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The official member magazine of the American Academy of Otolaryngology-Head and Neck Surgery

**MARCH 2021** 

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# ASCENT ADMINISTRATOR SUPPORT COMMUNITY for ENT Otolaryngology Resource Network B&M CODING 2021 BEBINAR RECORDING SERIES

### Entire series presented by: Shannon DeConda, CPC, CEMC, CEMA, CPMA, CRTT

### For the Coder: How to Best Understand and Communicate the 2021 E&M Changes to your Providers

Once you have an understanding of the changes to E&M services based on the AMA 2021 changes, it is imperative that coders have a good understanding of communicating the changes to their providers. Typically, coders are the point person for education and audit feedback, so it is important that you have an accurate understanding of how best to relay these changes to your providers.

### For the Administrator: A Focused View of 2021 E&M Changes for Practice Administrators

Documentation is the job of the provider and selecting or authenticating the code is the job of the coder, so what do YOU really need to know about the 2021 E&M changes as the practice administrator? Tune into this web training for just that information, such as consideration of clinic work flow, reimbursement considerations, payor changes, and much more.

### For the Provider: Keeping it Simple: Understanding the 2021 E&M Changes from the Provider's Point of View

You don't need to score it - you just need to know how to document it based on the level you should be reporting for the patient encounter. During this session we will address the changes from the standpoint of what has changed and how it should directly impact the documentation of each encounter, but we will also address what has not changed.

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# March 2021

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AAO-HNS/F VIRTUAL LEADERSHIP FORUM & BOG SPRING MEETING APRIL 17, 2021

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#### **Confirmed Speakers:**

- The Honorable Asa Hutchinson Governor, Arkansas
- Mark Cuban Entrepreneur Owner, Dallas Mavericks Star, Shark Tank
- Coding, billing, and reimbursement update by
   R. Peter Manes, MD, AAO-HNS Coordinator for Advocacy

- Federal and state legislative and regulatory updates
- State OTO Society Roundtable featuring a keynote speaker and case studies highlighting society management best practices followed by the Executive Directors and Society Administrators Forum

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**Please Note:** The program is subject to change. A final detailed program will be emailed to all registrants and additional information can be viewed online.

#### the leading edge

# Why the Academy Needs to Know Where the Goalposts Are

"In life, as in football, you won't go far unless you know where the goalposts are."

e are on a journey to update our strategic plan for the American Academy of Otolaryngology–Head and Neck Surgery. In many respects, this process is about setting goals to build our collective future together. While the specific details of the updated strategic plan are forthcoming, I thought it might be interesting to reflect upon why strategic planning matters. First, the Academy's mission, vision, and core values are important parts of the strategic plan. Our mission statement is really our core purpose-it is why we exist. Our core values can be considered our true north. It is a set of beliefs that inform how we do what we do. Our vision is where we are going as an organization. It is planning with a lens for a 10-year or greater horizon. Our vision is that we will be "The global leader in optimizing quality ear, nose, and throat patient care." Strategic planning is really about setting goals and objectives, typically on a three-to-five-year horizon. Why it is important?

"When your headlights aren't on, the best rearview mirror available isn't likely to improve your driving." - Martha Rogers

A strategic plan is not fixed. It is a living, breathing document that will be adapted as necessary to reflect the needs of our organization. A strategic plan is not siloed. Although the plan will have distinct goals, the strategies and tactics - Arnold H. Glasgow

will be cross-functional to flex within our highly collaborative environment and our complementary mission areas. A strategic plan is not risk-free. We need to have new ideas as an organization that will stretch us and take us outside of our comfort zone. Goals are the outcomes we seek to achieve, whereas objectives are the direction we seek to move as an organization. Focus is critically important in any strategic planning journey. For example, we, as an organization, could not likely focus on 20+ goals. We would lack focus and would not likely achieve the outcomes we desire.

In strategic planning, the process matters. We have pursued robust community engagement from diverse stakeholders. As we move forward, we will continue to engage you, our members, in the process. Curiously, the world around us is changing rapidly. There are many key drivers of change in the external environment. To name a few, the pandemic has transformed the use of telehealth. The pandemic has shone a light on health disparities. Virtual platforms for education, interaction, and infrastructure are now commonplace. Practices are consolidating and the business of the practice of medicine has never been more important. We have likely seen more transformation in the past 12 months than the prior five to ten years. All of these external factors are important to consider in our strategic planning journey. We, as an organization, must be nimble and adapt to a rapidly changing environment.

I am really excited about where we are going as an organization. I am very grateful for you, our members, our committees, our Academy staff, and our leadership team. We are extraordinarily well positioned for a very bright future together. I look forward to working with all of you to realize our vision.



Carol R. Bradford, MD, MS AAO-HNS/F President



Although the plan will have distinct goals, the strategies and tactics will be cross-functional to flex within our highly collaborative environment and our complementary mission areas.

**?**?



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# Professionalism and Well-being

P rofessionalism has been one of the pillars at the heart of the practice of medicine for centuries. There are varying definitions of professionalism circulating these days, and it is often easier to cite examples of unprofessional behavior than it is to concisely define true professionalism in medicine. Physicians have long been recognized by the public as being part of the medical profession that establishes and teaches very high standards of ethical and moral behavior that is codified in the Hippocratic Oath, which is administered at every medical school graduation.

In 1999 the Accreditation Council for Graduate Medical Education (ACGME) instituted six general competencies that need to be taught during residency or fellowship training in all specialties. Included in those six competencies is professionalism. In 2002 the Medical Professionalism project published a professionalism charter that has subsequently been recognized by multiple physician organizations. The "professionalism charter" delineated three fundamental principles of professionalism: the primacy of patient welfare, patient autonomy, and social justice. Additionally, they defined ten professional responsibilities as listed in Table 1.

A number of institutions, organizations and specialties have also created their respective

Fundamental Principles	A Set of Professional Responsibilities Commitment to
Patient Welfare	Professional competence
Patient Autonomy	Honesty with patients
Social Justice	Patient confidentiality
	Maintaining appropriate relations with patients
	Improving quality of care
	Improving access to care
	Just distribution of finite resources
	Scientific knowledge
	Maintaining trust by managing conflicts of interest
	Professional responsibilities

Table 1. Medical Professionalism in the New Millennium: A Physician Charter<sup>1</sup> versions of these principles that further emphasize desired points specific to their situations.

The initial teaching and learning of these principles are critical to the preservation and advancement of the medical profession, particularly during times of societal change and the ongoing alteration of the healthcare delivery system we are currently undergoing. Rightfully, this has been a major focus of medical education for both medical students as well as residents and fellows. Didactic and observational learning has proven valuable in developing an understanding how to formulate one's own guiding principles that will grow with experience. Professionalism should be considered an integral part of lifelong learning just as clinical and scientific advances are. The relatively rapid and accelerating change in many areas of the "professionalism charter" make it imperative that physicians remain current with evolving standards.

There have been many publications linking wellness and professionalism. The relationship between stress and professional behavior in both individuals and teams is well documented. Periods of extreme stress, anxiety, and burnout can leave individuals more susceptible to lapses in professional behavior. It is inevitable that all individuals will experience repetitive periods of exacerbated stress that will need to be mitigated by healthy coping mechanisms. Learning effective ways of coping, both through training and individual experience, is crucial for all age groups of physicians, but particularly those beginning their careers in medicine. Mindfulness is a valuable tool in managing stress both in the personal and professional settings that physicians find themselves in. It is very clear that uncontrolled stress can lead to unprofessional behavior that an individual would not typically exhibit as everyday behavior.

I have described a well-intentioned, absolutely essential focus on professionalism for both trainees and practicing physicians and the negative effect stress has on behavior. I have great concern that this focus on "professionalism" constitutes a potential significant trigger that increases stress and decreases well-being. The rapid change in knowledge and technical skills needed as well as acceptable social norms often



James C. Denneny III, MD AAO-HNS/F EVP/CEO

leave physicians struggling internally with common decisions. A quick review of the 10 responsibilities listed in Table 1 reveals that physicians are often asked to do things that they are not adequately trained for, particularly in societal issues outside of the scope of medicine. Another area that tends to stress professionalism is current payment methodology, particularly when based entirely on relative value units. Questionable physician professional behavior is now commonly treated and investigated like physician impairment. There is also an increasingly unfortunate association between professionalism and a "disruptive behavior" label, when in fact behavior issues constitute only one area of professionalism.

The drive to be the perfect, consummate professional undoubtedly contributes considerable anxiety and stress during certain situations where societal norms are in constant flux and not universally agreed upon. We are undergoing a significant societal upheaval and cultural change in the United States and healthcare delivery that means different things to different people. Hopefully, in this era of "one strike" you are labeled, we can promote professionalism as something to be valued and not feared. This will require effort, flexibility, willingness to learn, and tolerance broadly.

#### References

 ABIM Foundation. American Board of Internal Medicine; ACP-ASIM Foundation. American College of Physicians-American Society of Internal Medicine; European Federation of Internal Medicine. Medical professionalism in the new millennium: a physician charter. Ann Intern Med. 2002 Feb 5;136(3):243-6. doi: 10.7326/0003-4819-136-3-200202050-00012. PMID: 11827500.

#### AAO-HNS Announces Official Slate of Candidates for the 2021 Annual Election

#### **President-Elect**

Richard M. Rosenfeld, MD, MPH, MBA Kathleen Yaremchuk, MD, MSA

At-Large Directors (Academic two-year term) Alexander G. Chiu, MD Sanjay R. Parikh, MD

At-Large Directors (Academic four-year term) Cherie-Ann O. Nathan, MD Robert T. Sataloff, MD, DMA

#### At-Large Directors (Private Practice) Jeffery J. Kuhn, MD, CAPT, MC, USN (Ret.) Angela M. Powell, MD

Nominating Committee (Academic - seat one) Ronda E. Alexander, MD Samantha Anne, MD, MS

Nominating Committee (Academic - seat two) Ken Kazahaya, MD, MBA Brendan C. Stack, Jr., MD

Nominating Committee (Private Practice - seat one) Andrew Coughlin, MD Darius Kohan, MD

Nominating Committee (Private Practice - seat two) Russell B. Smith, MD Angela Sturm, MD

Audit Committee Art A. Ambrosio, MD, MBA Steven B. Levine, MD

Look for the candidate statements in the April issue of the *Bulletin* to learn more about each candidate prior to the opening of voting in May.



### Call for IAB Chair-Elect Nominees

A 2021-2022 International Advisory Board (IAB) Chair-Elect will be elected at the AAO-HNSF 2021 Annual Meeting & OTO Experience in Los Angeles, California.

After serving a one-year term as Chair-Elect, the individual will then serve a one-year term as Chair and assumes duties as the leader and "voice" of the global otolaryngology community. Candidates must be active international (non-U.S.) members of the AAO-HNS and formally affiliated with the AAO-HNSF International Corresponding Societies network. Deadline for submission of the nominee application is April 1.

Please visit www.entnet.org/content/ call-nominees-iab-chair-elect or contact international@entnet.org.



### Six Years Straight: Reg-ent Receives CMS QCDR and QR Designations

The Reg-ent registry has been approved by the Centers for Medicare & Medicaid Services (CMS) as a Qualified Clinical Data Registry (QCDR) and Qualified Registry (QR) for 2021 Merit-based Incentive Payment System (MIPS) reporting. In addition to the QCDR approval for 2021, CMS approved 22 otolaryngology-specific QCDR measures that were developed from AAO-HNSF clinical practice guideline key action statements as well as measures developed jointly with medical specialty society partners. These QCDR measures are available exclusively through Reg-ent. To review the complete list of measures available in 2021, please visit our website at www.entnet.org/ Reg-ent\_2021\_Quality\_Measures. ■





#### HUMANITARIAN TRAVEL GRANT Medical Mission in Lanzhou, China

In July 2019 Alexandria S. Ortiz, MD, participated in a medical cleft exchange mission in Lanzhou, China, with Lisa M. Buckmiller, MD, and a team of volunteers from Love without Boundaries.

