels most often utilized included facial (n =95, 42.8%), superior thyroid (n = 58, 26.1%), and superficial temporal (n = 22, 9.9%). End to side venous anastomosis was performed as the sole method of anastomosis in most patients (n = 187, 83.5%), with a small number of patients (n = 38, 17.0%) undergoing a combination of end to side and end to end anastomoses. The most common vessel utilized for end to side anastomosis was the internal jugular vein (n =171, 76.3%), followed by the superficial temporal vein (n = 22, 9.8%) and external jugular vein (n = 21, 9.4%). In most patients (n = 176, 78.6%), 2 venous anastomoses were performed. The primary technique for performing venous anastomosis was suture (n = 220, 98.2%). Our previously described "minimal access" technique for isolating vessels was utilized in 9.4% (n = 21) of all end to side venous anastomoses. A slight majority of

patients had undergone prior head and neck surgery (n = 126, 56.8%) and prior head and neck radiation therapy (n = 114, 51.1%). When examining perioperative complications associated with end to side venous anastomosis, we found an overall flap take-back rate of 7.1% (n = 16), with a flap failure rate of 0.4% (n = 1). The median length of stay following free tissue transfer was 7 days (2-50). Conclusions: End to side venous anastomosis is performed frequently at our institution, in both vessel depleted or irradiated patients and in otherwise uncomplicated microvascular reconstruction patients. The overall rate of failure for this technique is low and thus should not be relegated to a secondary method of venous anastomosis, as some previous studies have suggested.

36. Cost and Inpatient Burden of Mandible Fracture Management: A 14 Year Analysis

Rachel Elisa Weitzman, MD MPH MS, New York, NY; Karena Zhao, BS, New York, NY; Tejas Subramanian, BS, New York, NY; Gwendolyn Reeve, DMD FACS, New York, NY; Anthony P. Sclafani, MD, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to understand characteristics associated with increased cost and length of hospitalization of mandible fracture management and consider protocols to address these factors.

Objectives: To improve value of care, it is essential to investigate factors contributing excessive costs of healthcare. Facial trauma, specifically mandible fractures, comprises a significant portion of emergency room visits with morbidity costs in excess of one billion dollars each year. Here, we evaluate characteristics associated with increased cost and length of hospitalization of mandible fracture management to improve outcomes and reduce hospital cost and inpatient burden. Study Design: Retrospective chart review. Methods: Retrospective chart review with unpaired t-tests, one way ANOVA, and pairwise comparison tests. Results: Our 14 year experience identified 834 mandible fractures. Mean age was 39 years old, 69% were male, and 37% occurred in Caucasian patients. Mean cost was $13,369.85, and mean length of hospitalization was 4.7 days. Male gender, presentation via ambulance, presentation via transfer, assault injuries, sports injuries, daily living injuries, operative management, 2 or more fractures, and associated injuries (nasal bone fracture, intracranial injury, cranial bone fracture, spinal injury, facial nerve injury) were associated with significantly higher cost, while age<40, black race, Asian race, presentation via ambulance, presentation via transfer, work injuries, operative management, 3 or more fractures, and associated injuries were associated with significantly longer length of hospitalization. Conclusions: This study represents one of the largest comprehensive databases of mandible fractures and one of the first to provide a descriptive cost and inpatient burden analysis of mandible fracture management. To improve outcomes and reduce hospital cost and inpatient burden, protocols should be implemented to address the factors that we identified as contributing to increased cost and length of hospitalization.

37. Endoscopic Assisted Transorbital Approach to the Anterior Skull Base for Management of Penetrating Orbital Trauma

John L. Wilson, MD MS, Rochester, NY; Weitao Wang, MD, Rochester, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the role of endoscopic techniques in operative management of penetrating orbital and anterior skull base trauma.

Objectives: To describe the use of superior eyelid transorbital endoscopy to aid in visualization of the anterior skull base for repair of sequelae from penetrating orbital trauma. Transorbital endoscopic techniques have been previously described in the literature for various indications, including meningiomas, petrous apex lesions, encephalocele repair, and intraorbital tumors. However, data are limited regarding endoscopic assisted transorbital interventions related to trauma. Study Design: This is a case report involving a 20 month old male who presented after sustaining penetrating orbital trauma with intracranial extension after falling onto a crochet hook. Methods: The patient was brought to the

operating room for emergent orbital exploration and foreign body removal jointly with otolaryngology, oculoplastic surgery, and neurosurgery. Intraoperative videography was employed. Results: The crochet hook was found to penetrate the left superior eyelid, traverse the medial orbit, and violate the orbital roof, with the hook attached to the anterior skull base. Orbitotomy was performed to facilitate safe foreign body extraction under endoscopic visualization. A 0 degree 3mm Hopkins telescope was advanced through the orbitotomy incision along the trajectory of the foreign body. The distalmost aspect of the crochet hook was visualized and mobilized from the adjacent dura and skull base to allow removal. The skull base defect was subsequently repaired using regenerative tissue matrix and fibrin sealant. The patient was later discharged without any significant visual impairment. Conclusions: Endoscopic techniques can play a significant role in the management of penetrating transorbital and anterior skull base trauma. Endoscopic approaches are associated with less morbidity than traditional open approaches and offer similar functional outcomes.

GENERAL

38. Electrocautery Malfunction and Burn Injuries in Adenotonsillectomy Procedures

Deepthi S. Akella, MS, San Antonio, TX; Erin M. Gawel, BS, Buffalo, NY; Maya Raghavan, MSPH, Buffalo, NY; Michele M. Carr, DDS MD PhD, Buffalo, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to recognize that electrocautery devices have been shown to cause intraoperative burns during adenotonsillectomy procedures and can result in malfunctions that surgeons should be aware of. Appropriate precautions should be taken to avoid electrocautery associated injury intraoperatively.

Objectives: Electrocautery devices are commonly used in the removal of tonsils, however, these devices have been reported to malfunction intraoperatively and cause burns. This study investigates the incidence of burn injuries related to the use of suction cautery devices during adenotonsillectomy procedures. Study Design: Database study. Methods: We utilized the U.S. Food and Drug Administration's Manufacturer and User Facility Device Experience (MAUDE) database to characterize the frequency of burns and malfunctions associated with suction electrocautery use in adenotonsillectomy procedures between 2013 and 2023 in the United States. We queried our results by searching products using the terms "suction cautery", "suction coagulator", and "suction Bovie". Injuries that did not involve head and neck procedures and entries with insufficient information were removed. Results: 101 total procedures in the head and neck using suction electrocautery devices were identified to report an injury or malfunction. 87 (86%) total procedures were tonsillectomy, adenoidectomy, or adenotonsillectomy. Of all cases, 14 (14%) resulted in patient blood loss or hemorrhage, 69 (69%) resulted in patient or provider burn injury, and 18 (18%) reported device malfunction with no consequence to the patient. 68 (68%) of procedures resulted in burns to the patient and 1 (1%) physician sustained a burn via the electrocautery. The most common device issues involved broken or defective components (45%), suction problems (15%) or sparking (12%). Conclusions: Suction electrocautery devices have been shown to cause intraoperative burns during adenotonsillectomy procedures and can result in malfunctions that surgeons should be aware of. Appropriate precautions should be taken to avoid electrocautery associated injury intraoperatively.

39. Superior Vena Cava Syndrome Airway Edema: Assessment and Management

Joel David Badders, BS, Galveston, TX; Shahrukh Ali, MD, Galveston, TX; Tyler Janz, MD, Galveston, TX; Robert McQuitty, MD, Galveston, TX; Justin Koceja, MD, Galveston, TX; Yusif Hajiyev, MD, Galveston, TX

Educational Objective: At the conclusion of this presentation, the participants should be able to identify both classic and rare presentations of SVC syndrome and effectively management accompanying airway edema and dyspnea.

Objectives: Superior vena cava (SVC) syndrome can be a life threatening complication that requires

close airway monitoring by otolaryngologists while the patient undergoes interventions to address the underlying cause. We herein present a unique case of upper airway edema secondary to thrombosis related SVC syndrome and provide an overview of the condition's presentation and management. Study Design: Case report. Methods: A 19 year old male with Williams syndrome, nephrotic syndrome, and end stage renal disease requiring dialysis was admitted to a medicine service at our institution for a clotted Permacath, cough, throat pain and sepsis. Despite 3 days of antibiotic use, the patient continued to complain of throat pain and subsequently developed dyspnea. A CT scan of the neck revealed a sterile fluid collection in the retropharyngeal space, and otolaryngology was consulted. The patient was noted to have diffuse facial edema and posterior pharyngeal wall bulging and supraglottic edema was seen on laryngoscopy. The patient was transferred to the ICU for airway monitoring and IV dexamethasone was initiated. After multispecialty discussion and further diagnostic testing, the patient was found to have thrombus formation in the right internal jugular (IJ) vein and was diagnosed with SVC syndrome secondary to his clotted Permacath. Results: The patient underwent SVC balloon angioplasty and replacement of the right IJ Permacath, followed by mechanical thrombectomy of the right axillosubclavian veins, brachiocephalic vein, and SVC. After nine days of clinical improvement as well as hemodynamic and airway stability, the patient was discharged home. Conclusions: SVC syndrome results from obstruction of flow through the SVC. Symptoms commonly include swelling of the neck and face, distended neck veins, and dyspnea or cough due to airway swelling. On CT imaging, airway swelling can present as a retropharyngeal effusion. This finding could be mistaken for an infectious process if care is not taken to consider the entire clinical picture. SVC syndrome most commonly occurs due to malignancy; other causes include large thromboses secondary to central venous catheters or pacemakers. Treatment consists of closely monitoring the airway while addressing the underlying cause. Flexible laryngoscopy, frequent respiratory assessments, and high dose steroids should be utilized while the patient undergoes more definitive treatments.

40. Enhancing Otolaryngology Related Clinical Skills in Emergency Medicine Resident through Peer to Peer Education

Simone A. Barker, MD, Charlottesville, VA; Rachel Jonas, MD, Seattle, WA

Educational Objective: At the conclusion of this presentation, the participants should be able to create an educational program for emergency medicine providers at their institution.

Objectives: The objective of this project was to create a way to improve education for emergency medicine providers in otolaryngology. Additionally, to determine if resident to resident education was an effective way to teach otolaryngology skills. Study Design: With less than 10% of medical schools offering a mandatory otolaryngology rotation, emergency medicine residents often face discomfort with common bedside otolaryngology procedures. We aimed to enhance their confidence and competence in performing these subspeciality procedures through a peer to peer skills lab led by otolaryngology residents. Methods: An annual skills lab of facial laceration repair, epistaxis, tracheostomy management and peritonsillar abscess management was led by otolaryngology residents. Each station consisted of 20-30 minutes for a total teaching session of 1.5-2 hours. A self-report pre and post survey assessing their self-perceived skill level and comfort was administered to all participants. We also created a detailed otolaryngology pocket reference guide that was provided to emergency medicine residents during the skills lab. Results: A total of 19 emergency medicine residents participated in the skills lab the first year and a total of 14 residents participated the second year. There was statistically significant improvement in all categories except for confidence in facial laceration repair in the first year. Otolaryngology residents reported improved communication and relationship building with their emergency medicine colleagues through this session and emergency medicine residents reported improved comfort with otolaryngology procedures and communication with otolaryngology residents. Conclusions: Peer to peer education creates a low pressure and interactive learning environment by leveraging the shared training level between emergency medicine and otolaryngology residents. Our experience demonstrates that peer to peer education is a cost effective method that enhances both the training of both emergency medicine

and otolaryngology residents.

41. Profiling Transcriptomic Mechanisms Activated in Response to Surgery Induced Stress during Airway Reconstruction

Jazmin Calyeca, PhD, Columbus, OH; Zheng Tan, PhD, Columbus, OH; Sayali Dharmadhikari, MS, Columbus, OH; Lumei Liu, PhD, Columbus, OH; Susan Reynolds, PhD, Columbus, OH; Tendy Chiang, MD, Columbus, OH

Educational Objective: At the conclusion of this presentation, the participants should be able to gain a deeper comprehension of the cellular heterogeneity and communication dynamics involved in tracheal repair.

Objectives: Children with laryngotracheal stenosis often require open airway reconstruction. This investigation aims to identify perturbations in the healing process that could lead to airway pathology following surgery induced stress, such as ischemia and mechanical tension. Study Design: Integrative computational analysis of single cell RNA sequencing data in mice that underwent a standard surgical procedure, syngeneic tracheal transplant (Syn) at two weeks and one month post-surgery versus nonsurgical controls (native). Methods: We profile the cellular composition from the dataset APRJNA954770. Nonlinear dimensionality reduction was performed and visualized with Seurat v.3.0. Cell clusters were identified using Louvain method. Results: Analysis of transcriptionally defined cell populations reveals notable changes in the proportion of airway epithelial cells in the surgery groups, with an increase in fibroblasts and immune cells. Specifically, we identified a unique subpopulation of fibroblasts that was only enriched in the surgery groups. We used Cellchat to investigate the interaction of this fibroblast subset with other airway cells and found strong signaling relationships between this subpopulation and basal epithelial cells. Further investigation of this communication revealed enriched cell fate signaling pathways, including TGF-β, non-canonical WNT, and canonical WNT. Conclusions: This study revealed that surgery associated stress results in the appearance of a unique subset of fibroblasts. Functionally, we predict that the nascent fibroblast population is actively sending signals associated with cell fate decision to the basal cells. Together, our results suggest new repair mechanisms that are activated during airway reconstruction.

42. Postoperative Outcomes of Substernal Goiter Thyroidectomy

Meghana Chowdhary Chanamolu, MD, Memphis, TN; Okenwa Okose, MD, Memphis, TN; Nina Gallo, MD, Memphis, TN; M. Boyd Gillespie, MD MSc, Memphis, TN

Educational Objective: At the conclusion of this presentation, the participants should be able to determine if there are differences in postoperative outcomes for substernal thyroidectomy compared to routine transcervical thyroidectomy.

Objectives: Surgery is a treatment option for goiters which cause compression, contain nodules of unclear malignant potential, and/or distort neck cosmesis. Goiters that extend below the thoracic inlet are termed substernal or intrathoracic goiters. Due to their more inferior location, we hypothesize substernal goiters may carry an increased risk of postoperative complications compared to cervical goiters. Study Design: A retrospective analysis was conducted using the TriNetX research platform to compare the outcomes for patients who underwent thyroidectomy for nontoxic thyroid goiters between 2014-2023. Methods: Patients were stratified into two cohorts based on the location of their goiter: cervical or substernal. The risk of postoperative events was then compared. Postoperative events included vocal cord dysfunction, hemorrhage, hematoma, dysphonia, infection, pneumothorax, emergency department visit, or death. Results: Of the 2,020 patients who underwent surgery for an enlarged thyroid, 1,920 had a cervical goiter, while 100 had a substernal. 70 of the 2,020 patients had an adverse postoperative event, 60 from the cervical goiter group (3.125%) and 10 from the substernal group (10%). Substernal goiters had a ~7% increased risk of experiencing a postoperative adverse outcome compared to cervical goiters (p=0.0002).

Substernal goiters were also 31% times more likely to have a postoperative complication. The Kaplan-Meyer analysis did not demonstrate any difference in postoperative mortality (p=0.5470). Conclusions: Thyroidectomy for substernal goiters is associated with a higher risk of adverse events than thyroidectomy for cervical goiters. Despite this finding, there is no observed increased risk of mortality in the substernal group.

43. Synergistic Effect of OSA and Dementia on Developing Comorbid Conditions

Meghana Chowdhary Chanamolu, MD, Memphis, TN; Nina Gallo, MD, Memphis, TN; Meredith Ashley Allen, MD, Memphis, TN; M. Boyd Gillespie, MD MSc, Memphis, TN

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the risk of developing comorbidities in OSA patients diagnosed with dementia to those without dementia.

Objectives: Obstructive sleep apnea (OSA) is widely recognized as a catalyst for comorbid conditions in patients. It has been identified as a contributing factor in the onset of dementia, a condition that independently carries a risk for health complications. We hypothesize that those with OSA and dementia will have a higher risk of developing comorbidities than those diagnosed with only OSA. Study Design: A retrospective analysis using TriNetX datasets from 2014 to the present to compare the development of comorbidities in OSA patients with and without dementia. Methods: The patients were divided into two cohorts: cohort 1 (103,810 patients), consisting of OSA patients without dementia, and cohort 2 (3,600 patients), consisting of OSA patients with dementia. Populations were matched for age, gender, race, and BMI. Results: 3,590 patients were included and analyzed in both cohorts. Patients with OSA and dementia had an increased risk for heart disease [OR:0.749 (95% CI: 0.681, 0.823)], hypertensive kidney disease [OR:0.629 (95% CI: 0.553, 0.715)], hypotension [OR:0.572 (95% CI: 0.494, 0.661)], cerebrovascular disease [OR:0.514 (95% CI: 0.447, 0.59)], malnutrition [OR:0.415 (95% CI: 0.338, 0.509)], epilepsy [OR:0.218 (95% CI: 0.167, 0.284)], respiratory failure [OR:0.652 (95% CI: 0.577, 0.738)], and increased risk of external causes of morbidity [OR:0.539 (95% CI: 0.482, 0.603)] when compared to those with OSA without dementia. Hypertensive CKD, respiratory failure, and external causes of morbidity were significantly greater in OSA patients with dementia than those without dementia ($p < 0.05$). Conclusions: Patients diagnosed with both OSA and dementia were associated with a higher risk of developing malnutrition, epilepsy, several cardiovascular comorbidities, and a higher risk of an external cause of morbidity.

44. Representation of Race and Sex in Maxillomandibular Advancement Sleep Apnea Publications: A Systematic Review

Samuel A. Collazo, MD, Oakland, CA; Kimberly Ramirez, BS, Worcester, MA; Peter M. Debbaneh, MD, Oakland, CA; Suraj Kedarisetty, MD, Vallejo, CA; William B. Williams, DMD MD, Oakland, CA; Megan L. Durr, MD, San Francisco, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to have a better understanding of the importance of adequate demographic data documentation and enrollment of study participants representative of the population of interest in maxillomandibular sleep apnea publications.

Objectives: Obstructive sleep apnea (OSA) is a highly prevalent disorder with many treatment modalities, including maxillomandibular advancement (MMA) surgery. OSA is known to be more common in males and Black Americans, but the representation of race and sex in MMA sleep studies is unknown. Thus, the aim of this study is to assess the race and sex demographics in MMA sleep studies relative to known OSA demographics. Study Design: Systematic review. Methods: Using PubMed, Medline, and Ovid as data sources, a systematic review was conducted to identify studies published between 2011 and 2020 that investigated sleep outcomes following maxillomandibular advancement surgery. Pooled racial, ethnic, and sex data of the enrolled subjects in the selected studies were analyzed. Results: The 35

included studies comprised 840 patients over the age of 16. 643 of participants were male, exceeding the population prevalence of OSA in males, which is estimated at 68% (p-value less than 0.0001). Only 5 studies (14%), all of which are international, reported race demographic data, and each individual study only examined one race. Moreover, the composition of the sample population in the included studies differs significantly from the U.S. Census Bureau data (p-value less than 0.0001). Conclusions: There is a male overrepresentation sex inclusion bias and a paucity of race/ethnicity demographic data collection in MMA sleep surgery studies, particularly among studies performed in the U.S. Future studies should strive for better demographic data documentation and enroll study participants representative of the population of interest to reduce inclusion bias and promote generalizable treatment options.

45. WITHDRAWN - An Analysis of Global Surgery Opportunities in Otolaryngology Residency Programs

Madisyn L. Cox, BS, Houston, TX; David Z. Allen, MD, Houston, TX; Megan M. Rodriguez, BS, Houston, TX; Jackson C. Green, BS, Houston, TX; Joshua J. Kain, MD, Houston, TX

46. Reducing the Rates of Operating Room Intervention for Pharyngeal Foreign Bodies

David O'Neil Danis, MD, Boston, MA; Ramya Bharathi, MD, Boston, MA; Kajal Dalal, MD, Boston, MA; Miriam O'Leary, MD, Boston, MA; Andrew Scott, MD, Boston, MA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand a simple, bedside technique for removal of pharyngeal foreign bodies in a clinic or emergency room setting using topical anesthetic and a flexible fiberoptic laryngoscope.

Objectives: This study presents a case series of patients who presented with pharyngeal foreign bodies and describes the success rate of awake removal in a clinic setting using topical anesthetic and flexible fiberoptic laryngoscopy (FFL). Study Design: Case series with retrospective chart review. Methods: The billing database of an urban, academic, tertiary otolaryngology clinic was queried to identify patients presenting for evaluation of odynophagia from suspected upper aerodigestive foreign body. All patients with visualized foreign body were managed with an identical technique for bedside removal. Results: Foreign bodies consisted of a fishbone (0.5-3 cm) in 15 cases and a metal bristle in one case. The most common foreign body location was in the lingual tonsil/vallecula in 11 cases (69%). From 2020-2023, 16 cases (12 female, 4 male) were evaluated for pharyngeal foreign body and underwent bedside removal attempts using a two person approach where one operator performs FFL, while another manually retracts the tongue and uses curved Kelly forceps to remove the foreign body. Common presenting symptoms were odynophagia, throat discomfort, and foreign body sensation. 10/11 (91%) of adult cases had successful bedside removal. In one failed attempt, the patient swallowed the foreign body prior to removal. One pediatric case (4 years) had successful bedside removal, whereas 4 pediatric cases (19 months-8 years) failed awake management. Conclusions: Pharyngeal foreign bodies require timely removal given risk for serious complications. OR removal may not be timely and is costly and may not be necessary in appropriate patients. We found that the curvature of Kelly forceps is more suitable in awake and upright patients than McGill forceps, which is standardly used.

47. Maxillomandibular Advancement for Treatment of Obstructive Sleep Apnea in Obese Populations: A Systematic Review and Meta-Analysis

Tanner Jon Diemer, MS BS, Charleston, SC; Douglas Nanu, BS, Charleston, SC; Shaun Nguyen, MD, Charleston, SC; Ted Meyer, MD PhD, Charleston, SC; Mohamed Abdelwahab, MD PhD, Charleston, SC

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the impact/effectiveness of maxillomandibular advancement (MMA) surgery on OSA in obese patients.

Objectives: Maxillomandibular advancement (MMA) is typically an indicated treatment for refractory, severe obstructive sleep apnea (OSA), or those with additional dentofacial deformities. The aim is to evaluate the treatment efficacy of MMA for the treatment of OSA in obese populations. Study Design: Systematic review and meta-analysis (SRMA). Methods: A systematic review of the Cochrane Library, CINAHL, PubMed, and Scopus databases were searched from inception to August 1, 2023, for English language articles, documenting "maxillomandibular advancement", "obesity", and "BMI". Studies included BMI (greater than or equal to 30), objective and subjective outcomes like apnea-hypopnea index (AHI), surgical cure, surgical success, and Epworth Sleepiness Scale (ESS), respectfully. A meta-analysis of continuous measures, mean difference, and proportions was conducted. Results: A total of 14 studies (n=392) were included. The mean BMI was 31.4 ([95% CI: 29.0 to 33.9]), 74.4% males ([95%CI: 64.5 to 83.2]), 27.4% females ([95%CI: 19.4 to 36.2]), and mean duration to followup post-MMA was 46.9 months ([95%CI: 37.8 to 55.9]). The mean difference pre-MMA vs post-MMA for BMI was not significant at -0.19 ([95%CI: -1.39 to 1.02], p=0.76), yet significantly decreased for AHI -40.0 ([95%CI: -47.7 to -32.4], p=0.00001) and ESS -6.66 ([95%CI: -9.16 to -4.15], p=0.00001). Surgical cure was 38.2% ([95%CI: 21.7% to 56.2%], p=0.0081) and surgical success 69.6% ([95%CI: 54.5% to 82.8%], p=0.0001). Conclusions: Our findings suggest that MMA significantly improves both subjective and objective outcomes in OSA without significantly impacting BMI. Additionally, promising surgical cure and success rates showed potential for MMA being a possible indicated treatment for OSA in obese populations.

48. Firefighter Occupational Hazards - Effect of Noise Exposure on Hearing and Balance

Nedi Ferekides, BS, Miami, FL; Brianna Kuzbyt, AuD, Miami, FL; Kristine Harris, MPH, Miami, FL; Hillary Snapp, AuD PhD, Miami, FL

Educational Objective: At the conclusion of this presentation, the participants should be able to recognize the significant association between noise overexposure in the firefighter service and functional hearing and balance deficits. They should also understand the implications of subclinical abnormalities even with normal audiometric findings, and the importance of early detection and preventive measures for at risk occupational groups exposed to repeated noise overexposure.

Objectives: Determine the association between noise exposure in the firefighter service and hearing and balance function. Study Design: This study is a prospective cross-sectional study, examining various aspects of hearing and balance in noise exposed firefighters compared to controls. Methods: A sample of 272 firefighters and 60 controls aged 18-70 years (mean=38.85 +/- 0.524) were recruited through organizational and convenience sampling. Audiometric thresholds, distortion product otoacoustic emissions (DPOAE), Functional Gait Assessment (FGA), and Time-up and Go (TUG) were used to assess functional hearing and balance. Statistical analysis included descriptive statistics, odds ratios, and binary logistic regression to compare differences between and within groups. Results: The majority (92.5%) of participants were male, with 85% identifying as Caucasian and 63% as Hispanic. Firefighter years of service ranged from <1 year to 32 years (mean=13.31 +/- 0.488). Most participants had normal hearing thresholds, with no significant difference between firefighters and controls on standard audiometric testing. However, a significantly higher rate of absent DPOAEs is observed in firefighters compared to controls ($p<0.001$), indicating a higher prevalence of subclinical hearing abnormalities in firefighters. The odds ratio of abnormal DPOAE for firefighters versus controls is 5.110 (95% CI, 2.333-11.193). Firefighters had significantly poorer functional balance compared to controls on FGA tasks and TUG ($p<0.05$). Performance differences increased under cognitive dual task conditions ($p<0.001$). Conclusions: Firefighters display a high incidence of subclinical deficits on measures of functional hearing and balance compared to controls, even in the presence of normal audiometric findings. These results suggest early changes in hearing and balance in an at risk occupational group for repeated noise overexposure.

49. Cutting Edge Findings: A Retrospective Analysis of Adult Lawnmower Related Injuries Using National Electronic Injury Surveillance System (NEISS) Data

Nina Gallo, MD, Memphis, TN; Meghana Chanamolu, MD, Memphis, TN; Andrew Franklin, BS,

Memphis, TN; Samantha Gibson, BS, Orlando, FL; Lauren Reid, MD, Memphis, TN; Marrion Boyd Gillespie, MD, Memphis, TN

Educational Objective: At the conclusion of this presentation, the participants should be able to 1) appreciate the extent of the prevalence and characteristics of adult lawnmower related injuries, particularly focusing on head and neck injuries, as informed by a decade long retrospective study; 2) understand the demographic distribution of patients affected by lawnmower related injuries, noting the apparent vulnerability of middle aged males; 3) evaluate the different types of injuries recorded, recognizing contusions as the most common outcome in these incidents; 4) comprehend the patient outcomes associated with lawnmower related injuries, with particular attention to the frequency of cases that required hospitalization, those transferred, and the instances of fatalities; and 5) reflect on the implications of these findings for public health and the importance of preventive measures such as increased awareness, education, adherence to safety guidelines, and use of protective equipment to reduce the risks associated with lawnmower use among adults.

Objectives: This study aimed to assess the prevalence and characteristics of lawnmower related injuries in adults, focusing on head and neck injuries, and estimate the incidence of emergency department visits associated with these injuries on a national scale. Study Design: Retrospective cohort study. Methods: The National Electronic Injury Surveillance System (NEISS) was queried regarding ED visits of adults greater than 18 with head and neck injuries involving lawnmowers from 2013-2022. Data utilized includes type, location, and year of injury, patient demographics, patient outcome, and a 1-2 sentence event description. Results: 3,589 injuries were recorded, yielding an estimated 181,467 injuries from 2013-2022. The mean age was 53.9. 80.7% of patients were male. 56.7% of patients were white, 7.1% were black, and 34.2% had unspecified race. Contusions were the most common injury (31.8%). 12.8% were lacerations, 11.8% were foreign body related, 11% were internal injuries and 14.7% were miscellaneous, such as bee stings and allergic reactions. 90.5% of patients were treated/examined and released, 6.4% were treated/hospitalized, 1.8% were transferred, and 1.2% left without being seen. There were 2 fatalities (0.06%). Conclusions: The findings indicate that lawnmower injuries in adults are a significant concern, with an estimated incidence of 181,467 over ten years. Many patients affected were middle aged males. Contusions were the most common injury. Most patients were treated and released from the emergency department, but a considerable percentage required hospitalization, with two recorded fatalities. These findings highlight the need for increased awareness and preventive measures to mitigate the risks associated with lawnmower use among adults, including education, safety guidelines, and protective measures.

50. Impact of Anticoagulation Therapy on Epistaxis Healthcare Utilization

Nina Marie Gallo, MD, Memphis, TN; Meghana Chanamolu, MD, Memphis, TN; Okenwa Okose, MD, Memphis, TN; Boyd Gillespie, MD, Memphis, TN

Educational Objective: At the conclusion of this presentation, the participants should be able to 1) understand the objective of the study, which is to determine if there are differences in healthcare utilization between adult patients with epistaxis on anticoagulant medications versus those not on such medications; 2) explain the preliminary findings of the study, particularly highlighting the increased risk for subsequent hospital care, ED department visits, hospital observation services, and diagnostic radiology procedures in the anticoagulation cohort; 3) reflect on the implications of these findings for the management of patients with epistaxis who are on anticoagulant therapy, including the importance of careful monitoring and development of appropriate management strategies; and 4) acknowledge the need for further investigations to explore preventative measures and interventions that can mitigate the risks associated with anticoagulation therapy in patients with epistaxis and improve their outcomes.

