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

AUGUST 2020



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30 Corneal Neurotization
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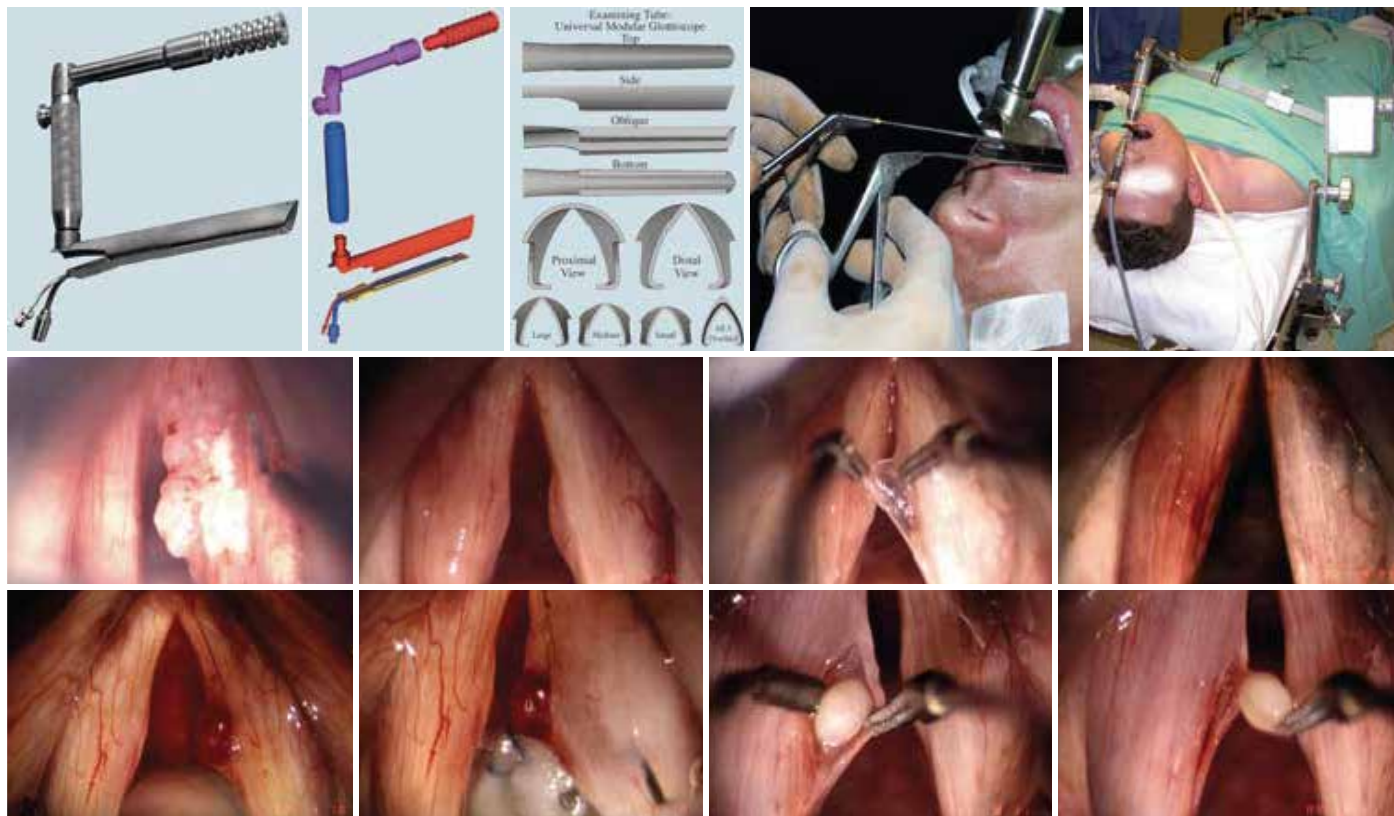
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Zeitels Universal Modular Glottiscope & Suspension System

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The patented UM Glottiscope System & true suspension gallows was conceived from the study of a century of direct laryngoscope designs to incorporate the most valuable prior design features with novel new ones. The glottiscope system provides the surgeon with a versatile laryngoscope that optimally exposes vocal folds for diagnosis and instrumental manipulation, regardless of the diversity of human anatomic factors, e.g. age, gender, and pathology. The UM glottiscope is optimally used with the specially designed true suspension gallows; however, it can be combined with commonly used chest-support holders & stabilizers.