As a military resident from San Antonio Military Medical Center, her decision to become a military physician was driven in part by a motivation to do work in austere environments and in a humanitarian capacity. During the one-week experience in Lanzhou, Dr. Ortiz and her team screened dozens of patients and performed over 25 cleft surgeries. Some of her favorite moments occurred during a post-op round with the Chinese medical team because that enabled her team to interact with the children, families, and nursing staff at the local hospital.

"I am extremely grateful to the AAO-HNSF for making this experience possible for me through the Humanitarian Travel Grant. I am eager to continue training and hope that humanitarian efforts and global surgery will be central features of my

career in otolaryngology," said Dr. Ortiz. ■

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### at the forefront







### Sleep Awareness Week Is March 14-20

#### **Sleep & Snoring Patient Information**

Visit **ENThealth.org** for more patient information related to sleep disorders.

#### **Conditions & Treatments:**

- Pediatric Sleep-Disordered Breathing
- Snoring, Sleeping Disorders, and Sleep Apnea

#### Be ENT Smart:

- Continuous Positive Airway Pressure (CPAP)
- Treatment Options for Adults with Snoring
- Surgery for Obstructive Sleep Apnea
- Tips to Improve Your Sleep Quality
- FAQs: Rhinoplasty Patients with Obstructive Sleep Apnea (OSA)

#### **NEW! ENThealth Sleep Journal**

Helps patients track their sleep patterns to share with their ENTs

# OTO Journal

### Don't Miss the Latest Podcast From OTO Journal

To access the library of podcasts hosted by **John H. Krouse, MD, PhD, MBA,** Editor in Chief of *Otolaryngology–Head and Neck Surgery* and *OTO Open*, visit sageotolaryngology.sageublications.libsynpro.com.



### **Education Opportunities in Otology**

Examine numerous free otology topics available in OTO Source, ranging from skull base anatomy, chronic otitis media, and cholesteatoma to vestibular migraines. Visit the Otology/Audiology Unit in OTO Source for your learning needs at www.otosource.org.

### World Voice Day: One World, Many Voices

Save the Date: World Voice Day is celebrated on April 16 annually. Looking for materials to share with your patients: ENThealth.org is a dynamic patient health website—a consumer-facing online resource for patient-centered otolaryngology-head and neck surgery information with extensive information on hearing-related conditions and treatments as well as wellness and prevention articles.

Look for more material to be published in the April *Bulletin* and at www.entnet.org/WorldVoiceDay.



# #IAMOTO Match Day MARCH 19, 2021

AAO-HNS looks forward to welcoming newly matched residents to the specialty on Match Day 2021, March 19. Tell us why you're proud to be an ENT, why you love the specialty, what drew you to otolaryngologyhead and neck surgery, or your Match Day story. Share your stories, photos, and videos on social media using #IAMOTO and tagging @aaohns on Facebook, Twitter, Instagram, and YouTube.

Program Directors: Help the Academy showcase the new faces of the specialty! Invite your new and current OTO matches to send a photo or short video—on or leading up to Match Day—sharing why matching otolaryngology is important to them. We'd also love to see your videos of OTO matches being announced.

For more information, visit **www.entnet.org/otomatch**.

# Rhinoplasty quality measures available to Reg-ent<sup>SM</sup> registry participants

Executive Summary: "Evidence-Based Performance Measures for Rhinoplasty: A Multi-Disciplinary Performance Measure Set" was published online in *Otolaryngology–Head and Neck Surgery* on February 9. This manuscript provides an overview of the Rhinoplasty Performance Measurement Workgroup, a multidisciplinary collaboration of the American Academy of Otolaryngology–Head and Neck Surgery Foundation with the American Society of Plastic Surgeons, and the American Academy of Facial Plastic and Reconstructive Surgery. The workgroup developed the rhinoplasty quality measure set within the framework of the 2018 AAO-HNSF Clinical Practice Guideline: Improving Nasal Form and Function After Rhinoplasty and ultimately identified one outcome measure and three process measures. These rhinoplasty quality measures are available for Reg-ent registry participants.

The executive summary can be found at https://journals.sagepub. com/doi/full/10.1177/0194599821991083.

To read the full manuscript published in *Plastic and Reconstructive Surgery*, visit https://journals.lww.com/ plasreconsurg/Fulltext/2021/02000/Evidence\_Based\_Performance\_ Measures\_for.16.aspx.





### New Administration. New Healthcare Priorities. AAO-HNS Focuses on Advocacy

### Save the Date!

ith the change in Administration and Congress, this oneday session will focus on the new priorities and what they mean to otolaryngologists.

Mark your calendar for Saturday, April 17, and register for the AAO-HNS/F 2021 Virtual Leadership Forum & BOG Spring Meeting. This advocacy-based program—complimentary for Academy members—will be held from 10:00 am – 5:00 pm (ET).

#### **Confirmed speakers:**

The Honorable Asa Hutchinson Governor, Arkansas

Mark Cuban Co-Founder, Broadcast.com Owner, Dallas Mavericks Star, Shark Tank

#### **Other Program Highlights\*:**

- Coding, billing, and reimbursement update by **R. Peter Manes, MD,** AAO-HNS Coordinator for Advocacy
- Federal and state legislative and regulatory updates
- State OTO Society Roundtable featuring a keynote speaker and case studies highlighting society management best practices followed by the Executive Directors and Society Administrators Forum

Visit https://entnet-org.zoom.us/webinar/register/WN\_ EJWnWsmWTCSh5kjzEXEgZQ to register for the AAO-HNS/F 2021 Virtual Leadership Forum & BOG Spring Meeting.

Questions about this year's Virtual Leadership Forum & BOG Spring Meeting? Email bog@entnet.org.

\*Program is subject to change. Final detailed program will be emailed to all registrants and can be viewed online at https://www.entnet.org/content/ aao-hnsf-leadership-forum-bog-spring-meeting.



The following podcasts have been added to the Academy's official podcast app FrequENTcy since the start of 2021 (as of February 19, 2021).

#### AAO-HNS Trauma Committee Podcast: Acute Head and Neck Injuries

Allison A. Slijepcevic, MD, (Washington University School of Medicine in St. Louis) moderates a case-based discussion of airway management in the setting of pan facial fractures as a cause of upper airway obstruction, direct laryngeal injury, and penetrating neck trauma, a podcast commissioned by the AAO-HNS Trauma Committee. She is joined by otolaryngologist-head and neck surgeons from the Washington University School of Medicine: Emily A. Spataro, MD; Joseph P. Bradley, MD; Molly N. Huston, MD; and Patrik Pipkorn, MD. This is the second in a series of traumarelated podcasts coordinated by Sarah R. Akkina, MD, MS, (UW Medicine) and Dr. Slijepcevic.

#### AAO-HNS International Young Physician Forum Offers the Four Podcasts Listed Below:

• Establishing International Research and Educational Collaborations

**Susan R. Cordes, MD**, discusses establishing international research and educational collaborations.

- Wellness Strategies During the Pandemic Julie L. Wei, MD, discusses wellness strategies during the time of the COVID-19 pandemic.
- Building Your Brand Leslie R. Kim, MD, discusses how to build your brand.
- Leadership in the Community Carol R. Bradford, MD, MS, AAO-HNS/F President, discusses leadership in the community.

Look for more podcasts in 2021 covering topics that celebrate the 125th Anniversary of the AAO-HNS/F and the pioneers and legends who have impacted the specialty.

Download the Academy's official podcast app FrequENTcy to receive immediate notification when new titles are added. Academy podcasts also can be found on Apple podcasts, Spotify, Amazon Music, Android, iPhone, and Microsoft Windows.



# CALL FOR PAPERS: NOW OPEN

Otolaryngology-Head and Neck Surgery is Seeking Papers Relevant to DIVERSITY, EQUITY, AND INCLUSION IN OTOLARYNGOLOGY-HEAD AND NECK SURGERY for a Themed Issue to be Published in Summer 2022

#### Relevant topics for consideration include:

- Social Determinants of Health
- Diversity, Equity, and Inclusion in Medical Education
- Health Disparities in Vulnerable Populations
- Development of a Diverse Workforce in Otolaryngology-Head and Neck Surgery
- Health Policy and Inequality
- Promoting and Facilitating Diversity in Leadership
- Structural Racism and Inequity
- Economic Drivers of Healthcare and Their Implications
- Ethical Implications of Inequity in Health and Society

Submit papers for the themed issue at

www.editorialmanager.com/otohns

If you have any questions, please contact the Editorial Office at **otomanager@entnet.org**.



# **Spotlight:** Humanitarian Efforts Peter J. Koltai, MD

he AAO-HNSF International Affairs Program is pleased to spotlight the humanitarian efforts of **Peter J. Koltai, MD,** for his work with Harare



Children's Hospital, Ear Camps, and PENTAFRICA.

### Where do you currently practice, and what is your specialty area?

I'm emeritus professor of otolaryngology and pediatrics at the Stanford University School of Medicine. I am a pediatric otolaryngologist and practice at the Lucile Packard Children's Hospital Stanford.

### What humanitarian organizations are you involved with?

In 2015, working in partnership with Dr. Clemence Chidziva, professor of otolaryngology at the University of Zimbabwe, we established and outfitted a pediatric otolaryngology clinic at the Harare Children's Hospital. At outlying missions we also run Ear Camps that provide ear exams, audiograms, and hearing aids through Dr. Chidziva's charity. Finally, we established PENTAFRICA, the first pediatric otolaryngology organization in Africa. It is similar to the other continental pediatric ENT societies around the world, such as the American Society of Pediatric Otolaryngology, The European Society of Pediatric Otorhinolaryngology, Interamerican Association of Pediatric Otorhinolaryngology, and American Society for Parenteral and Enteral Nutrition. Our first conference was in 2018 at Victoria Falls, Zambia.



Healthcare team examining a child in the operating room. Dr. Koltai (seated in center of the photo) is performing the laryngoscopy.

#### What got you started in committing your time and practice to humanitarian efforts?

Dr. Chidziva requested my assistance in helping to establish a pediatric otolaryngology clinic. Having 30 years of experience as a pediatric otolaryngologist and having established two divisions and two fellowship programs of pediatric otolaryngology, I found his invitation highly compelling.

# How does your work impact the communities you serve and you as a person?

After my first sabbatical in Zimbabwe in 2015, I was overwhelmed with the joy of service to the warm, friendly, and appreciative patients, parents, colleagues, residents, and students I have had the opportunity care for, teach, and interact with. It has been enormously fulfilling. I feel so fortunate that late in my career, I was given this opportunity to make good use of what I had learned over a professional lifetime and add a whole new layer of experience and understanding of the world we live in. It was also an opportunity to learn about the medical resource burdens facing Zimbabwe as well as much of Africa, which have been much amplified in the face of the COVID-19 pandemic.

#### What would you say to encourage others to support humanitarian efforts around the world?

I think the most cogent way to answer this is to say that the best getting is in the giving; it's as simple as that. The feelings of inclusion, charity, empathy, and community are deeply human qualities that are well nurtured by serving others. I find it a source of joy, inspiration, and self-fulfillment akin to fatherhood.



# Impact and Nuances of the 2021 E/M Coding Changes



Lance A. Manning, MD BOG Chair

# 66

Hopefully, this discussion provides assistance as we all navigate this new E/M office visit coding paradigm.

"

n 2020 COVID-19 and all its sequalae introduced countless changes to the lives of Americans across the country and broad-reaching impacts on the practice of medicine. This year one of the most significant impacts to U.S. physician practices includes not just the ongoing COVID-19 pandemic, but also the changes in evaluation and management (E/M) documentation and payment for office and outpatient services. As stated by the Centers for Medicare & Medicaid Services (CMS) former Administrator Seema Verma, the Calendar Year 2021 Medicare Physician Fee Schedule (PFS) final rule "marks the most significant updates to E/M codes in 30 years."