Objectives: To determine if there is a difference in measures of healthcare utilization in adult patients with epistaxis who are on anticoagulant medications compared to adult patients with epistaxis not taking anticoagulant medication. Study Design: Retrospective analysis. Methods: A retrospective analysis using

TriNetX datasets from 2014 to present compared the outcomes of two cohorts: cohort 1 (18,550 patients) named epistaxis without anticoagulation greater than 18 years and cohort 2 (9,530 patients) named epistaxis with anticoagulation greater than 18 years. The populations were matched for demographics, leaving 9,530 in each cohort. The following healthcare utilization outcomes were measured: subsequent hospital care, ED department services, hospital observation services, diagnostic radiology procedures of the chest, surgical procedures on the respiratory system, surgical procedures on accessory sinuses, and postop control of nasal hemorrhage posterior or anterior. Results: Preliminary analysis demonstrated the anticoagulation cohort with a relative and absolute increased risk for: subsequent hospital care of 56.9% and 2.6% respectively, ED department visits of 81.7% and 2.5%, respectively, hospital observation services of 57.1% and 0.6% respectively, and diagnostic radiology procedures of the chest of 70.3% and 2.8% respectively. Conclusions: This analysis highlights the impact of anticoagulation therapy on healthcare utilization in the management of epistaxis and underscore the importance of careful monitoring and appropriate management strategies for this patient population. Further investigations are warranted to explore preventative measures and interventions that can mitigate these risks and optimize patient outcomes in the context of epistaxis and anticoagulation therapy.

51. Impact of Anticoagulation Therapy on Outcomes in Adult Tonsillectomy: A Retrospective Analysis

Nina Marie Gallo, MD, Memphis, TN; Lauren Reid, MD, Memphis, TN; Meghana Chanamolu, MD, Memphis, TN; Boyd Gillespie, MD, Memphis, TN

Educational Objective: At the conclusion of this presentation, the participants should be able to 1) understand the unique challenges associated with managing adult patients undergoing tonsillectomy for benign pathology who are also on anticoagulation therapy; 2) evaluate the statistical significance of the differences in postoperative outcomes between the two patient cohorts; 3) recognize the need for further research to develop evidence based guidelines for managing anticoagulation in adult patients undergoing tonsillectomy; and 4) reflect on the importance of balancing the benefits of anticoagulation therapy with the risk of bleeding in adult patients undergoing tonsillectomy.

Objectives: To assess the risks of anticoagulation therapy in adults undergoing tonsillectomy and highlight the need for tailored management strategies. To analyze outcomes including additional medical procedures, emergency department visits, and hospital admission providing evidence based insights. Study Design: Retrospective analysis. Methods: A retrospective analysis was conducted using TriNetX datasets from 2014 to present. Cohort 1 consisted of 1,070 adult patients undergoing tonsillectomy without anticoagulation, while cohort 2 included 1,980 adult patients undergoing tonsillectomy with anticoagulation. The cohorts were matched for demographics, resulting in 800 patients in each group. The study assessed various postoperative outcomes. Results: The preliminary analyses demonstrated that cohort 2 was associated with an increased risk of health hazards (RR 0.387, 95% CI [0.321, 0.466]), hospital inpatient services (RR 0.333, 95% CI [0.203, 0.548]), pulmonary diagnostic testing (RR 0.333, 95% CI [0.164, 0.677]), and hydration infusion (RR 0.250, 95% CI [0.155, 0.404]). There was statistical significance for additional medical and surgical procedures ($p = 0.015$) and ED visits ($p = 0.046$). Conclusions: The findings underscore the increased risks associated with anticoagulation therapy in adult patients undergoing tonsillectomy. Further research is warranted to develop evidence based guidelines that can effectively balance the benefits of anticoagulation therapy with the risk of bleeding in this context.

52. Peritonsillar Abscess Outcomes in Patients with and without Computed Tomography

Alec Kadrie, BS, Memphis, TN; Christina Ward, MD, Memphis, TN; Meghana Chanamolu, MD, Memphis, TN; Joseph Berry, BS, Memphis, TN; Marion Boyd Gillespie, MD, Memphis, TN

Educational Objective: At the conclusion of this presentation, the participants should be able to consider the utility and impact of obtaining computed tomography (CT) scans in patients with suspected peritonsillar abscess.

Objectives: Peritonsillar abscess (PTA) is a common deep space head and neck infection that can be diagnosed with or without computed tomography (CT). CT poses a risk for false positives, leading to unnecessary abscess drainage attempts without benefit and with potential for postoperative complications and readmissions. This study compared PTA outcomes between CT and non-CT usage. Study Design: Retrospective cohort analysis using TriNetX datasets from 2014 to 2023 compared the outcomes of two cohorts: peritonsillar abscess without CT (n=1,610) and peritonsillar abscess with CT (n=930). The populations were matched for demographics, leaving 490 patients in each cohort. Methods: Measured outcomes included incision and drainage of abscess, tonsillectomy and adenoidectomy, recurrent PTA, airway emergency/obstruction, emergency department visits, and need for antibiotics, opiates, or steroids. Odds ratios (OR) were calculated using a matched cohort analysis. Results: The CT usage group had increased odds of receiving antibiotics (OR 0.172, [0.087-0.343]), opiates (OR 0.576, [0.426-0.779]), and steroids (OR 0.375, [0.265-0.531]), as well as a higher likelihood of returning to the ED (OR 0.319, [0.154-0.661]) and recurrent PTA (OR 0.374, [0.219,0.639]). No significant differences were observed in the incidence of incision and drainage, tonsillectomy and adenoidectomy, surgical complications, or airway emergency/obstruction. Conclusions: Our study indicated that CT scans for PTA diagnosis were associated with increased prescription of antibiotics, opioids, steroids, ED visits, and recurrent PTA cases. Negative outcomes that occurred with the CT usage group warrant further studies to evaluate the utility of CT scans in PTA decision making and treatment.

53. Schwannoma of the Soft Palate: A Case Report

Corin Kinkhabwala, MD, Charleston, SC; Noah Z. Feit, MD, Charleston, SC (Presenter); Judith Skoner, MD, Charleston, SC; Jason G. Newman, MD, Charleston, SC; Julian Amin, MD, Charleston, SC

Educational Objective: At the conclusion of this presentation, the participants should be able to understand clinical presentation and surgical management of a schwannoma of the soft palate.

Objectives: Schwannomas are benign neoplasms derived from Schwann cells of the nerve sheath. Despite being commonly found in the head and neck, they are exceedingly rare in the soft palate with current literature limited to case reports. Our objective is to describe the clinical presentation and management of a case. Study Design: Case report. Methods: We report the case of a 21 year old male who presented with an asymptomatic mass of the soft palate. Results: The mass was encapsulated and completely excised under general anesthesia from the right soft palate. Narrow margins were used to limit morbidity and preserve as much healthy tissue as possible. The residual defect measured approximately 2.5cm x 2.5cm. This was reconstructed in a novel manner, using Stravix umbilical tissue. The mass was sent for histologic analysis and was confirmed to be a schwannoma with a mix of hypercellular Antoni A areas mixed with hypocellular Antoni B areas. On followup at 1 month postop, the wound was completely healed, and the patient did not exhibit any signs of velopharyngeal insufficiency. Conclusions: This article provides insight into a rare presentation of a schwannoma of the head and neck and the feasibility of reconstruction using umbilical tissue. Narrow margins can be an appropriate option in cases without aggressive features to reduce operative morbidity.

54. A MAUDE Database Analysis of Adverse Events Associated with the Inspire Implantable Hypoglossal Nerve Stimulator

Olivia Lee, BS, Philadelphia, PA; Elizabeth A. Sell, BA, Philadelphia, PA (Presenter); Kush Panara, MD, Philadelphia, PA; Tiffany Chao, MD, MSEd, Philadelphia, PA

Educational Objective: At the conclusion of this presentation, the participants should be able to describe adverse events associated with the Inspire device.

Objectives: Obstructive sleep apnea (OSA) is a common breathing related sleep disorder that impacts 2-9

percent of adults in the United States. Surgical treatment of OSA is evolving, with increasing utilization of the Inspire Upper Airway Stimulation system, an implantable hypoglossal nerve stimulator. Study Design: We performed a retrospective cross-sectional study using the FDA's MAUDE (Manufacturer and User Facility Device Experience) database. Methods: The MAUDE database was searched for all reports associated with the terms "hypoglossal nerve stimulator" and "inspire" from 2014-2023. Results: A total of 958 reports met inclusion criteria. Reports per year steadily increased from 2014 to 2019 but jumped significantly to more than 200 reports in 2021 from 80 in 2020, a trend which held constant in 2022. Overall, there were 881 adverse events and 266 instances of device malfunction. The most common adverse event was postoperative infection (n=266, 30.2%), followed by postoperative pain (n=151, 17.1%) and hematomas/seromas (n=106, 12.0%). There were 491 revision surgeries; the most common were device repositioning or lead replacement (n=214, 43.6%) and device explantation (n=176, 35.8%). The most common causes for device repositioning or lead replacement were pain (n=54, 25.2%) and device expulsion or migration (n=48, 22.4%). Notably, there was an increase in device expulsion after expanded approval in 2022 (n=29) and 2021 (n=19) compared to 2020 (n=2). Conclusions: Previous studies have demonstrated the efficacy of the Inspire device for the treatment of moderate to severe OSA. In this study we reviewed adverse events associated with the Inspire device, which have been increasing since its expanded approval in 2020.

55. What's in a Name? How Otolaryngologists Publicly Address Their Field

Matthew E. Lin, BS, Los Angeles, CA; Oluwatobiloba Ayo-Ajibola, BS, Los Angeles, CA; Ryan J. Davis, BS, Los Angeles, CA; Ryan Chung, BS, Los Angeles, CA; Neil N. Luu, MD, Los Angeles, CA; Tamara N. Chambers, MD, Los Angeles, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand how the field of otolaryngology is addressed by academic otolaryngology department websites and by the 75 most followed social media accounts on five major platforms.

Objectives: Otolaryngology's diverse practice is hard to capture in its name, and patients often don't associate "Ear, Nose, and Throat" (ENT) with "Otolaryngology-Head and Neck Surgery" (OHNS). We examine how academic department websites (ADWs) and SM accounts present this fractured nomenclature to the public. Study Design: Cross-sectional review. Methods: Departmental/account characteristics and specialty specific nomenclature were collected on all OHNS ADWs and from the 75 most followed OHNS related accounts on Facebook, Twitter, Instagram, YouTube, and TikTok. Significance testing assessed stratified nomenclatural differences. Multivariable logistic regression assessed factors associated with use of ENT, OHNS, and otolaryngology (OTO). Results: Our cohort included 129 ADWs and 375 SM accounts. ADWs most frequently used OTO (74.4%) or OHNS (72.9%); ENT (34.7%) was most used on SM. SM accounts often belonged to individuals (44.5%) in private practice (57.8%). Frequency of OTO, OHNS, otorhinolaryngology (ORL), and head and neck surgery (H&N) use varied between SM platforms (all $p<0.01$). More often, ADWs used OTO and OHNS, whereas SM used ENT (all $p<0.01$). In the multivariable regression models, ADWs in the west and midwest were significantly more likely to use "ENT" than southern ADWs (both $p<0.05$). Relative to individual run SM accounts, those belonging to departments or provider groups were more likely to use OTO/OHNS nomenclature (all $p<0.01$). Conclusions: Nomenclatural differences exist between ADWs and SMs and between SM platforms. OHNS and OTO may be more used in academic settings; ENT may be preferred in nonacademic settings. A recognizable, united name may facilitate access to care by helping the public understand the diverse practice of otolaryngologists.

56. Medical Student Simulation Course for Early Exposure to Otolaryngology

Makayla Renee Matthews, BS, Chapel Hill, NC; Christine E. Demason, MD, Chapel Hill, NC; Robert Buckmire, MD, Chapel Hill, NC; Rupali Shah, MD, Chapel Hill, NC; Kayla Hicks, MD, Chapel Hill, NC

Educational Objective: At the conclusion of this presentation, the participants should be able to appreciate

the need to evaluate the familiarity of preclinical medical students to the field of otolaryngology and its procedures before and after the simulation course as a means of improving their exposure to otolaryngology.

Objectives: Preclinical medical students have limited exposure to the field of otolaryngology. Given its highly competitive residency match, this can disadvantage students who decide otolaryngology as a career later in medical school. In order to increase early exposure to otolaryngology, we started a simulation course for preclinical medical students. Study Design: Students participated in a variety of otolaryngic procedures including sinus endoscopy, tracheostomy, fiberoptic intubation, and phonomicrosurgery. Students were surveyed before and after the course. Methods: An internet based survey was sent anonymously to simulation course participants before and after the course. Results: 13 of 13 participants responded to the presurvey and 12 of 13 responded to the postsurvey. 53% of respondents said they were interested in learning more about otolaryngology, and 100% were interested in gaining procedural knowledge. 88% of postsurvey responders said they have a good understanding of what otolaryngologists do compared to 52% of presurvey responders. In every procedure, postsurvey responders had an increased understanding of the procedure than before the course. 100% of postsurvey responds said that the simulation course increased their interest in pursuing otolaryngology as a specialty. Conclusions: Participating in an otolaryngology simulation course as a preclinical medical student increased students' interest in the field of otolaryngology. While more studies need to be done to see if early simulation courses increase the number of students who pursue otolaryngology and if this increases a student's competitiveness in the match process, our early otolaryngology simulation course not only helped students understand otolaryngic procedures better but increased students' awareness of what otolaryngologist do.

57. Accuracy of ChatGPT on U.S. Otolaryngology Board Examination Question Bank

Nick B. Melott, MS, Chapel Hill, NC; Brent A. Senior, MD, Chapel Hill, NC (Presenter); Aurelia Monk, BA, Chapel Hill, NC; Shreyas Pyati, BS, Chapel Hill, NC; Cameron P. Worden, MD, Chapel Hill, NC; Scott Hardison, MD, Chapel Hill, NC

Educational Objective: At the conclusion of this presentation, the participants should be able to determine ChatGPT's performance on U.S. otolaryngology board style questions.

Objectives: ChatGPT is an artificial intelligence language learning model that has demonstrated the ability to perform well on medical licensing and specialty board exams. The goal of this project is to examine ChatGPT's accuracy on questions developed for trainees preparing to take the American Board of Otolaryngology - Head and Neck Surgery (ABOto) Written Qualifying Examination. Study Design: This study aims to assess ChatGPT's accuracy on board style questions using different prompt formats while comparing its performance to standards for the ABOto WQE. Methods: Twenty-one otolaryngology questions from a popular test prep company were offered to ChatGPT in three prompt formats: open ended (OE), multiple choice without justification (MCNJ), and multiple choice with justification (MCJ). The prompts were each entered into new sessions of ChatGPT and the responses recorded as correct, incorrect, or indeterminate. Questions receiving a national average percent correct of greater than or equal to 70% were categorized as "less difficult" and questions with less than 70% correct categorized as "more difficult". A cutoff score for passing was set at 60%, based on established question difficulty levels for the WQE. Results: ChatGPT correctly answered OE questions at a rate of 66.7%, MCNJ at 52.4%, and MCJ at 57.1%. Comparative performance based on difficulty was as follows (less/more difficult): OE (71.4%/57.1%), MCNJ (71.4%/14.3%), MCJ (71.4%/28.6%). Conclusions: ChatGPT demonstrated accuracy levels on ABOto questions consistent with passing scores on open ended prompting and failing scores on multiple choice prompts. It performed more accurately on questions with a national average percent correct of greater than or equal to 70%.

58. Sociodemographic Trends in Hypoglossal Nerve Stimulation: A Scoping Review

Neelima Panth, MD MPH, New Haven, CT; Kevin Fujita-Howie, MD, New Haven, CT; Bruno Cardoso, MD, New Haven, CT

Educational Objective: At the conclusion of this presentation, the participants should be able to describe existing data on sociodemographic trends in hypoglossal nerve stimulation.

Objectives: Hypoglossal nerve stimulation (HNS) for obstructive sleep apnea (OSA) is a treatment modality rising in popularity with reported data supporting its efficacy. An understanding of sociodemographic trends in utilization of HNS and potential barriers to accessing surgical treatment for OSA is imperative. We conducted a scoping review of existing literature on socioeconomic and demographic trends of HNS in the U.S. Study Design: Scoping review. Methods: A comprehensive literature search was performed in the following databases: PubMed, Cochrane Central Register of Controlled Trials, and Google Scholar. The methods were developed in concordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews checklist. U.S. based studies that are peer reviewed and specifically examining socioeconomic or demographic variation in HNS were included. Studies focused on the pediatric population, descriptive studies, commentaries, and reviews were excluded. Results: Of the 103 unique abstracts, 14 studies met inclusion criteria. Four studies (28.6%) described HNS specifically in the veteran population. Five (35.7%) described the unique considerations and efficacy of HNS among older adults, with age threshold ranging from 50 to 65 years. The remaining studies (42.9%) described the influence of insurance status and cost variation. There was a notable dearth of literature describing variations in race, education level and geography. Conclusions: Literature describing socioeconomic and demographic variation in HNS remains limited, particularly with regards to race, level of education, income level and geography. Large scale epidemiologic studies are needed to characterize the patient population being treated with HNS and identify barriers to accessing care.

59. Using Artificial Intelligence to Improve Readability and Comprehension Levels of Otolaryngology Patient Education Materials

Luke J. Pasick, MD, Miami, FL; Allison D. Oliva, MD, Miami, FL; David E. Rosow, MD, Miami, FL; Michael E. Hoffer, MD, Miami, FL

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the application of artificial intelligence to help improve accessibility of otolaryngology patient education materials, as well as understand some of its limitations.

Objectives: To use artificial intelligence to evaluate if otolaryngology patient education materials exceed reading levels recommended by the American Medical Association and National Institutes of Health, and to improve readability and comprehension levels of materials. Study Design: Proof of concept. Methods: Materials from the American Academy of Otolaryngology-Head and Neck Surgery patient education website (https://www.enthealth.org/) were input into ChatGPT (OpenAI, San Francisco, CA; v3.5) and Microsoft Word (Microsoft, Redmond, WA; v16.74). Programs calculated Flesch Reading Ease (FRE) scores, indicating the ease or difficulty of understanding (higher scores indicate easier readability), and Flesch-Kincaid (FK) grade levels, estimating U.S. grade level required to understand text. ChatGPT was prompted to “translate to a 5th grade reading level” and new scores were calculated. Scores were compared for statistical differences, as well as differences between ChatGPT and Word gradings. Results: 72 materials were translated. Overall, ChatGPT demonstrated an initial FRE score mean of 47 with a translated mean of 75 ($p<0.001$); FK grade levels for ChatGPT were initially 10.3 and translated to 5.3 ($p<0.001$). Similarly, overall Word scores improved significantly ($p<0.001$). Subgroup analyses demonstrated significant improvements using ChatGPT, but infrequently using Word scores. Compared with Word, ChatGPT exaggerated FRE and FK improvements with mean differences of 24.7 and 4.2, respectively ($p<0.001$). Conclusions: Otolaryngology patient education materials were found to have more difficult readability and comprehension than recommended. Artificial intelligence may be a useful resource to create more accessible education materials while understanding its limitations.

60. Classification of Eustachian Tube Dysfunction Phenotypes

Jenilkumar Hemantbhai Patel, MS BS, New Orleans, LA; Manal S. Malik, BS, New Orleans, LA; Robbie Beyl, PhD MS BS, Baton Rouge, LA; Edward D. McCoul, MD MS MPH BS, New Orleans, LA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the phenotypic characterization of eustachian tube dysfunction (ETD) and its utility in the diagnosis and management of the condition.

Objectives: Eustachian tube dysfunction (ETD) is traditionally classified as either patulous or obstructive. Recent evidence suggests that obstructive ETD may comprise a broad array of clinical presentations. This study aimed to define subtypes of obstructive ETD according to common clinical features. Study Design: This cross-sectional study included adults diagnosed with ETD at a single academic medical center between October 2014 and August 2022. Methods: Clinical data was recorded, including patient reported ETDQ-7 and SNOT-22 scores, nasal endoscopy findings, tympanometry findings, medical comorbidities, timing of symptoms, symptom laterality and duration of ear fullness. Pairwise and multivariate analyses were performed to define relationships between variables. Results: Among 505 total patients, bilateral ear symptoms were more frequently associated with symptoms greater than 12 months compared to symptoms less than 3 months (70% vs 30%, $p<0.001$). Comorbid sinusitis was more frequently associated with bilateral ear symptoms (76% vs 24%, $p<0.001$). Ear symptom duration longer than 12 months had greater association with comorbid sinusitis (63% vs 37%, $p<0.001$). High ETDQ-7 score was not associated with abnormal tympanometry. Specific endoscopy findings of erythema of the torus tubarius were more frequently present in patients with GERD than those without (62% vs 39%, $p<0.001$). Presence of a tubal tonsil was not associated with a positive allergy test. Conclusions: Laterality, duration of symptoms, comorbid sinusitis, and specific endoscopic findings may be defining characteristics of subtypes of obstructive ETD. Differentiation of these subtypes may facilitate the development of targeted treatment options.

61. Dexmedetomidine and Propofol Anesthetic Regimen Reduces Drug Induced Sleep Endoscopy Operative Time Compared to Dexmedetomidine Alone

Ryan John Patrick, MD, Rochester, NY; Bartholomew Bacak, MD PhD, Rochester, NY; Tricia Jacobson, Rochester, NY; Sveta Karelsky, MD, Rochester, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to recognize and discuss the options for anesthesia during DISE evaluation and the relative merits of a combination dexmedetomidine/propofol regimen over a dexmedetomidine regimen.

Objectives: Determine whether drug induced sleep endoscopy (DISE) performed with dexmedetomidine vs dexmedetomidine and propofol demonstrate significant differences in operating room utilization. Study Design: Single institution, retrospective chart review case series of adult patients with obstructive sleep apnea (OSA) who underwent DISE with a historical anesthesia protocol of incremental dexmedetomidine dosing versus a protocol of dexmedetomidine and propofol boluses. Methods: Retrospective chart review of 413 adult DISE procedures examining perioperative resource utilization with procedure duration as the primary outcome of interest. Each subset of patients was examined over a 1 year period: those who underwent DISE evaluation with dexmedetomidine alone from April 2021 to April 2022, and those with the regimen of dexmedetomidine and propofol from April 2022 to April 2023 after initiation of the protocol. Exclusion criteria included operative periods with other procedures or any other anesthetic agents. Results: Utilization of dexmedetomidine alone for anesthesia during DISE required an average time of 27.6 minutes from the induction of anesthesia to the time the patient left the operating room. In comparison, DISE with dexmedetomidine and propofol had an average duration of 22.5 minutes. This time difference is highly statistically significant. Conclusions: The utilization of dexmedetomidine and propofol for anesthesia during adult DISE has shown a robust reduction in overall procedure time as compared to

the use of dexmedetomidine alone. Improved efficiency of DISE procedures has positive implications for resource utilization and, potentially, patient access to surgical OSA treatment.

62. Improving the Patient Experience: What Makes a Difference?

Taylor Powell, BS MS, Shreveport, LA; Karuna Dewan, MD FACS, Shreveport, LA

Educational Objective: By the end of the presentation audience members should be able to identify factors important to the patient experience.

Objectives: To determine the impact of changes in physician behavior on patient experience scores in a tertiary care otolaryngology practice. Study Design: Prospective cohort study. Methods: In this prospective trial examining change in patient experience scores before and after 3 specific changes in physician behavior all faculty underwent intensive patient experience training with the System Medical Director of Patient Experience. Closing the clinic room door and indicating this is being done for patient privacy, sitting down during the encounter and using one of several scripted empathetic phrases were selected as the behavioral interventions. Pre-training and post-training patient experience scores were collated. Physicians and their midlevel providers were asked how often they or their supervising physician perform the 3 behaviors before and after the training session. Additional collected variables include physician demographics, presence/absence of a learner, presence/absence of midlevel provider, type of visit. Results: Eight faculty participated. Prior to the training session the physicians reported closing the door, sitting down and using an empathic phrase in 87.5%, 59.4, and 44.4% of clinic visits respectively. There was a significant correlation between door closure rate and patients reporting that concerns were addressed (r = 0.81). There was a significant correlation between the rate of empathetic phrase usage and the likelihood to recommend the physician (r=0.92). Conclusions: The patient experience is increasingly important in healthcare as a measure of the quality and as a means of determining compensation. In the current climate we as physicians must make changes in behavior to improve the patient experience in the outpatient setting.

63. Google Is of Poor Quality for Postoperative Tracheostomy Care Information

Andreja Radevic, BS, Nutley, NJ; Chandler A. Sparks, MS, Nutley, NJ; Nihal K. Sriramaneni, BS, Nutley, NJ; Nicola M. El Tom, BA, Nutley, NJ; Brian E. Benson, MD, Nutley, NJ

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the quality and reliability status of Google as an information resource on postoperative tracheostomy management.

Objectives: Tracheostomy is a common procedure, with over 100,000 performed every year in the United States. Tracheostomies can present with complications after tube placement such as bleeding and obstruction. With Google being a widely used search engine for health related information, the quality of information regarding postoperative tracheostomy care has not yet been evaluated. Study Design: Observational. Methods: Google search of “postoperative tracheostomy care” with 40 websites selected for evaluation based on inclusion and exclusion criteria. DISCERN scores were calculated to determine website quality and FRES and FKGL scores were calculated to determine readability. DISCERN scores were categorized by additional variables including target population and upload source. Results: An average DISCERN score of 36.246 revealed low quality website information, and FRES and FKGL scoring revealed high reading difficulty with average scores of 37.25 and 11.58, respectively. Patient targeted websites had lower FRES and FKGL scores compared to professional targeted websites (p less than 0.0001), with website readability also differing by upload source (p equal to 0.027). Website quality did not differ based on target population (p equal to 0.279) or upload source (p equal to 0.74). Conclusions: Healthcare providers should be aware that many patients use Google as a source of health information which can impact the health decisions they make. We found that Google provides low quality and difficult to read websites when searching for information on postoperative tracheostomy management. Providers should be aware

of this and guide patients toward juried sources of information so patients may become informed partners in their care.

64. YouTube Is of Moderate Quality for Postoperative Tracheostomy Care Information

Andreja Radevic, BS, Nutley, NJ; Chandler A. Sparks, MS, Nutley, NJ; Sidharth A. Anand, BS, Nutley, NJ; Alan J. Li, BA, Nutley, NJ; Brian E. Benson, MD, Nutley, NJ

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the quality and reliability status of YouTube as an information resource on postoperative tracheostomy management.

Objectives: Tracheostomy is a common procedure, with over 100,000 performed every year in the United States. Tracheostomies can present with postoperative complications such as bleeding, infection, and obstruction. Every year, there is an increase in healthcare related searches on YouTube but the quality and reliability of information on postoperative tracheostomy care on YouTube is yet to be evaluated. Study Design: Observational. Methods: YouTube search of "postoperative tracheostomy care" with 47 videos selected for evaluation based on inclusion and exclusion criteria. GQS and DISCERN scores were calculated to determine video quality and reliability, respectively. Additional variables collected were video duration, video popularity, likes, and comments. Results: Most videos were moderate quality and reliability per GQS and modified DISCERN scoring, with average scores of 3.0745 and 3.3404, respectively. Greater modified DISCERN scores were obtained from government/news agency publications when compared to independent user publications (3.9 vs. 2.7; p equal to 0.0150). There were significantly lower quality GQS scores with increased video length (p equal to 0.0397). Conclusions: While YouTube is a popular resource for patients seeking online health information, our study shows that YouTube fails to provide a strong source of quality and reliable information regarding postoperative tracheostomy management. It is important for healthcare providers to be aware of online health behaviors and guide patients in their postoperative management which includes referring them to trusted online resources.

65. Learning the Inner Ear Making You Feel Dizzy?

Amanda Ragland, BS, Shreveport, LA; Lauren Linquest, BS, Shreveport, LA; Runhua Shi, MD PhD, Shreveport, LA; Gauri Mankekar, MD PhD, Shreveport, LA

Educational Objective: In the everchanging realm of medical education, passive learning via PowerPoints and textbooks is not ideal for complex anatomical material. At the conclusion of this presentation, the participants should be able to recognize that with the addition of 3D models, medical students may have a better understanding of anatomy and improved spatial awareness, especially in complex regions such as the inner ear.

Objectives: The objective of this study is to compare student satisfaction and confidence following a presentation of the inner ear anatomy using either a 2D model or 3D model. Study Design: Randomized control trial. Methods: First year medical students were randomly placed in either a 2D or 3D teaching group and given a presentation on the inner ear. A post-study survey was provided to students to evaluate their perception of the presentation and model used. Results: A total of 30 first year medical students participated in the study: 14 of which were instructed with a 2D model, and 16 of which were instructed with a 3D model. A statistical significance was found between the 2D group and the 3D group regarding helpfulness of the model (p=0.0147), effectiveness of the model (p=0.0365), and confidence in learning the material (p=0.0308), with the 3D group finding the model more helpful, effective, and reporting a higher self-confidence rating. Conclusions: The use of a 3D model of the inner ear aids in student self-confidence regarding the material and is perceived to be helpful with learning the material. Evaluating student perception of active learning is imperative to consider when adjusting medical education curriculum.

66. Performance of ChatGPT in Novel Otolaryngology Systematic Review Ideation

Rohan Singh, BS, Newark, NJ; Akshay Warrier, BA, Newark, NJ; Afash Haleem, BA, Newark, NJ; Michael Hegazin, DO, Newark, NJ; Jean Anderson Eloy, MD FACS, Newark, NJ

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the benefits and limitations of using ChatGPT in novel research ideation particularly in otolaryngology.

Objectives: Evaluate ChatGPT's ability to generate novel systematic review ideas within otolaryngology through its vast training model. Study Design: Prospective review. Methods: ChatGPT-3.5 was prompted to "Generate 100 novel systematic review project ideas for otolaryngology. The projects should not be published in PubMed, CINAHL, EMBASE, Cochrane, or Google". A second prompt abbreviated the titles: "Generate abbreviated titles with all keywords for these 100 projects in order". All abbreviated titles were queried through the PubMed, CINAHL, EMBASE, and Cochrane databases. Novelty was assessed in three categories: novel (never published), published before 2021, and published after 2021, as ChatGPT is only trained on data prior to 2021. Projects were also categorized in subspecialties of otolaryngology. All queries were run in June 2023. Results: 54% of the project ideas ChatGPT-3.5 produced were novel. 33% were published before 2021, and 13% were published after 2021 across all databases. The greatest percentage of project ideas were in laryngology (33%), followed by rhinology (20%), otology/neurotology (18%), head and neck surgery/oncology (14%), facial plastic and reconstruction (5%), pediatric otolaryngology (4%) and general otolaryngology (4%). Conclusions: ChatGPT-3.5 has important utility in the process of novel research ideation of systematic reviews within otolaryngology. This will prove valuable to broadly assess the field and elucidate unaddressed questions in the literature. However, it is important to note that user caution must be taken to critically evaluate the relevance and novelty of the generated ideas.