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Maintaining Our Relationships as We Learn in a Virtual Environment

Our Academy meeting is right around the corner and there is an excitement building about (albeit forced by COVID-19) our first-ever all virtual experience. A recent article I read, "Bridging Tradition and Globalism: How to Add Value to Virtual Meetings," from Aptitude Health, stated, "While traditional engagement paradigms are heavy on live interactions and building personal relationships, the digital landscape often seems to erase these. However, virtual meetings bring together high-quality professionals regardless of geography and hold promise for highly productive and energetic meetings, all while maintaining the personal quality of traditional meetings." This digital experience does have the potential to cross all boundaries of geography, defying prior time constraints and including virtual interactive components for our colleagues across the globe. How many residents and colleagues with call and practice commitments will now have an opportunity to engage virtually?

Our meeting will span six weeks beginning Sunday, September 13, with our three-day kick-off live event starting in week one. This includes the Opening Ceremony, featuring keynote speaker, Joel Selanikio, MD; the John Conley, MD Lecture on Medical Ethics; the H. Bryan Neel III, MD, PhD Distinguished Research Lecture; the Section for Residents and Fellows-in-Training and Young Physicians General Assemblies; the AAO-HNS Career Fair; Alumni Receptions; and SIM Tank as well as presentations on the business of medicine, COVID-19, patient safety, and quality improvement. Week two will focus on rhinology and allergy, and week three will feature head and neck surgery and endocrine; the International Symposium; the Spanish Webcast; the International Advisory Board General Assembly; the Women in Otolaryngology Section General Assembly and documentary movie premiere; and the Eugene N. Myers, MD International Lecture on Head and Neck Cancer. The following specialty weeks will include laryngology/broncho-esophagology, pediatric otolaryngology, otology, neurotology, sleep medicine, and culminate the last week with comprehensive otolaryngology and facial plastics and reconstructive surgery. In addition, there will

be scientific e-posters, networking opportunities, interactions with vendors, and as always, wellness activities.

In some respects, what makes our Annual Meeting so special is not just the education content but the ability to form and build new relationships and personal networks, rekindle old relationships, and become energized by the camaraderie we get annually when we all come together face to face. This is a challenge that has impacted all aspects of our lives, and we've had to navigate through it in the past few months. It makes us think about how we are currently trying to maintain and create the magic of relationship building in this new format that we have been forced to embrace. Now more than ever, this is the chance to be creative and challenged to not allow the barriers of a virtual platform to stand in the way of our annual opportunity to "come together."

What can we do to try to maintain the personal touch with this new venue? Well, here are a few suggestions:

1. Consider a phone or video call, an email, or a text to your friends and colleagues to decide on presentations you may want to view together
2. Take advantage of chat/video platform opportunities to comment
3. Try to always state your name and where you are from when asking a question or making a comment
4. If you are comfortable, share a personal experience or case
5. In light of all of the events going on, be **EMPATHETIC** and take opportunities to engage each other and share experiences, challenges, successes, and strategies

I look forward to your participation at the Annual Meeting this year, and remember, **We Are One.** ■

"No significant learning occurs without a significant relationship."

— James P. Comer, MD, MPH



Duane J. Taylor, MD
AAO-HNS/F President

2020 AAO-HNS Election Results

The AAO-HNS extends its greatest appreciation to the candidates of the 2020 election for their dedication and willingness to run for office and serve the AAO-HNS and its members. The Nominating Committee presented the membership with an outstanding slate of candidates. The AAO-HNS thanks the Committee for its meaningful deliberation. **Albert L. Merati, MD**, and the Nominating Committee are pleased to announce the results of the 2020 AAO-HNS Annual Election:

President - Elect

Ken Yanagisawa, MD

Secretary/Treasurer-Elect

Steven W. Cheung, MD, MBA

At-Large Director (Academic)

Earl H. Harley, MD

At-Large Director (Private Practice)

Eugene G. Brown III, MD

Nominating Committee (Academic)

C.W. David Chang, MD

Anna M. Pou, MD

Nominating Committee (Private Practice)

Eli R. Groppo, MD

Seth R. Schwartz, MD, MPH

Audit Committee

Susan D. McCammon, MD

Terms of those elected will begin October 2020.