Primary among the new documentation changes, two of the three key components for determining an E/M level for outpatient office visits, history and physical exam, are no longer factored into the determination of E/M code level. The history and exam must simply be "medically appropriate." Components for E/M office visit code selection are narrowed down to two: medical decision-making (MDM) or total time on the day of the encounter. CPT Code 99201 for a Level 1 office/outpatient visit, new patient, has been eliminated due its significant overlap with MDM for CPT Code 99202. RVU values for E/M office visit codes were revalued and significantly increased. These increases ranged from 7.0% for 99204 to 45.8% for 99212. However, since Medicare reimbursement is a "zero sum game," increases in the value for any CPT code

result in a decline for others. The massive increase in the RVUs for E/M services therefore necessitated a commensurate drop in the 2021 CMS conversion factor due to the statutorily required budget neutrality adjustment. The increase to the RVU for E/M services effectively shifted billions of dollars in reimbursement from the procedural CPT codes to the outpatient E/M office visits. The initial conversion factor in the 2021 MPFS Final Rule was \$32.41 and represented a decrease of 10.2% to a level not seen since the mid-1990s. The conversion factor 20 years ago in 2001 was \$38.26.

Additional modifications to the 2021 Medicare PFS included in the Consolidated Appropriations Act, 2021, enacted on December 27, 2020, after the release of the PFS final rule earlier in the month, added \$3.75 billion to the Medicare budget, suspended the 2% budget sequestration through March 31, 2021, and delayed implementation of CPT G2211, an add-on code used for inherent complexity, until 2024. Collectively, these changes softened the blow for certain primarily proceduralbased medical specialties for one year. The cumulative changes included in the Act resulted in a 2021 conversion factor of \$34.89, up from the projected \$32.41 but this still represented a significant decrease from the \$36.09 in 2020. All these recent dynamic and expansive changes raise a number of questions and nuances. We will share some common questions and answers below to provide tips and clarity.



#### What does all of this mean economically to otolaryngologisthead and neck surgeons?

Surprisingly to some, otolaryngology as a whole derives more revenue from E/M coding than from procedural codes. Thus, the overall financial impact to the specialty, a projected \$1.271 billion in Medicare allowed charges, represents an estimated net increase of 6% to otolaryngology-head and neck surgery.

#### Will the RVU increases for office visits also be applied to office visits when included within the global period for 10- and 90-day codes?

Despite significant advocacy by the AAO-HNS and other medical specialty societies, the RVU value increases will not apply to office visits within the global period.

#### With these new coding regulations in which the E/M level is based on MDM, what are some of the determinants?

MDM is based primarily on the number of diagnoses or treatment options, the amount and/or complexity of data reviewed, and the risk of complications, and/or morbidity and mortality. A revised table that succinctly lists these elements can be found on the AMA website: https://www.ama-assn.org/ system/files/2019-06/cpt-revised-mdmgrid.pdf

#### What are some of the specific elements for which physicians can obtain credit for establishing the E/M level of the office visit?

Physicians should document reviewing the results of each unique test (including imaging) or prior external notes from each unique source, performing an assessment requiring an independent historian for a patient who cannot provide a complete or reliable history, independently interpreting a test performed by another provider (when they cannot report the service using another CPT code), or discussing patient management or test interpretation with an external physician.

### What can now be accounted for when billing for time?

The prior E/M guidelines allowed determination of E/M level based on time only when a practitioner spent more than 50% of the visit counseling and/or coordinating care. In 2021 this requirement no longer applies. Eligible time now includes both the face-to-face and non-face-to-face time that a physician personally spends before, during, and after the visit on the same day. This includes time spent on care coordination; documenting information in the health record; independently interpreting and communicating results; reviewing separately obtained history; counseling or educating the patient or caregiver; ordering tests, medications, or procedures; performing a medical exam; preparing to see the patient; reviewing tests; and referring the patient.

#### Lastly, remember the following:

- Keep medical necessity in mind.
- Document social determinants of health, such as homelessness or extreme poverty.
- Do not count services that are being billed under another CPT code by the same physician.
- Do not count physician work toward an E/M level if that work was not done on the day of the face-to-face encounter.
- Document specific (not generic) tests, records, or communication that are reviewed.
- Describe diagnosis management and do not count diagnoses that are being managed by another physician.

Hopefully, this discussion provides assistance as we all navigate this new E/M office visit coding paradigm.

### pearls from your **Deers** Emergency Preparedness in Otolaryngology



#### **INTERVIEWEE**

#### Han-Soo Bae, MD

Comprehensive Otolaryngologist, Monroe Ear, Nose and Throat Associates, Monroe, Michigan Faculty, Annual Otolaryngology Essentials Simulation Boot Camp, University of Michigan

#### INTERVIEWER

#### Kelly M. Malloy, MD

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Dr. Han-Soo Bae is a comprehensive otolaryngologist at Monroe Ear, Nose and Throat Associates in Monroe, Michigan. He is certified in sleep medicine and serves as teaching faculty in the Annual Otolaryngology Essentials Simulation Boot Camp hosted at the University of Michigan.

or this month's Pearls from Your Peers from the Simulation Education Committee (SIMEC), we query **Dr. Han-Soo Bae** on emergency preparedness in otolaryngology. While residency training exposes us to frequent airway, bleeding, trauma, or infectious emergencies, life in practice is typically less emergency-oriented. That said, we need to remain prepared for the "worst case scenarios."

#### We all have to respond to the unexpected emergency in our practices, however rare that may be. How do you prepare technically and mentally for a difficult airway or a severe bleeding event?

I will never forget my first emergency situation after training. It happened on my first day at a small hospital in Alpena, Michigan. An emergency call came for a hemorrhaging base of tongue tumor—a bleeding and airway emergency. The patient was struggling to breathe with blood and clot frothing from his mouth. Scared, he initially balked at my recommendation for urgent tracheotomy, but I was able to rely on my training and ultimately secured his immediate safety via a surgical airway.

In practice, true emergencies are much less frequent. Angioedema is probably the most common emergency we see, and every time I get that call, I start to prepare mentally as I drive to the emergency department (ED). I run through the airway algorithm in my head. I think of the worst-case scenario at each branch point and work through what equipment I might need and what options I have, etc. From a technical standpoint, I still rely on my training, but now I also rely on my experience. Every airway emergency has given me exponentially more white hairs, and I deliberately reflect on each of these episodes so that they all serve to prepare me for the next crisis.

# What other pearls can you share to help us be more mentally prepared for emergencies?

The first is to remember that while you will be nervous, you are likely the only person available to help this patient. That might increase your anxiety, appropriately, but it should also give you confidence. If you cannot secure the airway, it is likely that no one can. Trust your training.

Second, taking time to debrief with your team once the emergency is resolved will serve you well. This allows you to think about what you might do differently next time, like tweaks to an airway cart, or planning an in-service for the ED staff to prepare for next time.

#### Thank you for bringing up the importance of the team. How do you ensure that your team is also well prepared for emergencies?

This is interesting because there are two common scenarios here. One is that you are working with a team you don't know well, but they are used to emergencies. In the ED the team does not have your content expertise, but they respond well to direction and are used to rapid decisions. My experience in the Army also fits this description. On any new deployment, the team members are well-trained but new to each other. Tools like standardized anesthesia carts go a long way to keeping new teams working safely and expertly together.

The other scenario is the team that you work with all the time but is not used to emergencies happening in their work space. My clinic team routinely works well together, but we do not experience emergencies often in the clinic. When an allergy patient goes into anaphylaxis in the clinic, it can be very hectic and stressful, even though the team knows each other well. The first time that happened, our response was not as great as it could have been. The patient was fine, but we felt relatively underprepared. Now we meet regularly to review our anaphylaxis protocols, update our crash carts, and run through scenarios. We assign roles so that even nonclinical staff know what they need to do. Who gets the crash cart, who calls 911, etc.?

#### Do you think that an opportunity to rehearse these events would provide value, and why?

Yes. I've experienced using simulation

to train residents on emergency otolaryngology scenarios, and I think that this would be just as impactful for practicing otolaryngologists who manage emergencies at a less frequent rate. The learning environment would need to be guilt and judgement-free so that colleagues would feel comfortable working through scenarios that they may not have experienced in some years. The high-technology manikins are incredibly elaborate and realistic, so I see this as being an increasingly important way to support AAO-HNS members during their careers. My experience is that running through scenarios helps refresh emergency preparedness, keeping us ready for the worst things that can happen. Simulation can and should play an important role here.



Legislative Outlook for the 117th Congressional Session

s the 117th U.S. Congress convenes and a new Administration with President Joseph R. Biden, Jr. at the helm gets underway, the country is facing a major political shift in power. This shift will have broad-reaching impacts across many industries, including healthcare. With the Democratic Party possessing a majority in both chambers of the legislative branch, though narrow in the Senate, as well as the executive branch, we are sure to see a transformation in the management of the coronavirus pandemic and healthcare reform priorities. The thin Democratic majority in the Senate is attributed to the runoff election in Georgia where Raphael Warnock and Jon Ossoff triumphed over GOP incumbents Senator Kelly Loeffler and Senator David Perdue, respectively. With these two wins on January 6, 2020, Vice President Kamala D. Harris serves as the tie-breaking vote in the Senate for the 117th Congress, over a chamber split 50-50 between Democrats and Republicans.

In the 116th Congress, the Academy's leadership, legislative member advocates, and Advocacy team worked together to achieve significant otolaryngology-related federal legislative "wins" including:

- mitigated the negative effects of the CY 2021 physician fee schedule's budget neutrality rules resulting in an estimated overall 8% increase in Medicare payments for otolaryngologists in 2021
- fought to protect patient safety and ensured audiologists were not inappropriately granted unlimited direct access to Medicare patients without a physician referral
- secured changes to enacted Surprise Billing legislation to include an Independent Dispute Resolution process and elimination of the use of Medicare or Medicaid comparator rates during arbitration

 obtained aid for Academy members and their practices in multiple COVID-19 relief packages that became law in 2020

The Academy is eager to build off these legislative successes from the previous Congress to further protect and bolster the specialty moving forward. President Biden is now leading the U.S. response against the ongoing COVID-19 pandemic, which will likely drive near-term legislative priorities. The Democratic party is pushing a Coronavirus stimulus relief bill that will likely pass the House and faces an uphill battle in the Senate. The stimulus package includes provisions that would provide funds toward vaccinations, add an additional \$7 billion to the Paycheck Protection Program, and make federal premium subsidies for Affordable Care Act policies more generous. The AAO-HNS will continue to steadfastly advocate for the specialty and physicians as the new Administration and Congress pursue building on the Affordable Care Act, broader Medicare reform, and implementing regulations to enact the new surprise billing law. While single payor healthcare and larger sweeping healthcare reforms are possible, given the narrow majority that the Democratic Party possesses in both chambers, changes of this magnitude are now less likely.

As we navigate the contours of a new Congress and Administration, the Academy stands ready to fight for otolaryngologist-head and neck surgeons and the patients you serve. The AAO-HNS is currently meeting with new lawmakers to help educate them on the specialty's legislative priorities. As impactful legislation begins to be introduced on Capitol Hill, watch for upcoming opportunities to contact your Congressional representatives and senators to make your voice heard!

## Top 100 CPT Codes

The American Academy of Otolaryngology-Head and Neck Surgery has prepared new member resources outlining the Top 100 Current Procedural Terminology (CPT) codes reported by providers with the subspecialty designation of "4-Otolaryngology" within the Medicare enrollment database. Two charts are now available:

#### 2021 Top 100 ENT Codes Billed in a Physician Office

The 100 most commonly reported codes in the physician office site of service.

#### 2021 Top 100 ENT Codes Billed in the Hospital Outpatient Department

The 100 most frequently reported codes for the hospital outpatient site of service.

Volume for both charts is based on 2019 Medicare claims data, the most recent year for which data is available.

Further information and the chart files can be accessed as part of the Academy's Coding Corner (https:// www.entnet.org/content/codingcorner). The Coding Corner is a valuable resource available to AAO-HNS members that includes CPT for ENT articles, annual code change summaries, and ICD-10 coding resources.