67. Racial Disparities in Parotidectomy Surgery: A NSQIP Analysis

Priyanka Singh, BA, Newark, NJ; Emily Kokush, BS, Newark, NJ; Emily Keenan, BA, Newark, NJ; Ariana Shaari, BA, Newark, NJ; Sudeepti Vedula, MD, Newark, NJ; Christina Fang, MD, Bronx, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to elaborate upon the impact of race and ethnicity on parotidectomy surgery outcomes.

Objectives: To assess the impact of race and ethnicity on 30 day complications following parotidectomy surgery. Study Design: Retrospective cohort study. Methods: All cases of parotidectomy surgery from 2005-2019 were queried from the National Surgical Quality Improvement Program. Demographics, comorbidities, and postoperative complications and outcomes between race/ethnicity cohorts were compared using univariate and binary logistic regression analyses. Results: 16,430 patients were included, consisting of 82.2% white, 6.4% black, 5.1% Asian, 4.9% Hispanic, 0.5% American Indian, and 0.9% other. Univariate analyses showed that black patients had increased incidence of obesity (P less than 0.001) and hypertension (P less than 0.001), and Asian patients had overall lower ASA cohort status (P less than 0.001). After adjusting for sex, age, and comorbidities, logistic regression indicated black patients had decreased odds of inpatient status (OR=1.234, P=0.003, 95% CI: 1.072-1.421), along with Hispanic patients (OR=1.842, P=0.000, 95% CI: 1.545-2.196). There were no other significant differences across race/ethnicity cohorts on logistic regression. Conclusions: Our study identified racial and ethnic differences in outcomes following parotidectomy. Further studies should be devoted to examining these racial differences to improve patient outcomes.

68. Evaluating Prevalence and Barriers to Health Disparities Education among Otolaryngology Residency Training

Isabel Anna Snee, BS, Washington, DC; Amir Hakimi, MD, Washington, DC; Sonya Malekzadeh, MD, Washington, DC

Educational Objective: At the conclusion of this presentation, the participants should be able to recognize the paucity and variability of health disparities curricula across otolaryngology residency programs.

Objectives: To assess the prevalence of health disparities curricula among otolaryngology residency programs and better understand the barriers associated with implementation. Study Design: Cross-sectional survey. Methods: A survey based on published literature discussing the incorporation of health disparities curricula, educational design, quality, barriers to implementation, and patient demographics was sent to all United States otolaryngology residency program directors. Anonymous survey results were collected and analyzed to determine the prevalence of health disparities curricula as well as their effectiveness and standardization across residency programs. Results: A total of 18 program directors (response rate, 15%) responded to the survey. Approximately 44% of program directors reported a health disparities curriculum, among whom only two (25%) felt the quality of their curriculum was very good or excellent. All institutions with educational programs reported having developed their own health disparities curriculum, 75% of which changed annually. The most reported barriers to curriculum implementation included insufficient time as well as limited faculty interest and teaching ability specific to health disparities education. Conclusions: Very few otolaryngology residency programs have implemented a health disparities curriculum. A comprehensive and standardized health disparities curriculum would be beneficial to ensure that residents can confidently develop competency in healthcare disparities, aligning with the Clinical Learning Environment Review mandate and Accreditation Council for Graduate Medical Education requirements.

69. Post-Tonsillectomy Hemorrhage and SSRI Use

Ian Larry Sunyecz, DO, Morgantown, WV; Sairisheel Gabbireddy, MD, Morgantown, WV; Ruifeng Cui, PhD, Morgantown, WV; Norman Orabi, MD, Morgantown, WV; Brian Kellermeyer, MD, Morgantown, WV

Educational Objective: At the conclusion of this presentation, the participants should be able to better understand the association between SSRI use and post-tonsillectomy hemorrhage.

Objectives: To evaluate the association between SSRI use and PTH. Study Design: Retrospective matched case control database study. Methods: A retrospective matched case control study was conducted using the TriNetX database with patients aged 6 years and older who underwent a tonsillectomy with or without adenoidectomy from January 2008 to June 2023. 6753 patients taking SSRI's within 3 months prior to surgery were matched by age, sex, and race to 6753 control patients not taking SSRI's. PTH was determined by any patient who had an associated CPT or SNOMED code relating to post-tonsillectomy bleeding following surgery. Primary PTH was defined as any bleed occurring within 24 hours of surgery. Secondary PTH was defined as any bleed occurring greater than 24 hours and within 1 month after surgery. CPT and SNOMED diagnostic codes including acute recurrent tonsillitis, chronic tonsillitis, mental/behavioral/neurodevelopmental disorders, and obstructive sleep apnea as well as concurrent nonsteroidal anti-inflammatory analgesic (NSAID) use were also analyzed. Results: Age was similar between SSRI and control patients (25.3 vs 25.7 years, p=0.190). Both SSRI and control patients were more likely to be female (70.4% vs 69.9%, p=0.586). The most common diagnosis in the control and SSRI group was chronic tonsillitis/adenoiditis (72.0% vs 71.3%, p=0.369). NSAID use postoperatively was similar between control and SSRI group (32.9% vs 33.9%, p = 0.266). Primary PTH risk was not statistically significantly different between the SSRI and control group (0.86% vs 0.71% primary PTH events, p=0.337). There was also no significant difference in risk of secondary PTH between patients taking SSRIs compared to controls (4.96% vs 4.60% secondary PTH events, p=0.309). Conclusions: Our study suggests that patients taking SSRIs who undergo a tonsillectomy do not significantly differ in risk for primary and secondary PTH as compared to those who undergo tonsillectomy while not taking SSRI's.

70. WITHDRAWN -- Value Based Care: Using Mark Cuban's Cost Plus Drug Company in

Trevor R. Torgerson, DO, Durham, NC; Max Bouvette, BS, Oklahoma City, OK; Andrew Wilson, BS, Tulsa, OK; Matt Vassar, PhD, Tulsa, OK; Nosayaba Osazuwa-Peters, PhD MPH, Durham, NC

71. Gap Years and Match Success among Otolaryngology Applicants

Milind Vasudev, BS, Orange, CA; Ashley Lonergan, MD, Orange, CA; Pranav S. Nair, BS, Orange, CA; Shannen Guarina, BS, Orange, CA; Edward Kuan, MD, Orange, CA; Brian Wong, MD PhD, Orange, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the trends in interviewed otolaryngology residency applicant gap years, academic metrics, and match success.

Objectives: Investigate the impact of gap years on otolaryngology applicants' overall match success. Study Design: Retrospective cohort. Methods: We reviewed 580 interviewed otolaryngology electronic residency applications to a single program between 2004 and 2021. Gap year activities, academic metrics, and applicant demographics were codified. Univariate analysis compared gap year and non-gap year applicant characteristics. Multivariate logistic regression analyzed relationships between these components and overall match success. Results: No significant difference was found in the proportion of applicants based on sex, race, or ethnicity (p-greater-than-0.05). Gap year applicants increased from 36% in 2004 to 85% in 2021, with average duration increasing from 0.9 to 1.8 years, respectively (r=0.77, p=0.001). 35% of gap year applicants completed research years, 25% obtained an additional degree, 10% worked in a healthcare related field, and 30% completed volunteer work, held a non-healthcare job, or pursued otherwise unspecified activities. Gap year applicants outperformed non-gap year counterparts in USMLE step 2 scores (253.0 vs 250.5, p=0.004) and published manuscripts, at the time of residency interview (11.5 vs 6.4, p=0.001). No difference was appreciated in the proportion of applicants matching into otolaryngology overall, at their home program, or within the same geographic region between gap and non-gap year interviewees, nor were specific predictors of overall match into otolaryngology identified (p=0.100). Conclusions: Gap years are increasing in frequency among interviewed otolaryngology applicants, correlating with greater research output and higher USMLE step 2 scores. Historically, gap year applicants have not demonstrated greater match success, but the decision to take a gap must be weighed in the context of a new Pass/Fail USMLE step 1.

72. Factors Impacting a Patient's Selection of an Otolaryngologist

Arunima Vijay, BA, Gainesville, FL; Alexandra F. Corbin, BS, Buffalo, NY; Erin M. Gawel, BS, Buffalo, NY; Nicholas McDonald, BS, Spokane, WA; Michele M. Carr, DDS MD PhD, Buffalo, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to understand what patients consider important in their selection of an otolaryngologist.

Objectives: How a patient chooses a physician has not been evaluated in otolaryngology. Our purpose was to determine which factors are important for people in the selection of an otolaryngologist. Study Design: 2 cross-sectional surveys were conducted from March-June 2023: one in a private otolaryngology clinic and the other online via Amazon MTurk. Methods: Demographic data was collected. Participants rated 22 factors related to choosing an otolaryngologist on a 10 point scale. Multiple choice questions queried preferences on a physician's social media, clothing, gender, and personality. Results: 550 participated, of which N=300 (54.5%) were MTurkers and N=172 (31.3%) were female. The majority (N=366, 66.5%) were aged 25-40 years. Compared to clinic participants, MTurk participants were less educated, reported lower income, and were more likely to have government sponsored insurance. The most important factors for respondents in choosing an otolaryngologist were "surgeon's explanation of diagnosis/treatment" (8.1 +/- 2.1), "surgeon's ability to grasp your problem" (7.8 +/- 2.3), "physical exam completeness" (7.6 +/- 2.3), "surgeon's professionalism" (7.6 +/- 2.2), and "surgeon's reputation" (7.5 +/- 2.4). The least important

factors were “physician gender” (3.6 +/- 3.4), social media presence (Instagram, Facebook, Twitter, 3.7 +/- 3.4), and “marketing” (4.3 +/- 3.1). Regarding attire and personality, 196 (35.5%) participants preferred white coat attire and 329 (59.8%) participants preferred a combination of professional and lighthearted personalities. Conclusions: The way in which an otolaryngologist engages with and examines a patient is most important to the lay public, although reputation carries some importance in choosing a doctor. Despite social media’s popularity, it does not play a strong role in selection.

73. A Machine Learning Based Algorithm for Assessment of Otolaryngology Residency Applicant Scholarship

T. Peterson Wagner, BS, Philadelphia, PA; Alexander Thomson, MSc, Philadelphia, PA; Elizabeth Sell, MA, Philadelphia, PA; James J. Kearney, MD, Philadelphia, PA; Micheal J. Ruckenstein, MD, Philadelphia, PA; Tiffany Ng Chao, MD, Philadelphia, PA

Educational Objective: At the conclusion of this presentation, the participants will understand the viability and necessity of a machine learning approach to ranking residency applicants, especially in the domain of research productivity.

Objectives: Academic metrics are an integral tool for assessment of otolaryngology residency applications. Emphasis on research productivity has put pressure on applicants to focus on volume of publications with less regard to quality or impact. The objective of our study is to illustrate the potential use of a novel machine learning algorithm to improve the accuracy and value of undergraduate medical research as a point of comparison between applicants to otolaryngology programs. Study Design: A single institution review of all otolaryngology applications received between the 2015 and 2023 application cycles was performed. Methods: A multistep machine learning algorithm was developed to adjust applicants’ reported publications by journal impact factor, first author status, similarity to an applicant’s previous work, and type of publication, (poster presentation, article, etc.) resulting in an adjusted scholarship score. The impact on applicants’ hypothetical ranking when using scholarship score instead of raw number of publications was explored. Results: When factors such as impact factor, first author status, and uniqueness of work relative to an applicant’s previous publications were considered, 35% of applicants in a lower third rose to the top third in the AI determined ranking. Analysis of the number of publications and AI adjusted quality demonstrated an increase in raw publication count year over year with a widening gap between reported number of publications and the adjusted total. Conclusions: Using AI to rapidly evaluate the quality of publications for the purposes of residency application evaluation would increase both the value of publication count as a metric and the incentive to publish high impact research.

74. Performance of ChatGPT in Novel Otolaryngology Database Research Ideation

Akshay Kumar Warrier, BS, Newark, NJ; Rohan Singh, BS, Newark, NJ; Afash Haleem, BS, Newark, NJ; Jean Anderson Eloy, MD, Newark, NJ

Educational Objective: At the conclusion of this presentation, the participants should be able to understand ChatGPT’s ability to generate novel research inquiries, given its understanding of existing literature and the limitations of a database.

Objectives: Evaluate the efficacy of ChatGPT in developing novel research inquiries in otolaryngology using the National Surgical Quality Improvement Program (NSQIP) database. Study Design: We employed a prospective review of ChatGPT-3.5. Methods: Prompt 1 was “Generate 30 novel project ideas for ENT surgery using NSQIP. Specify surgical procedures and outcomes. Projects should not be published in PubMed, ResearchGate, Google Scholar, or SCOPUS” followed by “Generate abbreviated titles with all keywords for these projects.” Prompt 2 was “Provide a list of all NSQIP variables.” The first prompt was added and queried (“Given these variables, generate 30 . . .”_. To assess validity, abbreviated titles were checked against NSQIP variables and current procedural terminology (CPT) codes. Titles were queried through PubMed, ResearchGate, Google Scholar, and SCOPUS and assessed as novel (never published),

published before 2021, or after 2021. Chi-squared tests were used for analysis. All queries were run in June 2023. Results: Prompt 1 produced 53% valid project ideas. 81% were novel, 13% were published before 2021, and 6% were published after 2021. Prompt 2 produced 90% valid project ideas, of which 85% were novel, 15% were published before 2021, and none solely published after 2021. Prompt 2 produced significantly more valid ideas compared to prompt 1 ($p < 0.01$), but no significant difference between the number of novel ideas produced by either prompt ($p = 0.735$). Conclusions: ChatGPT-3.5 has the potential to generate valid, novel NSQIP project ideas in otolaryngology. More specific prompts offer a higher success rate, but ideas generated must be assessed for utility, relevance, and novelty.

75. Watch Your Step: The Impact of Face Masks on Visual Field

Kathryn H. Wie, MD, Rochester, NY; William Pierson, BS, Rochester, NY; Paul D. Allen, PhD, Rochester, NY; Eric Anson, PT PhD, Rochester, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to describe the visual field restriction caused by wearing face masks and explain how this impacts walking safety in high fall risk populations.

Objectives: Quantify the visual field reduction caused by face masks and describe the impact of visual field restriction on populations with high fall risks including elderly individuals and adults with balance and dizziness disorders. Study Design: A single institution prospective observational study that assessed visual field in masked and unmasked conditions. Methods: 25 individuals between the age of 18-85 were enrolled. The visual field threshold was assessed using a LED light strip in five conditions, unmasked and four different masked. The obscured visual angle (OVA) was calculated using standing eye height and the linear distance from the subject to the visual threshold. An interview was conducted after the trial to understand individual experience with balance, movement, and mask wearing. Results: The average unmasked visual threshold was significantly closer to the participants compared to all masked conditions (unmasked OVA 16.2 versus cloth 24.2, p=.008; surgical 21.1, p=.03; N95 25.4, p<.001; home 23.3, p=.005). The surgical mask had the least impact on the visual threshold. There was no significant predictive value of age in the change in OVA between mask and no mask ($R2 = [.046]$, $F(1,23) = [1.1]$, $p=[0.31)$. Conclusions: Face masks partially obstruct the lower visual field. Variability in impact of lower visual field reduction based on mask type is likely related to the mask fit. It is important to carefully consider the visual field restrictions caused by wearing face masks when counseling patients, especially those with a high fall risk.

76. A Single Center Retrospective Analysis of Practice Patterns and Patient Followup for Management of Benign Thyroid Nodules by Otolaryngology, Endocrinology and Endocrine Surgery

Nicholas W. Zaccor, MD PhD, Rochester, NY; Jonathan Zou, BA, Rochester, NY; Benjamin Gigliotti, MD, Rochester, NY; Jennifer A. Brooks, MD MPh, Rochester, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to describe differences between the approach of otolaryngologists, endocrine surgeons, and endocrinologists to the management of benign thyroid nodules and appreciate the challenge of loss to followup in this patient population.

Objectives: Analysis of practice patterns in the management of benign thyroid nodules by endocrinology, endocrine surgery, and otolaryngology. Study Design: This was a single center retrospective chart review of all patients enrolled between March 1, 2018, and August 2, 2018, benign thyroid nodules managed as new patient by otolaryngology, endocrinology or endocrine surgery. with ICD codes E04.1-9 of benign thyroid nodules between 1-4 cm that did not meet other recommendations for surgical management. Methods: Patients were enrolled in the study that were than 18 and seen as new patient with ICD codes E04.1-9 of benign thyroid nodules between 1-4 cm that did not meet criteria for surgical management. Enrolled patients were followed 5 years. Workup, surveillance, surgical management, and followup

patterns were collected. Results: 177 patients met criteria and were included. On presentation, the average nodule volume was 3.62cm3 and average nodule burden of 1.91. The average workup involved 0.95 fine needle aspiration biopsies (FNA) and 2.20 ultrasounds. There were 17, 36 and 38 patients lost to followup (LTFU) by otolaryngology, endocrinology and endocrine surgery specialty visits respectively. The majority of patients were LTFU between the initial and first followup appointment, with 58.8%, 55.6%, and 74.4% of LTFU patients lost in this timeframe by otolaryngology, endocrinology and endocrine surgery respectively. Conclusions: Patients treated by endocrinology, endocrine surgery, and otolaryngology largely underwent similar workup and surveillance when patients followed subspecialist advice. There was a high lost to followup rate seen by all specialties, most prominent after the first followup visit. Future efforts understanding patients' motivations to stop following up and patient directed education may improve patient adherence to evidence based surveillance recommendations.

HEAD AND NECK

77. The Impact of Hypoalbuminemia on Blood Transfusions during Head and Neck Free Flap Surgery: A NSQIP Study

Abdulla Ahmed, BS, Washington, DC; Esther Lee, DO, Washington, DC; Brady Williamson, PhD, Cincinnati, OH; Neelima Tummala, MD, Washington, DC; Punam Thakkar, MD, Washington, DC

Educational Objective: At the conclusion of this presentation, participants should be able to grasp the significance of hypoalbuminemia as a potential risk factor in head and neck free flap surgery with microvascular anastomosis. They will understand its association with an increased incidence of blood transfusions during the procedure and recognize the importance of early identification for optimizing perioperative care and potentially reducing complications. This study's findings underscore the relevance of proactive management in improving outcomes for hypoalbuminemic patients in head and neck free flap surgery, emphasizing the need for further research in this area to develop targeted interventions.

Objectives: Free flap surgery with microvascular anastomosis is a complex procedure commonly used in head and neck reconstruction following trauma, cancer resection, or congenital abnormalities. Hypoalbuminemia, defined as preoperative serum albumin levels below 3.5 g/dL, has been identified as a risk factor for adverse outcomes in various surgical procedures. The objective of the study is to explore the impact of hypoalbuminemia on blood transfusions during head and neck free flap surgery. Study Design: Retrospective study design. Methods: This retrospective cohort study utilized data from the American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) from 2011 to 2021. Patients who underwent free flap surgery with microvascular anastomosis were identified in the NSQIP dataset using the following Current Procedural Terminology (CPT) codes: 15757, 15758, 15756, 15842, 20955, 20956, and 20962. Procedures done in the head and neck region were selected for by isolating procedures specifically done by otolaryngologists. Univariate and multivariate logistic regression analyses were performed to investigate the association between hypoalbuminemia and the incidence of blood transfusion and other surgical complications within 30 days postoperatively. Statistical significance was declared at $p < 0.05$. Results: Of the 796 patients included in the study, 17.8% had hypoalbuminemia (n = 142) and 82.2% did not (n = 654). Among those with hypoalbuminemia, 54.2% (n = 77) experienced a blood transfusion while among those without hypoalbuminemia, 22.9% (n = 150) experienced a blood transfusion. The multivariate logistic regression analysis revealed that hypoalbuminemia was significantly associated with an increased risk of blood transfusion during free flap surgery (OR = 3.780, $p < 0.001$). However, hypoalbuminemia did not show significant associations with other surgical complications. Conclusions: Hypoalbuminemia is an independent risk factor for an increased incidence of blood transfusion during head and neck free flap surgery with microvascular anastomosis. Early identification of hypoalbuminemic patients may aid in risk stratification and optimization of perioperative care to reduce complications and improve outcomes. Further research is needed to understand the underlying mechanisms and potential interventions for this high risk patient population.

78. Risk Factors, Survival, and Treatment Outcomes of Lung Metastasis in Adenoid Cystic

Carcinoma: A National Cancer Database Analysis

Samuel Robert Auger, MD, Chicago, IL; Matthew Du, BA, Chicago, IL; Nishant Agrawal, MD, Chicago, IL; Evgeny Izumchenko, PhD, Chicago, IL; Zhen Gooi, MBBS, Chicago, IL

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the risk factors, survival, and treatment patterns in patients with adenoid cystic carcinoma with lung metastases at presentation.

Objectives: To assess risk factors, survival, and treatment outcomes of patients with adenoid cystic carcinoma (ACC) with presentation of lung metastases (LM) at diagnosis. Study Design: Retrospective cohort study of the National Cancer Database (NCDB) between January 2010 and December 2017. Methods: NCDB was queried for patients with ACC of the head and neck. Subjects with limited followup, no survival data, or missing data for lung metastasis were excluded. Demographic, clinical, treatment, and survival data were analyzed using Kaplan-Meier, Cox proportional hazards regression in R. Variables of interest included race, insurance, facility type, primary site, grade, stage, treatment modality and timing. Results: On multivariate analysis, primary site involving minor salivary glands (OR 2.14, 95% CI [1.29 - 3.55], $p = 0.003$) was significantly associated with presence of LM at diagnosis. Five year survival rates of patients with and without LM were 27.4% and 75.1%, respectively ($p < 0.0001$). Surgery (HR 0.10 [0.03 - 0.33], $p < 0.001$) and adjuvant radiation (0.41 [0.23 - 0.71], $p = 0.001$) of the primary tumor was associated with better survival. Conclusions: Patients with newly diagnosed ACC with LM have a 5 year survival rate of 27.4% compared to 75.1% in those without. Those who received surgical resection and adjuvant radiation for local control had best survival.

79. Dimensions to Decisions: The Role of 3D Specimen Models in Postoperative Radiotherapy Planning

Marina Aweeda, BS, Nashville, TN; Kavita Prasad, BA, Nashville, TN; Dakim Gaines, MD PhD, Nashville, TN; Ryan Whitaker, MD, Nashville, TN; Natalie Lockney, MD, Nashville, TN; Michael C. Topf, MD, Nashville, TN

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the utility of 3D surgical specimen models in postoperative radiation treatment planning for head and neck squamous cell carcinoma.

Objectives: Postoperative radiotherapy (RT) of head and neck squamous cell carcinoma (HNSCC) can be challenging due to postoperative anatomy changes. We have previously demonstrated the feasibility and utility of ex vivo 3D scanning of head and neck surgical specimens and virtual annotation of the 3D specimen models to improve communication of surgical margin sampling sites. In this study, we plan to investigate the use of patient specific 3D specimen maps in adjuvant RT treatment planning. Study Design: Prospective noninterventional study. Methods: This study will include 13 patients with surgically resected head and neck cancer planned for adjuvant RT to the primary tumor site. Resected oncologic specimens are 3D scanned and mapped prior to routine pathologic processing. Patient specific 3D specimen models are 3D printed and provided to the treating radiation oncologist who generates two treatment plans: standard practice (CTVp) and an investigational plan with the addition of the 3D specimen map (CTVp3D). Organs at risk (OARs) are analyzed as a surrogate for potential radiation toxicity. A Wilcoxon rank sum test will be used to analyze differences in CTVp and CTVp3D volumes. Results: This is an ongoing study with active patient recruitment. To date, one patient with pT4aN0 right mandibular alveolar ridge squamous cell carcinoma has been enrolled. Based on the 3D specimen map, the radiation oncologist planned for additional radiation boost to a 2 mm close lateral and inferior soft tissue margin. This resulted in a CTV increase (CTVp 251.3 cm3; CTVp3D 253.6 cm3). Conclusions: Patient specific 3D specimen mapping of oncologic surgical specimens may impact postoperative adjuvant radiation treatment planning and enhance interdisciplinary communication.

80. Evaluation of YouTube as a Source for Graves' Disease Information: Is High Quality Guideline Based Information Available?

Oluwatobiloba O. Ayo-Ajibola, BS, Los Angeles, CA; Ryan J. Davis, BS, Los Angeles, CA; Claire Theriault, BS, Los Angeles, CA; Matthew E. Lin, BS, Los Angeles, CA; Trevor Angell, MD, Los Angeles, CA; Daniel Kwon, MD, Los Angeles, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to characterize the poor treatment related information quality of Graves' disease media on YouTube. There will also be an emphasis on describing the prevalence of recommendations that are supported by the evidence based guidelines posited by the American Thyroid Association.

Objectives: Graves' disease (GD) affects a young female demographic that is likely to obtain medical information online. Thus, we studied the quality of GD related information on YouTube. Study Design: Cross-sectional cohort. Methods: A YouTube query for "Graves' disease treatment" was used. The first 50 results were assessed using the DISCERN instrument, a validated algorithm that rates treatment related information with scores ranging from excellent (scores greater than 4.5) to poor (1.9 to 2.5) and very poor (less than 1.9). Videos were also screened for inclusion of American Thyroid Association recommendations. Descriptive statistics and linear regression were conducted with significance at $p<0.05$. Results: The videos featured 57,513.43 views (SD=162,579.25), 1054.70 likes (SD=2329.77), and 168.80 comments (SD=292.97). Most were patient education (52%) or patient experience (24%). A minority (40%) were made by thyroid specialists (endocrinologists, endocrine surgeons, or otolaryngologists). Of the physician involved videos, these specialists were the majority (74%). About half of all videos did not mention all three treatment modalities (44%) or any ATA recommendations (54%). Overall, videos displayed poor reliability (mean=2.26, SD=0.67), treatment information quality (mean=2.29, SD=0.75), and overall quality (mean=2.47, SD=1.07). Physician videos were associated with lower likes, views, and comments ($p<0.001$) but higher DISCERN reliability ($p=0.015$) and overall score ($p=0.019$). Longer videos ($p=0.015$), patient accounts ($p=0.013$), patient experience ($p=0.002$) and provider education videos ($p=0.044$) were associated with lower scores. Conclusions: Top GD treatment content on YouTube varies significantly in the quality of medical information presented. This may contribute to suboptimal disease understanding, especially for those engaging with online health information most.

81. Treatment Outcomes for Locally Advanced Oropharyngeal Squamous Cell Carcinoma

Yihuai Qu, BS, Scottsdale, AZ; Daniela A. Brake, MD, Phoenix, AZ; Molly C. Klandereman, PhD, Phoenix, AZ; Carolyn Mead-Harvey, MS, Phoenix, AZ; Michael L. Hinni, MD, Phoenix, AZ; Brent A. Chang, MD, Phoenix, AZ

Educational Objective: At the conclusion of this presentation, the participants should be able to compare survival outcomes and frequency of major complications between primary surgical and definitive nonsurgical treatment options for locally advanced oropharyngeal squamous cell carcinoma.

Objectives: To investigate oncologic outcomes for locally advanced oropharyngeal squamous cell carcinoma (OPSCC) treated with primary surgery versus definitive nonsurgical treatment. Study Design: Retrospective cohort study at a multistate tertiary academic medical institution. Methods: One hundred and fifty-six patients with locally advanced (T3, T4) OPSCC, any N stage but without metastatic disease, were treated with curative intent at three tertiary care cancer centers between July 2005 and July 2021 with either primary surgery with adjuvant therapy, or definitive radiation (RT) or chemoradiation (CRT). Patients were compared by survival outcomes and major complication rates. Results: Amongst 78 patients in each cohort, average age was 61.0 years, 87.8% were male, and tumor subsite was 59% base of tongue (BOT) and 36.5% palatine tonsil. 88.5% of tumors were HPV mediated. Patients in the nonsurgical group were significantly older (62.4 vs. 59.5, $p = 0.040$) and were more likely to have contralateral/bilateral nodes present (46.2% vs. 14.1%, $p < 0.001$). Univariate and multivariate (Cox regression) analysis revealed no differences between cohorts in overall survival, disease specific survival, or recurrence free survival

at an average followup time of 57.3 months. Feeding tube dependence occurred more often in the nonsurgical group (74.4% vs. 55.1%, p = 0.012). The overall rate of complications was not significantly different between groups. Conclusions: This study demonstrated no difference in survival outcomes in locally advanced HPV+ OPSCC treated with either surgical or nonsurgical modalities. The risk of having any complication is also similar between groups, but feeding tube dependence is more common in nonsurgically treated patients.

82. Using Isobologram Techniques for Estimating non-DNA Damaging Therapies in Fanconi Anemia Head and Neck Cancer Cells

Seth Michael Buryska, BS, Grand Forks, ND; Beverly Wuertz, BS, Minneapolis, MN; Frank Ondrey, MD PhD, Minneapolis, MN

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the necessity for non-DNA damaging therapeutics for Fanconi anemia patients. This abstract provides a possible combination treatment in response to this.

Objectives: Fanconi anemia (FA) patients are at 500-fold head and neck cancer risk. Therapies designed to avoid DNA damage are highly preferred. We estimated therapeutic efficacy of several agents in FA cancer cells in vitro. Study Design: Therapeutic treatment of in vitro Fanconi anemia cell lines. Methods: Fanconi anemia (Fa1) and 1131 squamous cancer cells were analyzed by clonogenic assay after agent treatment with metformin, pioglitazone, Wee 1 inhibitor (MK-1775) and GSK461364 (PLK inhibitor). Inhibitory concentration (IC50) and standard error (SE) for each therapy were determined by Excel add-in ED50V10 v1.0. Then isobologram analysis and combination indexes (CI) were generated. CI greater than 1, equal to 1, and less than 1 indicated synergism, additivity and antagonism, respectively. Results: The IC50 for individual treatments for metformin, pioglitazone, MK, and GSK were 1.24 +/- 0.10 (SE) mM, 16.96 +/- 1.31 µM, 0.13 +/- 0.01 µM, and 0.16 +/- 0.03 µM, respectively. The IC50 of MK was 0.03 +/- 0.025 µM when treated in combination with 10 µM pioglitazone and 0.036 +/- 0.005 µM when treated with 0.5 mM of metformin. The IC50 of GSK was 0.15 +/- 0.04 when combined with 10 µM of pioglitazone and 0.07 +/- 0.005 when combined with 0.5 mM of metformin. The combination index (CI) of the treatment combinations was 0.82, 0.68, 1.53, and 0.83, respectively. The findings of synergism and antagonism in combination treatments were corroborated by isobologram plot analysis. Conclusions: Combination treatment of GSK and MK with metformin, as well as MK with pioglitazone, demonstrated synergistic pharmacodynamics as determined by isobologram and combination indexes.