Bylaws Changes Approved: In addition, the proposed Bylaws amendments were approved, which address the following areas:

- Removing an elected member of the Board of Directors
- Removing an elected officer
- Filling a vacancy in an officer position

<https://www.entnet.org/content/annual-election-results>

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SPECIAL OFFER ENDS
AUGUST 31**

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See Pages 16 and 17 to Learn More

Setting Our Course through Collaborative Strategic Planning

The Academy and its Foundation regularly review and adjust priorities of the organization every three-to-five-year period through a multistep strategic planning process. We are beginning preparations for our upcoming strategic planning session to be held in January under the leadership of **Carol R. Bradford, MD**, who will be our president at the time. A well-done strategic plan allows an organization to focus its energy and resources on priorities deemed essential to the membership and factors affecting their ability to succeed in moving both their situations and field of endeavor forward. That is particularly true for medical associations where there are frequent and unexpected changes that influence both contemporary and future needs.

The AAO-HNS/F has had a robust strategic planning process for over a decade that has served us well in terms of operationalizing priorities of the leadership and members consistently without the year-to-year directional changes seen in many medical associations as elected leadership changes. Recent experience has shown me that not all organizations rely on or value member-led planning events, particularly those whose leadership is dominated by academia. Our last strategic planning exercise was led by **Gavin Setzen, MD**, three years ago and set the direction that allowed us to expand our Clinical Data Registry, Reg-entSM, to the point we are ready to conduct clinical research when it will be needed the most; adopt our “We Are One” mantra that emphasizes the multiple levels of diversity in otolaryngology; originate ENThealth.org, our patient-centered website; and institute a new state-of-the-art education platform with our flagship product FLEX—while contributing to reserves **without raising dues**. The upgrade of our technologic capabilities allowed us to seamlessly move to teleworking status during the COVID-19 pandemic and provide the otolaryngology community with the information urgently needed by otolaryngologists worldwide.

Successful planning exercises are critically dependent on identifying the essential stakeholders and selecting engaged representatives for each that can represent key needs of their constituents as well as the organization as a whole. For the Academy’s purpose, that includes spokespersons conveying the interests of all demographic groups, specialty societies within otolaryngology, academic and private practitioners, members of the healthcare delivery team who typically work with otolaryngologists, industry leaders specific

to otolaryngology, patient-based organizations, and Academy leadership and staff. Working with an experienced facilitator, leadership and staff will create survey materials and disseminate these to the above-mentioned groups as well as the general membership for their preliminary thoughts. This information will be submitted to the representatives chosen to participate in the virtual strategic planning meeting and who will thoroughly discuss the issues and make initial recommendations. One of the most essential goals of this group will be to review the organizational “mission” and “vision” and either affirm or adapt our current course. Our current vision, *“The global leader in optimizing quality ear, nose, and throat patient care”* and mission statement, *“We help our members achieve excellence and provide the best ear, nose, and throat care through professional and public education, research, and health policy advocacy”* have served our members well over the last several years. This Strategic Planning Committee will consist of the representatives of diverse interest groups included in the initial survey. Leadership and staff will then curate and formalize the discussion and recommendation into a preliminary strategic plan.

The entire process and resultant preliminary document will be reviewed and edited first by the Executive Committee of the Boards of Directors and subsequently by the entire Boards of Directors, including invited guests. The final strategic plan will be used to direct future budgeting priorities over the ensuing several years, review current programs and staffing allocation, create new programs, and set the overall direction for the organization. The upcoming five-year period promises to be one of the most disruptive times for healthcare delivery in recent memory. The COVID-19 pandemic has exposed the significant weakness in our public health system as well as the marked disparity in “usable” access affecting large swaths of the population. Following the presidential election in November, there will almost certainly be attempts to modify and improve our current system. There have been several proposals vetted during the campaign, most of which would result in significant change that will set the course for decades to come.