# Wellness Is Great, but Lifestyle Is Better

Richard M. Rosenfeld, MD, MPH, MBA

> ellness is one of the four key pillars of the Academy's 125th anniversary

giving campaign, **125 Strong Campaign**, acknowledging how incessant demands on time and attention can lead to emotional and spiritual drain. Wellness was also highlighted as part of the Professional and Personal Development Education Track for AAO-HNSF 2021 Annual Meeting & OTO Experience submissions.

As **Dana M. Thompson, MD, MS,** notes in the Special 125th Anniversary Edition of AAO-HNS *Bulletin*, "Cultivating physician well-being and resilience is a key to enhancing the quality of otolaryngology care and the sustainability of our physician workforce." These words are a call to action considering that 36% of otolaryngologists are burned out, only 30% are very happy at work, and 17% have suicidal thoughts (*Medscape* Otolaryngologist Lifestyle, Happiness & Burnout Report 2019). Wellness is noble but becomes even more enticing when viewed through the larger lens of *lifestyle medicine*. As defined by the American College of Lifestyle Medicine (ACLM), lifestyle medicine means using "evidence-based lifestyle therapeutic interventions—including a whole-food, plant-predominant eating pattern, regular physical activity, restorative sleep, stress management, avoidance of risky substances, and positive social connection—as a primary modality, delivered by clinicians trained and certified in this specialty, to prevent, treat, and often reverse chronic disease."

Of note, lifestyle medicine is a relatively new specialty, with ACLM founded in 2004 and the first board examinations administered in 2017. Certification requires completion of 30 hours of online/non-live CME, 10 hours of in-person CME, a certification examination, and a personal case study of their experience with lifestyle medicine.

Why is lifestyle medicine important for otolaryngologists? About 50% are overweight, 25% exercise once weekly or not at all (only 9% every day), 10% have seven or more alcoholic drinks per week, and most state they are unlikely to participate in workplace programs to reduce stress or burnout (*Medscape* Reports 2019 and 2020). The impact of these behaviors, plus suboptimal diet and poor sleep habits, contributes to why 45% of all U.S. adults have high blood pressure, 42% are obese, 13% have chronic lung disease, 9% are diabetics, and 7% have coronary artery disease (CDC estimates).

The current pandemic highlights the fragility of life, making it more important than ever to consider how lifestyle behaviors can protect us, and the patients we serve, from infections and their consequences. Perhaps the most empowering aspect of lifestyle medicine is that *each of us has the power to adopt new behaviors* that drastically reduce our odds of bad health outcomes. We cannot know with certainty what health challenges lie ahead, but we can take certain steps as individuals and society to promote lifestyle choices that build health, resiliency, and longevity.

Academy wellness initiatives will have the most impact on members, staff, and patients when considered part of a larger focus on the new specialty of lifestyle medicine. You can learn more about this dynamic, rapidly growing specialty through ACLM at www.lifestylemedicine.org.





# **SAVE THE DATE FOR #OTOMTG21**

### 2021 MARKS THE 125TH ANNIVERSARY OF THE AAO-HNS/F

The Academy is planning a number of special events to commemorate our history at the Annual Meeting.

Stay tuned for more information!

# #WeAre125

Learn more at www.entannualmeeting.org



# Crafting a Successful Annual Meeting Program Submission

Daniel C. Chelius, Jr., MD, AAO-HNSF Annual Meeting Program Coordinator

s a resident. I



co-authored AAO-HNSF Annual Meeting Poster presentations, leading to my fortune to have my first Annual Meeting Panel Presentation proposal accepted as a young attending. The acceptance had very little, if anything, to do with me as the moderator-I was filling in on a previously successful offer from the AAO-HNS Ethics Committee with highly sought-after panelists including Dr. Susan Cordes and Dr. James Netterville. The topic, effective humanitarian medical care, had been identified in an educational gap analysis as a key deficit for the meeting. Dr. Chris McMains' original beautifully written proposal required little updating. For a young moderator, it was a dream opportunity to submit a Panel Presentation that followed all the best advice I'd ever heard on getting a presentation accepted at the Annual Meeting. The experience served as a critical mentorship opportunity for me on how to craft and deliver a successful education offering.

With almost 10 years of experience working on the Annual Meeting Program Committee, I now recognize how truly lucky I was. Given the tight competition for presentation opportunities at the Annual Meeting, many proposals are submitted and refined multiple years before being accepted. We've come a long way from the roughly 50 oral papers volunteered for the first meeting in 1896. This year the Annual Meeting Program Committee (AMPC) is reviewing almost 1,500 submissions and, as usual, is splitting hairs to choose among exciting research, innovative education, and widely praised thought leadership. With the review process fresh in mind, I've asked several AMPC leaders to share their advice on crafting a high-quality and competitive submission.

#### Julina Ongkasuwan, MD

AMPC Pediatric Otolaryngology Subgroup Leader

What is your best advice for identifying critical topics most likely

to be accepted for presentation at the Annual Meeting?

The AAO-HNSF Annual Meeting is an extraordinary opportunity for otolaryngologists around the world and across subspecialities to learn and disseminate information. The Annual Meeting Program Committee strives to provide content covering the breadth of the specialty that will be of interest to practicing otolaryngologists, within a relatively short period of time. When formulating a submission for the meeting, it is helpful to look at the existing gap analysis on the Call for Science website (https://www. entannualmeeting.org/2021-call-forscience/). In addition, you can browse content from previous meetings within OTO Logic, previously AcademyU<sup>®</sup> (http:// academyu.entnet.org/diweb/start), and identify topics that you think are deficient

and are within your expertise. Finally, it never hurts to have a witty title.

#### Rod P. Rezaee, MD

AMPC Head and Neck Surgery Subgroup Leader What are some pearls and pitfalls for differentiating your



proposal from among the many quality submissions for the Annual Meeting?



- Is the topic emerging, relevant, and/ or current for patient care?
- Is the topic very limited in scope or does it have broad applicability across specialties and practitioners?
- Is it a duplicate of other talks or is it unique?
- Are the stated goals reasonable and feasible in the requested time?
- Are the stated aims accurate and do they parallel the listed faculty's demonstrable experience and presentation/publication history?
- Are the references applicable? Are they only recent or are they balanced by year and discipline?
- Is it a case report or is it a series or an institutional experience? Will it add to the existing body of literature or assist with changing/bolstering practice patterns for the attendees?
- Do the conclusions match the body and evidence level of the work?
- Is the submission clear and concise with proper grammar and editing?
- Are the panelists diverse in all applicable aspects: career level, gender, ethnicity, and disciplines?

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# When Should Adults with Bilateral Hearing Loss Be Referred for Cochlear Implantation?

Riddhima Agarwal, BS, MS; Aaron C. Moberly, MD; and Varun V. Varadarajan, MD

ver the past several decades, cochlear implantation (CI) has become a well-established treatment modality for adults with moderate-to-profound sensorineural hearing loss (SNHL) and who have experienced limited benefit from hearing aids. The indications for CI have gradually expanded alongside advancements in engineering and speech processing technology, as well as an increased familiarity of healthcare providers and patients regarding communication improvements with the devices. The criteria for adult cochlear implant candidacy have evolved from patients with severe-to-profound bilateral SNHL to those with greater degrees of residual low-frequency hearing, and now even to some individuals with single-sided deafness. However despite widespread acknowledgment of the safety and efficacy of CI technology, only 5%-10% of patients who would be considered eligible for CI from a "traditional" candidacy standpoint (i.e., bilateral SNHL) undergo cochlear implant evaluation (CIE) to formally determine candidacy.1 This underutilization

can be attributed to limited regional access, poor understanding of the technology by primary care providers resulting in low referral rates for hearing loss, and, perhaps most notably, a lack of established referral guidelines for CIE.<sup>1</sup>

For adults with bilateral SNHL, clinicians typically use routine audiometric tests, such as unaided pure tone audiometry, speech reception thresholds, and word recognition scores (WRS) to attempt to make a decision regarding referral for CIE. In the United States, CIE consists of a battery of audiologic tests in the best-aided condition to evaluate speech recognition using sentences (e.g., AzBio), with or without the incorporation of background noise. Private insurance companies typically require patients to score ≤60% on sentence recognition (with or without background noise), which is less restrictive than the Medicare requirement of scores  $\leq 40\%$ . At their providers' discretion, patients may be referred for CIE when they have bilateral moderateto-profound SNHL, severely impaired speech discrimination, or if they express dissatisfaction with hearing amplification. Although the decision to refer patients with greater degrees of hearing loss (e.g., bilateral severe-to-profound SNHL) and

grossly impaired speech discrimination may appear straightforward, patients with "borderline" performance on routine audiologic testing are less obvious and may be overlooked for referral, when in fact they may ultimately benefit from CI. Several proposed strategies have been published in an attempt to provide referral criteria for CIE based on routine unaided audiologic evaluation, reviewed in a recent Triological Society Best Practice article.<sup>2</sup>

In a prospective study, Lupo and colleagues investigated the preimplant performance of 100 adults with bilateral moderate-to-profound SNHL who were seeking CIE due to dissatisfaction from bilateral hearing aids. They concluded that patients with bilateral moderate-toprofound SNHL and 3-frequency pure tone averages (3FPTA)  $\geq$ 70 dB HL do not typically benefit sufficiently from bilateral hearing aids and should be referred for CIE.<sup>3</sup> In a retrospective study of 139 patients, Gubbels et al. correlated pure tone thresholds and unaided WRS with aided sentence-level recognition scores from CIE that were used to define candidacy.<sup>4</sup> They concluded that patients with individual pure tone thresholds (0.25, 0.5, 1 kHz) of ≥75 dB HL and/or a monosyllabic WRS of  $\leq 40\%$  in the better ear have > 80%

probability of meeting traditional CI candidacy. In a retrospective study of 185 patients, Hoppe et al. plotted 4-frequency pure tone average (4FPTA) against PBmax (maximum unaided monosyllabic WRS obtained by sequentially increasing volume) to create a probabilistic machinelearning model for predicting CI candidacy with a sensitivity and specificity of 87% and, 91% respectively. They concluded that patients should be referred for CIE if the linear expression produced by this model (PBmax [%] < 4FPTA [dB] - 8) holds true for either ear tested.5 In a follow-up study of 128 "borderline" candidates (4FPTAs >80 dB HL but aided WRS  $\leq$ 50%), the authors observed that CI improved WRS in 98% of these patients.<sup>6</sup> Hunter and Tolisano retrospectively reviewed 206 patients and used regression models to predict CI candidacy. The authors concluded that using a WRS <60% in the better hearing ear as a referral threshold provides a sensitivity and specificity of 83.1% and 63.8%, respectively.<sup>7</sup> Lastly, in a retrospective study of 529 patients, Zwolan and colleagues tested the effectiveness of using a "60/60" guideline (better ear PTA ≥60 dB HL and better ear unaided WRS  $\leq 60\%$ ) to refer patients for CIE. Their referral guideline identified patients that met CI candidacy with 96% sensitivity and 66% specificity.8

These published strategies are some of the first to use elements from routine unaided audiometry to assist in identifying CI candidates. Predicting candidacy from routine audiologic evaluation is desirable given that it is easier, less time-consuming, and more familiar to all otolaryngologists and audiologists than a CIE.<sup>4</sup> However the referral recommendations, incorporation of background noise, or specific tests (i.e., PBmax is also not routinely obtained in

all centers), and ear laterality (e.g., using criteria based on the better or the worse ear) vary between studies. Furthermore, the accuracy for predicting candidacy in each study may not apply to other institutions' patient populations depending on the referral sources, patient demographics, and the institutions' testing paradigms. Protocols for use of background noise during testing, for example, vary based on institutional philosophy and may influence how many additional candidates are identified. Some institutions incorporate background noise of +10 signal-to-noise ratio (SNR) if a patient fails to meet candidacy in quiet, then +5 SNR if the patient fails in +10 SNR background noise. Other centers may be more aggressive and routinely test all patients in +5 SNR. Depending on the center's available resources and willingness to accept false positive CI referrals, providers may be hesitant to refer based on broad ranges of audiometric cutoffs or a specific frequency pure tone threshold (rather than a PTA). Recommendations may also continue to evolve as alternative candidacy criteria (e.g., consonant-nucleus-consonant test) are widely accepted clinically as well as by insurance payors.