83. Investigating Host Pathogen Interactions and Antiviral Innate Immunity in HPV Related HNSCC

David Alexander Cronkite, MD, Los Angeles, CA; Yazeed Alhiyari, PhD, Los Angeles, CA; Maie St. John, MD, PhD, Los Angeles, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to elucidate antiviral signaling pathways and virus associated tumor microenvironment (TME) in HPV related HNSCC.

Objectives: Patients with HPV associated HNSCC have better outcomes than those with non-HPV related HNSCC and the underlying mechanisms for this divergence in tumor behavior are still poorly understood. DNA viruses, like HPV, trigger the innate immune response by stimulating pattern recognition receptors and antiviral signaling programs like the stimulator of interferon response (STING) pathway. It is poorly understood how these pathways are regulated in the virus associated TME and how this impacts overall tumorigenesis and clinical presentation. HPV related HNSCC provides a unique model to study these antiviral signaling pathways in an ex vivo model. We aim to quantify gene expression of regulatory proteins in the STING pathway in HPV related HNSCC tumor specimens compared to control group (contralateral, uninvolved tonsil). Study Design: Experimental. Methods: Preserved tonsil tissue from the experimental (ipsilateral, HPV related HNSCC tonsil) and control (contralateral, uninvolved tonsil) groups was obtained

from a cohort of patients at a single institution. Part of the specimen was used for immunofluorescence (IF). RNA was extracted from whole tonsil tissue and quantitative PCR (qPCR) was performed to determine mRNA expression of select genes. Results: IF of ipsilateral tumor specimen demonstrates diffuse depletion of innate and adaptive immune cells in the TME when compared to contralateral tonsil. Preliminary data shows gene expression of key regulatory players in the STING antiviral pathway is downregulated in tumor specimens compared to contralateral uninvolved tonsils. Conclusions: Downregulation of the STING antiviral pathway is seen here in HPV related HNSCC. Further studies are needed to elucidate the role of this downregulation in overall tumorigenesis.

84. Dynamic Optical Contrast Imaging (DOCI): A New Tool for Cutaneous Melanoma Detection

Lauran K. Evans, MD MPH, Los Angeles, CA; Yazeed Alhiyari, PhD, Los Angeles, CA; Brandon Mo, BS, Los Angeles, CA; Solymar Torres, MD, Los Angeles, CA; Ramesh Shori, PhD, Los Angeles, CA; Maie St. John, MD, PhD, Los Angeles, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to describe a novel imaging technique's utility in identifying melanoma and surgical margins.

Objectives: Dynamic optical contrast imaging (DOCI) is a novel real time intraoperative imaging method developed by our team that has been validated in delineating cancer margins. Herein we describe the use of DOCI in cutaneous melanoma. Study Design: Prospective cohort. Methods: Patients with biopsy confirmed cutaneous melanoma who were undergoing surgical removal of their malignancy were recruited for in vivo preoperative DOCI imaging, intraoperative imaging, then ex vivo imaging after the lesion was removed. Patients free of disease with benign moles were also recruited for in vivo DOCI imaging to serve as controls. Results: 14 patients were included in this DOCI melanoma study. 9 patients were found to have melanoma on final surgical pathology, whereas 5 demonstrated no remaining melanoma (with diagnoses including atypical proliferation, benign nevus, and/or scar). 11 normal control image sets were obtained. Mean Breslow depth was 4.4mm, with 2/9 of melanoma patients with in situ lesions. Mean DOCI values and images were able to separate benign nevi and melanoma ($p=0.03$). Within subject testing also demonstrated detection of melanoma via DOCI when compared to uninvolved normal skin ($p<0.001$). Conclusions: DOCI can discriminate between benign nevi, melanoma, and uninvolved normal surrounding skin. DOCI can serve a transformational role in melanoma diagnostics and margin determination for our patients.

85. A Retrospective Study of the Epidemiology, Prognostic Factors, and Current Treatments of Head and Neck Adenoid Cystic Carcinoma

Tyler J. Gallagher, BS, Los Angeles, CA; Matthew E. Lin, BS, Los Angeles, CA; Niels C. Kokot, MD, Los Angeles, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand epidemiologic trends in adenoid cystic carcinoma (ACC).

Objectives: Adenoid cystic carcinoma (ACC) is a rare tumor with uniquely indolent but aggressive behavior. We utilized a database of electronic medical record data to understand updated epidemiologic trends in ACC. Study Design: Cross-sectional study. Methods: Data from patients with ACC were extracted from the TriNetX database. Demographics, tumor characteristics, and common comorbidities were analyzed with descriptive statistics. Kaplan-Meier curves described 5 and 10 year survival rate. Analysis of survival rate based on tumor stage and treatment type was compared between cohorts after propensity score matching. Results: Our cohort included 616 patients with ACC with mean age 70 (SD:15) and majority being female (58.6%), white (71.8%), and not Hispanic or Latino (58.6%). Rates of several comorbid diagnoses were higher in the ACC group compared to all ICD-10 diagnosis group, including hypertensive disease ($p<0.001$), gastroesophageal reflux disease ($p<0.001$), hyperlipidemia ($p<0.001$), hypothyroidism

(p<0.001), depressive episode (p<0.001), and other anxiety disorders (p<0.001), but not diabetes mellitus, type 2 (p=0.624). Most common TNM stages at diagnosis included summary stage 4 (94, 40.7%), T4 (90, 29.8%), N0 (170, 59.9%), and M0 (170, 90.9%). 5 and 10 year survival rates were 82.8% and 75.9%, respectively. Tumor stage (OR:1.13, 95% CI: [0.43 - 2.91]) and use of radiation and surgery compared to surgery alone (OR:1.21, 95% CI: [0.51 - 2.88]) did not significantly alter survival. Conclusions: ACC was found to present most commonly in later stages but with relatively high 5 and 10 year survival. This study did not find effects on survival based on stage at diagnosis or adjuvant radiation, underscoring the uniquely slow but aggressive growth of this malignancy.

86. Unmet Informational Needs and Expectations among Patients Receiving a Tracheostomy Tube

Tyler J. Gallagher, BS, Los Angeles, CA; Oluwatobiloba Ayo-Ajibola, BS, Los Angeles, CA; Kevin Herrera, BS, Los Angeles, CA; Niels C. Kokot, MD, Los Angeles, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand unmet informational needs for patients with a tracheostomy.

Objectives: Tracheostomy care is complex and requires active engagement from patients and caregivers alike. We sought to understand the unmet informational needs for patients with a tracheostomy and factors associated with surgical experience meeting preoperative expectations. Study Design: Retrospective cross-sectional survey. Methods: A survey querying patients who have received a tracheostomy tube regarding their experiences and informational needs was administered via email and Facebook support groups. Descriptive statistics characterized responses. Chi-square testing assessed factors associated with treatment meeting expectations. Results: Among 33 respondents, reported quality of life (QoL) topics least discussed by physicians perioperatively included psychological wellbeing (17, 51.5%), changes in energy levels (16, 48.5%), and returning to activity after treatment (13, 39.4%). Most important reported QoL topics to be informed of prior to surgery included voice (21, 63.6%), swallow (21, 63.6%), and psychological wellbeing (20, 60.6%). Analysis of factors associated with surgical experience meeting expectations found association with male gender (p=0.027), reason for tracheostomy (p=0.035), decannulation (p=0.012), and knowledge of how to get answers to questions postoperatively (p=0.024). Factors not found to be associated with experience meeting expectations included age at surgery (p=0.132), race (p=0.715), education (p=0.656), insurance status (0.875), and number of preoperative visits (p=0.525). Conclusions: This study demonstrates the most desired and unmet informational needs of patients receiving a tracheostomy, thereby demonstrating gaps in informational needs, especially regarding the management of the effects of treatment on psychological wellbeing. Additionally, this study suggests factors that may be associated with surgical experience meeting expectations, demonstrating individuals potentially prone to incongruence between expectation and experience.

87. A National Review of Perioperative Outcomes following Inpatient Tonsillectomy

Imran Khawaja, BA, Newark, NJ; Anthony Saad, BA, Newark, NJ; Owais Aftab, BS, Newark, NJ; Afash Haleem, BS, Newark, NJ; Andrey Filimonav, MD, Newark, NJ; Jean Anderson Eloy, MD, Newark, NJ

Educational Objective: At the conclusion of this presentation, the participants should be able to outline possible adverse outcomes associated with inpatient tonsillectomy for chronic tonsillitis.

Objectives: Tonsillectomies are commonly performed to treat chronic tonsillitis in the outpatient setting. This analysis examined perioperative outcomes associated with inpatient tonsillectomy compared to outpatient treatment. Study Design: Retrospective database analysis. Methods: This retrospective study analyzed the National Surgical Quality Improvement Program database from 2006-2015. Current Procedure Terminology coding selected for patients undergoing tonsillectomy, while the ICD-9 code 474.00 selected for patients with chronic tonsillitis. Patients with a length of stay (LOS) greater than

90 percent of the sample were categorized as prolonged LOS. Demographics and comorbidities were compared between inpatient and outpatient cohorts using chi-squared analysis. Binary logistic regression identified the independent effects of inpatient treatment on perioperative outcomes. Results: 10,154 tonsillectomy cases were categorized into outpatient (n=9801) and inpatient cohorts (n=353). Chi-squared analysis identified greater prevalence of comorbidities in the outpatient cohort, including obesity (95.8% vs. 4.2%, p=0.007), diabetes mellitus (89.7% vs. 10.3%, p=0.002), and congestive heart failure (60.0% vs. 40.0%, p=0.011), among others. Binary logistic regression adjusted for significant differences between populations and identified that patients undergoing inpatient tonsillectomy experience increased odds of blood transfusions (OR 18.094, 95% CI 3.176-103.72, p=0.001), medical complications (OR 3.170, 95% CI 1.1230-8.173, p=0.017), and all complications (OR 2.589, 95% CI 1.267-5.288, p=0.009). Inpatient treatment was also associated with increased odds for extended LOS (OR 127.775, 95% CI 89.433-182.556, p<0.001), extended operation time (OR 2.799, 95% CI 2.092-3.744, p<0.001), and unplanned readmissions (OR 2.996, 95% CI 1.889-4.752, p<0.001). Conclusions: Inpatient treatment may be associated with adverse outcomes for individuals undergoing tonsillectomy for chronic tonsillitis.

88. Utility of American Society of Anesthesiologists Classification for Patients Undergoing Hypophysectomy

Imran Khawaja, BA, Newark, NJ; Owais Aftab, BS, Newark, NJ; Anthony Saad, BA, Newark, NJ; Afash Haleem, BS, Newark, NJ; James K. Liu, MD, Newark, NJ; Jean Anderson Eloy, MD, Newark, NJ

Educational Objective: At the conclusion of this presentation, the participants should be able to examine the association between American Society of Anesthesiologists (ASA) classification and adverse outcomes following hypophysectomy for pituitary neoplasms.

Objectives: Hypophysectomy is commonly performed to remove pituitary tissue after dysfunctional growth. This study identifies outcomes in ASA classes I and II (I/II) compared to patients in classes III and IV (III/IV) following hypophysectomy for pituitary neoplasms. Study Design: Retrospective cohort analysis. Methods: This retrospective assessment surveys the National Surgical Quality Improvement Program database from 2006-2015 for patients undergoing hypophysectomy. Hypophysectomy cases were selected using the Current Procedural Terminology (CPT) code 61548 and pituitary neoplasm was identified with ICD-9 code 227.3. Chi-square analysis assessed comorbidities and demographics between cohorts. Univariate and multivariate logistic regression identified the impact of ASA classification on postoperative outcomes. Results: 920 cases of hypophysectomy were identified, with 413 cases in the classes I/II and 502 in the classes III/IV. Classes III/IV were associated with increased prevalence of comorbidities including diabetes (82.5% vs. 17.5%, p<0.001) and hypertension (70.0% vs. 30.0%, p<0.001), among others. Upon univariate analysis, classes III/IV were significantly associated postoperative complications, including urinary tract infections (OR 5.895, 95% CI 1.332-26.091, p=0.019), medical complications (OR 2.982, 95% CI 1.429-6.000, p=0.003), and all complications (OR 2.935, 95% CI 1.623-5.308, p<0.001). Additionally, classes III/IV were associated with increased odds for extended length of stay (OR 2.126, 95% CI 1.330-3.399, p=0.002) and extended operation times (OR 1.768, 95% CI 1.126-2.777, p=0.013). However, multivariate regression analysis identified ASA classification was not independently associated with increased odds of perioperative outcomes. Conclusions: ASA classification was significantly associated with increased odds of multiple adverse outcomes following hypophysectomy upon univariate regression but not multivariate regression.

89. Impact of Diversity and Disparities Conversations in Otolaryngology - Head and Neck Surgery

Sharwani Kota, BS, Piscataway, NJ; Camille Reeves, BS, Piscataway, NJ; Vanessa Stubbs, MD, Piscataway, NJ; Jonathan Philip Kuriakose, MD, Chicago, IL

Educational Objective: At the conclusion of this presentation, the participants should be able to appreciate

the importance of diversity and inclusion discussion within OHNS and understand the disparities that exist within medical care, research, and mentorship.

Objectives: To evaluate the perspectives of various demographic groups before and after a virtual panel addressing diversity and disparities issues within otolaryngology - head and neck surgery (OHNS). Study Design: Pre-panel and post-panel surveys were shared with medical students, residents, and attendings. Answers ranged from 1 to 5, with 1 being limited knowledge on the topic and 5 being mastery. Methods: Differences between demographic groups were analyzed using paired t-tests. Results: Of 171 pre-panel and 43 post-panel responders, 94.2% and 93.0% were between 18-44 years old, 55.6% and 48.8% were female, and 86.5% and 88.4% were students, respectively. 62% of pre-panel responders came from an institution with an OHNS residency program. Asian students were most likely to state, "OHNS is a diverse field" (2.8/5), while black students were least likely (1.8/5). Female trainees were significantly less likely to feel supported in OHNS compared to their male counterparts ($p<0.01$). White students were most likely to answer, "there are actionable steps I can take to increase diversity and reduce disparities in OHNS", significantly more than Asian students. There was no significant difference between demographic groups regarding the statements: "Increasing diversity is important", "I have access to research, volunteering, and/or shadowing", and "I have strong mentorship" within OHNS. Conclusions: Survey responders were largely medical trainees, with fewer than 6% being physicians. Responders of underrepresented backgrounds tended to feel least supported and hopeful about improving diversity in OHNS. More emphasis needs to be placed on diversity and disparities in OHNS medical care, research, and mentorship to adequately support underrepresented medical professionals.

90. Swallowing Outcomes Disparities among Patients with Oropharyngeal Squamous Cell Carcinoma

Grace Zhang, BA, Cincinnati, OH; Adithya Kumar, BS, Cincinnati, OH; Armo Derbarsegian, BS, Cincinnati, OH; Sara Adams, BS, Cincinnati, OH; David Rule, PhD, Cincinnati, OH; Alice Tang, MD, Cincinnati, OH

Educational Objective: At the conclusion of this presentation, the participants should be able to identify risk factors associated with functional outcomes after treatment of oropharyngeal cancer.

Objectives: To identify sociodemographic risk factors associated with worsened swallowing outcomes following multimodal treatment of oropharyngeal squamous cell carcinoma (OPSCC). Study Design: Retrospective chart review. Methods: Retrospective chart review was performed for treatment naive OPSCC at an academic center between January 2011 to December 2022. Objective pre- and post-treatment functional swallowing evaluations were reviewed. Sociodemographic data (including race and insurance), staging, treatment modality, functional oral intake scores (FOIS), and dysphagia outcome and severity scale (DOSS) scores were collected. Two sample t-tests were used to determine the association between sociodemographic factors and swallowing measures. ANOVA was used to compare differences between treatment groups. Results: 97 of 536 patients treated for OPSCC met inclusion criteria (84.5% male, mean age 59.5 [SD 8.6], 52.6% public insurance, 89% white, 10% black). Changes in swallowing outcome measures were compared across insurance types, races, and age groups. 3 month post-treatment DOSS scores were significantly decreased in patients with public insurance ($p = 0.008$) compared to private insurance, but not FOIS. There were no significant differences between different races and age groups. There were significant differences between primary treatment modalities in 3 month DOSS ($p = 0.002$) and FOIS scores ($p = 0.032$), but not at 6 months. Conclusions: There is limited research examining the relationship between swallowing outcomes and socioeconomic barriers to care. Our data indicates that insurance status can be associated with worse swallowing outcomes after OPSCC treatment. We plan to further investigate the role of factors such as rurality, neighborhood income, as well as other behavioral risk factors such as smoking.

91. Utilization of a Microvascular Coupler in Salvage Arterial Anastomosis for Maxillary

Reconstruction with an Osteocutaneous Radial Forearm Free Flap
Jonathan P. Kuriakose, MD MS, Chicago, IL; Craig Bollig, MD, Hershey, PA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the potential use of a microvascular coupler in salvage arterial anastomoses after repeated unsuccessful attempts with hand sewn anastomoses.

Objectives: Microvascular couplers are commonly used for venous anastomoses in head and neck microvascular reconstruction; however, they are rarely used in arterial anastomoses. We present a case of a patient undergoing maxillary reconstruction with an osteocutaneous radial forearm free flap. Repeated attempts at suture anastomosis of the arteries were unsuccessful due to vessel friability. Salvage arterial anastomosis using the microvascular coupler was successful on the first attempt. Study Design: Case report and literature review. Methods: Case report and literature review. Results: A 59 year old diabetic female patient presented at an academic medical center with right facial swelling of unclear duration. A CT scan showed a large cystic mass eroding the right maxilla with extension into the infratemporal fossa. Repeated biopsies were nondiagnostic. She underwent resection of the maxillary tumor with subsequent reconstruction an osteomyofascial radial forearm free flap. The facial artery was thin walled and friable. Repeated attempts at hand sewn anastomosis were unsuccessful despite meticulous technique. A 2.0 mm microvascular coupler was successfully used for the arterial anastomosis on the first attempt. Literature review for similar cases will also be presented. Conclusions: A microvascular coupler may be a useful alternative to classical suture anastomosis for challenging arterial anastomoses in head and neck microvascular reconstruction in certain situations, including repeated unsuccessful attempts due to vessel friability.

92. Transoral Robotic Resection of a Base of Tongue Schwannoma: A Case Report
David Lehmann, MD, Stony Brook, NY; Ghassan Samara, MD, Stony Brook, NY (Presenter)

Educational Objective: At the end of this, readers will have more information available to them about the clinical course and management of a base of tongue schwannoma.

Objectives: While the head and neck is a relatively common site for schwannomas, only a minute portion of schwannomas in this region arise at the base of tongue. Given the rarity of this condition, we described a case treated in our practice. Study Design: We present a case of a 42 year old male who came to the clinic with throat pain, dysphagia, and a recent episode of hemoptysis. The literature was reviewed for cases of base of tongue schwannoma. Methods: Flexible laryngoscopy revealed a left base of tongue mass. Computed tomography of the neck demonstrated a 3.2 centimeter heterogeneously enhancing mass at the left aspect of the oropharynx. Robotic transoral resection of the mass was performed and pathology was consistent with schwannoma. The patient's postoperative course was complicated by oropharyngeal bleeding, ultimately treated with lingual artery embolization. Results: The patient's symptoms have since resolved and repeat flexible laryngoscopy 4 months postoperatively demonstrated no recurrence of the mass. The patient remains asymptomatic 8 months postoperatively. This case of successful resection is in line with good outcomes for base of tongue schwannomas that have been reported previously. Conclusions: Base of tongue schwannoma is an uncommon entity that can be successfully treated with transoral robotic resection.

93. Analysis of HPV Vaccine Related Content on TikTok
Makayla Renee Matthews, BS, Chapel Hill, NC; William R. Ryan, MD, San Francisco, CA; Trevor G. Hackman, MD, Chapel Hill, NC; Zainab Farzal, MD, San Francisco, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to broadly understand which groups are posting HPV related content on TikTok and the educational gaps that currently exist in public awareness of HPV associated oropharyngeal cancers and their prevention.

Objectives: HPV is a well documented cause of cervical, oropharyngeal, vaginal, vulvar, anal, and penile cancers, largely preventable with the HPV vaccine. We aim to characterize the most popular TikTok videos pertaining to HPV associated cancers and vaccination with a special interest in oropharyngeal cancer. Study Design: Observational study of public social media content. Methods: The top 200 TikTok videos that appeared when searching for #HPVvaccine and #Gardasil individually were included and analyzed on the basis of creator characteristics, viewer reach, content, and accessibility. Characteristics of each video were counted if mentioned or listed in the caption. Results: 43.2% of videos originated from creators self-identifying as healthcare professionals and had an average of 129,525 (SD:59,997) views. 79.5% were pro-vaccination, and 19.3% were specifically anti-vaccination. 60.9% of videos mentioned cervical cancer. Only 17.9% mentioned all six types of HPV related cancer (including oropharyngeal). Other mentions included HPV prevention (62%), transmission (31%), infection risk factors (12%), and vaccine side effects (23%), while only 7.5% specifically regarded vaccines as safe. 35.5% of creators identified the Gardasil vaccine as appropriate for both men and women. Conclusions: Medical professionals have a strong presence on TikTok and overwhelmingly support HPV vaccination for cancer prevention but miss the mark in associating high risk HPV with noncervical cancers, addressing vaccine safety, and clearly defining who is eligible for the HPV vaccine/Gardasil. Despite oropharyngeal cancer eclipsing cervical cancer as the most common HPV related malignancy, there is still a dearth of online patient education about this disease, and the potential treatment/prevention measures available.

94. Neoadjuvant Targeted Therapy in Locally Advanced Thyroid Cancer, A Single Institution Case Series

Jeffrey Stephen Mella, MD, Charlottesville, VA; Jessica Lin, BS, Charlottesville, VA; Betsy Szeto, MD, Charlottesville, VA; David Shonka, MD, Charlottesville, VA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the emerging role and benefit of neoadjuvant targeted therapy in the management of locally advanced thyroid cancer as evidenced by a series of 5 patients treated over the last 3 years.

Objectives: Describe the clinical course and outcomes of 5 patients with advanced thyroid malignancies treated with neoadjuvant targeted therapy. Study Design: Case series. Methods: Retrospective review of 5 patients with locally advanced thyroid malignancies treated at UVA from 2020-Present. Data collected included patient demographics, pathology, TNM stage, gene mutations, neoadjuvant treatment regimen, treatment duration, status of resection (R0/R1/R0 resection), treatment after surgery, and follow-up information. Response to neoadjuvant treatment was evaluated according to RECIST v1.1 criteria. Results: 5 patients with locally advanced thyroid cancer underwent neoadjuvant targeted therapy from February 2020-present. Pathologies included papillary thyroid carcinoma (3 pts) and anaplastic thyroid carcinoma (2pts). All 5 pts demonstrated a BRAF V600E mutation. 4/5 patients underwent dabrafenib/trametinib. One patient was treated with lenvatinib. Median duration of treatment prior to surgery was 21 weeks. All 5 primary lesions decreased in size following treatment, with two demonstrating complete response. The objective response rate (ORR) was 60% (RECIST v1.1). 3/5 patients underwent surgery with 1 pt currently scheduled for surgery. All 3 pts who underwent surgery had a R0/R1 resection. Median followup was 10 months. Complications included the need for tracheostomy, prolonged JP drain output, and persistent anterior tracheal wall defect. Conclusions: In this pilot series, 5 patients underwent neoadjuvant treatment for advanced thyroid malignancies with an ORR of 60%. Of the 3 patients who underwent surgery, all achieved a R0/R1 resection status. More clinical trials with longer followup are needed to elucidate the long term benefits of neoadjuvant targeted treatment in patients with advanced thyroid malignancies.

95. Evaluation of Opioid Prescribing Guidelines for Outpatient Head and Neck Surgery

Mattea Elise Miller, BS, Baltimore, MD; Danielle R. Trakimas, MD MSE, Baltimore, MD; Peter S. Vosler, MD PhD, Sarasota, FL; Jonathon O. Russell, MD, Baltimore, MD; Carole Fakhry, MD MPH,

Baltimore, MD

Educational Objective: At the conclusion of this presentation, the participants will be informed of opioid prescribing practices following outpatient head and neck (HN) surgeries.

Objectives: Evaluate trends in opioid use following outpatient HN surgeries before and after implementation of prescribing guidelines. Study Design: Retrospective review of prospectively collected data. Methods: Opioid naive patients undergoing outpatient thyroidectomy, parathyroidectomy or salivary gland excision from 2021-2023 were included. Participants reported opioid consumption and pain through postoperative day (POD) 14 via REDCap surveys. Based on collected data, a guideline of 6 5mg oxycodone equivalents prescribed at discharge was implemented in June 2023. Median (25th-75th% IQR) values are reported as 5mg oxycodone equivalents. Cohorts of participants prior to and after guideline implementation (PG vs AG) were compared with Mann-Whitney U test. Results: 70 participants met study criteria (58 PG, 12 AG). The amount of opioid prescribed at discharge was significantly higher in the PG than AG cohort (12 (10-12) vs 6 (6-6) pills, $p<0.001$). Opioid consumption by POD14 was similar between cohorts (2 (0-5) vs 1 (0-3) pills, $p=0.45$), while the amount of unused opioids by POD14 was significantly higher in the PG cohort (9 (5-12) vs 6 (2-6) pills, $p<0.01$). Of patients with unused opioids, 8% and 11% in the PG and AG cohorts, respectively, returned or disposed of their unused medications. No patients requested an opioid refill. Conclusions: Guidelines for opioid prescribing based on patient reported opioid consumption reduced the amount of unused opioid without increasing refill requests following outpatient HN surgeries. Surveys continue to be collected to further evaluate this intervention in a larger cohort.

96. Ex Vivo Slice Cultures to Study Head and Neck Squamous Cell Carcinoma: A Systematic Review

Anusha Naik, BS, Philadelphia, PA; Nikhita Perry, BS, Philadelphia, PA; Jarrod Predina, MD MTR, Philadelphia, PA; Ahmed Diab, PhD, Philadelphia, PA; Steven Albelda, MD, Philadelphia, PA; Robert Brody, MD, Philadelphia, PA

Educational Objective: At the conclusion of this presentation, the participants should be able to describe the methodology of tumor slice cultures to study head and neck squamous cell carcinoma and to list interventions studied with the platform.

Objectives: Head and neck squamous cell carcinoma (HNSCC) have variable responses to existing treatments. Ex vivo cultures of patient derived tumor slices have been used to study tumor specific treatment response in several solid cancers including HNSCC. Study Design: Systematic review, by PRISMA guidelines. Methods: Three databases (PubMed, Scopus, and Embase) were searched to identify studies utilizing methods of precision cut tumor slicing in ex vivo culture to study human or mouse HNSCC. Articles were screened by title/abstract and full text, and they were ultimately analyzed with Covidence software. Results: Fourteen studies satisfied inclusion criteria, encompassing 244 patients. Thirteen studies obtained samples at time of diagnostic endoscopy or surgical resection, with the final study conducted on HNSCC xenograft tumors grown in mice. Thirteen studies demonstrated slice viability with preservation of native tumor architecture up to 7 days, with the final study in murine xenografts demonstrating viability up to 13 days. Seven studies investigated effects of irradiation on tumor slices, six studies investigated effects of various chemotherapies, and other single studies investigated effects of T-cell stimulation, oncolytic virus infection, and variable culture conditions. Several studies observed heterogeneity in tumor response to treatments. Conclusions: Patient derived tumor slices in ex vivo culture preserve tumor architecture, replicate effects of cytotoxic treatment, and faithfully reflect heterogeneity in individual patient response to treatment. These findings altogether demonstrate a role for ex vivo tumor slices in studying the tumor microenvironment of HNSCC with the aim of ultimately guiding individualized treatment selection for HNSCC.

97. Tracheostomy Management: An Educational Workshop for Anesthesia Residents

Isaac P. Obermeyer, MD, Orange, CA; Michael Ortman, MD, Orange, CA; Christopher Sauer, MD, Orange, CA; Yarah Haidar, MD, Orange, CA

Educational Objective: At the conclusion of this presentation, the participants will have an outline for educating anesthesia residents about perioperative management of tracheostomies.

Objectives: Tracheostomy placement is a common procedure performed for several indications, with the common endpoint of bypassing the upper airway to improve respiratory function. Although it is encountered frequently, we have anecdotally identified a lapse in understanding the basics of perioperative tracheostomy management by residents in the anesthesia department at our institution, who are often the first responders to acute airway issues in the hospital. We sought to address this issue by performing an educational workshop. Study Design: Educational lecture with pre- and post-questionnaire. Methods: A one hour workshop was designed, organized, and delivered by the authors of this paper. The target audience was anesthesia residents in the first three years of their training (post graduate year (PGY) 1-3). A pre- and post-session questionnaire, composed of ten questions, was distributed to assess the effectiveness of covering the educational objectives. Results: The workshop was provided to 34 anesthesia residents, of which there was complete questionnaire data from 29 (PGY 1: n=10; PGY 2: n=9; PGY 3: n=10). There was a statistically significant increase in the understanding of tracheostomy management as demonstrated by improved scores to every question on the survey ($p<0.01$). Free text feedback from participants on the session conveyed that the session was extremely beneficial. Conclusions: In our study, administering a workshop to anesthesia residents PGY 1-3 significantly increased confidence and understanding of tracheostomy tube management. We anticipate this will lead to improved safety for tracheostomy patients at our institution.

98. Progressive Care Unit Postoperative Admission Is Safe for Head and Neck Free Flaps

Luke J. Pasick, MD, Miami, FL; Sophia Peifer, BA, Miami, FL; Julian Purrinos, BS, Miami, FL; Jake Langlie, BS, Miami, FL; Zoukaa Sargi, MD MPH, Miami, FL; Elizabeth Nicolli, MD, Miami, FL

Educational Objective: At the conclusion of this presentation, the participants should be able to discuss the safety and advantages of admitting postoperative free flap patients directly to a progressive care unit.