While we are well positioned now for most eventualities, it is critical that we stay ahead of the curve. Input from our members and colleagues throughout the healthcare industry will allow us to formulate a strategic plan that makes that possible. ■



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

“While we are well positioned now for most eventualities, it is critical that we stay ahead of the curve. Input from our members and colleagues throughout the healthcare industry will allow us to formulate a strategic plan that makes that possible.”

Be Present, Mindfulness Works

Sonya Malekzadeh, MD, Member of the AAO-HNS
Physician Wellness Task Force

In the space of a few weeks, the coronavirus outbreak became an all-consuming global, national crisis. Changing day-to-day life in unprecedented ways, it touched all of us and will be the focus for many more months to come. The collateral effect of this pandemic on healthcare providers' well-being is emerging as clinicians face even greater workplace distress that will likely exacerbate existing levels of burnout. It is not surprising that the National Academy of Medicine warns of a wave of physical and emotional harm amounting to a "parallel pandemic," urging us to develop clear strategies to address clinician well-being during and after the COVID-19 crisis.¹ Although this complex problem requires a shared response at the national and health system levels, there are individual strategies that can help mitigate the uncertainty and anxiety surrounding this particular time.

Mindfulness has gained traction as a tool to combat physician stress and burnout. Most of us have heard the term, and it can evoke a whole host of ideas but essentially refers to paying attention on purpose, non-judgmentally, to what is happening in the present moment. In other words, we need to intentionally focus our attention on the here and now instead of dwelling on the past or worrying about the future. Our focus is not meant to judge thoughts, emotions, and physical sensations but to experience and

acknowledge them with compassion. As we become aware of our internal and external surroundings, we are creating a sense of calm and acceptance.

Based on Buddhist philosophy, mindfulness was first introduced into Western medicine by Jon Kabat-Zinn in the 1970s. His techniques were primarily developed for stress management but evolved to include the treatment of a variety of health-related disorders. According to his research, mindfulness practices can lead to a less intense stress response, which in turn has several benefits, such as decreasing hypertension, strengthening the immune system, and reducing pain levels. These skills can also enhance day-to-day well-being by improving mood and alleviating feelings of unease, anxiety, and fear.

To better understand the positive health effects of mindfulness, let's reflect on the stress response and the connection between our chronically stressful lives and our body's response to stress. When the mind perceives an emotional or physical threat, cortisol and other stress hormones are released in the "fight or flight" response, preparing us to meet the challenge. Unfortunately, this survival mechanism can also kick in during non-life-threatening situations, such as work burden and family tension. When the threat disappears, cortisol levels drop. The trouble is that we rarely deal with one stressor at a time and chronic low-level stress keeps cortisol from returning to baseline. Over time, the body

is dysregulated and there are deleterious effects of chronic stress. Mindful practice utilizes our mind-body connection to "de-stress" or counter the stress response.

Being mindful doesn't need to be complicated. There are simple and brief exercises that can be effortlessly incorporated into your daily routine. Mindfulness techniques vary in effectiveness from one individual to another, and the key is to experiment until you find which resonates best with you. For some it's focused breathing, and for others it's movement and exercise—whatever technique works for you is what you should pursue. Like learning any new skill, mindfulness takes time and practice. The mind is a busy place and it's natural for the mind to wander, but when it does, you can learn to quiet your mind by gently refocusing thoughts back to the exercise. Mindfulness is like a muscle; the more you exercise it, the better it will work when you need it. Remember, with mindfulness there is no way of doing it wrong. Accept whatever you might be feeling or thinking without trying to change it or your reactions. Recognize unpleasant sensations, thoughts, and feelings as temporary and fleeting, observing them objectively without reaction or judgment and not worrying about doing it right or different but noticing what is.