Based on the existing literature, a conservative recommendation would be that patients with an unaided 3FPTA (0.5, 1, and 2 kHz) of 70 dB HL or worse and/or unaided WRS ≤40% in the ear to be implanted are highly likely to be CI candidates when tested in quiet and should be referred for CIE. If a higher false positive referral rate is acceptable (i.e., negative CIE), and/or if candidacy is determined by testing in background noise, patients with 3FPTA of worse than 60 dB HL and WRS ≤60% in the better ear should be considered for CIE.<sup>2</sup> An ideal referral guideline would maximize sensitivity while limiting unnecessary time and resource expenditure associated with negative referrals. Nonetheless, there may be inherent value in referral for a negative CIE; patients and families become established with a center for future evaluations and are also made aware of CI technology if their hearing loss progresses. The ultimate goal is to optimally meet the needs of patients with SNHL, identify patients for CIE who would previously have been overlooked, and close the gap of underutilization of CI technology.

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# **Pediatric Sensorineural Hearing Loss:** What Causes It and What to Do Next?

Margaret A. Kenna, MD, MPH, and Daniel Choo, MD

his invited article presents a brief synopsis of the AAO-HNSF 2020 Virtual Annual Meeting & OTO Experience Panel Presentation, "Pediatric Sensorineural Hearing Loss: What Causes It and What to Do Next?" This presentation has been selected by the Annual Meeting Program Committee for the past 18 years and continues to be one of the frequently attended and highly rated courses. The course is updated each year to incorporate novel information and trends in the workup and management of sensorineural hearing loss in children. Focusing on the molecular genetics, imaging, and virologic aspects of pediatric hearing loss, this course has offered state-of-the-art and practical tools for otolaryngologists seeing these patients in their practices.

#### Genetics and Pediatric Sensorineural Hearing Loss

The field of pediatric sensorineural hearing loss (SNHL) is one of the most steadily evolving domains in otolaryngology, with the molecular genetic aspects leading the way. Starting with pedigree and linkage analyses, microarrays, and genome-wide association studies, ever-faster and cheaper DNA sequencing has identified hundreds of genes associated with SNHL. Currently, next generation DNA sequencing platforms provide rapid identification of known and new deafness-causing mutations, including syndromic causes that present as nonsyndromic hearing loss in infancy. Whole exome and whole genome sequencing offer ever larger amounts of molecular genetic information to clinicians with the potential to identify more complex genetic hearing disorders beyond "simple" monogenic hearing losses. It is indisputable that whole genome sequencing on every patient presenting for hearing loss evaluation is on

the visible horizon. Determining what to do with all that clinical data in an efficient and cost-effective manner is one of the next challenges for otolaryngologists. Additionally, when genetic therapies become available, knowledge of the specific gene/genetic mutation will be essential for patient care.

Most genetic sequencing panels screen dozens to hundreds of genes associated with pediatric hearing loss. Notably, the most useful genetic testing platforms also include evidence-based interpretation of the genotyping data and offer genetic counseling services when appropriate. Counseling matters as a common outcome from sequencing of multiple genes is to identify variants of unknown significance (VUS). These VUS may be novel variants as yet to be linked to SNHL, but in other cases may simply represent nonpathogenic variations. Since discussing genetic results with patients can be difficult and complex, collaboration with clinical geneticists and

genetic counselors is key to conveying interpretations of the genotyping data and ensuring adequate patient understanding.

#### Imaging of the Inner Ear in Pediatric Sensorineural Hearing Loss

Prior to clinical genetic testing, imaging of the inner ear was (and continues to be) one of the most valuable components of the pediatric SNHL workup. Malformations of the cochlear and vestibular structures were first demonstrated by plain films and tomography, and then in stunning detail by high-resolution computed tomography (CT). Subsequently, the use of magnetic resonance (MR) imaging has offered the same resolution of the inner ear with the added benefit of providing high sensitivity for detecting associated or co-occurring central nervous system (CNS) anomalies. CT and MR clinical data coupled with the otolaryngologist's experience offers prognostic information for the patient related to the likelihood of stable or progressive hearing loss as well as potential outcomes from interventions such as cochlear implantation.

Pragmatically, (non-contrast, nongadolinium) MR imaging has supplanted CT as the initial modality for pediatric SNHL evaluation. In line with Image Gently goals, MR offers high-resolution imaging without any ionizing radiation exposure. Additionally, most MR protocols, which concurrently capture T1 and T2 brain images, have been reported to identify CNS abnormalities in up to 40% of children being scanned for SNHL. While some of these CNS anomalies are unrelated to the SNHL or of no clinical significance to the child, there are definitely findings, such as polymicrogyria, hydrocephalus, and Chiari malformations, that can be highly relevant and might have gone undiagnosed without imaging.

The robust experience and published data from imaging of common inner ear pathologies (e.g., enlarged vestibular aqueducts [EVA]) also offer prognostic information that can dramatically impact patient management. MR or CT data showing an operculum measurement > 3mm, for example, is significantly associated with progressive hearing loss. In another example, cochlear nerve deficiency or a diminutive cochlear aperture are associated with poorer speech recognition outcomes after cochlear implantation. Patient-monitoring schedules as well as long-term strategy conversations can all be guided by such helpful imaging information.

#### Congenital Cytomegalovirus Infection and Pediatric Sensorineural Hearing Loss

Over the past decade, the relevance of congenital cytomegalovirus (cCMV) infection to pediatric SNHL has been increasingly recognized. Spurred by growing clinical and public awareness of cCMV and its protean implications, as well as increasing support for research focusing on CMV-related hearing loss from the National Institutes on Deafness and Other Communication Disorders, this particular area of pediatric SNHL has evolved dramatically in terms of newborn screening for CMV, diagnostic testing, and even antiviral therapy.

Two areas of discussion commonly arise in CMV-related hearing loss. The first touches on the critical timing of testing for cCMV. The gold standard for diagnosing cCMV is demonstrating the presence of CMV infection within the first three weeks of life. Beyond that period, it is less clear whether a positive CMV test represents true congenital infection versus postnatally acquired CMV. There is also debate over the optimal manner of testing for cCMV (blood spot, urine, saliva; PCR versus microculture). However, the key driver is simply obtaining some type of specimen in the proper timeframe. Although making a definite diagnosis of cCMV has significant implications for management and possible antiviral therapy, obtaining newborn hearing screening (NBHS), diagnostic (ABR) hearing testing, and CMV testing within the three-week interval is challenging. As a result, the delays can result in an infant presenting for evaluation beyond the three-week window and the otolaryngologist being caught in a diagnostic predicament. Several adaptations have evolved to address these concerns. One of the most common strategies involves targeted screening for cCMV at birthing centers upon failure of the NBHS. Although failure of the NBHS does not represent a confirmed SNHL, testing at this point addresses the need for obtaining a timely specimen for CMV testing and will capture more infants with cCMV who might otherwise be missed. A second area of discussion focuses on antiviral treatment of children with SNHL and confirmed cCMV infection. The most compelling data are for infants with symptomatic

(i.e., symptoms beyond SNHL, including microcephaly, petechiae, retinitis, brain calcifications, hepatosplenomegaly, anemia) cCMV infection, and hearing loss. In that clinical setting, the use of ganciclovir (parenteral) and valganciclovir (oral) have both demonstrated positive short-term and longer-term effects on hearing as well as neurodevelopmental outcomes. Although the optimal duration of therapy is unclear, preliminary data point toward a six-month course of valganciclovir in fully symptomatic infants as showing significant benefits. Notably, NIH-supported, multicenter studies are underway looking specifically at otherwise asymptomatic, cCMV-infected children for whom SNHL is the only presenting feature. While most children tolerate antiviral therapy well, there are bone marrow suppression, anemia, and hepatic and renal toxicities associated with ganciclovir and valganciclovir. Accordingly, demonstrating the risks and benefits of antiviral therapy are of particular relevance and importance in the setting of "asymptomatic" cCMVrelated hearing loss.

#### Conclusions and the Integrative Workup of Pediatric Sensorineural Hearing Loss

In the past, a shotgun approach to the workup of pediatric SNHL often resulted in a frustratingly low yield for a concise diagnosis and a laborious diagnostic algorithm that was both costly and burdensome to the patient. In contrast, however, high-resolution imaging of the inner ear and brain, genetic screening panels for deafness-causing mutations, It is indisputable that whole genome sequencing on every patient presenting for hearing loss evaluation is on the visible horizon. Determining what to do with all that clinical data in an efficient and cost-effective manner is one of the next challenges for otolaryngologists.

and testing for cCMV infection now allow the otolaryngologist to pinpoint a cause of SNHL in the majority of children presenting with SNHL in a more evidencedriven and cost-justified approach.

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Furthermore, current state-of-the-art workup of a child with SNHL frequently results in an integration of two or three of these key components. As examples, imaging-demonstrated anomalies of the inner ear (bilateral EVA) can lead to specific genetic testing (Pendrin or PDS genotyping), looking for mutations that are associated with specific inner ear malformations. The converse scenario is also true—where an identified gene mutation can lead the otolaryngologist to pursue CT or MR imaging to look for those confirmatory malformations that might have relevance to interventions such as cochlear implantation. Identification of certain genetic causes in apparently

non-syndromic infants may lead to additional studies looking for anomalies in other organ systems (e.g., long QT, Usher syndrome). Certain anomalies of the brain, as seen on MR imaging (e.g., brain calcifications), can also raise suspicion for CMV and trigger viral testing as well as potential antiviral treatment. Taken together, the comprehensive evaluation of a child with SNHL requires a multimodal diagnostic approach that, at the present time, integrates genetic testing panels, imaging of the inner ear and brain, and viral testing when appropriate. As evidenced by this course content over time, the best practices change in some manner almost every single year. Keeping abreast of the new information and how to integrate it into an otolaryngology practice remains the focus of this course each year and hopefully sustains its relevance and value to the Academy members.

# How the COVID-19 Pandemic Is Changing the Approach to Global Surgery

Brianne Barnett Roby, MD, Children's Minnesota/ University of Minnesota, member of the AAO-HNSF Humanitarian Efforts Committee and Pediatric Otolaryngology Education Committee Melesse Gebeyehu, MD, Bahir Dar University, Ethiopia

Rajanya Petersson, MD, Virginia Commonwealth University

s the COVID-19 pandemic arose in the spring of 2020, many surgical humanitarian organizations were forced to cancel trips that had been scheduled for months or even years. Most organizations and host countries felt that the shutdown would be brief and that these trips would quickly resume. Most years, humanitarian organizations perform a total of ~250,000 surgical procedures worldwide. With the extended periods of time between trips, some organizations are transitioning their models of care and focus on education to ensure that populations in underserved regions of the world continue to be effectively served. The Cleft Surgeons Alliance, currently a workgroup within the American Academy of Otolaryngology-Head and Neck Surgery (AAO-HNS), is comprised equally of pediatric otolaryngologists and facial plastic surgeons with extensive cleft and craniofacial training. Many members of the Alliance have traveled extensively with various surgical humanitarian organizations and have been at the forefront of discussions

on how nongovernmental organizations (NGOs) may adapt care and education models in the future.

One such group is Children's Surgery International (CSI), an organization whose mission is to help provide care to children in under-resourced locations through training local surgeons and medical providers in an effort to achieve sustainability. Organizations such as this are increasingly focusing on teaching local surgeons directly, as well as anesthesia teams, pediatric teams, and nursing teams in the operating room and the wards. It is clear that the education of teams around the world should continue. even if we cannot physically travel. Several organizations have created interactive, teleeducation lecture series for local surgeons on topics ranging from cleft lip repair to thyroglossal duct cyst removal. Increased communication with global surgeons has fostered challenging case discussions, with photographs, imaging, and other background information shared between local surgeons and volunteer surgeons from various organizations. Collaborating with talented local surgeons in this manner reveals that they seek continued education and interaction on a continued basis, and not just during short, in-person humanitarian trips.