Objectives: To retrospectively review the safety and hospital length of stay of patients undergoing head and neck cancer free flap reconstruction admitted to the progressive care unit (PCU) compared to those admitted to intensive care unit (ICU) postoperatively. Study Design: Retrospective review. Methods: Adult patients undergoing head and neck surgery with free flap reconstruction between January 2021 and December 2022 were reviewed retrospectively. Collected data include: demographics, comorbidities, oncologic characteristics, surgical data (free flap donor site, estimated blood loss, intraoperative fluids), ICU admission or readmission, length of ICU stay, hospital length of stay, reoperation, medical and surgical complications, blood transfusion, and emergency room visit or readmission within 30 days. A matched cohort analysis was used to compare outcomes of patients admitting to PCU and ICU postoperatively. Results: 258 free flaps were reviewed and 35 free flap patients were admitted postoperatively to PCU. Matched cohorts (N=30) were created and analyzed. Demographics and oncologic history were similar. Patients admitted to PCU had higher perioperative prealbumin levels ($p=0.04$) and lower intraoperative fluid administration ($p=0.02$), but the complexity of cases was similar in both cohorts. Mean hospital length of stay was significantly shorter in the PCU compared to ICU cohort (6 vs. 8 days; $p=0.01$), but no differences were found for other outcomes: reoperation, wound or medical complication, ICU readmission, and 30 day emergency room visit, hospital readmission, or mortality. Conclusions: Postoperative admission of head and neck free flap patients to the PCU was associated with shorter hospital length of stay without an association with increased postoperative complications or hospital readmissions.

99. A Decade Later: Late Term Recurrence in Sinonasal Intestinal Type Adenocarcinoma

Taylor Lee Powell, BS MS, Shreveport, LA; Mark Landry, MD, Shreveport, LA; Michael T. Yim, MD,

Shreveport, LA; Cherie-Ann Nathan, MD, Shreveport, LA

Educational Objective: At the conclusion of this presentation, the participants should be able to describe the clinical features, common treatment, and expected course of sinonasal intestinal type adenocarcinoma (ITAC), as well as the potential for late term recurrence, up to a decade later as seen in this specific case.

Objectives: Summarize literature concerning diagnosis and management of sinonasal ITAC and describe a case of recurrent sinonasal ITAC a decade after initial treatment despite negative surveillance scopes and imaging. Study Design: Case report and literature review. Methods: Electronic medical record review and database review of relevant literature of sinonasal ITAC. Results: While adenocarcinoma accounts for 10-20% of primary nasal cavity neoplasms, intestinal type is more rare and accounts for around 4%. These tumors are locally aggressive, rarely metastasize, and are commonly associated with inflammation secondary to chronic wood and leather dust exposure. Typical treatment includes excision and adjuvant radiotherapy. Given its aggressive nature, mean disease free survival is around 32 months. Little is described about the potential for long term recurrence with continued environmental exposures. We present a case of an 85 year old gentleman with sinonasal ITAC, early stage, resected with negative margins in 2013. He did report exposure to wood dust. This patient received no adjuvant therapy and subsequent surveillance scopes and imaging were negative for disease. Ten years later, after developing epistaxis refractory to conservative treatment, endoscopic examination and biopsy revealed sinonasal ITAC with similar histology in the same location, demonstrating the potential for long term recurrence. Conclusions: Sinonasal ITACs are known to be locally destructive and often carry a poor long term survival rate. Given the relative scarcity combined with their aggressive nature, less is documented about long term recurrence potential. This case presentation demonstrates the need to consider long term surveillance in patients with treated sinonasal ITAC, especially with chronic environmental exposures.

100. Intravascular Papillary Endothelial Hyperplasia in a Supraclavicular Lymph Node: A Case Report of Masson's Tumor in the Neck and Literature Review

Andreja Radevic, BS, Nutley, NJ; Katherine Liu, BS, Nutley, NJ; Bethany Ho, BA, Nutley, NJ; Brian E. Benson, MD, Hackensack, NJ

Educational Objective: At the conclusion of this presentation, the participants should be able to recognize Masson's tumor as an important entity and differentiate it from malignant lesions. The participants should become aware of this rare, benign lesion and use the knowledge presented in this case report to guide appropriate treatment and management.

Objectives: Intravascular papillary endothelial hyperplasia (IPEH), also known as Masson's tumor, is a rare benign vascular anomaly. Often misinterpreted as angiosarcoma, IPEH likely emerges as a variant of an organizing thrombus, predominantly manifesting in the head, neck, and upper extremities. While usually arising from vascular channels in soft tissues, our case discusses the first reported occurrence of IPEH within a vessel of the left supraclavicular lymph node, presenting a unique and rare clinical scenario. Study Design: Case report and literature review. Methods: Case presentation and review of intravascular papillary endothelial hyperplasia as described in the existing literature. Results: A 37 year old male presents with painful lymphadenopathy at the left supraclavicular region, initially raising concern for lymphoma. Computed tomography (CT) with IV contrast of the lymph node revealed a soft tissue mass with mild enhancement without serpiginous vessels. A subsequent fine needle aspiration (FNA) revealed rare epithelioid cells amidst abundant blood, with focal CD34 positivity, suggesting a vascular tumor. Excisional biopsy was done and the lymph node was rubbery and hemorrhagic appearing. Histological and cytological analysis excluded lymphoma and instead revealed the rare finding of a thrombus amidst a prominent papillary proliferation, thus confirming IPEH. No recurrence or complications were observed one month after the procedure. Conclusions: While often appearing as a vascular lesion in soft tissues, our case highlights the potential for this entity to manifest in atypical locations such as lymph nodes. Recognizing IPEH and effectively differentiating it from malignant lesions, most importantly angiosarcoma,

through meticulous histological and cytological analysis, unnecessary chemotherapy, radiation, and associated morbidities can be avoided.

101. Racial Disparities in HPV Associated Oropharyngeal Cancer Awareness among U.S. Adults

Francis Reyes Orozco, MD, Los Angeles, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to describe the trends in HPV oropharyngeal cancer awareness between different races in the U.S.

Objectives: Between 1995 and 2015, the incidence of HPV associated oropharyngeal squamous cell carcinoma (OPSCCs) is one of the most rapidly increasing incidences, now accounting for approximately 71% of all OPSCCs in the U.S. Of these, 85-96% are caused by HPV-16 infections, which are preventable by prophylactic HPV vaccination. However, vaccine uptake is not standard across all races. This study aims to measure HPV associated OPSCC understanding and HPV vaccination awareness among different racial groups. Study Design: Cross-sectional. Methods: HPV OPSCC awareness, HPV awareness, and demographic information were obtained from the Health Information National Trends Survey (HINTS). The HINTS database is a nationally representative survey of public's knowledge or and use of cancer related information. The effect of race and HPV associated OPSCC was analyzed via univariable and multivariable regression. Results: 11,063 individuals were included in the study between 2013 and 2020. Of those who were familiar with HPV, those with higher income earnings of $200,000 or more were significantly more likely to be aware of HPV associated OPSCC (OR: 1.13 [95% CI, 1.19 to 2.07]]. Black race was associated with less awareness of HPV associated OPSCC (OR: 0.05 [95% CI: 0.02 to 0.08]). HPV associated OPSCC was comparable between gender, age, and education. Conclusions: Higher income is associated with greater awareness of HPV associated OPSCC in patients who are familiar with HPV. Individuals with less awareness are more likely to identify as black.

102. Hepatocellular Carcinoma Metastatic to the Facial Skeleton

Joshua P. Senter, MD, Danville, PA; Priscilla F.A. Pichardo, DO, Danville, PA; Phillip K. Pellitteri, DO, Danville, PA

Educational Objective: At the conclusion of this presentation, the participants should be able to discuss the diagnosis and management of metastatic hepatocellular carcinoma to the head and neck.

Objectives: We describe the singularly unique presentation of hepatocellular carcinoma metastatic to the zygoma in a liver transplant recipient together with a description of patient management and review of the literature. Study Design: Case review. Methods: Retrospective case review detailing the management of this patient including diagnostic modalities, imaging findings, operative and postoperative adjuvant therapy, and surgical pathology. Results: We discuss a case involving a 74 year old male with a history of hepatocellular carcinoma, treated with liver transplantation and immunosuppression, who presented with a large deep facial/temporal fossa soft tissue mass. Contrast enhanced computed tomography and magnetic resonance imaging of the face/skull base demonstrated a mass destructively eroding much of the zygomatic arch, with apparent involvement of the masseter muscle, displacing the parotid gland with encroachment on the orbit. Preoperative biopsy of the mass (FNA and core needle biopsy) yielded benign fibrofatty tissue. Gross total resection was achieved via a left hemicoronal and superficial parotidectomy approach. Final permanent histopathologic and immunohistochemical findings demonstrated metastatic hepatocellular carcinoma. Notable was a normal alfa fetoprotein level. Conclusions: Although hepatocellular carcinoma metastasis is common, metastatic disease to the facial bones is extremely rare notably with involvement of the zygomatic arch. This is the first reported instance of surgically treated metastatic hepatocellular carcinoma to the facial bones in a liver transplant patient with no biochemical evidence of recurrence. This discussion addresses the rarity of this entity in the absence of suspected recurrent disease in a liver transplant recipient and the potential need to employ operative treatment to

establish the diagnosis.

103. Ewing Sarcoma of the Sinonasal Region: A Systematic Review

Ariana L. Shaari, BA, Newark, NJ; Rebecca Ho, BA, Newark, NJ (Presenter); Aman Patel, BS, Newark, NJ; Sean Haimowitz, MD, Newark, NJ; Jean A. Eloy, MD FARS FARC, Newark, NJ

Educational Objective: At the conclusion of this presentation, the participants should be able to identify the presenting symptoms, treatment strategies, and overall survival of sinonasal ES.

Objectives: Ewing sarcoma (ES) is an aggressive malignancy that rarely can present in the sinonasal region. The objective of this study is to conduct a systematic review on sinonasal ES, investigating demographics, presentation, management, and outcomes. Study Design: Systematic review. Methods: A systematic review of cases of ES in the sinonasal region was conducted using PubMed, Web of Science, Scopus, CINAHL, and Cochrane. Inclusion criteria consisted of case reports, series, or retrospective reviews. Results: 776 total articles were retrieved. 70 articles met inclusion criteria and were included in the final review for a total of 91 cases. 53% of patients were female. Median age at diagnosis was 22 (range 3-70). Nasal obstruction (58%), epistaxis (38%), and impaired vision (29%) were the most common symptoms. 41% of patients had a nasal cavity mass on examination. Most tumors were located in the maxillary sinus (35%). 58% were left sided and 5% were bilateral. Chemotherapy/radiation (85%) was the most common treatment modality. 58% of patients underwent surgery alone or in addition to chemotherapy/radiation. 62% of patients had no evidence of disease following treatment, 14% of patients died with disease, and 9% of patients were alive with disease after treatment. Conclusions: To our knowledge we report the first systematic review of sinonasal ES, which should be a differential in an individual who presents with chronic nasal obstruction, epistaxis, vision changes, and a nasal cavity mass. Prompt recognition and treatment is crucial to minimize morbidity and mortality.

104. The Impact of the COVID-19 Pandemic on Oropharyngeal and Oral Cavity Malignancy Time to Treatment Initiation: A National Analysis

Rahul K. Sharma, MD, Nashville, TN; Carly Fassler, BA, Nashville, TN (Presenter); Marina Aweeda, BA, Nashville, TN; Kyle Mannion, MD, Nashville, TN; Sarah L. Rohde, MD, Nashville, TN; Michael C. Topf, MD, Nashville, TN

Educational Objective: At the conclusion of this presentation, the participants should be able to describe the impact of COVID-19 on the management of oropharyngeal (OP) and oral cavity (OC) malignancies on a national scale.

Objectives: Our study sought to understand the effect of the COVID-19 pandemic on time to treatment initiation (TTI) and the stage of disease at diagnosis for oropharyngeal (OP) and oral cavity (OC) malignancies. Study Design: Retrospective analysis of the National Cancer Database (NCDB). Methods: Retrospective analysis of the NCDB between 2017-2020. Patients were categorized as “pre-COVID” (2017-2019) and “COVID” (2020) by year of diagnosis. Multivariable logistic regression was used to investigate the independent effect of COVID on stage at diagnosis. A linear regression was performed for TTI. Results: This study included 39,650 patients with OP cancer and 46,267 patients with OC cancer. For both OP (30dvs30d, p=0.50) and OC (34dvs34d, p=0.30) cancer, TTI was not significantly different before and during COVID. On multivariable analysis, patients with OC cancer (b=-2.6, 95% CI -3.8, -1.4, p=0.001), but not OP cancer (b=0.46, -0.46-1.40, p=0.30) were less likely to experience delays in treatment during the COVID pandemic. Patients diagnosed with OP cancer during the pandemic were less likely to present with late stage tumors (OR=0.42, 0.40-0.45, p<0.001) while those with OC cancer were more likely to present with late stage tumors (OR=1.15, 1.09-1.21, p<0.001). Conclusions: Patients with OC cancer were more likely to present with late stage disease during the COVID-19 pandemic, but once diagnosed were less likely to experience delays in TTI. Patients with OP cancer were less likely to present with late stage disease during the COVID-19 pandemic.

105. WITHDRAWN - Exploring the Vascular Anatomy and Potential Elongation of the Submental Artery Flap

Zachary Wynn Tarter, MS, Louisville, KY; Elizabeth Cash, PhD, Louisville, KY; Jeffrey Bumpous, MD, Louisville, KY

106. Postoperative Opioid Use after Transoral Robotic Surgery (TORS): A Single Institution Review

Spencer Uetz, MD, Springfield, IL; Arun Sharma, MD, Tacoma, WA; Matthew McCracken, MD, Springfield, IL

Educational Objective: At the conclusion of this presentation, the participants should be able to describe postoperative opioid use patterns for patients undergoing transoral robotic surgery.

Objectives: To describe postoperative opioid use patterns for patients undergoing transoral robotic surgery (TORS). Study Design: This is a single institution retrospective chart review including all adult patients who underwent TORS by a single surgeon between 2015 and 2021. Methods: The total opioid consumption in oral morphine equivalents was calculated for postoperative days 0-7. Results: A total of 95 patients (mean age of 57 years, 77 percent male) were included. 83 percent of patients had surgery for malignant pathology. Gabapentin was associated with a trend towards decreased opioid requirements in the global postoperative period (median oral morphine equivalents per day 25.5 vs 12.8) but this was not statistically significant ($p = 0.053$). There was a significant reduction in opioid requirements on postoperative day 2 for those receiving gabapentin (29.25 vs 7.5 oral morphine equivalents, $p = 0.033$). Age was inversely related to daily opioid use ($p = 0.003$), and there was a positive correlation between topical lidocaine doses and opioid use ($p = 0.037$). Those who received unilateral or bilateral neck dissections had increased opioid use ($p = 0.03$). Postoperative opioid use was not associated with sex, preoperative opioid use, T stage, acetaminophen use, or pathology type (benign vs malignant). Conclusions: Perioperative gabapentin decreases opioid requirements on the second postoperative day after TORS, and trends toward a decrease in daily opioid use in the entire postoperative hospital stay.

107. Surgical Approach to Substernal Thyroid Goiters

Katherine Lee Webb, MD, Charlottesville, VA; Keerthi Kurian, BS, Charlottesville, VA; Jonathan Garneau, MD, Charlottesville, VA; David C. Shonka, MD, Charlottesville, VA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the surgical approach to thyroid goiters with substernal extension as well as the changing landscape for preoperative risk stratification, particularly utilization of CT scans.

Objectives: To review the surgical management of thyroid goiters with substernal extension and to reexamine radiographic predictive factors in determining which patients might require sternotomies. Study Design: Case series. Methods: A retrospective chart review of patients with substernal goiters treated surgically between 2010-2023 at a single tertiary care academic center. Results: 206 sequential patients were treated for goiters with substernal extension in the otolaryngology department of a tertiary care center within the selected timeframe. Four patients underwent sternotomy (1.9%). Of these four patients, two patients had additional and unrelated mediastinal pathology that prompted sternotomy, the other two (0.97%) had thyroid goiters that could not be safely removed without sternotomy. Conclusions: This study demonstrates that the majority of substernal goiters can be safely removed via a transcervical approach without sternotomy with excellent clinical outcomes. Preoperative CT scan of the neck should be utilized and early communication with thoracic surgery colleagues should be established if there remains the possibility of requiring a sternotomy for access to the mediastinum. This retrospective review presents outcome measures including recurrent laryngeal nerve injury (transient vs permanent), hypocalcemia (transient vs permanent), hematoma, tracheomalacia, and readmission rates. Additionally, the literature is

reviewed and previously identified factors predicting the need for sternotomy (extension below aortic arch or into posterior mediastinum, dumbbell shape, and thoracic component wider than thoracic inlet) are evaluated in the context of this patient cohort. Additional radiographic features (thyroid density, position of cricoid relative to sternal notch) are examined for their ability to predict the need for a sternotomy approach.

108. Trajectories and Responsiveness of the EORTC QLQ-HN43 after Common Head and Neck Oncologic Surgeries: A Pilot Study

Michael P. Wu, MD, Boston, MA; Samir Seshadri, MS, Boston, MA; Sarah Whittaker, AB, Boston, MA; Nadine McCleary, MD, MPH, Boston, MA; Laura Goguen, MD, Boston, MA; Rosh K.V. Sethi, MD MPH, Boston, MA

Educational Objective: At the conclusion of this presentation, the participants should be able to describe the longitudinal trajectories of the EORTC QLQ-HN43 patient reported outcome measures in the routine postoperative care of patients undergoing glossectomy and/or neck dissection for head and neck cancer.

Objectives: To describe the longitudinal trajectories and responsiveness of the EORTC QLQ-HN43 patient reported outcome measures (PROM) in routine head and neck cancer (HNC) postoperative care after glossectomy and/or neck dissection. Study Design: Prospective observational. Methods: Starting in October 2021, all patients undergoing HNC treatment at our institution were routinely given the EORTC QLQ-HN43 prior to each visit encounter at set intervals within the first 30 days postoperatively and no greater than once monthly thereafter. EORTC QLQ-HN43 data for all patients undergoing glossectomy and/or neck dissection were collected prospectively from October 2021 to April 2023. Paired t-tests were used to compare scores across different phases of care and responsiveness was measured using Cohen's d. Results: Twenty-eight patients who underwent glossectomy and 35 patients who underwent neck dissection had EORTC QLQ-HN43 PROM data available. For the glossectomy cohort, mean oral pain scale scores peaked in severity within postoperative day (POD) 0-30 and improved below preoperative scores after POD100 (mean difference 15, d = 0.97, p = 0.013). Patients undergoing adjuvant radiation and chemoradiation had a second peak in oral pain during adjuvant treatment. EORTC QLQ-HN43 scores also worsened between the preoperative and POD0-30 phases in the speech (mean difference -24, d = -0.95, p = 0.034) and swallowing (mean difference -18, d = -0.99, p = 0.012) domains, but these differences were no longer significant after POD100. Fear of progression dropped after glossectomy (mean difference 24, d = 1.1, p = 0.0044). For the neck dissection cohort, scores also worsened between the preoperative and POD0-30 phases in shoulder problems (mean difference -13, -1.1, p = 0.0042) and neck swelling (mean difference -24, d = -0.92, p = 0.011) domains, but these differences were no longer significant after POD100. Conclusions: Despite wide inter-patient variances, longitudinal trajectories of EORTC QLQ-HN43 scores after glossectomy and neck dissection mirror and are responsive to the expected postoperative course, with acceptable patient reported outcomes for oral pain, speech, swallowing, fear of progression, shoulder problems, and neck swelling after POD 100. Larger prospective cohorts are needed to assess factors related to variability in EORTC QLQ-HN43 scores after surgical treatment.

LARYNGOLOGY/BRONCHOESOPHAGOLOGY

109. Voice Virilization Triggered by Pregnancy in the Setting of Polycystic Ovarian Syndrome (PCOS): Two Clinical Cases

Ryan David Akin, MD, Columbia, MO; Sarah Ondocsin Pickett, CCC-SLP, Columbia, MO; Mark Raymond Gilbert, MD, Columbia, MO

Educational Objective: At the conclusion of this presentation, the participants should be able to identify the rare presentation of dysphonia from hyperandrogenism during pregnancy in the setting of polycystic ovarian syndrome (PCOS). They will understand the importance of counseling patients with PCOS regarding potentially permanent deepening of voice during pregnancy.

Objectives: Emphasize the exceedingly rare presentation of dysphonia from hyperandrogenism during pregnancy in the setting of PCOS. Demonstrate the importance of counseling professional voice users with PCOS regarding permanent deepening of voice during pregnancy due to androgen excess. Study Design: Case reports and review of literature. Methods: PubMed was reviewed. A few cases of virilization during pregnancy were identified where hirsutism resolved. Deepening of the voice and clitoromegaly remained. Neither publication emphasized the negative impact of dysphonia. Results: A 33 year old female broadcaster with PCOS noted lower in pitch voice with breaks, vocal fatigue and acne following an upper respiratory infection during her second trimester of pregnancy. She had normal stroboscopy and testosterone levels greater than three times the upper limit of normal. She was diagnosed with virilization due to androgen excess and referred for voice therapy with improvement. A 26 year old woman with PCOS presented with lower pitch, frequent voice breaks, vocal fatigue, odynophonia, and an inability to sing in upper register after bronchitis during her second trimester of pregnancy. She described pre-pregnancy facial and arm hair with larger muscle mass, but her voice was previously a high soprano. She had a normal laryngoscopic exam. Testosterone levels were unremarkable. She was diagnosed with likely virilization due to androgen excess and referred for voice therapy with improvement. Conclusions: While PCOS causes many complications during pregnancy, it is uncommon to experience voice virilization. The possibility of permanent voice changes due to androgen excess should be discussed with singers or professional voice users with PCOS who are seeking pregnancy.

110. Dysphagia Is Associated with Surgical Voice Restoration in Unilateral Vocal Fold Immobility

Eve Bowers, MD, Miami, FL; Jackson Rossborough, Miami, FL; Julian Purrinos, Miami, FL; Mursalin Anis, MD PhD, Miami, FL

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the association of dysphagia and need for surgical voice restoration in patients with UVFI and realize why dysphagia symptoms and patient reported questionnaires need to be considered in patient management.

Objectives: To determine if there is an association between patient reported dysphagia symptoms in EAT-10 questionnaires and their need for surgical intervention in UVFI. Since dysphagia may indicate a neuromuscular deficit in UVFI, we hypothesized that there would be a correlation between dysphagia and need for surgical voice restoration in patients with UVFI. Study Design: Retrospective chart review. Methods: We included all UVFI adult patients with EAT-10 scores and subjective dysphagia who had followup >/= 3 months after presentation of symptoms from January 2020 to December 2021. We excluded patients with vocal fold paresis, bilateral vocal fold motion abnormality, prior procedural interventions for voice before presentation, unclear dysphagia history or other diagnoses that could cause dysphagia. We investigated the correlation between glottic gap, duration of UVFI, and EAT-10 scores. Results: 80 patients met criteria, 54 females, and 26 males. 49 of these patients met criteria for surgical voice restoration, and 21 did not. EAT-10 scores ($p = 0.03$) and VHI-10 scores ($p = 0.02$) were significantly associated with the need for surgery. Conclusions: EAT-10 scores on presentation are associated with need for surgical voice restoration in UVFI patients. Large prospective studies are needed to corroborate these findings. Dysphagia symptoms and patient reported questionnaires need to be considered in patient management.

111. Extranodal Marginal Zone Lymphoma of the Larynx: A Systematic Review and Case Report

Dylan J. Cooper, BA, Hempstead, NY; Michael T. Werner, MD PhD, New York City, NY; Susan Jormark, MD, New York City, NY; Seth E. Kaplan, MD, New York City, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the clinical presentation and management of extranodal marginal zone lymphoma (MZL) of

the larynx.

Objectives: There is no established management protocol for extranodal marginal zone lymphoma (MZL) of the larynx. We present a case of this disease and provide a systematic review of the literature to describe best management practices for this rare entity. Study Design: Case report and systematic review. Methods: A case of extranodal MZL of the larynx is reported. A systematic review of the literature was conducted to identify relevant case reports and ancillary research using predetermined search criteria. Results: The otolaryngologic presentation, treatment, and clinical response of a patient with laryngeal MZL are presented. A review identified 66 previously reported patients with laryngeal MZL, first reported in 1990. For 45 of these patients (68%), the clinical presentation and course were described in full text reports. Ten relevant review and research articles were next identified. A synopsis of the laryngeal MZL literature is provided and MZL is contextualized within the most common presentations of MZL, including gastric MALT lymphoma. Conclusions: MZL can be distinguished from other lymphomas by its characteristic low grade histological appearance and indolent course. It is generally confined to the larynx and has an excellent prognosis with radiation used as first line therapy. Though MZL typically arises from the supraglottis, lesions of the glottis and subglottis have also been reported. It is imperative for clinicians to consider lymphoma in the differential diagnosis of a laryngeal tumor from any subsite, as certain pathologies may carry high risks of metastasis, and nonsurgical treatment is often first line.

112. Assessing Mechanical Properties of Partially Decellularized Mouse Trachea Using a High Resolution and In Vivo Simulated Testing System

Melwan Izem, BS, Columbus, OH; Lumei Liu, PhD, Columbus, OH; Sarah Nyirjesy, MD, Columbus, OH; Tendy Chiang, MD, Columbus, OH

Educational Objective: At the conclusion of this presentation, the participants should understand how to perform mechanical testing and compare force displacement curves in mouse tracheal grafts.

Objectives: Successful tissue engineered tracheal grafts (TETG) require appropriate mechanical properties to retain graft patency. We developed partially decellularized tracheal grafts (PDTG) demonstrating successful epithelial regeneration in murine orthotopic tracheal replacement. The mechanical properties of PDTG remain unknown due to the small dimension, preventing standard methods of mechanical testing. The aim of this study was to establish the mechanical properties of PDTG using a high resolution and in vivo simulated testing system. Study Design: Tracheal compression, in vivo simulation, mechanical properties, murine model. Methods: Native tracheal grafts (N=4) were harvested from C57BL/6J mice. PDTG (N=4) were created using sodium sulfate dodecyl protocol. Graft mechanical properties were tested using a Mach-1 0.1N loading cell. In vivo simulated ramp release test was programed with 30% diameter change, 155/minute, and 200 cycles, to mimic a continuous maximum diameter change and mouse respiratory rate. Uniaxial compression tests with 50% and 90% displacement were performed on the anterior trachea. Force loss (gram force, gf) after 200 cycles and force at 50% displacement were calculated using Mach-1 Analysis software. Histological analysis was performed to evaluate collagen and glycosaminoglycans (GAG) using Masson's trichrome and Alcian blue staining. Results: PDTG demonstrated mechanical properties identical to native (force loss: PDTG: 0.1164 +/- 0.0245, native: 0.0970 +/- 0.0211, p=0.6302; force at 50% of 90% compression: PDTG:0.9480 +/- 0.1027, native: 0.8461 +/- 0.1416, p=0.3159). Histologic analysis demonstrated collagen and GAG were qualitatively and quantitatively similar between groups. Conclusions: PDTG demonstrated similar biomechanical properties to native mouse trachea. Future studies will analyze TETG mechanical properties in large animal models of PDTG under in vivo simulation as we work towards clinical translation.

113. Histological Analysis on Vascularization of Trachea Isografts and Allografts

Melwan Izem, BS, Columbus, OH; Lumei Liu, PhD, Columbus, OH; Sarah Nyirjesy, MD, Columbus, OH; Tendy Chiang, MD, Columbus, OH

Educational Objective: At the conclusion of this presentation, the participants should be able to analyze vascularization qualitatively and quantitatively on histological images.

Objectives: In surgical repair of tracheal defects, rapid neovascularization has been identified as the key source of successful surgical intervention. Allograft transplantations are known to cause microvasculature loss as cytotoxic T lymphocytes actively target endothelial cells, yielding vasculopathy and fibrosis. In this study, we aim to analyze vascularization of trachea isografts and allografts histologically at different timepoints, representing different degrees and stages of immunogenicity in tracheal graft healing. Study Design: Tracheal replacement, vascularization, isografts, allografts, animal model. Methods: Isografts from C57BL/6J and allografts from BALB/c mice were transplanted in C57BL/6J recipients. At day 10 (isografts N=3, allografts N=3), 1 month (isografts N=3, allografts N=8), and 3 months (isografts N=7, allografts N=7), grafts were harvested, sectioned, and stained with hematoxylin and eosin (H&E). Vessels were identified as tubular structures in the submucosa that contained red blood cells (RBCs) in H&E slides with adjacent slides showing CD31+ endothelial cells. Microvessel density (MVD, N/mm2), vascularity percentage, and average vessel size (AVS) were analyzed using ImageJ. Results: Morphologically, allografts at day 10 showed excessive RBCs infiltration in submucosa without tubular vessels, indicating submucosal hemorrhage and acute rejection. No statistical difference was identified in % vascularity and AVS. Allografts had lower MVD at all timepoints when compared to native, (native: 4.304 +/- 2.023; allografts: 10d 0.9140 +/- 0.2960, p=0.0025; 1mon 0.9506 +/- 0.5768, p=0.0001; 3mon 1.212 +/- 0.3078, p=0.005). Isografts demonstrated no difference compared to allografts and native. Conclusions: Immunogenicity appears to compromise allografts by inducing transient submucosal hemorrhage coupled with sustained microvasculature loss, hallmarks of acute rejection. Future study is to identify functional vessels and downstream effects of insufficient vascularization.

114. Surgery Free Intervals in Idiopathic Subglottic Stenosis with Use of Adjuvant or Rescue Serial Intralesional Steroid Injections (SILSI)

Megan Li Jiang, BS BA, Cincinnati, OH; Johnathan Brown, MD, Cincinnati, OH; Aaron Friedman, MD, Cincinnati, OH; Gregory Dion, MD, Cincinnati, OH; Rebecca Howell, MD, Cincinnati, OH

Educational Objective: At the conclusion of this presentation, the participants should be able to compare surgical outcomes in idiopathic subglottic stenosis patients with and without serial intralesional steroid injections.