My first introduction to mindfulness was through a required institutional-sponsored mind-body medicine retreat on Maryland's Eastern Shore. Always

the skeptic, I was reluctant to invest the time and energy on what I viewed as an overhyped trend, lacking substance or scientific basis. Over the ensuing four days, I gained a different perspective. I realized that mindfulness did not require me to chant, hold hands, or sing “Kumbaya.” In fact, all I needed was the willingness to sit quietly, giving my mind the space and silence to process thoughts. Like most physicians, my life is full of stressors from work, home, and digital devices. A self-professed multitasker, I am not always fully present for patients or family. As my practice of mindfulness develops, I have learned to slow down and become less reactive and more accepting of events out of my control. While I can’t entirely eliminate stress, I can be more adaptable to the pressures. Mindfulness is the self-care tool I need to be the best possible doctor for my patients and the healthiest possible version of me for my family.

Mindfulness is not a magic bullet. It will not address the increasing pressures of an ever-evolving healthcare system, nor the anxieties surrounding a global pandemic. However, it can play an important role in how we respond to these physically and emotionally demanding times. After all, we have to take care of ourselves in order to have something left to care for others. ■

References

1. Dzau VJ, Kirch D, Nasca T. Preventing a Parallel Pandemic — A National Strategy to Protect Clinicians’ Well-Being. *N Engl J Med*. 2020 May 13. doi: 10.1056/NEJMp2011027.



Mindfulness Toolkit

Free Access to Headspace: A meditation and sleep app that is now available for U.S. healthcare and public health professionals through 2020. <https://www.tarabrach.com/meditation-practice-rain/>

Want to Be Happy? Stay in the Moment
by Matt Killingsworth. TED Talks. 2011.
https://www.ted.com/talks/matt_killingsworth_want_to_be_happier_stay_in_the_moment?language=en

20-Minute Guided Mindfulness Exercise
<https://www.youtube.com/watch?v=thYoV-MCVs0>

All It Takes is 10 Mindful Minutes
by Andy Puddicombe. TED Talks. 2012.
https://www.ted.com/talks/andy_puddicombe_all_it_takes_is_10_mindful_minutes

RAIN Method of Mindfulness
Mindfulness instructor Tara Brach encourages physicians experiencing stress to recognize, allow, investigate, and nurture. First, recognize what is happening, then allow the experience to be there just as it is, investigate with interest and care, and nurture with compassion. This can help you avert the sense of being overwhelmed and allow you to focus and take action during stressful situations.
<https://www.tarabrach.com>
<https://www.tarabrach.com/meditation-practice-rain/>

Mindfulness Exercises
<https://www.livingwell.org.au/mindfulness-exercises-3/>

Mindful Eating, Raisin Meditation
<https://www.youtube.com/watch?v=z2Eo56BLMjM>

■ at the forefront

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Aetna Sinus Surgery

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Excellence Awards Announced

Humanitarian Travel Grant:
Otolaryngology in Uganda

Coding Update: How to Report
CPT 31298

BOG Awards Announced

BOG 2020 Candidates

AAO-HNSF Quality Resources
on Facial Plastics and
Reconstructive Surgery

➡ READ MORE ONLINE

Humanitarian Travel Grant:
Otolaryngology in Uganda

BOG 2020 Candidate Statements

Private Payer Advocacy: Aetna Sinus Surgery

Over the past several months, members have alerted the Academy's Health Policy Advocacy team that they have been receiving sinus surgery reimbursement denials from Aetna. In these denials, Aetna states that the procedure is considered experimental/investigational. In response, the Physician Payment Policy (3P) workgroup, supported by Health Policy Advocacy staff, have been working with Aetna to gain insight into these denials. Aetna clarified that these denials are based on inadequate documentation, rather than an inappropriate designation of "investigational" for proven services like FESS, which are consistent with the standard of care. For example, for functional endoscopic sinus surgery for chronic rhinosinusitis (longer than 12 weeks) with nasal polyps with persistent symptoms, providers must properly document that the patient has failed optimal medical treatment and provide objective evidence of disease by CT imaging.