This does however require a foundation and vision for a model of education, for which many humanitarian organizations have been dedicated. For example, at the Bahir Dar, Ethiopia site, several local



Dr. Gebeyehu, surgeon, and Dr. Petersson, "assisting" or teaching in Ethiopia.

surgeons have trained with CSI surgeons twice a year during trips beginning in 2016. Every effort is made on these visits not to undermine the local surgeons and providers with the eventual goal that the group will not need to return once training is completed. For example, during screening, the local surgeons are at the forefront of assessing patients. The local surgeons perform pre- and postoperative discussion and are active on daily rounds. With consistent training, skills can be checked off for various procedures. At this site, the local teams are motivated and passionate about building programs involving cleft lip and palate surgery within their growing otolaryngology and head and neck surgery programs. These are ideals that are shared by many surgeons who participate in humanitarian missions, and building these collaborations are mutually beneficial to all involved. By the end of the last two trips to Bahir Dar in the spring and fall of 2019, prior to the pandemic cancelling the spring 2020 trip, local surgeons were able to complete cleft lip and palate procedures on their own with minimal supervision from CSI surgeons.

One surgeon in Bahir Dar, Melesse Gebeyehu, MD, had spoken of being grateful for the training he had received but was dismayed that he could not often use his skills in between CSI education trips because patients would seek care from other foreign groups also providing care at other times throughout the year. This is not an uncommon story heard from local surgeons around the world. With travel halted during most of 2020 due to the COVID-19 pandemic, he was able to do several cleft lip and palate cases throughout the year. He sent pre- and postoperative photographs to CSI surgeons for review and feedback and demonstrated excellent results achieved without direct supervision. Unexpectedly, this showed CSI's education model was working at this site and provided a silver lining for this challenging year.

But Dr. Gebeyehu also provided the following summarized perspective.

"Because of the high prevalence of cleft cases and competing elective cases put on hold during the pandemic, there are still factors that limit what they can do. There are very few otolaryngologist-head and neck surgeons, they face a poor healthcare systems and infrastructure, and there are limited medical supplies to address this type of specialized care. These factors continue to challenge and compromise the care they are able to give to cleft patients."

As surgical humanitarian organizations



A recent virtual lecture presented by Brianne Barnett Roby, MD, to surgeons in Ethiopia, Gambia, Liberia, and Tanzania.

start to discuss returning to travel, it is worth considering that large teams of healthcare providers from the United States travelling to various locations around the world may become a thing of the past. It should be considered that it may be years before many countries receive the COVID-19 vaccine, continuing to restrict travel.

In addition, this would change the way traditional surgical humanitarian trips operate.

Most trips start with large screening days where hundreds of patients and their families arrive and wait in close quarters. With social distancing guidelines, this model would be impossible. A newer concept may involve smaller teams of providers (e.g., surgeon, anesthesiologist, pediatrician, nurse) travelling to locations in order to assist local teams. In addition, these smaller teams could still provide supplies as on previous trips to assist with resources. Local teams could perform screening well in advance in a more controlled fashion (possibly with assistance remotely from NGO providers), and NGO providers would provide teaching and assistance rather than actually performing the procedures themselves. This model, of course, requires

some pre-existing level of education, which may be provided remotely and is dependent on the training level of local providers.

The changes due to COVID-19 may help push many NGOs with a teaching mission to advance their goals faster and increase their collaborations with host countries remotely. This continued education of local teams throughout the year, most importantly, allows patients needing care in these countries to receive treatment whether or not an NGO team can travel there. At a time when many groups are trying to achieve sustainability, we have examples showing that the training of local surgeons can be achieved in a relatively short period of time and continued remotely, thereby allowing for care to be delivered without the presence of a foreign surgical humanitarian group. In addition, funds could be diverted to increasing supplies and resources rather than the cost of travel of large teams. This pandemic highlights the need for education-minded surgical groups in order to achieve sustainability in under resourced areas of the world, so that children can receive needed surgical care regardless of the situation preventing travel.

#### FROM THE EDUCATION COMMITTEES

# Otologic and Hearing Issues in the Era of Telehealth and Evolving Online Retail

#### Betty S. Tsai DO, MD

AAO-HNSF Practice Management Education Committee member

#### Lance A. Manning, MD

Chair, AAO-HNSF Practice Management Education Committee Chair, AAO-HNS Board of Governors

rior to 2020, telemedicine in otolaryngology was primarily limited to patients living in remote areas with limited access to specialists for two major reasons. The primary one, particularly for new patients, revolved around the concern for the quality of the exam possible due to available technology for examining nonsurface areas, particularly the aerodigestive tract, nasal passages, and ear canal and middle ear structures. Similarly, despite the evolution of technology, audiometric evaluation, whether online or by phone, has primarily been used as a screening tool and not a substitute for complete evaluation.

Needs changed with the arrival of the COVID-19 pandemic in 2020, as both healthcare providers and their patients were forced to adapt quickly in order to provide and receive care. Patients with hearing loss and/or otologic disease require evaluation of anatomic structures as well as assessment of their hearing status. While skin and facial lesions can be easily visualized on a photograph or video conference, otologic exams are much more difficult to perform virtually. Concurrently, availability of hearing services has been limited during the COVID-19 pandemic, forcing some patients to rely on a variety of technology-based solutions to assess and treat their hearing loss.

When evaluating otologic complaints such as otalgia-which has a broad differential diagnosis including conditions of the ear, such as cerumen impaction, otitis externa, and otitis media, as well as referred pain from the temporomandibular joint and various areas in the oral cavity, aerodigestive tract, and neck-an accurate and thorough exam is essential. Several noteworthy technologies are available to assist in these evaluations. The physical exam can be facilitated by smartphone-enabled otoscopy that allows photo documentation of ear findings for asynchronous review by an expert clinician. A study in 2017 showed pictures acquired by medical professionals via smartphoneenabled otoscopy for review by an otologist with excellent accuracy.1 More recently, affordable smartphone-enabled otoscopes can be purchased easily from online retailers for less than \$40. Because of the pandemic, some patients have acquired these devices to transmit photographs to their doctors in order to make an accurate diagnosis without

entering a medical facility. In one location in China, over 80% of the patients were very satisfied with smartphone-enabled wireless otoscope-assisted online telemedicine in which clinicians responded to patient concerns after reviewing pictures taken by the patients themselves via a social media platform.<sup>2</sup> Although social media cannot be used within the United States due to a lack of HIPAA-compliance, secure messaging platforms can provide a means to offer telemedicine services for our otologic patients who have such devices in order to accurately diagnose the problem, which still might require a visit to correct.

An accurate hearing assessment is critical when evaluating a patient for most significant otologic emergencies, such as sudden sensorineural hearing loss. Even before the pandemic, many patients were incorrectly diagnosed only to find out months later that they indeed had a significant permanent hearing loss. There are several technologies available to help compensate for the limited access to audiometric evaluation in certain areas. Hearing screens for pure tone hearing loss have been available for some time and can be done with considerable accuracy (mean difference of 2.6 dB, SD 8.3dB) using mobile devices with bundled headphones.3 While there are numerous apps developed for both iOS and Android phones, very



few have been validated against pure tone audiometry in peer review studies.<sup>4</sup> Although these devices cannot test for bone conduction or a word recognition score, a difference in thresholds between the two ears in a phone app could help trigger the urgent need for a formal visit to a clinician. There are a number of online hearing tests that are also relatively accurate as a screening tool. Even a basic hum test during a video visit could help an otolaryngologist determine if there is a hearing loss and if an asymmetry is more likely conductive or sensorineural with 89.7% sensitivity and 100% specificity.<sup>5</sup>

Since Congress passed legislation in 2017 that opened the door for the over-the-counter (OTC) sale of hearing aids for patients with mild-to-moderate sensorineural hearing loss (SNHL), and the U.S. Food and Drug Administration (FDA) removed the requirement for medical examination or a waiver for adults, there has been great anticipation of the release of the proposed regulations by the FDA. A range of instruments have been sold for many years, such as the "Pocket Talker" and a variety of personal sound amplification products (PSAPs). These are not medical devices and are not manufactured to the same standards as hearing aids. Until the regulations are released, it is unclear as to the types of hearing aids we will see in the marketplace. We do know that a medical examination will be not be required for adults, nor will a complete audiogram.

Most believe that basic, low-cost hearing aids will be the most popular, but it is unclear if some of the more advanced programmable aids will be available and what other options will be promoted. All hearing aids function best when they are properly fit and adjusted. The opportunity and challenge exist for the Academy to provide much-needed patient education materials to help derive the most benefit from devices that are appropriate for their hearing loss. COVID-19 certainly has disrupted medicine in many ways, but many resulting changes are likely here to stay. Embracing telemedicine and other technologies has helped us adapt to these changes, and adding these options to every otolaryngologist's repertoire will improve patient access and care in years to come, particularly as better technology emerges.

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#### **OUT OF COMMITTEE: OUTCOMES RESEARCH AND EVIDENCE-BASED MEDICINE**

# Absorbable Steroid-Eluting Sinus Implants What We Do and Don't Know

Elisabeth Ference, MD, MPH; Daniel C. O'Brien, MD; Prayag S. Patel, MD; George A. Scangas, MD; and Victoria S. Lee, MD

bsorbable steroid-eluting sinus implants provide targeted corticosteroid release over a sustained period of time and were designed to serve as mechanical spacers to prevent both undesirable scar formation as a result of middle turbinate lateralization as well as sinus ostia restenosis. In patients with recurrent chronic rhinosinusitis with nasal polyps (CRSwNP) who have had endoscopic sinus surgery (ESS), they offer an alternative to systemic corticosteroids, which have a side effect profile that precludes consistent long-term use, and topical corticosteroids, which rely on patient compliance.1,2 In this Bulletin segment, our committee shares highlights from the growing amount of key literature on these implants.

#### For the Ethmoid Sinus: SINUVA and Propel

The SINUVA sinus implant is U.S. Food and Drug Administration (FDA) approved for patients with recurrent CRSwNP and marketed for those who have had prior ethmoid ESS. It was originally intended as an alternative to revision ESS and thus can be placed in the clinic setting. It contains 1350 mcg of mometasone furoate released over 90 days.<sup>3</sup> The RESOLVE study was a randomized, sham-controlled, single-blinded (patient only) trial evaluating the efficacy and safety of SINUVA.<sup>4</sup> In this study, 100 patients refractory to medical therapy and considered candidates for revision ESS were randomized to bilateral implant placement or a sham procedure. At

three months, treated patients experienced significant improvement in polyp grade and ethmoid obstruction on endoscopic grading, and 53% of treated patients versus 23% of controls were no longer considered candidates for revision. A follow-up study with six-month data on the same population found that treated patients had improvement in self-reported Nasal Obstruction Symptom Evaluation (NOSE) score as well as endoscopically evaluated polyp grade and ethmoid obstruction compared with patients who underwent a sham procedure.5 Endoscopic polyp grade and ethmoid obstruction scoring were confirmed by an independent panel of three sinus surgeons blinded to treatment assignments. Subsequently, a randomized, sham-controlled, doubleblinded trial was performed.6 In this study, 300 adults with refractory CRSwNP who were candidates for revision ESS were randomized and underwent in-office bilateral placement of SINUVA implants or a sham procedure. At the end of 90 days, patients receiving implants demonstrated significant reductions in both nasal obstruction/congestion score and bilateral polyp grade compared with the sham group. The implant group was also less likely to be indicated for revision ESS, had greater decrease in percentage ethmoid obstruction, and experienced sustained improvement in nasal obstruction/congestion and sense of smell.