Objectives: To compare surgical outcomes in persons with idiopathic subglottic stenosis (iSGS) undergoing endoscopic or open surgery with and without serial intralesional steroid injections (SILSI) by evaluating surgery free intervals (SFI). Study Design: Retrospective. Methods: Medical chart review of persons with iSGS from January 1, 2015, to May 1, 2023, was included (n=38). Autoimmune, traumatic, and tracheal stenosis were excluded (n=49). Clinical paradigm shift occurred during the pandemic of 2020, therefore SFI was calculated after December 1, 2019, from the time of first injection or surgery (no injection) to next surgery or censored at the end of the study period. SFI were compared using a Wilcoxon Rank sum test. Data is summarized using means, medians, percentages, and frequencies. Results: There were 38 patients with a mean (SD) age of 50.9 (14.3) years and 97.4% were female. Twenty-five never underwent SILSI (-SILSI) compared to thirteen who did (+SILSI). There were 70 endoscopic and 3 open surgeries, with a 2.7 (1.6) mean (SD) surgeries per patient in each group. The median SFI was 672 [interquartile range (IQR) 448, 770] days for the injection group and 579 [97, 836] days for the no injection group, p=0.56. A total of 24 SILSI series were performed with 13 recommended as adjuvant vs 11 as rescue. Conclusions: There was no significance in the number of surgeries or SFI when comparing the SILSI- group against the SILSI+ group. More time is needed to be able to truly compare the possible long lasting effects of office injections as compared to natural history of disease.

115. Neuromuscular Junction Visualization in Paraffin Embedded Thyroarytenoid Muscle Sections: Expanding Options beyond Frozen Section Analysis

Samuel L. Kaefer, BA, Indianapolis, IN; Elizabeth Shay, MD, Indianapolis, IN; Rachel A. Morrison, PhD, West Lafayette, IN; Lujuan Zhang, MD, Indianapolis, IN; Sherry Voytik-Harbin, PhD, West Lafayette, IN; Stacey Halum, MD FACS, Indianapolis, IN

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the various ways neuromuscular junctions can be visualized on histology slides, most notable in our newly described method for paraffin embedded sections.

Objectives: The current gold standard for visualization of neuromuscular junctions (NMJs) in muscle utilizes frozen tissue sections with immunofluorescent (IF) alpha bungarotoxin (BTX) to demarcate motor endplates. Frozen tissue sectioning comes with inherent inescapable limitations, including cryosectioning artifact and limited sample shelf life. A parallel approach to identify NMJs in paraffin embedded tissue sections has not been previously described. Study Design: Basic science. Methods: Yucatan minipig thyroarytenoid (TA) muscle was harvested and prepared as 5 micron thick paraffin embedded tissue sections. A variety of antibodies at altering concentrations were selected to target nicotinic acetylcholine receptors, synaptic vesicles, and neurons. Results: Regardless of concentration and deparaffinization approach, BTX consistently failed to react with motor endplates within paraffin embedded sections. Mouse anti-neurofilament (NEFL, Invitrogen, 1:500) and mouse anti-synaptic vesicle glycoprotein (SV2, DSHB, 1:230) bound and demarcated the neurons and synaptic vesicles, respectively. Following consistent visualization of nerve tissue, rabbit anti-nicotinic acetylcholine receptor alpha-1 subunit (CHRNA1, Abcam, 1:500) was used to identify the acetylcholine receptors within motor endplates. Complete NMJ visualization was then achieved with an optimized protocol using primary antibodies to the neurofilament light chain, nerve synaptic vesicle glycoprotein 2, and the alpha 1 subunit of the nicotinic acetylcholine receptor. Slide imaging was performed with the Echo Revolve Microscope (40x). Conclusions: Herein, we describe a new methodology to visualize NMJs within paraffin embedded TA muscle sections. Our protocol avoids the known limitations associated with cryosectioned samples and introduces a new neurolaryngologic research tool that utilizes the advantageous ability of paraffin embedded sectioning to preserve tissue morphology.

116. Changes in Rodent Ultrasonic Vocalizations following Lesion of Amygdala, Insula, and Anterior Cingulate Cortex

Aditi Katwala, BS, Iowa City, IA; Brian Mostaert, BS, Iowa City, IA; Linder Wendt, MS, Iowa City, IA; Emma Thayer, BS, Iowa City, IA; Matthew R. Hoffman, MD PhD, Iowa City, IA; Doug Van Daele, MD, Iowa City, IA

Educational Objective: At the conclusion of this presentation, the participants should be able to appreciate that vocalization is a complex process that requires contribution from many brain regions, including subcortical regions such as the amygdala, insula, and anterior cingulate cortex.

Objectives: There are several brain regions that contribute to vocalization such as laryngeal motor cortex, premotor cortex, and supplementary motor area, but secondary areas such as the amygdala, insula, and anterior cingulate cortex (ACC) also contribute to voice. Rodents communicate through ultrasonic vocalizations (USV) with simple, harmonic, and frequency modulated (FM) calls and can be used to study contributions of these secondary areas. We report on change in USV following bilateral lesions of the rodent amygdala, insula, and ACC. Study Design: Experimental study on male rodents; each animal served as own control. Methods: Male rats were divided into amygdala (n=2), insula (n=2), and ACC (n=2) cohorts. Call characteristics were measured before and after bilateral ibotenic acid injections (BIAI) in male rats to one of the three structures. A generalized linear mixed model with a random intercept for each mouse to account for inherent between-mouse variability was used for analysis of total calls and each call type for each group. Results: Total calls significantly declined in the amygdala (p=0.033), ACC (p=0.003), and insula groups (p=0.015). Harmonic calls decreased after amygdala lesions. All call types decreased after lesions to the insula and ACC. Call duration did not change. The percentage of harmonic and FM calls

decreased post lesion, indicating decreased call complexity. Conclusions: Results from this small study suggest the amygdala, insula, and ACC are part of the neural pathways which control voice production. Disruptions in this system are associated with decreases in the amount and complexity of vocalizations.

117. Recurrent Bacterial Laryngitis in a Patient with Sinonasal and Laryngeal Sarcoidosis

Keerthi E. Kurian, BS, Elk Grove, CA; Claudia Natalia Gutierrez, MD MS, Charlottesville, VA; James J. Daniero, MD MS, Charlottesville, VA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the workup and treatment of recurrent bacterial laryngitis in sinonasal and laryngeal sarcoidosis.

Objectives: To present a case of recurrent bacterial laryngitis with a suspected sinonasal source in a laryngeal and sinonasal sarcoidosis patient. Study Design: Case report. Methods: The presentation and management of sinonasal and laryngeal sarcoidosis was reviewed via PubMed. The patient's medical record, imaging, and operative reports were reviewed. Results: The patient is a 71 year old male with erosive sinonasal disease, septal perforation, and laryngeal sarcoidosis on hydroxychloroquine who presented with dysphonia secondary to recurrent bacterial laryngitis. Flexible laryngoscopy during these infections typically showed thickened mucus diffusely scattered across the larynx and an edematous, ovoid epiglottis. He was empirically treated with nasal saline irrigation with mupirocin and multiple courses of doxycycline or dicloxacillin for suspected staphylococcal infection with near complete resolution of symptoms between treatment periods. After followup from his prior antibiotic course, a sinonasal swab was obtained to determine MRSA status. This unexpectedly grew Serratia marcescens, susceptible to ciprofloxacin. His next episode of recurrent laryngitis was then empirically treated with ciprofloxacin. At his followup visit, an in-office laryngeal culture was performed which only grew out 2+ mixed aerobic and anaerobic flora indicating clearance of infection. Conclusions: Sinonasal and laryngeal involvement in sarcoidosis is rare (1%), causing recurrent dysphonia, chronic laryngeal edema, and thickened mucus. Superimposed bacterial laryngitis is frequent. This case emphasizes the need for combined sinonasal and laryngeal cultures and treatment due to potential recolonization and atypical bacterial colonization in immunosuppressed patients.

118. Primary Tracheal Chondrocytes Revealed High Colocalization of Nucleic SOX9 and Cytoplasmic Collagen II

Sovannarath Pong, BS MS, Columbus, OH; Lumei Liu, PhD, Columbus, OH; Tendy Chiang, MD, Columbus, OH

Educational Objective: At the conclusion of this presentation, the participants should be able to isolate and culture tracheal chondrocytes to investigate the molecular pathways.

Objectives: Despite success in small animal studies, preventing graft collapse during long segment tracheal reconstruction in larger animal models remains a challenge. SOX9, a transcription factor expressed by tracheal chondrocytes, modulates the synthesis of collagen II (COL2A1), a major extracellular matrix (ECM) protein that contributes to the mechanical property of the tracheal cartilage. For the first time, we aim to define the relationship between SOX9-COL2A1 expression in the airway. Study Design: Airway chondrocytes culture, functional markers, regenerative medicine, animal model. Methods: Native tracheas were harvested from C57BL/6J mice (N=3), digested in 0.30% dispase, 0.20% collagenase, and 0.25% trypsin solution, before additional digestion in 0.20% collagenase II solution. Chondrocytes were subjected to standard cell culture for 5 days and assessed for nuclei and chondrogenic markers SOX9 and COL2A1 via immunocytochemistry. Colocalizations between these markers were analyzed using Manders' Correlation Coefficients (MCC: 0= no co-localization and 1= complete colocalization). Spearman correlations were used to identify the association between SOX9 and COL2A1 intensities. Results: A high degree of colocalization of COL2A1 and SOX9 was observed (mean MCC=0.9903, Sd=0.0076) with SOX9

intensities strongly correlated with increased COL2A1 intensities (r=0.9220, p <0.0001). Increased SOX9 localization of the nuclei had a stronger association with increased overall COL2A1 intensity (r=0.5270, p=0.0070) than when SOX9 localized in both nuclei and cytoplasm (r=-0.0980, p=0.6410). Conclusions: Primary tracheal chondrocytes maintained nucleic SOX9 production, correlating with cytoplasmic COL2A1 production, indicating natural activity and functionality of chondrocytes. Further exploration of SOX9 role in tracheal cartilage ECM hemostasis may provide a potential pathway to improve tracheal allografts.

119. Longitudinal Trends in Opioid Prescriptions among U.S. Sleep Surgeons (2013-2021)

Jasmeet Saroya, BS, San Francisco, CA; Jolie Chang, MD, San Francisco, CA; Amritpal Singh, BS, San Francisco, CA; Megan Durr, MD, San Francisco, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to see patterns and trends of opioid prescriptions among U.S. sleep surgeons.

Objectives: This study examined trends in opioid prescriptions among U.S. sleep surgeons between 2013 and 2021. Study Design: This study was a retrospective analysis of a public database. Methods: We obtained data for 87 sleep surgeons in the CMS part D database and did analysis of the number of opioid beneficiaries, claims, cost, and quantity prescribed over 9 years. Surgeons who graduated residency before the year 2000 (pre-2000) were compared to those who graduated after 2000 (post-2000). Results: There were no significant changes in the number of opioid claims (p=0.78), beneficiaries per provider (p=0.59), and opioid day supply per beneficiary (p=0.49) across the years evaluated. Surgeons in the pre-2000 group prescribed significantly more opioids compared to post-2000, with greater opioid day supply per beneficiary (13.34 vs. 7.42, p less than 0.001), more opioid beneficiaries per provider (21.62 vs. 19.36, p = 0.03), and greater opioid claims per provider (30.30 vs. 21.78, p less than 0.001). A significant annual decrease in opioid cost per beneficiary (ANOVA, p=0.006) was noted. No difference was found in opioid prescriptions based on provider gender, region, or sleep medicine/surgery fellowship status. Hydrocodone acetaminophen (57.8%), acetaminophen codeine (14.4%), and oxycodone acetaminophen (11.6%) were the most prescribed opioid medications. Conclusions: Despite the recent emphasis on opioid reduction and evidence of decreasing postoperative opioid prescriptions in other otolaryngology subspecialties, our findings depict a stable rate of opioid prescriptions among sleep surgeons with higher prescribing rates for more senior surgeons. Multimodal analgesia should be explored as a potential avenue for reducing opioid use in the postoperative management of sleep surgery patients.

120. Adverse Events Associated with Endoscopic Stapling during Repair of Zenker's Diverticulum: A MAUDE Database Analysis

Elizabeth A. Sell, BA, Philadelphia, PA; Owen Parra, BA, Philadelphia, PA; Kush Panara, MD, Philadelphia, PA; Karthik Rajasekaran, MD FACS, Philadelphia, PA

Educational Objective: At the conclusion of this presentation, the participants should be able to review adverse events associated with endoscopic stapling for Zenker's diverticulum, which has been increasingly utilized over the past decade.

Objectives: Treatment of symptomatic Zenker's diverticulum is evolving with the increasing utilization of endoscopic stapling; however, little is known about the nature of mechanical issues associated with stapling during repair of Zenker's diverticulum. Study Design: We performed a retrospective cross-sectional study using the Food and Drug Administration's MAUDE (Manufacturer and User Facility Device Experience) database. Methods: The MAUDE database was searched for all reports involving endoscopic staplers used during repair of Zenker's diverticulum from 2013-2023. Results: There were only 71 adverse events reported during the study period, which were divided into reports involving a patient injury (n = 41, 57.7%) and reports not involving a patient injury (n = 30, 42.2%). The overall most common adverse event associated with stapling was a firing malfunction of the stapler (n = 22, 31.0%). The majority of adverse events reported involved devices manufactured by Johnson & Johnson (n = 25, 35.2%) or Medtronic (n = 6,

8.5%), although neither were associated with a patient death. The most common patient injury reported was bleeding or blood loss (n = 6, 14.6%), followed by injury to surrounding tissues (n = 5, 12.2%) and anastomosis failure (n = 3, 7.3%). Other rare but serious reported patient injuries included perforation (n = 4, 9.8%), hospitalization (n = 3, 7.3%), and death (n = 2, 4.8%). Conclusions: Surgical techniques for the treatment of symptomatic Zenker's diverticulum are constantly evolving. In this study we review adverse events associated with endoscopic stapling, which has been increasingly utilized over the past decade.

121. Quantification of Tracheal Microvasculature Patterns Using a Novel Application of Neural Branching Analysis

Ada C. Sher, BS, Columbus, OH; Lumei Liu, PhD, Columbus, OH; Tendy Chiang, MD, Columbus, OH

Educational Objective: At the conclusion of this presentation, the participants should be able to analyze tracheal microvasculature patterns and density in mice.

Objectives: A barrier to successful tracheal transplantation is poor revascularization. Despite its importance, little is known about tracheal microvascular patterns. Alteration in microvascular pattern (MVP) can cause vessel destruction and fibrosis, resulting in tissue damage and organ failure. Neural branching analysis has been used to assess vasculature branching in different retinopathies. Our aim was to apply a branching quantification program to better understand tracheal microvasculature patterns in whole mount tissue. Study Design: Animal model. Methods: An anesthetized C57BL/6 mouse was tail vein injected with FIT-C tomato lectin. After circulation, tracheas were fixed, harvested, mounted, and imaged with resonant scanning of confocal microscopy. Vessel density was measured in 3 regions: trachealis, intercartilaginous, and cartilage regions. MVP was assessed with the Sholl analysis-a method of visualizing neural morphology and vascular distribution. Intersections were quantified on confocal images at 7 intercartilaginous branching points 500-800µm lateral to the trachealis with a step size of 4µm and a radius of 200µm. Intersections at each step size were then measured. Results: Trachea MVP demonstrated a mixture of mesh and hierarchical distribution. Intercartilaginous segments, where tracheoesophageal arteries enter, had the highest vessel density followed by the trachealis muscle region and then cartilage rings. Intercartilaginous region branching areas had a maximum number of intersections of 22 +/- 1.9 which occurred at 170 +/- 13µm from the central branch point with an average of 12 +/- 0.97 intersections per 4µm step. Conclusions: We provided native distribution of microvascular patterns in whole mount native trachea. This will be used as a standard control for the regeneration of tissue engineered tracheal grafts.

122. Barriers to Positive Airway Pressure Alternatives for Adult Obstructive Sleep Apnea Treatment: A Scoping Review

Amritpal Singh, BS, San Francisco, CA; Amrita Bhat, BS, San Francisco, CA; Jasmeet Saroya, BS, San Francisco, CA; Jolie Chang, MD, San Francisco, CA; Megan Durr, MD, San Francisco, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to identify barriers associated with positive airway pressure (PAP) alternative treatment options for adult obstructive sleep apnea.

Objectives: To investigate the sociodemographic and healthcare system barriers to access and utilization of PAP alternative treatments in the management of adult obstructive sleep apnea (OSA). Study Design: Scoping review. Methods: PubMed, Embase, and Web of Science databases were searched and assessed from 2003 and 2023 using the PRISMA extension for scoping reviews. Inclusion criteria involved: English language studies containing original data on sociodemographic and healthcare system barriers to PAP alternative treatments for adult OSA. Title and abstract screening, full text review, and data collection were conducted by two investigators independently. Results: Out of 1,955 studies, 13 studies met inclusion criteria and reported on a total of 1,178,500 patients who received PAP alternative treatments, including surgery (n = 10), and oral appliances (OAs) (n =3). The chance of receiving a PAP alternative treatment

was greater among patients who were of age 29 years or younger, had body mass index below 30, fewer comorbidities, private insurance, and a higher occupational and income status. Patients diagnosed at institutions serving rural or minority populations received fewer referrals for surgery or OAs. The decision of individuals to receive PAP alternative treatments was influenced by increased patient education from providers, as well as improvements in daytime sleepiness and partner perception of snoring and apnea. Conclusions: Some of the included studies were retrospective or had qualitative findings, which may introduce biases. Cumulative evidence suggests that social and healthcare system factors may hinder OSA patients from accessing non-PAP treatments. Investigation of potential interventions to eliminate these barriers may improve access and treatment outcomes.

123. Biological Impact of Estrogen on the Stromal Compartment of the Proximal Airway Mucosa

Edward Ryan Roxas Talatala, BS, Nashville, TN; Evan Clark, BS, Nashville, TN; Wenda Ye, MD, Nashville, TN; Quanhu Sheng, PhD, Nashville, TN; Alexander Hillel, MD, Baltimore, MD; Alexander Gelbard, MD, Nashville, TN

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the effects of estrogen exposure on stromal cells from idiopathic subglottic stenosis patients.

Objectives: Idiopathic subglottic stenosis (iSGS) is an unexplained progressive fibrosis of the upper airway that almost exclusively affects women. As a result, estrogen has been proposed to participate in the pathogenesis of iSGS. Our aim was to determine the effects of estrogen exposure on stomal cells (epithelial cells, fibroblasts, and endothelial cells) isolated from scar biopsies from iSGS patients. Study Design: Ex vivo and in vitro studies. Methods: Biologically distinct iSGS airway scars (n=3) were digested into single cell suspensions, then were left untreated or stimulated with17β estradiol (E2) for 6 hours. Single cell RNA sequencing investigated alterations in the molecular phenotype of the constituent cells of iSGS airway scar after E2 exposure. In vitro experiments with established airway fibroblast, epithelial, and endothelial cell lines confirmed molecular, protein, and phenotypic changes in the stomal compartment after E2 exposure. Results: E2 stimulation of iSGS scar fibroblasts did not alter molecular or protein levels of extracellular matrix (ECM) components. E2 exposure of epithelial cells did not result in significant phenotypic changes to epithelial resistance (a marker for epithelial integrity). E2 stimulation of endothelial cells appears to promote angiogenesis in vitro. Conclusions: E2 exposure does not appear to impact local fibroblast ECM production or epithelial cell barrier function. E2 does appear to promote angiogenesis within in vitro model systems. These results provide the foundation for future work interrogating how hormone dependent mechanism promote, sustain, or participate in iSGS disease pathogenesis.

124. Progressive Laryngeal Myxedema in a Patient with Vocal Fold Paralysis and Hypothyroidism: A Case and Review of Current Literature

Sharanya M. Thodupunoori, BS, Chicago, IL; Brandon J. Baird, MD, Chicago, IL

Educational Objective: At the conclusion of this presentation, the participants should be able to define laryngeal myxedema, identify varying clinical symptoms of this condition and why to include it in differential diagnoses, and understand the available treatment options and importance of treatment adherence.

Objectives: To describe a case of vocal fold paralysis and laryngeal myxedema secondary to severe hypothyroidism in a patient due to medication noncompliance and to summarize related literature. Study Design: Case report and literature review. Methods: Clinical information was gathered from the medical record including presentation, comorbidities, stroboscopy findings, and medication information. A literature review of articles in English was performed. Search terms used included “myxedema”, “laryngeal myxedema”, “supraglottic myxedema”, etc. Articles which were excluded included those in other languages. Results: The patient had total thyroidectomy and selective neck dissection for papillary

thyroid cancer complicated by a right vocal fold immobility. Postoperatively, was noncompliant with thyroid supplementation and developed severe hypothyroidism which presented as progressive dyspnea due to laryngeal myxedema. Thyroid function tests revealed severe hypothyroidism. Tracheostomy was performed. After 2 weeks of thyroid supplementation, the patient's symptoms significantly improved along with his thyroid hormone levels. He was ultimately decannulated safely. Literature search revealed 11 previous cases of laryngeal myxedema where the cause of swelling is clear. Of the 11 studies, 4 were related to noncompliant hypothyroidism. 8 patients underwent tracheostomy for airway protection. All patients were given levothyroxine treatment. Intravenous administration resulted in decreased ventilator time. Benefits of steroid treatment remain unclear. Conclusions: This case appears to be the only noncompliant laryngeal myxedema case with concurrent vocal fold paralysis. Tracheostomy may be necessary to prevent complete obstruction, while awaiting effect of thyroid supplementation. Therapy adherence in hypothyroid patients or post thyroidectomy patients may prevent this complication.

125. Effects of Hypoglossal Nerve Stimulation Procedure versus Continuous Positive Airway Pressure on Cardiovascular Diseases and Medications

Nguyen Minh Truong, BS, Hershey, PA; Bao Y. Sciscent, BS, Hershey, PA; Hanel W. Eberly, BS, Hershey, PA; F. Jeffrey Lorenz, MD, Hershey, PA; David Goldrich, MD, Hershey, PA; Neerav Goyal, MD MPH, Hershey, PA

Educational Objective: At the conclusion of this presentation, the participants should learn that hypoglossal nerve stimulation therapy is beneficial in significantly reducing the risk of new onset of cardiovascular comorbidities and associated medication usage.

Objectives: The objective of this study is to analyze the prevalence of cardiovascular conditions and associated medication usage in obstructive sleep apnea (OSA) patients after hypoglossal nerve stimulation (HNS) procedures compared to continuous positive airway pressure (CPAP). Study Design: Retrospective cohort study. Methods: TriNetX, a national deidentified database, was used to identify patients with OSA who underwent HNS (cohort 1) or CPAP (cohort 2) using ICD-10 and CPT codes. Outcomes assessed include cardiovascular comorbidities and related medication usage. Results: After propensity score matching, there were 977 patients in CPAP vs HNS cohort with mean age of 61.5 plus or minus 11.0. Compared to CPAP, HNS group showed two folds decrease in risk of developing new coronary artery disease (5.70% vs 10.40%), chronic ischemic heart disease (4.60% vs 9.30%), hypertension (9.30% vs 20.10%), atrial fibrillation (4.10% vs 10.50%), and hyperlipidemia (6.30% vs 19.10%). Comparing HNS with CPAP, we found two folds decrease in new usage of loop diuretics (2.90% vs 9.00%) and beta blockers (9.50% vs 18.40%), with slightly less decrease in usage of calcium channel blockers (5.90% vs 9.80%) and cholesterol medications (9.20% vs 13.50%). All reported data showed statistically significant difference between two cohorts (p less than 0.05). Conclusions: Both CPAP and HNS are beneficial treatments for sleep apnea. However, compared to patients receiving CPAP, those who received HNS had a lower risk of developing new cardiovascular comorbidities and associated medication usage.

126. Predictors of Successful Decannulation in Patients with Tracheostomy and Peristomal Subglottic Stenosis

Nader Wehbi, BS, Tucson, AZ; David Ahmadian, BS, Tucson, AZ; Helena T. Yip, MD, Tucson, AZ

Educational Objective: At the conclusion of this presentation, the participants should gain insights into patient characteristics that may help predict decannulation in peristomal subglottic stenosis.

Objectives: Peristomal subglottic stenosis (SGS) is a common sequela after tracheostomy. Severe cases can preclude decannulation. Predictors of successful decannulation after intervention in these patients have been described in only one previous study. Our aim was to investigate patient characteristics that may predict successful decannulation. Study Design: Retrospective case series of 23 patients presenting to the senior author from 2018 to 2022 with tracheostomy and peristomal subglottic stenosis precluding

decannulation in an academic tertiary care center. All patients were treated with multiple endoscopic procedures initially with a few undergoing open procedures. Methods: We investigated patient characteristics including age, comorbidity score, BMI, gender, history of respiratory disease or diabetes mellitus, grade of stenosis, and presence of tracheomalacia or granulation tissue. Statistical analyses were performed to assess significance. Results: A total of 23 patients were included, with 8 (34.8%) achieving decannulation. None of our investigated factors showed statistical significance. However, valuable trends were observed. Notably, patients with diabetes mellitus experienced higher rates of decannulation failure (p=.221). 75% of successfully decannulated patients had stenosis characterized by granulation tissue, as opposed to a firm scar. 75% of successfully decannulated patients were men, while only 33% of patients who failed decannulation were men (p=0.071). Conclusions: In the treatment of tracheostomy dependent patients with high grade SGS, further studies are needed to elucidate predictors of success of decannulation.

127. Characterizing Laryngopharyngeal Reflux in Patients with World Trade Center Exposure

Catherine Yu, BA, New York, NY; Horacio Romero Castillo, MA, New York, NY; Mathilda Alsen, MPH, New York, NY; Kalena Liu, BS, New York, NY; Maaike van Gerwen, MD PhD, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to assess the prevalence of laryngopharyngeal reflux (LPR) in patients with World Trade Center (WTC) exposure and the initial symptoms or medical history associated with this diagnosis.

Objectives: To assess larynx related diagnoses of WTC exposed patients presenting to the department of otolaryngology of a major metropolitan health system. Study Design: This retrospective review includes patients who had the World Trade Center Health Program (WTCHP) listed as the payer for received medical service and were seen in the department of otolaryngology-head and neck surgery of a major metropolitan health system between January 1, 2010, and May 31, 2022. Methods: Medical charts were retrospectively reviewed and data analysis was completed in Microsoft Excel version 16.54. Results: From 2010 through May 2022, 3118 WTC exposed patients presented to our department. A subset of 1000 patients was characterized in this preliminary study. The mean age on September 1, 2001, was 39 years. The study population was predominantly male (79.0%) and most participants were never smokers (60.9%). Laryngopharyngeal reflux (LPR) was diagnosed in 29.5% of the study population. 17.3% of LPR patients reported reflux symptoms, including difficulty swallowing, hoarseness, and sore throat. Men did not have a higher odds of being diagnosed with LPR than women (OR 0.79; 95% CI, 0.58 to 1.08). A previously diagnosed comorbidity of GERD (OR 1.14; 95% CI, 0.87 to 1.50) or asthma (OR 0.89; 95% CI, 0.68 to 1.17) was not associated with higher odds of being diagnosed with LPR. Conclusions: To our knowledge, this is the first report of larynx specific complaints of WTC exposed patients in a major metropolitan health system. Future studies are needed to investigate any causal link between WTC exposure and the development of LPR and associated diagnoses.

OTOLOGY/NEUROTOLOGY

128. Cochlear Implantation in Post-Meningitis Deafness: Audiological, Imaging, and Postoperative Outcomes - A Systematic Review with Qualitative Synthesis

David Ahmadian, BS, Tucson, AZ; Kurtis Young, MD, Las Vegas, NV; Charles Gallego, BS, Tucson, AZ; Mia Miller, MD, Los Angeles, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the current state of the clinical literature with regards to the postoperative outcomes for cochlear implantation in patients with post-meningitis deafness.

Objectives: One of the feared complications of meningitis is sensorineural hearing loss. There exists debate as to the long term efficacy of cochlear implantation (CI) in patients with post-meningitis deafness (PMD), and the impact of cochlear ossification (CO) and time to implantation (TTI). We thus investigated

the current literature regarding outcomes for CI in PMD. Study Design: Systematic review with qualitative synthesis. Methods: An online search was performed within the last 20 years on articles related to CI following PMD. Cohort studies with a control arm were included. Studies with less than 5 patients or lacking a control group, as well as systematic reviews, were excluded. 8325 articles were identified. After duplicate removal, title screening, abstract screening, and full text review, 11 articles were included in the final analysis. Results: Amongst the 11 articles, there were 355 patients. 7 articles discussed pediatric patients, 3 discussed pediatric/adult patients, and 1 discussed solely adult patients. In nearly all studies, patients derived postoperative audiological benefit following CI, although patients with PMD generally performed worse compared to control groups. 3 of the 4 studies discussing TTI demonstrated that reduced TTI was associated with improved outcomes. 4 of the 6 studies discussing the impact of CO demonstrated that the presence of ossification was associated with poorer speech and device outcomes. Overall prevalence of CO or labyrinthitis ossificans (LO) was 33.6%, and postoperative complication rate was 6.9%. Conclusions: CI is a safe and effective treatment modality for PMD, with the majority of literature demonstrating improved long term outcomes for patients without CO and a reduced TTI.

129. CO2 Laser Myringoplasty for Tympanic Membrane Atelectasis

Rohini R. Bahethi, MD, Newark, NJ; Sujana Chandrasekhar, MD, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the technique of laser myringoplasty, its uses and benefits to specific patient populations.