In order to be fully reimbursed for sinus surgeries, the Academy recommends that members submit detailed documentation related to:

- Evidence of abnormal CT scans. Abnormal CT findings include, but are not limited to:
 - air fluid levels
 - air bubbles
 - greater than 3 mm of mucosal thickening
 - pansinusitis
 - diffuse opacification
- Documentation demonstrating that maximal

medical therapy has been tried, as indicated by all of the following:

- antibiotic therapy (if bacterial infection is suspected)
- saline nasal irrigation
- trial of nasal steroids
- allergy testing (if symptoms are consistent with allergic rhinitis) and appropriate pharmacotherapy (e.g., antihistamines or intranasal corticosteroids or leukotriene antagonists, etc.)
- Clinical notes that are clear, legible, and provide rationale for the proposed treatment. Examples include:
 - stating a patient has had four or more documented episodes of recurrent acute rhinosinusitis within 12 continuous months and providing objective evidence of disease via nasal endoscopy and CT imaging
 - stating that chronic rhinosinusitis has been present for at least 12 continuous weeks

The Academy strongly encourages members to carefully read through the **Aetna sinus surgery policy** (http://www.aetna.com/cpb/medical/data/900_999/0937.html) to ensure that all documentation requirements have been met prior to submitting claims. If you receive an inappropriately denied sinus surgery claim from Aetna or another insurer, please email healthpolicy@entnet.org. ■



2020 Committee Excellence Awards Announced

Laryngology Bronchoesophagology Education Committee

Chair: Thomas L. Carroll, MD

Head and Neck Surgery Education Committee

Chair: David M. Coggnetti, MD

Humanitarian Efforts Committee

Chair: Mark E. Zafereo, Jr., MD

Patient Safety and Quality Improvement Committee

Co-chairs: Emily F. Boss, MD, MPH,
and C. W. David Chang, MD

Rhinology and Paranasal Sinus Committee

Chair: Sanford M. Archer, MD

WIO Program and Awards Committee

Chair: Evelynne Kalyoussef, MD

HUMANITARIAN TRAVEL GRANT Otolaryngology in Uganda

In November 2018, **Kathryn R. Hoppe, MD**, had the opportunity to participate in a surgical mission trip to Kampala, Uganda, as part of the Head and Neck Outreach (HNO) team from University Hospitals Cleveland Medical Center. This is a well-established medical and educational exchange with the Uganda Cancer Institute (UCI) and the Makerere University School of Medicine. This exchange was started by **Chad A. Zender, MD**, in 2014, and since then the program has expanded to biannual mission trips in which over 250 patients have been evaluated and over 150 procedures have been performed. Throughout the week

Dr. Hoppe and the HNO team worked alongside the Ugandan physicians to complete approximately 25 advanced head and neck surgeries.

"The healthcare system in Uganda is very patient- and family-oriented. It is a very tight-knit community and family members not only help care for their loved ones but also other families and patients who may need assistance. This has been an irreplaceable



experience of my otolaryngology residency, making a great impact on the physician I will strive to be by continuing humanitarian efforts throughout my career." ■

➔ READ MORE ONLINE
Longer article available

Coding Update: How to Report CPT 31298



In January 2018, the Centers for Medicare & Medicaid Services (CMS) implemented significant changes to the functional endoscopic sinus surgery (FESS) and balloon sinus dilation (BSD) family of codes, revising these code sets to bundle frequently reported codes within each family together. With these changes, CMS required four new code combinations, including CPT 31298 *Nasal/sinus endoscopy, surgical, with dilation (e.g., balloon dilation); frontal and sphenoid sinus ostia*. Among the new codes, 31298 was the only bundled code in the family that is performed using BSD.

As part of the RUC valuation process, specialty societies are asked to present on direct practice expense (PE) inputs typically (i.e., items and quantities utilized greater than 50% of the time) required to perform a service or procedure. The direct practice expense inputs are broken down into three categories: clinical staff time (activities performed by an RN, LPN, etc.), disposable supplies, and non-disposable equipment. CMS and the American Medical Association's RVS Update Committee (AMA RUC) then monitor all "high-cost" supplies included within codes, as many of these services represent a large portion of overall Medicare expenditure. The BSD codes fall into

this category due to the inclusion of the high-cost supply **SA106 kit, sinus surgery, balloon (maxillary, frontal, or sphenoid)**. This supply is currently valued at \$2474.99 by CMS.