The PROPEL implant is also FDA approved for patients with CRSwNP and intended to be placed into the ethmoid cavity at or around the time of ethmoid ESS to maintain patency through its spring-like action, which holds the middle turbinate in a medial position. The implant continuously releases a low dose, 370 mcg, of mometasone furoate over 30 days.<sup>3</sup> The efficacy and safety of the implant has been studied in two prospective doubleblinded randomized controlled trials. The first of these studies was a multicenter randomized controlled trial of the PROPEL implant compared to a placebo implant made of a similar polyactide-co-glycolide stent without mometasone furoate.7 This study recruited 43 patients over four sites and had the patient and the provider blinded to which stent was placed via block randomization. The patients were then graded by the surgeon at 7, 14, 21, 30, 45, and 60 days postoperatively. All patients were placed on a 14-day course of amoxicillin with clavulanic acid the day prior to surgery; otherwise, no additional steroids, including nasal steroids, could be offered to the study patients for the first month following surgery. The authors found significant improvement in polypoid change and adhesions of the steroid stent compared with the control, without significant difference in the incidence of lateralization of the middle turbinate. One year later a subsequent randomized controlled trial recruited 105 patients over 11 centers and compared the PROPEL stent with a biosimilar control.8 Randomization for this study was by operative cavity, with one side receiving the steroid eluting stent and the opposite receiving the control during bilateral surgery. Similar time points were used, with the addition of a 90-day check, and similar requirements of antibiotics and restrictions on additional steroids for the first 30 days. Different from the first study, which had the operating surgeon performing the assessment, at the 30th day, endoscopic videos of the ethmoid cavities were recorded and forwarded to a panel of three independent evaluators who assessed the degree of polypoid change, scar formation, and degree of middle turbinate lateralization. The authors found

significant improvement in the requirement for postoperative intervention, polyp recurrence, and development of adhesions between the steroid eluting arm and the control. There was no difference between the experimental and control groups regarding turbinate lateralization, posterior cataract formation, or measured intraocular pressure changes.

### For the Frontal Sinus: PROPEL Mini and Contour

Newer members of the PROPEL family are the Mini, intended for use in the ethmoid and frontal sinuses, and the Contour, intended for use in the maxillary and frontal sinuses, differing from the original implant in delivery system design. Like the original implant, the Mini and Contour contain 370 mcg of mometasone released over 30 days and are designed for insertion at or around the time of ESS.<sup>3</sup> Much of the literature has focused on the Mini and Contour relative to the frontal sinus.

The efficacy of the PROPEL Mini implant placement in the frontal sinus opening has been assessed in a prospective, randomized, blinded trial using an intrapatient control design.9 In this study, 80 adult patients with CRS who previously underwent successful bilateral frontal sinusotomy were randomized to receive the implant in one frontal sinus opening while the contralateral side received no implant. At the end of 30 days, an independent reviewer determined that the implant side showed a significant relative reduction of 38.1% in the need for postoperative interventions. Additionally, reductions in the need for postoperative and oral steroid interventions, mucosal adhesions/scarring, polypoid edema, and restenosis rate were also reported.

The efficacy and safety of the PROPEL Contour has also been evaluated in a prospective double-blind randomized controlled trial.<sup>10</sup> In this intrapatient-controlled, multicenter study, 80 patients from 12 academic and private practice centers received bilateral frontal sinusotomies followed by unilateral and random placement of the steroid-releasing sinus implant. The primary outcome of the study was the reduction in need for postoperative interventions (defined as surgical intervention or oral steroid trial) at 30 days. The data showed that, based on video endoscopic evaluation by an independent, blinded reviewer, steroid-releasing implants significantly reduced

the need for postoperative interventions to 11.5% compared with 32.8% by surgery alone. The proportion of medical to surgical postoperative interventions and whether or not oral steroids would have resulted in adequate patency of the frontal recess were not assessed or reported. Furthermore, the intrapatient control study design precluded evaluation of patient reported outcomes, crucial for the assessment of successful surgical outcomes. A metanalysis of these two studies found that at 30 days the steroid-releasing sinus implant reduced the need for postoperative surgical interventions by 51.2% and for postoperative oral steroid interventions by 37.2%. A subgroup analysis showed improved outcomes of frontal sinus surgery for the implant group through 90 days, irrespective of asthma status, previous endoscopic sinus surgery, extent of surgery, extent of polyps, or Lund-Mackay computed tomography stage. The impact of reducing the restenosis/occlusion rate on patient reported outcomes could not be assessed.11

#### Conclusions

The currently available literature, although largely funded by the device companies themselves, has demonstrated consistently at a high evidence level that absorbable steroid-eluting sinus implants can be beneficial, particularly in the frontal sinus, which has more limited penetration via conventional topical sprays and rinses and a tendency towards unfavorable scarring. These implants, however, not only carry a substantial cost, but also have an unknown impact on long-term, patient-reported quality of life. Thus, the main question at this point is which patients stand to benefit enough that their outcome improvement outweighs the associated cost?<sup>12,13</sup> The patient characteristics and methodological details of existing studies are quite heterogeneous, varying for example in disease severity, extent of surgical dissection, and perioperative medical therapy, making it difficult to identify cases where implants have the greatest benefit. There is a general consensus that these implants have little utility in routine CRS cases with low likelihood of recurrence or scar formation. Patients with poor compliance, more severe disease phenotype (e.g., aspirinexacerbated respiratory disease), or relative contraindications to oral steroids (e.g.,

diabetes) may have more favorable risk/costbenefit profiles, but more research is needed. The impact on patient-reported outcomes in these contexts and the role of these implants in the wake of newer therapies, such as biologics also need to be investigated. For the time being, clinicians should carefully consider these treatment options on a case-by-case basis, taking into account each patient's unique characteristics and practicing shared decision-making.

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#### **OUT OF COMMITTEE: PATIENT SAFETY AND QUALITY IMPROVEMENT**

# Fostering Wellness through Intentionality and Community





Sarah N. Bowe, MD, MEd

Matthew M. Smith, MD

Sarah N. Bowe, MD, MEd, and Matthew M. Smith, MD

uring the past year, many of us have experienced reduced clinical and surgical volume, decreased income, change in job roles/titles, adverse health conditions, loss of loved onesand the list goes on and on. While we would like for the year 2020 to disappear from the rearview mirror, 2021 is not off to the greatest start. A common sentiment that we both have heard around the hospital is, "I'm just trying to survive." While this mentality might serve well in a tournament setting-"survive and advance"-it tends to take a massive toll on our personal and professional lives when our bodies and minds never get a chance to reset. During this pandemic, the stress fractures in our lives, which occasionally caused pain but were often

ignored, might now have broken, leaving us to try to pick up the pieces.

#### **Be Intentional**

Matt: As I reflected during the initial part of the pandemic on how to maintain my own health, I found myself reaching out to colleagues with a vast experience in wellness and mindfulness. While they had more information, they were also in the same position due to the pandemic, needing to make an intentional choice to take care of their individual health. As noted earlier this year by our AAO-HNS/F President Carol R. Bradford, MD, MS, you must first put on your own oxygen mask before helping others. As physicians we are committed to serving others and frequently neglect to care about ourselves. We need to be intentional with our health, which includes our bodies and our minds. During this time I realized that I had not seen a physician for a well visit since college. While we might think that we can diagnose and manage ourselves, or have a colleague write a prescription, we have to be intentional about our own physical health just as we implore our patients to do the same.

Sarah: In order to focus on our health, it means we need to be intentional with our time, making room for the "tasks" that we know are important but in the moment never seem urgent. For that reason, we need to

take time to exercise, meditate, and even just pause to breathe. At the AAO-HNSF 2019 Annual Meeting & OTO Experience, one of our colleagues, Sian Cotton, PhD, led Matt and me in a mindfulness exercise for five minutes-we just focused on breathing, briefly escaping our surroundings through meditation, and it was empowering. While we often don't think about breathing, it is consistently available, providing an anchor for us to focus on throughout the day. Just 15 minutes of mindfulness or meditation per day has been shown to decrease stress, lower anxiety, and enhance concentration. To some, 15 minutes might sound like a lot, but taking roughly 1.5% of your time when you're awake to commit to your mental health can have immense benefits. Again, we just have to be intentional.

#### **Invest in Community**

Matt: One of the hardest parts about this pandemic is the social distancing and not being able to see friends and family in the usual way. On the other hand, there have also been opportunities to engage or appreciate things differently. For instance, my wife and I have made intentional choices to prioritize weekly meetings with our closest friends. These three other couples were-and continue to be-an outlet to express joy and frustration, or we just play

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... the most important is taking care of ourselves. This is not selfish, but necessary in order to provide excellent care to our patients. Be an active participant in your health and wellness. Be intentional with your time ...

games virtually during these unprecedented times. In the past with our "normal" busy schedules, we would only see these friends together in a group about once a month. Now after the kids go to bed each Friday night, it's parent check-in time.

**Sarah:** Previously, there have been times when we could experience a "fear of missing out (aka FOMO)" on events, but now there is actually less happening. This provides a great opportunity to embrace the "joy of missing out (aka JOMO)." By flipping the perspective, the lack of other commitments can be a welcome change of pace. For example, I have enjoyed Friday Family Fun nights, which is generally code for pajamas, movies, popcorn, and cuddling. Thus, by being intentional with our time and flexible to our surrounding atmosphere, we have both cultivated deeper relationships with friends and family.

Professionally, another key point noted by Dr. Bradford was that "[w]e all need each other to get through these challenging times." At both of our institutions, we have been able to participate in a program that supports physicians and other healthcare workers during hard times. Peer-to-peer support, a program popularized by **Jo A. Shapiro, MD,** at the Brigham and Women's Center for Professionalism and Peer Support, was introduced with the goal of reaching out to physicians who have had a difficult clinical or personal situation and providing an opportunity for them to talk openly about the event.

**Matt:** I found this program immensely beneficial during a time when one of my patients suffered a fatal cardiac complication. We especially need to invest in programs like this at a time when many physicians feel alone and isolated without the usual shoulder to lean on. By investing in other physicians around us, this reinforces the concept of community and allows us to feel supported in the job we perform.

#### **Final Thoughts**

It is critical for us as physicians to carry forward those changes in our lives or practices that have had a positive impact during the pandemic. In our opinion, the most important is taking care of ourselves. This is not selfish, but necessary in order to provide excellent care to our patients. Be an active participant in your health and wellness. Be intentional with your time and block your schedule for 15 minutes to start or participate in a form of mindfulness or meditation. Invest in friends, family, and other physicians around you and foster a community that lifts each other up. A curated set of resources that delve deeper into each of these topics is included below. Take care and be well!

#### **Social Media**

Facebook (Group): HealthcareWorkerWellbeing Twitter: @WellBeing2021 Instagram: well\_being2021

#### Resources

#### Articles

- Achor S and Gielan M. Resilience is about how you recharge, not how you endure. *Harv Bus Rev.* 2016. https://hbr.org/2016/06/
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#### AAO-HNSF Annual Meeting Webcasts 2020

- Individual and Organizational Solutions to Increase Physician Wellbeing. http://academyu.entnet.org/diweb/catalog/ item?id=6162982
- Wellbeing: It's Time for a 360° Approach. http://academyu. entnet.org/diweb/catalog/item?id=6161056

# **Tech Talk** 5G - The Next Generation of Cellular Service

**Mike Robey, MS,** AAO-HNS/F Senior Director, Information Technology

here is a lot of buzz about 5G, the next generation of cellular service. Carriers tout mobile speeds equivalent to Wi-Fi. The Internet-of-Things, including smart highways and driverless cars, will finally become a reality. While this all may be true, 5G is here to stay if for no other reason than it is the next generation. What does this all mean for you? This article provides understanding of cellular service, why you will need a new smartphone for

5G, and some of the issues surrounding 5G's rollout. Your smartphone is a two-way radio communicating with the nearest tower (base

communicating with the nearest tower (base station antenna). Radio waves like the blue line below have crests and troughs.



https://en.wikipedia.org/wiki/File:Crest\_trough.svg

Although there are many aspects and techniques for interjecting 0s and 1s in a radio wave, in simplest terms, consider a crest is a 1 and a trough is a 0. So how many 0s and 1s can be broadcast over a set period?