Objectives: Tympanic membrane atelectasis can result from middle ear dysfunction and poor aeration. Laser myringoplasty is an emerging, less invasive technique to treat atelectatic tympanic membrane (TM) segments, with minimal recovery time. Similar to cutaneous wrinkle resurfacing, defocused laser energy to the TM 'tightens' the ballooned out portions of the TM. We aim to assess the utility of laser myringoplasty as a technique to treat tympanic membrane atelectasis. Study Design: Case series. Methods: CO2 laser myringoplasty cases from one surgeon of a period of three years were reviewed. Preoperative and postoperative audiograms were obtained as well as relevant history and surgical factors. Results: Five patients and six ears were included. Four patients were female and 1 was male. Four patients had a history of myringotomy tube (MT) placement and two patients had risk factors for barotrauma. The most common otologic comorbidities were eustachian tube dysfunction and chronic otitis media present in 3 and two patients, respectively. The average air bone gap preoperatively was 13.4 and postoperatively was 8. Additional procedures at the time of surgery included eustachian tube dilation in 4 patients, intratympanic dexamethasone injection in 4 patients and MT placement in 2 patients. Postoperatively, all patients demonstrated improvement in their TM appearance. One patient had a self-limited TM perforation after surgery. Conclusions: CO2 laser myringoplasty is a safe and effective technique to improve atelectatic TM segments that may contribute to conductive hearing loss. Concurrent myringotomy is not necessary to achieve good results. Treatment of eustachian tube dysfunction, if present, is a helpful adjunct to this procedure.

130. Surgical Site Flexibility: A Comparison of Transmastoid and above Temporal Line Bonebridge Implantation for Pediatric Patients

Kaitlyn A. Brooks, MD, Atlanta, GA; Anastasia Kolousek, BS MA, Atlanta, GA; Erin K. Holman, AuD, Atlanta, GA; Kevin D. Brown, MD PhD, Chapel Hill, NC; Kristan P. Alfonso, MD, Atlanta, GA; Nandini Govil, MD MPH, Atlanta, GA

Educational Objective: At the conclusion of this presentation, the participants should be able to describe above temporal line Bonebridge implantation and its efficacy and complications in pediatric patients.

Objectives: To compare surgical technique and outcomes of above temporal line (ATL) and transmastoid Bonebridge implantation for pediatric patients. Study Design: Retrospective cohort. Methods: Patients implanted with Bonebridge from 2019 - 2023 at a tertiary care institution were included. ATL implantation

consisted of a horizontal incision at the temporal line followed by cortical drilling to middle cranial fossa dura for floating mass transducer placement. Primary outcomes were post-implantation monaural speech recognition threshold (SRT), binaural Speech-In-Noise testing (SINT), and perioperative complications. Wilcoxon Signed Rank and chi-square analyses were performed; significance was set at 0.05. Results: Forty-one patients (median age 11.3 years) received 53 implants. Thirty-nine (74%) and 14 (26%) implants were placed via ATL and transmastoid approaches. Lifts were utilized in 8 (57%) transmastoid and 13 (33%) ATL placements (p=0.20, 95% CI 0.76 - 9.31). Median SRT improved from 52.5 dB to 25 dB after ATL implantation (p<0.001, Z=-3.6). ATL implantation was associated with lower SRT (median 25 dB) than transmastoid implantation (median 32.5 dB) (p=0.04, Z=-2.10). Aided SINT scores were significantly improved for speech presented 0-degree azimuth (p=0.03, Z=-2.22) and 90 degree azimuth (p<0.01, Z=-2.22) when compared to unaided SINT. Postoperative complications for ATL approaches included hematoma in 2 cases (5%) and dural injury requiring intraoperative repair in 1 case (2.6%). Median followup time was 3.6 months (IQR 1.3 - 9.6 months). Conclusions: Implantation site flexibility is a strength of the Bonebridge system. Above temporal line implantation is appropriate for pediatric patients, has promising audiologic outcomes, and an acceptably low complication rate.

131. Sebaceous Carcinoma of the Middle Ear

Michael Scott Castle, MD, Rochester, NY; Shalini Shaw, BS, Rochester, NY; Ellen Giampoli, MD, Rochester, NY; Margaret Louise Compton, MD, Nashville, TN; Rachel Roditi, MD, Boston, MA; Paul Dutcher, MD, Rochester, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the pathophysiology, epidemiology and reasonable treatment options for this rare tumor of the ear.

Objectives: Using a case to highlight the epidemiology, pathophysiology and treatment options of this rare presentation of an aggressive tumor of the ear and lateral skull base. Here we present the first documented case of the middle ear and lateral skull base. A 60 year old female presented with right sided ear pressure, decreased hearing, and occasional pulsatile tinnitus who was found to have a soft tissue mass in the right mesotympanum, hypotympanum and inferior portion of Prussak's space. The patient underwent tympanomastoidectomy for presumed paraganglioma. Intraoperatively, the tumor did not have gross features of a paraganglioma. Final pathology revealed sebaceous carcinoma. One month later her disease recurred along the eustachian tube and lateral skull base. She ultimately underwent chemoradiation and is now 10 years without disease recurrence. Study Design: Retrospective chart review and review of the literature. Methods: We conducted a retrospective chart review of relevant medical and surgical events relating to this patient's history. We then performed a comprehensive literature search and review using "sebaceous carcinoma", "temporal bone", "ear", "middle ear", and "lateral skull base" as keywords. Results: Treatment of sebaceous carcinoma of the temporal bone was confined only to case reports. Of the reported cases, two patients received postoperative radiotherapy and one received radiation following local recurrence. One died of their disease, one had local recurrences and died of suicide, and one was lost to followup. Conclusions: We present the first reported case of sebaceous carcinoma of the middle ear. In our case, chemoradiation achieved full remission. More studies are needed to optimize treatment protocols, but surgical resection followed by chemoradiation may be a viable treatment modality.

132. Comparison of Stapedotomy Outcomes between Congenital Stapes Footplate Fixation and Otosclerosis

Robert M. Conway, DO, Farmington Hills, MI; Zaid Shareef, DO, Madison Heights, MI; Seilesh C. Babu, MD, Farmington Hills, MI

Educational Objective: At the conclusion of this presentation, the participants should be able to acknowledge how outcomes of stapedotomy in congenital stapes footplate fixation compare to those in

otosclerosis.

Objectives: To evaluate the audiologic outcomes of stapedotomy for congenital stapes footplate fixation (CFF) in comparison to otosclerosis. Study Design: Retrospective chart review. Methods: Patients were separated into groups with either had congenital stapes footplate fixation or otosclerosis based on the beginning of hearing loss. The CFF group included patients that had symptoms since childhood. Audiologic outcomes and complications were compared between the two groups. Results: Five hundred and eighty-eight stapedotomy procedures were evaluated. There were 568 in the otosclerosis group and 20 in the CFF group. Both groups had significant improvement in their pure tone average (PTA), mean bone conduction (BC) thresholds, and air bone gap (ABG) ($p<0.05$). There was no difference in pre or postoperative audiologic status between the two groups. Successful ABG closure to less than 10 dB occurred in 73.4% of otosclerosis patients and 70.0% of CFF patients. There were no patients with profound hearing loss in the CFF group. Conclusions: There was significant audiologic improvement for both the CFF group and otosclerosis group after stapedotomy. There was no difference pre or postoperatively in the audiologic status of the two groups. CFF patients get a significant improvement in audiologic status after stapedotomy that is comparable to their otosclerosis counterparts.

133. Middle Ear Angiofibroma: A Novel Otologic Pathology

Amanda C. Del Risco, BA, Durham, NC; Hunter L. Elms, MD, Durham, NC; Steven J. Eliades, MD PhD, Durham, NC

Educational Objective: At the conclusion of this presentation, the participants should be able to describe and characterize a novel anatomic presentation of a rare head and neck tumor.

Objectives: Angiofibromas are rare head and neck neoplasms, with the majority originating from the nasopharynx. To date, there is one described otologic manifestation of this tumor in the external ear. Here, we present a novel case of a middle ear angiofibroma presenting as a vascularized mass herniating the tympanic membrane laterally into the external auditory canal. Study Design: Case report. Methods: Retrospective case review of a single patient chart was performed. Results: A 42 year old diabetic female presented with progressive conductive hearing loss and an extruding left ear canal mass with an overlying epithelial layer. In-office biopsy was aborted because of bleeding. Computed tomography demonstrated EAC and middle ear opacification without bony erosion. MRI showed a solid, T1 contrast enhancing mass occupying the middle ear, eustachian tube, and medial EAC with T2 fluid signals in the attic, mastoid, and lateral EAC. Operative examination and biopsy via postauricular and transcanal approaches were performed. The mass was pulsatile and covered by displaced TM without EAC attachments. Incisional biopsy resulted in profuse bleeding. With a vascular tumor identified on frozen section, the case was aborted. Final pathology demonstrated angiofibroma. Conclusions: Extranasopharyngeal angiofibromas are extraordinarily rare, with only one prior case report of an otologic presentation described. To date, this represents the first description of such a tumor originating from the middle ear.

134. NO POSTER

135. Seborrheic Keratosis of the External Auditory Canal: An Evidence Based Approach

Amir A. Hakimi, MD, Washington, DC; Isabel Snee, BS, Washington, DC; Corinne Pittman, MD, Washington, DC; James Dixon Johns, MD, Washington, DC; Selena E. Briggs, MD PhD MBA FACS, Washington, DC

Educational Objective: At the conclusion of this presentation, the participants should be able to recognize presenting symptoms, diagnostic testing, and management for seborrheic keratosis of the external auditory canal (EAC).

Objectives: To perform an evidence based review evaluating the presenting symptoms, diagnostic tools,

and management of seborrheic keratosis involving the EAC. Study Design: Systematic review. Methods: A systematic approach following PRISMA reporting guidelines was used to identify publications pertaining to seborrheic keratosis of the EAC from three databases. The primary outcomes extracted from included publications include presenting symptoms, diagnostic testing, management strategies, and recurrence rate. Results: A total of 18 studies met inclusion criteria, describing 24 patients and 25 EACs with seborrheic keratosis (one patient had bilateral disease). The most common presenting symptoms included a notable mass involving the EAC (n=13, 52%), otorrhea (n=7, 28%), and decreased hearing (n=6, 24%). An incisional biopsy was performed in 11 cases (44%) for diagnostic purposes. Most lesions were treated via surgical excision (n=21, 84%) or electrocautery (n=2, 8%). Final histopathology demonstrated malignant transformation to squamous cell carcinoma among two cases (8%) and basal cell carcinoma in one case (4%). There were five cases (26%) of tumor recurrence among the 19 cases which reported follow up. Both cases treated with electrocautery alone were found to have recurrence at followup. Conclusions: While usually benign, seborrheic keratosis has a propensity for malignant transformation. Incisional biopsy can help narrow the differential diagnosis and aid management. Surgical excision may lessen the risk of tumor recurrence.

136. Assessing the Impact of the Over the Counter Hearing Aid Category on Hearing Accessibility

Bethany Ho, BA, Nutley, NJ; Ezra Schneier, BA, Nutley, NJ; Andreja Radevic, BS, Nutley, NJ; Nihal Sriramaneni, BS, Nutley, NJ; Jasneet Kaur, MD, Garfield, NJ; Brian Benson, MD, Hackensack, NJ

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the economic impact of over the counter hearing aids and importance of patient education on hearing treatment.

Objectives: On August 16, 2022, U.S. Food and Drug Administration established a new category of over the counter (OTC) hearing aids that applies to certain air conduction hearing aids intended for people 18 years of age and older who have perceived mild to moderate hearing impairment. This new ruling aims to provide patients with perceived mild to moderate hearing loss with improved access to hearing aids that are less expensive than current options. This study aims to evaluate the impact of this new category on patient uptake of hearing aids and to assess the factors that continue to pose significant barriers to the treatment of hearing loss. Study Design: Cross-sectional survey study. Methods: This study is a survey study of Medicare patients with a diagnosis of hearing loss and received referrals to either otolaryngology or audiology between January and December 2022. The online survey was sent to 317 patients across one health network. Participants completed a novel survey composed of 20 questions designed to evaluate perception of hearing aids including over the counter and prescription hearing aids, level of patient education about hearing aids, and barriers to hearing treatment. Results: Within the first two weeks of distribution, 19 participants completed the survey, yielding a 6% response rate. Preliminary results demonstrate 63% of participants have not had a discussion with their primary care physician about the benefit of hearing aids. 26% do not know how to get hearing aids if they wanted to obtain them. 37% have not seen a hearing specialist. While 32% report cost as a significant barrier to obtaining hearing aids, 21% did not know over the counter hearing aids were available. 37% reported that the availability of over the counter hearing aids make them more likely to obtain and use hearing aids. Of note, 16% reported that hearing aids are not affordable for them despite the availability of over the counter hearing aids for the lowest price of about $200. Other barriers including physical discomfort, ill fitting devices, and stigma also impacts attitudes towards hearing aids. Conclusions: Patient education plays an important role in treating hearing loss. Despite receiving a diagnosis with hearing loss, a majority of patients have not discussed treatment options with their primary providers. Although these patients were referred to an otolaryngologist or audiologist, a significant minority did not followup. This loss to followup and lack of discussion regarding hearing treatment may explain how a significant minority do not know how to obtain hearing aids or were unaware of the availability of over the counter hearing aids. We demonstrate a gap in patient education and followup care which are areas of opportunity for system changes such as automatic

generation of education materials or electronic followup for referrals. In addition, while over the counter hearing aids may provide an entry point for patients with mild to moderate hearing loss, it is still cost prohibitive to some patients. Followup is needed to assess long term impact on hearing treatment. It is important to remember that continuous patient followup and developing direct patient provider relationships help improve patient outcomes regardless of the use of over the counter hearing aids.

137. Incidence, Risk Factors, and Prognosis of Delayed Facial Nerve Palsy after Vestibular Schwannoma Resection: A Systematic Review

Ashton Huppert Steed, BS, Phoenix, AZ; Katie Riordan, BS, Tucson, AZ; Melissa Papuc, BS, Phoenix, AZ; Alma Jukic, BA, Phoenix, AZ; Pedro Aguilar, MD, Tucson, AZ; Peter Nakaji, MD, Phoenix, AZ

Educational Objective: At the conclusion of this presentation, the participants should be able to 1) recognize the variation in definitions of DFNP across the existing literature; 2) understand the incidence and recovery prognosis of DFNP; and 3) recognize the need for a unified definition of DFNP in order to better characterize incidence and risk factors going forward.

Objectives: Delayed facial nerve palsy (DFNP) is a complication of microsurgical resection of vestibular schwannoma (VS). This study aims to clarify the definition and incidence of DFNP, as well as long term CN VII prognosis in affected patients. Study Design: Systematic review. Methods: A systematic literature search was conducted according to PRISMA guidelines. Full text publications were included if they reported DFNP incidence, CN VII prognosis, demographic data, and how the authors defined DFNP. Results: Ten studies with 2122 patients who underwent surgical resection for VS were included. Definitions of DFNP varied widely; 4 studies utilized a broad definition of DFNP, without requiring any specific level of change in House-Brackmann (HB) grade in the postoperative period. Two studies defined DFNP as deterioration of CN VII function by at least one HB grade, and an additional four studies defined DFNP as deterioration of CN VII function by at least two HB grades. 304 patients developed DFNP, with an overall incidence of 14.3%. The rate of recovery to HB grade I or II was 88.2%. The mean time to onset of DFNP was 7.5 days, and the mean time to recovery was 33 days. Conclusions: Given the heterogeneity in definitions of DFNP, it remains challenging to determine the true incidence. Overall, the prognosis of CN VII function after DFNP was favorable with 88% of patients regaining function to HB grade I or II. Grading DFNP by degree of severity (decrease of HB by 1, 2, or greater than 2) would improve studies of this entity.

138. Cochlear Fracture: An Unusual Complication in Cochlear Implantation

Hayyam Masiyev, MD, Baku, Azerbaijan; Yusif Hajiyev, Galveston, TX (Presenter); Taha Elkhatroushi, MD, Istanbul, Turkey; Tajaddin Muradov, MD, Baku, Azerbaijan

Educational Objective: There have been no reported cases in the literature of cochlear fracture resulting from electrode misplacement during cochlear implantation. This case report aims to present this rare complication, discuss appropriate management and potential mechanisms, and propose preventive measures to avoid such a devastating outcome.

Objectives: This case report aims to present this rare complication, discuss appropriate management and potential mechanisms, and propose preventive measures to avoid such a devastating outcome. Study Design: Clinical case report. Methods: A 55 year old man presented with a misplaced electrode in the internal auditory canal and a subsequent cochlear fracture, which resulted in a cerebrospinal fluid (CSF) gusher after implantation. Results: The fractured part of the promontory was reconstructed using glass ionomer cement, and the electrode was then cautiously reinserted through a linear axis toward the centerline of the scala tympani. The round window was sealed with temporalis muscle, which resolved the CSF gusher intraoperatively. Transorbital radiography confirmed proper electrode placement within the cochlea, and neural response telemetry (NRT) and impedance measurements were normal. Lumbar drainage was performed due to serous fluid discharge on postoperative day 1, and it was set to drain 15 cc per hour for the first 3 days, which successfully treated the discharge postoperatively. Conclusions:

This rare case describes the management of a misplaced electrode array resulting in subsequent cochlear fracture. The decision was made to remove the old electrode to avoid additional injury to the structures within the IAC. Intraoperative imaging played a vital role in confirming the correct placement of the new electrode.

139. Is Video Interpretation Compromising Care for the Hearing Loss Population?

Julianna Mastropierro, BA, Boston, MA; Alyssa Heiser, MD, Boston, MA; Kathryn Noonan, MD, Boston, MA

Educational Objective: At the conclusion of this presentation, participants should be able to understand the differences that exist between virtual and in-person methods of interpretation for patients with hearing loss and the impact on patient and provider satisfaction, cost, and encounter efficiency.

Objectives: Limited data exist comparing different forms of interpretation for patients with hearing loss. This population often relies on visual cues, lipreading and/or total communication which may be hindered by remote services. We examine if differences exist in patient and provider satisfaction, cost, and encounter efficiency between virtual and in-person methods of interpretation in the hearing loss population. Study Design: Prospective, randomized controlled trial. Methods: This is a prospective, randomized controlled trial of patients (N=52) with moderate to severe bilateral hearing loss, limited English proficiency, and primary language of Mandarin or Cantonese. Patients were randomized to either in-person or virtual interpretation conditions. Patient satisfaction with interpretation was measured using an 8 item Likert scale that assessed communication, efficiency, and quality of the encounter. Provider satisfaction was measured using a 1 item Likert scale. Time, cost, and communication difficulty were measured and compared. Results: Patient and provider Likert scale scores were significantly higher with in-person interpretation (median score 5 for communication and efficiency, $p<0.024$) compared to virtual interpretation (median score 4 for communication and efficiency), while quality of the encounter remained the same. There was no significant difference in the length of encounters between groups or in the number of times patients asked the interpreter to repeat themselves. A difference in cost existed for in-person interpretation ($29) compared to video interpretation ($24.50) services for an average length appointment. Conclusions: Patients and physicians reported higher overall satisfaction with in-person compared to virtual interpretation services. Despite higher costs, in-person interpretation yielded better comprehension and patient satisfaction in the hearing loss population.

140. Review of Tinnitus Clinical Trials: Past Trends and Future Opportunities

Najva Mazhari, MD, Orange, CA; Joshua K. Kim, BS, Durham, NC; Karen Tawk, MD, Orange, CA; Mehdi Abouzari, MD PhD, Orange, CA; Hamid R. Djalilian, MD, Orange, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to elaborate on the interventions, reported outcomes, trends, and gaps in the tinnitus related clinical research landscape.

Objectives: This study evaluates tinnitus related clinical trials in clinicaltrials.gov to identify research themes, interventions, trends over time, and outcomes reporting. Study Design: Systematic review of clinical trials. Methods: A review of past and present clinical trials was performed by searching “tinnitus” in clinicaltrials.gov. Studies that were suspended, withdrawn, or not yet recruited were excluded. Results: A total of 233 clinical trials met the inclusion criteria of which 175 (75.1%) were already completed. The average number of participants and study duration were 152 +/- 28 subjects and 28 +/- 22 months, respectively. Most trials were interventional (90.1% vs. 9.9% observational) and randomized (74.5% vs. 25.5% non-randomized). The primary outcome measures were tinnitus functional index or tinnitus handicap inventory in 50.4% of the projects. Only 40.3% of studies were based in the U.S. without significant changes from 1999-2014 to 2015-2022 (40.4% vs. 39.6%, $p=0.91$). The average number of participants, study duration, randomization, and intervention have not significantly changed between

these two time periods (all p values greater than 0.05). Study intervention commonly included devices (33.5%), drugs (22.3%), and behavioral therapy (15.0%). The breakdown of studied interventions has significantly changed over time (p=0.01) with a decrease in drug studies (25.6% vs. 13.8%) and an increase in device studies (12.8% vs. 24.1%). Of the 175 completed studies, only 37 (21.1%) had published their results on the clinicaltrials.gov website. Conclusions: Tinnitus clinical trials are numerous and include a variety of interventions and international populations. The ratio of behavioral over drug studies is increasing over time. More completed studies need to report their findings on clinicaltrials.gov.

141. Atypical Presentation of a Rare Chorda Tympani Schwannoma and Review of the Literature

Faris Mirza, MD, Augusta, GA; Samantha Newman, BS, Augusta, GA; Nicholas Drury, MD, Augusta, GA; Diana Bigler, Augusta, GA; Mohammad Seyyedi, MD, Augusta, GA

Educational Objective: At the conclusion of this presentation, the participants should be able to identify the various clinical presentations for chorda tympani schwannomas as well as the general approach to diagnosis and management.

Objectives: Chorda tympani schwannomas (CTS) are rare, benign tumors. Due to their novelty, few cases are reported and no consensus on presentation and management. The aim of this study is to describe an unusual presentation of CTS and its management. Study Design: Case report and literature review. Methods: We report a CTS in a 51 year old female referred to us for abnormal findings in the ear exam following an ear infection. The literature review was performed using “chorda tympani schwannoma” in PubMed and Google Scholar. Inclusion criteria was literature containing confirmed cases of CTS. Results: CTS presents a challenging diagnosis as it mimics other middle ear pathologies. The literature reveals 23 cases of CTS since its discovery in 1969. Hearing loss is the most common symptom, interestingly not observed in our patient. None of the patients in the review reported taste disturbance. There is no predilection for sex, age, or laterality. The diagnostic approach varies, and imaging primarily demonstrates nonspecific findings. Tumors are excised with postauricular transmastoid or transcanal approaches, with or without ossicular chain reconstruction. Intraoperatively, our patient had a round, approximately 4X4 mm pinkish white mass, in the middle ear space, lateral to the incus. It was removed with transcanal approach. She experienced no ossicular chain disruption or tympanic membrane perforation. Direct comparison of these outcomes has not been conducted. Conclusions: CTS should be considered in the differential diagnosis for middle ear masses, irrespective of hearing loss. Increasing awareness of the anatomical changes seen on imaging in CTS could reduce missed or delayed diagnosis.

142. Assessment of Hearing Health among Adults in Rural Health Clinics

Mit A. Patel, MD MS, Lexington, KY; David Adkins, MD, Lexington, KY; Laura Bellnier, MPH, Lexington, KY; Anthony Mahairas, MA, Lexington, KY; Matthew L. Bush, MD PhD MBA, Lexington, KY

Educational Objective: At the conclusion of this presentation, the participants should be able to define the prevalence of hearing loss and utilization of hearing healthcare among adults in rural health clinics.

Objectives: Hearing loss (HL) is negatively impacting all aspects of health, yet poor access to hearing healthcare (HHC) among adults is a pervasive public health problem. The inaccessibility of HHC is amplified in rural adults. Rural health clinics (RHCs) are a critical healthcare system tasked with improving health in rural communities and the objective of this study is to assess the prevalence of HL and the utilization of HHC within RHCs. Study Design: Cross-sectional study. Methods: Adults were recruited from 10 RHCs throughout our state. The primary outcomes were 1) the presence of HL on screening; and 2) the history of an audiogram in the last 1 year/5 years. Additional outcomes included sociodemographics and overall health data (PROMIS-GH). Descriptive and multivariate analyses were conducted. Results: 388 participants (mean age 49.8) were recruited (43% with income below the poverty line, 10% with less than

a high school diploma). A total of 70% of participants screened positive for HL, yet only 3.4% and 13.4% of participants had undergone an audiogram in the past 1 and 5 years, respectively. Adults with more than a high school diploma (OR 0.58; 95% CI 0.34-0.97) and better self-reported health (OR 0.92; 95% CI 0.89-0.96) had lower odds of HL. Conclusions: Adults in RHCs have a high prevalence of HL and low utilization of HHC. Promoting and expanding access to HHC in RHCs is promising to improve hearing health among rural adults.

143. Social Media Analysis of Meniere's Disease: Insights and Challenges for Otolaryngologists

Nicholas A. Rossi, MD, Galveston, TX; Wilhelmina Tan, BS, Galveston, TX; Olivia L. Nixon, BS, Galveston, TX; Dayton L. Young, MD, Galveston, TX; Brian J. McKinnon, MD MBA MPH FACS, Galveston, TX

Educational Objective: At the conclusion of this presentation, the participants should be able to discuss the social media landscape and overall depiction of Meniere's disease on social media as well as to help clinicians understand the social media content that their patients are exposed to regarding this debilitating disease.

Objectives: The primary objectives of this study were to understand the portrayal of Meniere's disease across various social media platforms -- Facebook, Instagram, and TikTok -- and to recognize user perspectives and experiences regarding this condition. Other objectives included to address potential misconceptions that may be prevalent on social media regarding Meniere's disease as well as to enhance Meniere's disease related patient provider health communication. Study Design: A qualitative analysis was conducted on a convenience sample of social media posts. Methods: User generated content related to Meniere's disease was examined across Facebook, Instagram, and TikTok over a three month data collection period (May 2022-July 2022). Each post was analyzed according to media type, authorship, subject matter, tone, and popularity. Results: This study analyzed 1,108 posts, revealing that most of the content (52.5%, n = 582) was generated by patients, with non-physician healthcare providers contributing to 27.6% (n = 306) of the posts. The most common post subject included patient experiences with the disease (65.9%, n = 730) followed by educational content (16.7%, n = 185) and advertisements (15.0%, n = 166). The posts garnered an average of 225.9 likes each, with TikTok posts demonstrating the highest audience engagement of any platform examined. Conclusions: Although social media offers a valuable platform for patients to share experiences and seek information, this study found a substantial amount of unverified content regarding Meniere's disease posted by non-physician users. This underscores the need for healthcare professionals to actively participate in these platforms to correct misinformation and ensure patients have access to reliable, evidence based information.

144. Adenoid Cystic Carcinoma of the External Auditory Canal: A Systematic Review

Ariana L. Shaari, BA, Newark, NJ; Lucy Revercomb, BS, Newark, NJ (Presenter); Rohini Bahethi, MD, Newark, NJ; Yu-Lan Mary Ying, MD, Newark, NJ; Robert Jyung, MD, Newark, NJ

Educational Objective: At the conclusion of this presentation, the participants should be able to identify the presenting symptoms, treatment strategies, and overall survival of adenoid cystic carcinoma (ACC) in the external ear canal (EAC). Participants should also be able to describe the impact of surgery with and without adjuvant therapy on outcomes.

Objectives: To systematically review the symptomatology, management strategies and outcomes of primary ACC of the EAC. Study Design: Systematic review. Methods: A systematic review was performed utilizing PubMed, Web of Science, Cochrane, and Scopus to review case reports or series of EAC ACC. 3 reviewers reviewed each article and 2 extracted data. Disputes were cleared by the third reviewer. Results: 60 articles (232 patients) met inclusion criteria. Mean age at diagnosis was 49 (range 8-87). 61% of patients were female (n=135). The most common presentations were otalgia (n=55), an EAC mass/

nodule (n=28), and otorrhea (n=14). Surgery was the most common form of treatment, performed in 93% of patients. The addition of adjuvant chemotherapy was noted to be associated with improved survival when compared with surgery alone (p=0.009) and surgery with radiotherapy (p=0.006). Of the 191 cases with reported outcomes, 25% of patients died with disease, 39% were alive (mean followup: 5.4 years). Conclusions: For patients who present with otalgia and a mass in the ear, ACC of the EAC is a "can't miss" differential diagnosis associated with aggressive spread and poor prognosis and is more common in women. We present the first systematic review on this condition. Surgical management coupled with radiation or chemotherapy was the most common management strategy, and our results suggest that the addition of chemotherapy is associated with decreased mortality.

145. The Influence of Age, BMI, and Smoking on Tympanoplasty Outcomes

Karen Tawk, MD, Orange, CA; Alizah S. Gomez, BS, Orange, CA; Khodayar Goshtasbi, MD MS, Orange, CA; Mehdi Abouzari, MD PhD, Orange, CA; Hamid R. Djalilian, MD, Orange, CA

Educational Objective: At the conclusion of this presentation, the participants should be able to evaluate the impact of different factors affecting tympanoplasty closure rates such as age, BMI, and smoking status and integrate this knowledge in their clinical practice.

Objectives: There is a paucity of information on the influence of age, body mass index (BMI), and smoking status on closure outcomes following tympanoplasty. The objective of this retrospective study was to investigate the association between these factors and tympanoplasty closure rates. Study Design: Retrospective cohort study. Methods: This retrospective study of a tertiary care center reviewed data of patients who underwent tympanoplasties for tympanic membrane perforations without ossiculoplasties or mastoidectomies between 2016-2021. Patients with secondary cholesteatoma were excluded. Results: A total of 343 patients with a mean age of 50.1 +/- 19.5 (range=8-93) and mean BMI of 27.0 +/- 6.2 (range=13.0-55.4) were included, of which 149 (43.4%) had a diagnosis of primary cholesteatoma. The 3 month success rate for post-tympanoplasty closure of tympanic membrane was 92.7% (n=318). Gender or cholesteatoma diagnosis did not have an association with closure success rates (p=0.383 and p=0.436, respectively). When dividing patients according to the median age of 53 years, younger patients (n=173) had a significantly higher rate of closure success compared to older patients (96.5% vs. 88.9%, p=0.007). There was no significant difference in closure rates between never smokers (n=268, 92.2% closure rate), former smokers (n=47, 93.6% closure rate), and current smokers (n=28, 96.4% closure rate) with a p-value of 0.688. When dividing patients according to the median BMI of 26.4, there was no significant difference in closure rates between patients with lower versus higher BMI (91.3% vs. 94.1%, p=0.321). Conclusions: Younger patients have higher rates of tympanoplasty closure rates compared to older patients. BMI and smoking status did not have an association with closure rates.

146. Incidence, Risk and Protective Factors of Otologic Adverse Events in Hyperbaric Oxygen Therapy: A Systematic Review

Andrew Voigt, BA, Brooklyn, NY; Matteo Laspro, BS, New York, NY; Erika Thys, BA, New York, NY; Ernest Chiu, MD, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to identify the common otologic complications of HBOT, as well as the relevant risk and protective factors.