The AAO-HNS wants our members to fully understand the long history surrounding this particular supply. When the BSD codes were first valued in 2010, the RUC recommended, and the Academy supported, that CMS assign a HCPCS code to the balloon kit in order to reimburse providers directly for the number of balloons used per procedure. This recommendation was made based on that fact that balloon kits are sometimes used to access more than one sinus at a time during sinus surgery. Through rulemaking CMS declined to accept this recommendation, and instead assigned **half** a balloon kit to the existing BSD codes under the premise that if a balloon could be used twice on two separate sinuses, providers should only be reimbursed half a kit when accessing one sinus.

In contrast, when CPT 31298 was developed in 2016, the PE Subcommittee stated the following during their review of the code:

The Subcommittee also verified that a full balloon is necessary for the 31XX5 (now 31298) because this service includes two sinuses. The Subcommittee noted that a half

catheter for each balloon is necessary for the rest of the services because multiple sinuses, typically two, could be balloon dilated at the same time. The RUC recommends the direct practice expense inputs as modified by the Practice Expense Subcommittee.

As noted above, CMS accepted this recommendation within the 2018 Medicare Physician Fee Schedule. **This update resulted in 31298 being the only code in the BSD family with a full unit of supply code SA106 in its direct PE inputs, as it is the only code where two sinuses are accessed in the same procedure, unilaterally.**

In closing, when 31298 is performed bilaterally (i.e., accessing four sinuses) it should be reported using a -50 modifier. In cases where only two sinuses are accessed (frontal and sphenoid), the code should only be reported once based on the practice expense reimbursement being double that of the other BSD codes. This is a result of the other BSD code descriptors describing access to only one sinus, whereas 31298 describes accessing two sinuses.

Members who have questions regarding proper reporting of these services are encouraged to contact the health policy advocacy team at healthpolicy@entnet.org. ■

■ at the forefront



CONNECT AND SHARE: #BOGENT

BOG Practitioner Excellence Award: Kathleen C Y Sie, MD

The BOG Practitioner Excellence Award recognizes the prototypical clinical otolaryngologist one wishes to emulate. In addition to his or her clinical skills, the nominee possesses: civic leadership, charitable activity, leadership involvement with local, state, regional, or national medical organizations, community education, or engagement in local civic and/or community activities.

The recipient of the 2020 BOG Practitioner Excellence Award is **Kathleen C Y Sie, MD**, division chief, Otolaryngology Head and Neck Surgery at Seattle Children's Hospital; director of the UW Medicine Childhood Communication Center; UW Richard and Francine Loeb Endowed Chair in Childhood Communication Research; and UW professor of head and neck surgery.

The nomination of Dr. Sie noted her dedication to providing patients with the



best possible care. In seeking ways to improve quality of life for her patients, she started a hearing loss clinic at Seattle Children's Hospital that not only includes access to medical care and psychological well-being but also financial and educational aid to patients in need.

Dr. Sie is also noted for the constant support she offers to residents and fellows through her teachings and grant opportunities—training countless surgeons to approach clinic in a manner that focuses on effective communication among patients and all members of the healthcare team. ■

BOG Model Society Award

The Model Society Award recognizes outstanding local/state/regional societies that exhibit effective leadership.

The **Metro Atlanta Educational Society for Otolaryngology-Head and Neck Surgery (MAES/OHNS)** is the recipient of the 2020 BOG Model Society Award. The goal of MAES/OHNS is to provide education and scientific programs and seminars to otolaryngologists and other physicians and healthcare workers in a way that can be applied to the day-to-day clinical treatment of patients. The society coordinates numerous

activities, including a journal club, a lecture series in conjunction with their business meeting, and biannual joint education meetings with the Georgia Society of Otolaryngology. MAES/OHNS seeks to continually meet the education needs of their medical community by reassessing and tailoring activities based on feedback through membership surveys and CME feedback forms. ■

2020 BOG Candidates

BOG Candidate
Statements: Read Online

Candidates for Chair-Elect



Boris Chernobilsky, MD



Troy D. Woodard, MD

Candidates for Member-at-Large



David S. Boisoneau, MD



Soha N. Ghossaini, MD



CLINICAL PRACTICE GUIDELINE



AAO-HNSF Quality Resources on Facial Plastics and Reconstructive Surgery

Read the Clinical Practice Guideline: Improving Nasal Form and Function after Rhinoplasty and the Clinical Consensus Statement: Septoplasty with or without Inferior Turbinate Reduction by visiting www.entnet.org/cpg.