#### **Cellular Spectrum**



This is primarily determined by the wavelength and frequency of a given wave. The distance between two crests is the wavelength. For a given wavelength the number of times a crest passes by is the frequency, measured in hertz (Hz), equal to the number of occurrences per second. The higher the frequency, the shorter the wavelength, and the more data that the given wave can carry. There is a downside given the same transmission power, higher frequency waves do not travel as far.

Expanding on how waves carry digital signals, let us transition to frequency spectrum, which is simply a range of frequencies. The Federal Communications Commission assigns a range of frequencies for different types of wireless services. A carrier's tower transmits waves within the assigned spectrum for the service provided. Each carrier maximizes the total amount of data it carries within its finite spectrum. One of the ways carriers accomplish this is through cellular spread spectrum.

Hedy Lamarr, a movie actor, patented frequency-hopping spectrum during World War II. The best way to describe spectrum hopping is via a grid with frequency on the y-axis and time on the x-axis. Each of the three colors in the cells represents a distinct conversation. At set periods of time the conversation moves to a different frequency and continues. Through a predetermined algorithm each side in the conversation knows what frequency to "hop" to continue. This is how cellular service works today. Another important technique to maximize broadcast space is frequency multiplexing. The carriers take individual frequency bands, as shown on the left in the diagram below, and combine them into one signal for transmission. The receiving end, on the right, then splits the received signal back out into the original bands. For cable television this is how you get all the channels over the single cable.



https://en.wikipedia.org/wiki/File:Multiplexing\_diagram.svg

One more important aspect of wireless communications is the antenna. Most smartphones include Wi-Fi, Bluetooth, GPS, and cellular services. Each of these services uses a different frequency spectrum. Each frequency spectrum requires its own antenna. Your smartphone has an antenna for each communications type. With the background in how wireless communications work we will transition to a brief history of cellular service.

5G uses a different frequency than the previous generations of cellular service (see

	Histor	y of Cellular S	Service	
Generation	Year	Frequency Ranges	Top Speed	Primary Usage
1G	1979	850 MHz, 1800 MHz	2.4Kbps	Phone calls
2G	1991	850 MHz, 1900 MHz, 2100 MHz	64Kbps	Text Messages
3G	2001	800 MHz - 2100 MHz bands	2Mbps	Internet Access
4G	2009	600 MHz - 2.5GHz bands	100Mbps	All the above
5G	2019	24GHz and above	1Gbps	All the above, faster

chart above). Hence, you will need a new smartphone, one with a 5G antenna.

5G's higher frequency is also the reason new towers are needed. As explained earlier, higher frequencies carry more data but do not travel as far. More towers in closer proximity to one another are necessary to support 5G.

The carriers do not mention a negative aspect of 5G. Its higher frequencies do not go through solid objects as readily as previous generations' signals. 5G may not work in buildings without indoor access points (small towers). A 5G smartphone will still work indoors because it has antennas for 4G and Wi-Fi. As a sidenote, the iPhone 12's 5G antenna is visible from the outside. My guess is this is intentional due to 5G's limitations for penetrating through outside walls.

Your smartphone is an engineering marvel and an example of miniaturization at its finest. Not only is it a two-way radio, it handles many aspects of signal processing, such as cellular spectrum and frequency multiplexing. Its multiple antennas enable you to surf the web from anywhere and hail a ride share. Why, even with 5G, it can still make telephone calls.



# EARS AND ALTITUDE (BAROTRAUMA)

Ear problems are one of the most common medical complaints of airplane travelers and divers. While they are usually minor annoyances, sometimes they can cause significant symptoms. When the eustachian tube in your middle ear is blocked due to altitude or pressure changes (sometimes called barotrauma), air cannot be equalized, and a vacuum occurs. This stretches the eardrum and causes pain and occasionally fluid. The common cold, sinus infections, and nasal allergies can also interfere because swollen membranes in the nose can extend into the eustachian tube and block it.

#### WHAT ARE THE SYMPTOMS OF BAROTRAUMA?

Some symptoms of barotrauma include:

- Ear pressure
- Ear pain
- Hearing loss
- Dizziness

#### WHAT CAUSES BAROTRAUMA?

The eustachian tube is a membrane-lined tube about the width of a pencil lead that connects the back of the nose with the middle ear and helps maintain balanced air pressure on both sides of the eardrum. The most common cause of eustachian tube blockage is the common cold, but sinus infections and nasal allergies are also usual suspects. A stuffy nose leads to stuffy ears because the swollen membranes in the nose can extend into the eustachian tube and block it. Also, any situation in which rapid altitude or pressure changes occur, such as air travel, riding in an elevator, diving to the bottom of a swimming pool, or scuba diving, can affect proper function of the eustachian tube.

#### WHAT ARE THE TREATMENT OPTIONS?

The simplest way to help clear your ears—particularly when flying—is to swallow. Yawning, chewing gum, or

sucking on hard candy can help, especially just before take-off and during descent. You can also try pinching your nose, taking a mouthful of air, blowing gently (not forcefully) against your pinched nose, then swallowing. You'll know if it worked when you hear a pop, and your ears feel less plugged.

Babies and children are especially vulnerable to ear blockage because their eustachian tubes are narrower than in adults. Plus, babies cannot intentionally pop their ears, but sucking on a bottle or pacifier can help. You and your children should avoid sleeping during descent because swallowing may not occur often enough to keep up with changes in air pressure.

If you have allergies, take your medications at the beginning of your flight. Over-the-counter nasal sprays or decongestants can also help air travelers to shrink the membranes and help the ears pop more easily. However, if you are pregnant, or have heart disease, high blood pressure, irregular heart rhythms, thyroid disease, or excessive nervousness, *consult your physician before using these medications.* Extended use of decongestant nasal sprays can also cause more congestion than relief, and even result in a type of addiction.

If your ears fail to open, or if you are experiencing persistent pain in your ears, seek the help of an ENT (ear, nose, and throat) specialist, or otolaryngologist. They may recommend inserting small pressure equalization tubes or a balloon to help dilate your eustachian tubes. Or, they may need to release the pressure or fluid with a small incision in your ear drum.

#### WHAT QUESTIONS SHOULD I ASK MY DOCTOR?

- 1. What can I do to prevent barotrauma from occurring?
- 2. Who do I see if the pressure doesn't resolve quickly?

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# Positions are available at the Assistant or Associate Professor level in the Department of Otolaryngology/Head & Neck Surgery



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The Division of Otolaryngology-Head & Neck Surgery at Cooper University Hospital (located in southern New Jersey just across the bridge from Center City Philadelphia) is seeking a General Otolaryngologist to join our busy academic/clinical practice. Candidates with strong interests and capability in Otology, Sleep surgery, and Laryngology are desired.

PennS

This is a unique and desirable opportunity to join our energetic, busy and collegial group of 5 attending physicians. You will be walking into a turnkey practice with a backlog of patients ready to fill your clinic schedule. In your new position you will also serve as an important faculty member for our ACGME accredited Otolaryngology residency training program that started in July 2019. You will be working with, teaching and training residents and will carry an appointment in the medical school commensurate with your professional experience. Clinical research opportunities exist and are strongly encouraged through the Department of Surgery and you will have ample support in these endeavors from the medical school and residents.

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Compensation and benefits are extremely competitive and after the first year of practice you will be eligible to be compensated based on your clinical productivity which has been very rewarding for our current faculty. South Jersey, where our practice is located, and nearby Philadelphia as well as the surrounding suburbs, offer desirable housing, dining, school and recreational opportunities. In addition to the local attractions, we are located 1 hour from the New Jersey beaches, 1 hour from the Poconos Mountains, 2 hours from Manhattan, and 2.5-3 hours from Washington DC and Baltimore.

Our team enjoys a healthy work /personal life balance, and pride themselves on the scope and quality of practice provided at Cooper University Hospital. We are seeking a like minded individual to join our close knit and busy practice. Start date in July/August 2021.

Direct Contact Information: Interested candidates should send their CV and cover letter to: Dr. Nadir Ahmad, Division Head, ahmad-nadir@Cooperhealth.edu

#### Pediatric Otolaryngologist Hershey, Pennsylvania

The Department of Otolaryngology – Head & Neck Surgery at Penn State Health Milton S. Hershey Medical Center, Penn State Children's Hospital and Penn State College of Medicine is seeking an additional full-time Pediatric Otolaryngologist. This is a great opportunity to join a growing team of collaborative clinical providers with the resources of one of the leading academic medical centers in the nation. The selected candidate will have the opportunity to build an airway practice should they desire.

Appointment will be at the assistant/associate/professor level. Qualified candidates must have completed an approved Otolaryngology – Head & Neck Surgery residency program, be board certified or board eligible and be fellowship trained to provide clinical and hospital-based Pediatric Otolaryngological care for our patients.

The children's hospital sits on the campus of the Hershey Medical Center, a 548-bed Level I regional trauma center. As central Pennsylvania's only academic medical center and home to the college of medicine, we are sought out as a resource for the most complex adult and pediatric cases. Penn State Children's Hospital ranked among the best in the nation for the tenth consecutive year by *U.S. News & World Report*. Additionally, it is one of only eight hospitals in the nation to be named a Level 1 Children's Surgery Center by the American College of Surgeons Children's Surgery Verification Program.

#### FOR MORE INFORMATION, PLEASE CONTACT:

David Goldenberg, MD, FACS, Chair, Department of Otolaryngology – Head and Neck Surgery c/o Ashley Nippert, Physician Recruiter anippert@pennstatehealth.psu.edu or to apply online https://tinyurl.com/ycapn7jw

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#### WEXNER MEDICAL CENTER

#### The Ohio State University Department of Otolaryngology - Head and Neck Surgery

#### **BC/BE Rhinologist**

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This is an outstanding opportunity to join one of the top ranked otolaryngology programs in the country and help us build a nationally recognized translational research effort in the field of Rhinology. We are a team-oriented department committed to a strong and vibrant research program. We offer great facilities and resources, and provide tremendous opportunity to collaborate with clinical and research faculty both in the department and across the entire college.

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Interested applicants should send a letter of interest and CV to:

James Rocco, MD, PhD Professor and Chair The Ohio State University Department of Otolaryngology 915 Olentangy River Rd. Suite 4000 Columbus, Ohio 43212 E-mail: mark.inman@osumc.edu Department Administrator Or fax to: 614-293-7292 Phone: 614-293-3470

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East Lansing is supported by Sparrow Regional Hospital and McLaren Regional Medical Center and the Lansing Surgery Center. University Corporate Research Park, a joint project with McLaren and MSU, includes a new 450 million dollar hospital to be completed in 2021. The Colleges of Human Medicine and Osteopathic Medicine offer teaching opportunities at Michigan State University.

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If interested, please contact: Jay at jay@geraldgilroy.com or 517.285.0621.

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The Ohio State University Department of Otolaryngology – Head and Neck Surgery

#### BC/BE General Otolaryngologist

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Please submit your CV and application here: www.ent4.me/recruit

Interest and questions may be directed to: Martin J. Citardi, MD Professor & Chair The University of Texas Health Science Center at Houston Department of Otorhinolaryngology-Head & Neck Surgery Fax: 713-383-1410 Email: Martin.J.Citardi@uth.tmc.edu

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access to state-of the-art voice clinic and surgical engineering laboratory facilities. The research fellowship provides numerous opportunities to focus on grant-funded (NIH and private foundations) clinical and basic science research projects in collaboration with interdisciplinary teams of scientists and clinicians at the Massachusetts Institute of Technology and the Wellman Laboratories of Photomedicine at the Massachusetts General Hospital. The option to collaborate with local music conservatories is also available. Qualified minority and female candidates are encouraged to apply. Send curriculum vitae and three letters of recommendation. The Massachusetts General Hospital is a teaching affiliate of Harvard Medical School.

Direct inquiries to: Steven M. Zeitels, MD, FACS Eugene B. Casey Professor of Laryngeal Surgery Harvard Medical School **Director: Center for Laryngeal Surgery & Voice Rehabilitation Massachusetts General Hospital** One Bowdoin Square, 11th Floor Boston, MA 02114 Telephone: (617) 726-0210 Fax: (617) 726-0222 zeitels.steven@mgh.harvard.edu



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