Objectives: Hyperbaric oxygen therapy (HBOT) has been associated with some risks and adverse events. Previous studies examining otologic complications from HBOT vary in their reported incidence of adverse events. This study aims to systematically review the otologic complications associated with HBOT and investigate contributing risk and protective factors. Study Design: Systematic review. Methods: A systematic review of PubMed, Embase, and Cochrane databases was conducted to identify studies reporting otologic adverse effects due to HBOT and studies exploring risk or protective factors for developing otologic complications. Utilizing PRISMA 2020 guidelines titles and abstracts were screened

before conducting full text analysis. Studies reporting incidence of otologic complications and studies that examined risk or protective factors for developing otologic adverse events were included. Results: A search for articles on HBOT otologic complications yielded 2,027 articles. 183 were relevant to the research question. 54 studies met inclusion criteria. 15% of the 18,284 patients treated with HBOT experienced complications. The major risk factors were increasing age, female sex, ENT pathology, sensory neuropathy, and difficulty equalizing ear pressure. The main protective factor was experience with effective equalization techniques. Conclusions: 15% of patients experienced otologic complications due to HBOT. Of the middle ear barotrauma (MEB) that occurred, 42.8% was mild and 6.4% was severe. Older age, female sex, and history of ENT or neurological conditions may increase risk for MEB. Increased monitoring of higher risk patients during their initial treatment sessions and proper equalization techniques may protect patients from developing MEB during HBOT.

PEDIATRIC OTOLARYNGOLOGY

147. Microbiology and Antibiotic Susceptibility of Intraoperatively Cultured Organisms in Pediatric Chronic Rhinosinusitis

Avraham Adelman, BS, Boca Raton, FL; Camryn Marshall, BS, Boca Raton, FL; David Mandell, MD, Boynton Beach, FL

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the most common organisms and their respective resistances in pediatric chronic maxillary rhinosinusitis.

Objectives: To review microbial cultures and antibiotic sensitivities from intraoperative maxillary sinus cultures in pediatric chronic rhinosinusitis (PCRS) patients, which may help inform medical treatment. Study Design: Retrospective case series. Methods: Culture results were reviewed from all pediatric maxillary sinus surgeries in a private practice of 4 fellowship trained pediatric otolaryngologists from Jan 2021 through May 2023. The frequency of each organism and associated susceptibilities were recorded. Results: 55 patients underwent maxillary sinus surgery with cultures. 41 cultures were positive (75%); 14 were negative (25%). Subsequent analysis was performed only on positive cultures (n=41). Mean age was 6.4 years (range 1-18). 44% of cultures were polymicrobial; 63 total organisms were grown. The most frequent were anaerobes (34%), staphylococcus aureus (29%) and streptococcus pneumoniae (22%). Less frequent included nonpneumococcal streptococcus (20%), haemophilus influenzae (10%), and Moraxella catarrhalis (10%). Among S. aureus, 83% were methicillin sensitive (40% resistant to clindamycin) and 17% were methicillin resistant (50% resistant to clindamycin). S. pneumoniae showed resistance to penicillin (55%), macrolides (55%), and clindamycin (11%). 100% of M. catarrhalis and 25% of H. influenzae were beta lactamase positive. Conclusions: Our case series outlines bacterial cultures in a regional PCRS patient cohort. Unlike prior reports, a nearly equivalent number of cultures grew one versus multiple microbes. Due to the difficulty in culturing pediatric sinuses, empirical treatment is preferred with broad spectrum antibiotics, and in our region this should include coverage of anaerobes and gram positive bacteria, while avoiding the resistances reported in this study.

148. Large Nasopharyngeal Hairy Polyp Causing Immediate Respiratory Distress at Birth

Ezer H. Benaim, MD, Chapel Hill, NC; Cameron Worden, MD, Chapel Hill, NC; Surekha Bantumilli, MD, Chapel Hill, NC; Elizabeth Ritter, MD, Chapel Hill, NC; Carlton J. Zdanski, MD FAAP FACS, Chapel Hill, NC

Educational Objective: At the conclusion of this presentation, the participants should be able to explain the development and pathology of hairy polyps and understand the surgical approach for resection.

Objectives: To discuss the evaluation and management of hairy polyps and highlight the potential morbidity and mortality in its characteristics and treatment. Study Design: Retrospective review of a patient born with a large mass protruding from the oral cavity causing airway obstruction leading to

intubation prior to transfer to a tertiary care center for otolaryngologic evaluation. Methods: Flexible laryngoscopy proved difficult to visualize the origin of mass. Computerized tomography with angiography (CTA) showed the mass originating from the left posterior soft palate with focal calcification and no vascular component. Results: On second day of life, the patient was scheduled for direct laryngoscopy and flexible nasopharyngoscopy which visualized a pedunculated mass originating from the left torus tubarius. Through a combined transnasal and transoral approach, the mass was resected en bloc. On histopathology, the mass was diagnosed as a hairy polyp, which is a dermoid tumor characterized by ectodermal and mesodermal elements. The mass was 6 x 1.5 x 1 cm, which is the longest hairy polyp in the literature. Recovery was uneventful and the patient was extubated to room air the following day. At one month followup, the patient had no respiratory events or feeding difficulties. Conclusions: While benign, hairy polyps can frequently cause feeding and respiratory difficulties based on size and location. Rarely, it can cause respiratory distress necessitating intubation. The origin of large nasopharyngeal masses can be particularly difficult to visualize on laryngoscopy and CT. During the surgical resection, it is critical to have alternate approaches to ensure complete resection and prevent recurrence.

149. Use of a Novel 3D Printed Mandibular Plating System for Mandibular Distraction Osteogenesis

Jacob C. Bloom, MD, Boston, MA; Alexander P. Marston, MD, Boston, MA; Andrew R. Scott, MD, Boston, MA; Mark A. Vecchiotti, MD, Boston, MA

Educational Objective: At the conclusion of this presentation, the participants should be able to 1) understand the process of mandibular distraction osteogenesis (MDO) using implantable hardware; 2) discuss 3D printing mandibular plates for MDO using novel selective laser melting technology.

Objectives: To review the process of mandibular distraction osteogenesis and review options for implantable hardware. To report one of the first known cases of pediatric mandibular distraction using custom 3D printed titanium plates. Study Design: Case report and literature review. Methods: Mandibular distraction may be performed using external hardware with k-wire fixation or implanted buried internal titanium devices. Recently 3D printing technology has been utilized to create custom cutting and drilling guides based on software assisted virtual surgical planning. Technology now exists to print custom titanium plates that are precontoured to a specific patient's mandible, and oriented to avoid structures such as tooth roots and the inferior alveolar canal. Until recently such plates have been available for fixation but not FDA approved for incorporation into a distraction device. Herein we report one of the first cases of pediatric mandibular distraction using this technology. Results: Using VSP (virtual surgical planning), a preplanned, selective laser melting 3D printed distraction device was implanted without additional preoperative sterilization, or intraoperative plate bending. Details regarding technical design and intraoperative photographs are reported. There was excellent anatomic fit of the plates onto the mandible and subsequent MDO was performed successfully without intraoperative or postoperative complications. Conclusions: Mandibular distraction titanium plating using 3D printed, selective laser melting technology is a novel and promising technique. Such innovation may improve accuracy of plate fixation and assure precise replication of predetermined optimal vectors of distraction.

150. Burnout in Pediatric Otolaryngologists

Erica Choe, BS, Washington, DC; Amanda Walsh, MD, Washington, DC; Kelly Scriven-Weiner, MD, Washington, DC; Earl Harley, MD, Washington, DC

Educational Objective: At the conclusion of this presentation, the participants should be able to identify burnout rates among pediatric otolaryngologists and factors affecting burnout rates.

Objectives: In this study, we aimed to determine the prevalence of burnout among pediatric otolaryngologists. Study Design: Cross-sectional study. Methods: A questionnaire on burnout modeled after the Maslach Burnout Inventory (MBI) was sent to members of the American Society of Pediatric

Otolaryngologists (ASPO). Incomplete surveys or surveys completed by physicians who were retired or still in fellowship were excluded. Degree of burnout was stratified into low, moderate, or high based on survey responses to MBI items analyzing depersonalization, emotional exhaustion, and lack of personal accomplishment. For the purposes of this study, physicians who scored into the moderate or high category were characterized as experiencing burnout. Results: The survey was distributed to 658 pediatric otolaryngologists and 136 physicians responded (20.6% response rate). 120 were included in the final analysis. 23.3% of respondents experienced moderate or high levels of burnout. There was a positive correlation (r2 = 0.843) between the number of hours worked and degree of burnout. There was not a statistically significant difference in percentage of physicians experiencing burnout based on sex (male=19.2%, females 28.3%, p=0.25). Conclusions: Approximately one quarter of currently practicing pediatric otolaryngologists are experiencing moderate high levels of burnout. Number of hours worked seems to correlate with the degree of burnout experienced. As burnout is correlated with an increase in medical errors and a decrease in patient satisfaction, identifying the prevalence is an important first step in promoting improved physician performance.

151. Predictors of Career Placement among Pediatric Otolaryngology Fellowship Graduates

Erica J. Choe, BS, Washington, DC; Amir Hakimi, MD, Washigton, DC; Kelly Scriven-Weiner, MD, Washington, DC; Earl Harley, MD, Washington, DC

Educational Objective: At the conclusion of this presentation, the participants should be able to identify factors that predict academic career placement in pediatric otolaryngology.

Objectives: We aimed to identify predictors of practice type and location following pediatric otolaryngology fellowship based on demographics and educational history. Study Design: Cross-sectional analysis. Methods: Names of pediatric otolaryngology fellowship graduates from 2016-2022 were gathered through online searching or contacting program directors. Location of medical and fellowship training, year of fellowship graduation, sex, degrees obtained, and current job placement were identified. Bivariate analyses were performed to examine the relationship between demographic and other categorical sample characteristics and career placement. Results: 188 individuals were included in the final analysis. 128 (68.1%) entered careers in academic medicine, with similar percentages of males and females. Rank of residency program, region of residency program, and residency programs with associated pediatric otolaryngology fellowships were not significant predictors of academic placement. However, the location of pediatric otolaryngology fellowship was a statistically significant predictor of academic career placement. 78% of graduates from fellowship programs in the northeast, 68.6% in the midwest, 66% in the south, and 55.8% in the west entered academic practices (p = 0.0032). On average, 50% of fellowship graduates practiced in the same region as their residency or fellowship. Lastly, the region with the highest number of practicing pediatric otolaryngology graduates was the south. Conclusions: Region of pediatric otolaryngology fellowship, particularly programs in the northeast, was the leading predictor of academic career placement in the field of pediatric otolaryngology. Many graduates tend to practice in regions where they completed their medical training.

152. A Retrospective Analysis of Adult Volleyball Injuries Using National Electronic Injury Surveillance System (NEISS) Data

Nina Gallo, MD, Memphis, TN; Meghana Chanamolu, MD, Memphis, TN; Andrew Franklin, BD, Memphis, TN; Samantha Gibson, BS, Orlando, FL; Okenwa Okose, MD, Memphis, TN; Robert Yawn, MD, Memphis, TN

Educational Objective: At the conclusion of this presentation, the participants should be able to 1) understand the context and importance of studying facial trauma secondary to volleyball, noting the existing gap in the literature despite the global popularity of the sport; 2) explain the methodology used in this retrospective analysis to assess the nature and prevalence of volleyball related craniofacial trauma; 3) describe the demographic distribution of these injuries, particularly noting the age group most affected

and the gender based differences in injury types; 4) identify the most common types and locations of injuries recorded in the study; 5) recognize the relationship between specific types of facial injuries and certain demographics within the volleyball playing population; and 5) reflect on the implications of these findings for the development of safety protocols and preventative measures in the sport of volleyball, with a focus on the specific needs of various demographic groups.

Objectives: Craniofacial trauma among athletes of various sports has been well detailed and described. Despite this research, there is a dearth of literature describing the nature of facial trauma secondary to volleyball, despite its global popularity. Study Design: Retrospective cohort study. Methods: A cross-sectional analysis of volleyball related facial trauma was conducted using the National Electronic Injury Surveillance System (NEISS) database from 2009 to 2018. Patient demographics (age, sex, and race), medical injury information (injury type and location), and disposition (observed and discharged, admitted, deceased) were collected and analyzed. $\chi 2$ testing was performed to compare categorical variables. Results: A total of 235 volleyball related facial traumas were recorded with an estimated 10,424 visits occurring nationally. The majority of injuries were among young adults aged 20 to 29 years (52.3%) and was evenly distributed for men and women. Lacerations were the most frequent injury type (37.9%), whereas the face was the most common site of injury (41.7%). The majority of fractures involved the nose (71.4%) and among individuals aged 20 through 49 (90.5%). Males had significantly more lacerations than females (75.3% vs 24.7%), whereas females had significantly more contusions/abrasions (64.5% vs 35.5%) and concussions (72.9% vs 27.1%). Conclusions: Volleyball related craniofacial injuries can vary depending on patient demographics. This information can help with the development of safety and preventative measures for individuals participating in the sport.

153. Safety and Efficacy of Intravenous Ibuprofen in Pediatric Tonsillectomy

Allison Oliva, MD, Miami, FL; Alexa Denton, MD, Miami, FL; Zachary Helmen, MD, Miami, FL; Leonardo Torres, MD, Miami, FL

Educational Objective: At the conclusion of this presentation, the participants should be able to consider the risks and benefits of routine use of intravenous ibuprofen intraoperatively in pediatric tonsillectomy.

Objectives: Compare efficacy of intravenous ibuprofen for pediatric patients undergoing tonsillectomy and measure need for rescue pain medication and incidence of postoperative bleeding. Study Design: Retrospective cohort study. Methods: This was a retrospective cohort study comparing patients who received intraoperative intravenous ibuprofen to a control group of only intraoperative intravenous acetaminophen. All patients received intraoperative dexamethasone. Information including demographics and perioperative information was collected. Time in recovery and need for rescue pain medication were the primary outcomes. Patients were followed for 30 days postoperatively to measure incidence of postoperative bleeding or admission for insufficient oral intake. Results: Fifty-one pediatric patients were included in the study, 18 in the treatment group, and 33 in the control group. The average age was 5.7 +/- 3.8 years There was no significant difference in demographic data or preoperative comorbidities. The most common comorbidity excluding obstructive sleep apnea was autism. There was no difference in operative time or extent of surgery. Patient receiving intravenous ibuprofen had decreased time in phase 1 of recovery (40.3 +/- 19.9 minutes) compared to the control group (47 +/- 13.7 minutes) (p 0.16). There was need for rescue pain medication in the postoperative recovery area for those receiving intravenous ibuprofen (p 0.001). There was no difference in postoperative hemorrhage (p 0.15). Conclusions: Intravenous ibuprofen is associated with decreased need for rescue pain medication in the acute postoperative period and is not associated with increased postoperative bleeding. Larger studies are needed to confirm these associations.

154. Sociodemographic Characteristics and Healthcare Utilization following Tonsillectomy: A Prospective Analysis

Jenny Kim, BA, Dallas, TX; Kimberly Donner, MPAS PA-C, Dallas, TX; Ron B. Mitchell, MD, Dallas,

TX; Emily Carsey, BSN RN AMB-BC, Dallas, TX; Emily Roman, MPAS PA-C, Dallas, TX; Romaine F. Johnson, MD MPH, Dallas, TX

Educational Objective: At the conclusion of this presentation, the participants should be able to familiarize themselves with sociodemographic factors associated with healthcare utilization after tonsillectomy.

Objectives: Examined the associations between sociodemographic characteristics and healthcare utilization following tonsillectomy, focusing on emergency department (ED) visits and phone calls within 30 days post-surgery. Study Design: Prospective observational. Methods: Using a tonsillectomy registry as part of a quality dashboard, descriptive statistics, and likelihood ratio tests were utilized to evaluate variable distributions and relationships. Logistic regression models were used to analyze the link between socioeconomic status and healthcare utilization while considering potential confounding variables. Results: 8,839 patients (mean age: 6.9 years, 54% male, 40% non-white Hispanic) underwent tonsillectomy between 2018 and 2022. Patients were divided into low risk (30%), OSA (39%), and high risk (31%) groups. Noteworthy correlations were observed between various factors and healthcare utilization. Age and total length of stay were discordant across risk categories, with low risk patients tending to be older. Race and payer type also varied noticeably among risk categories. Notably, the high risk category was associated with a surge in ED visits (OR = 1.66, 95% CI [1.42 - 1.95]) and phone calls (OR = 1.33, 95% CI [1.18 - 1.50]). SES measures, including economic connectedness, family support, and median household income, strongly correlate with healthcare utilization. Families in the top SES level were 12% less likely to use the nursing phone line and 3% less inclined to use the ED, even when accounting for risk classification. Conclusions: This prospective study demonstrated meaningful relationships between risk category, sociodemographic features, and healthcare utilization after tonsillectomy. The findings underscore the utility of examining healthcare utilization and pinpointing areas where specific interventions could improve post-tonsillectomy care.

155. Seasonal Variation in Children with Nontuberculous Mycobacterial Lymphadenitis

Taylor Mae Loth, BA, Minneapolis, MN; Brianne Barnett Roby, MD FACS, St. Paul, MN

Educational Objective: At the conclusion of this presentation, the participants should be able to better understand when to anticipate an increased likelihood of nontuberculous mycobacterium (NTM) infections in pediatric populations depending on the time of year they present to clinic with symptoms. Awareness of when children are more likely to be exposed to NTM, as predicted by its seasonal variation, can better inform participants as to when they should be more suspicious of an NTM infection.

Objectives: To predict seasonality when children are more likely to be exposed to NTM and to compare the time of year that children are first reported to have symptoms with when children first present in clinic. Study Design: Retrospective review. Methods: The medical records of 67 children diagnosed with NTM lymphadenitis at one midwest tertiary pediatric hospital from 2008 to 2020 were reviewed. The time of year that the children initially presented with symptoms was assessed. The time between symptom onset and clinical presentation for treatment was also evaluated. Results: Majority (70%) of NTM cases included symptom onset in the fall and winter months (defined as October - March). Similarly, most (58%) children with NTM lymphadenitis first presented to clinic during the winter and fall. Specifically, 46% of all cases presented to clinic between January and March. Only 12% of cases presented to clinic between June and August. An average of 71 days passed between symptom onset and first clinical presentation. Conclusions: Given that NTM lymphadenitis often takes many weeks to months to develop, it could be extrapolated that most children are exposed to NTM in the late summer and early fall. These findings largely suggest a seasonal variation, with cases peaking between January and March and having troughs in the summer. Observation of this trend will hopefully better inform clinicians as to when they should strongly consider NTM in their differential diagnosis.

156. Social Determinants of Health among Patients Undergoing Airway Reconstruction

Megan E. McNutt, BS, Columbus, OH; Michael Boutros, BS, Columbus, OH; Kevin Liu, MD, Columbus, OH; Natalie Quinn, BS, Columbus, OH; Isaac Kistler, MS, Columbus, OH; Prasanth Pattisapu, MD MPH, Columbus, OH

Educational Objective: At the conclusion of this presentation, the participants should be able to identify social determinants of health as a factor in airway pathology and access to treatment leading to airway reconstruction surgery.

Objectives: Despite advances in endoscopic and minimally invasive management, open airway reconstruction remains the definitive approach to laryngotracheal stenosis and obstruction. The objective of this study is to examine social determinants of health (SDOH) in patients undergoing airway reconstruction. Study Design: After IRB approval, patients aged 0 to 18 who underwent airway reconstruction, including laryngotracheal reconstruction, slide tracheoplasty, tracheal resection, and cricotracheal resection, from 2010-2023, were identified and retrospectively reviewed. Methods: Type of reconstruction, length of stay, postoperative time to tracheostomy decannulation (if applicable) and need for open revision were recorded. SDOH was measured using nationally normalized census tract level Child Opportunity Index (COI), both by z-score and population quintile: “very low”, “low”, “moderate”, “high”, and “very high”. Results: Seventy-nine patients were identified, with median COI low at 37 (IQR = 14-59). COI was -0.01 ($p<0.01$) from the national average. COI was below average for education and socioeconomic subscales, but not for health and environment (differences â€“0.04, -0.04, and 0.0, respectively). Of the 79 patients, 25 (32%) had very low COI, 20 (25%) had low, 15 (19%) had moderate, 12 (15%) had high, and 7 (9%) had very high. COI was not associated with need for revision surgery (difference -0.01, CI -0.03, 0.02, $p=0.49$), time to decannulation for double stage procedures (rs 0.26, $p=0.20$), or length of stay after surgery (rs 0.01, $p=0.94$). Conclusions: Low SDOH is overrepresented in patients undergoing airway reconstruction, suggesting disparities in development of airway pathology and access to treatment. Further research is needed to determine if SDOH affects surgical outcomes.

157. Risk Factors Associated with Repeat Surgical Interventions of Intracranial and Orbital Complications of Pediatric Sinusitis

Molly Olivia Meeker, BS, Columbus, OH; Jemma Maynard, Columbus, OH; Aiden Vanek, Columbus, OH; Alexandra Gach, Columbus, OH; Charles Elmaraghy, MD, Columbus, OH

Educational Objective: At the conclusion of this presentation, the participants should be able to identify predisposing factors and demographic trends in patients with orbital and intracranial complications from sinusitis requiring repeat surgical intervention.

Objectives: To identify predisposing factors and demographic trends in patients with orbital and intracranial complications from sinusitis requiring repeat surgical intervention. These risk factors will be used to identify care gaps and can be used as measures to aid in earlier identification and intervention of these high risk patients. Study Design: Using ICD10 codes, we identified patients with a diagnosis of acute sinusitis with intracranial and orbital complications between September 1, 2019 - February 28, 2020, and September 1, 2022 - February 28, 2023. Subsequently, a retrospective chart review was performed. Methods: Data pertaining to patient demographics, symptoms, and management was extracted. Patients who did not require at least one surgical intervention were excluded. Data analysis included descriptive statistics and t-test analysis. Results: A total of 44 patients were identified, 18 patients required repeat surgical intervention (RS) and 26 required one surgical intervention (SS). The mean number of surgeries was 2.22 (SD=0.81) in the RS cohort. The mean preoperative CRP was higher in the RS group than the SS group (RS = 16.92, SS=9.36, $p=0.013$). The duration of patient reported proceeding symptoms was higher in the RS group than the SS group (RS=9.94, SS=3.73, $p= 0.006$). A higher percentage of patients in the RS group had Medicaid as compared to the SS group (SS= 50.0%, RS= 72.2%). Conclusions: This retrospective chart review has provided data that supports that risk factors for requiring repeat surgical intervention for complications of sinusitis include: a higher preoperative CRP, longer duration of presenting symptoms, and

Medicaid insurance.

158. The Effect of Postoperative Steroids in Pediatric Post-Tonsillectomy Patients

Ahmad Odeh, BS, St. Louis, MO; Rylee Moody, BS, St. Louis, MO; Lorraine De-Velez, BS, St. Louis, MO; Hank Ideker, MD, St. Louis, MO; Matthew Simpson, MS, St. Louis, MO; Adrienne Childers, MD, St. Louis, MO

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the effects of using postoperative dexamethasone in pediatric post-tonsillectomy patients based on their various indications.

Objectives: Dexamethasone is the most used steroid either preoperatively or intraoperatively, but the literature is sparse on the effects of postoperative, outpatient steroid prescribing practices among the post-tonsillectomy pediatric population. We aim to analyze the effect of a postoperative oral steroid course on pain, dehydration, and bleeding based on tonsillectomy indication (infection, sleep disturbance, obstructive sleep apnea or any combination thereof). Study Design: Retrospective chart review. Methods: Pediatric tonsillectomy patients ages 2-18 years were included. Associations of receiving a 4 dose course of dexamethasone and other patient characteristics with postoperative bleeding, dehydration, and opioid refill as a function of tonsillectomy indication were tested using Poisson regression with robust standard errors. Results: There were 2,089 pediatric tonsillectomy patients included. The majority were male (51.0%) and non-Hispanic white (63.7%) with an average age of 6.9 years (SD = 3.9). Patients receiving dexamethasone (31.0% of the population) had a decreased rate of bleeding, dehydration, and emergency department visits that did not reach statistical significance. Receiving dexamethasone postoperatively had variable effects on decreasing complications by indication, although there was a clinically meaningful reduction for most indications. Conclusions: Although the use of a 4 dose course of postoperative dexamethasone in post-tonsillectomy patients did not have statistical significance in reducing complications by indication, it decreased complications for majority of the indications. Additionally, results showed that postoperatively prescribing dexamethasone did not increase complications. Postoperative dexamethasone can be a safe, useful adjunct therapy for pediatric post-tonsillectomy patients.

159. Plexiform Schwannoma of the Chorda Tympani Nerve in a 3 Year Old Patient: A Case Report

Nihar Rama, BS, Chicago, IL; Nicole Cipriani, MD, Chicago, IL; Olga Pasternak-Wise, MD, Chicago, IL; Nishant Agrawal, MD, Chicago, IL; Terence Imbery, MD, Chicago, IL

Educational Objective: At the conclusion of this presentation, the participants should be able to understand unique pathologic and surgical considerations for skull base plexiform schwannomas in pediatric patients.

Objectives: 1) Describe a rare presentation of skull base plexiform schwannoma in a pediatric patient and review literature and features regarding these tumors; and 2) report the multidisciplinary approach and surgical considerations for tumor removal. Study Design: Case report and literature review. Methods: A 3 year old male with no significant past medical history presented with a 6 month history of progressive left pre and retroauricular swelling, without cranial nerve deficits. Imaging revealed a well circumscribed soft tissue mass centered in the parotid region with extensions into the left parapharyngeal space and postauricular region. Fine needle aspiration was consistent with schwannoma. Ultimately, multidisciplinary surgical resection was undertaken involving neurotology and head and neck surgical oncology. Results: Surgical resection was performed via a parotidectomy style approach with a combined postauricular transmastoid extension. The nerve of origin of the tumor was the chorda tympani nerve with no facial nerve involvement. Total tumor removal was achieved. Surgical pathology of the tumor revealed a 7.5 cm plexiform schwannoma with diffuse S100 and SOX10 expression. Followup demonstrated no cranial nerve deficits but was complicated by stenosis of the external auditory canal. Conclusions: This

rare presentation of a plexiform schwannoma of chorda tympani origin in a pediatric patient - the first of its kind to our knowledge - was successfully managed through surgical resection. Multidisciplinary management can provide optimal outcomes in such cases of rare head and neck tumors in pediatric patients.

Speed Networking Mentors and Topics

Thursday, January 25 11:45am - 12:15pm		
Emcee - Dana Thompson, MD		
Clark Rosen, MD FACS	Thursday	Academic Career Challenges/Opportunities
Steven Pletcher, MD	Thursday	Academic Career Challenges/Opportunities
Stacey Gray, MD FACS	Thursday	Women in OTO Career Paths
Julie Wei, MD	Thursday	Women in OTO Career Paths
VyVy Young, MD FACS	Thursday	Maximizing Being a Mentee
Greg Grillone, MD FACS	Thursday	Maximizing Being a Mentee
Cherie-Ann Nathan, MD FACS	Thursday	Becoming an Effective Mentor
Maie St. John, MD PhD	Thursday	Becoming an Effective Mentor
Anna Pou, MD	Thursday	Dealing with Disasters
Michael Hoffer, MD FACS	Thursday	Dealing with Disasters
Valerie Flanary, MD FACS	Thursday	DEI - What it is and what it is not
Romaine Johnson, MD MPH	Thursday	DEI - What it is and what it is not
Bradley Goldstein, MD PhD FACS	Thursday	Young Faculty Research
Shawn Newlands, MD PhD MBA FACS	Thursday	Young Faculty Research
Robert Kellman, MD FACS	Thursday	Career Advancement - What works and what doesn't work
Michael Benninger, MD FACS	Thursday	Career Advancement - What works and what doesn't work
Alan Micco, MD FACS	Thursday	Optimizing Your Match Choice
Paul Willging, MD	Thursday	Optimizing Your Match Choice
Andy Murr, MD FACS	Thursday	Making Smart Financial Decisions
Mark Persky, MD FACS	Thursday	Making Smart Financial Decisions
Rick Pillsbury, MD FACS	Thursday	Working for a Hospital System - Pros and Cons
Sigsbee Duck, MD RPh FACS	Thursday	Working for a Hospital System - Pros and Cons

Saturday, January 27 4:55 pm - 5:45 pm		
Emcee - Ralph Metson, MD		
Nina Shapiro, MD FACS	Saturday	Career Paths - A World of Opportunities
Michael Seidman, MD FACS	Saturday	Career Paths - A World of Opportunities
Samuel Selesnick , MD FACS	Saturday	Ethics - How to avoid getting arrested or fired
Gerald Healy, MD FACS	Saturday	Ethics - How to avoid getting arrested or fired
Mickey Stewart, MD MPH FACS	Saturday	Generalist or Specialist
Michael Johns, MD	Saturday	Generalist or Specialist
Ashley Wackym, MD FACS FAAP	Saturday	Contract Negotiation

Triological Society CME Breakdown	
January 25, 2024	
General Session 10:00 - 11:44	1.50
Concurrent Sessions 1:00 - 3:15 Session A - Head and Neck Session B - Otology	2.25
Concurrent Sessions 3:45 - 5:40 Session C - Rhinology & Allergy Session D - Laryngology/Bronchoesophagology	2.00
January 26, 2024	
General Session 7:30 - 8:50	1.25
Concurrent Sessions 9:20 - 11:15 Session E - Facial Plastic & Reconstructive Surgery Session F - General & Sleep Medicine	1.75
Concurrent Sessions 11:25 - 1:10 Session G - General, Rhinology, Allergy, Sinus Session H - Pediatrics, Laryngology/Bronchoesophagology	1.75
Panel 1:20 - 2:00	0.50
January 27, 2024	
General Session 7:35 - 9:30	2.00
Concurrent Sessions 10:00 - 12:15 Session I - General & Head & Neck Session J - Otology	2.25
Concurrent Sessions 1:15 - 3:30 Session K - Facial Plastic & Reconstructive Surgery, Pediatric Otolaryngology Session L - General & Head & Neck	2.25
General Session 3:50 - 4:50	1.00
Total	18.50

QR Code for Program Evaluation