In addition, review the Qualified Clinical Data Registry measures on rhinoplasty, which are available through the Reg-entSM registry. These measures were developed in collaboration between the AAO-HNSF, American Society of Plastic Surgeons (ASPS), and American Academy of Facial Plastic and Reconstructive Surgery (AAFPRS).

- ASPS16 - Airway Assessment for Patients Undergoing Rhinoplasty
- ASPS17 - Patient Satisfaction with Rhinoplasty Procedure
- ASPS18 - Shared-decision Making for Post-operative Management of Discomfort Following Rhinoplasty

To view the measure specifications and learn more, visit www.entnet.org/2020-measures. ■



- ▶ **COVER**
Restore and support a sense of safety
- ▶ **CALM**
Calm and orient distressed persons by asking if they have experienced any changes
- ▶ **CONNECT**
Connect in a helpful and respectful manner
- ▶ **COMPETENCE**
Remind them of skills that have worked in the past for them
- ▶ **CONFIDENCE**
Foster a sense of hope, limit self-doubt and guilt, and help patients concentrate on strengths

SPONSORED CONTENT FROM AAO-HNS ACADEMY ADVANTAGE PREMIER PARTNER: THE DOCTORS COMPANY

Reopening Your Practice: Avoid Risks when Treating Stressed Patients during COVID-19

While most resources are directed at screening for COVID-19 and treating affected patients, there is another important aspect of the pandemic: the impact on your patients' mental health.¹

Anxiety is being exacerbated by patients' mistrust of the healthcare system and fear that they or their loved ones will contract the virus. A recent survey indicated that 67% of people have increased levels of stress since the start of the COVID-19 outbreak.²

What are some warning signs or cues that show a patient is in emotional distress? Watch for the following signs when seeing a patient onsite or via telehealth:

- Changes in appetite, sleep, and/or behavior
- Nonverbal cues during an interview
- Decreased or no energy
- Changes in cognition
- Feelings of hopelessness/helplessness, being overwhelmed, irritability, fear/worry

- Withdrawal from friends/family and activities
 - Increased conflict within relationships
 - Lack of follow-through with seeing therapist and/or psychiatrist
 - New somatic complaints
 - Excessive smoking, drinking, or using drugs
- If these warning signs are missed and an adverse event—such as suicide—occurs, the healthcare provider may face the risk of a medical malpractice claim.

While the vast majority of your patients who are anxious and stressed about the COVID-19 virus are not suicidal, it is important to keep in mind the possibility of suicide as you complete your assessment. A helpful resource is the [Suicide Prevention Toolkit for Primary Care Practices](http://www.sprc.org/settings/primary-care/toolkit) (<http://www.sprc.org/settings/primary-care/toolkit>) from the Suicide Prevention Resource Center and the Western Interstate Commission for Higher Education Mental Health Program.

The above key elements of the Stress First Aid peer support model³ have been linked to better functioning during times of ongoing stress and should be used in discussion with patients showing signs of anxiety.

During these discussions, explain to patients the importance of self-care during times of stress and the importance of staying connected to their support system. Provide positive encouragement and reinforcement. ■

References:

1. Diamond R. Watch for the signs: Screen all patients for suicidal thoughts. The Doctors Company. Published November 2016. Accessed May 19, 2020. <https://www.thedoctors.com/articles/watch-for-the-signs-screen-all-patients-for-suicidal-thoughts/>
2. Qualtrics. The other COVID-19 crisis: Mental health. Published April 2020. Accessed May 19, 2020. <https://www.qualtrics.com/blog/confronting-mental-health/>
3. National Center for PTSD. For Leaders: Supporting Your Staff During the Coronavirus (COVID-19) Pandemic. Published April 9, 2020. Accessed May 18, 2020. https://www.ptsd.va.gov/covid/COVID_leaders_support_staff.asp

■ spotlight: ASCENT



Specialty Certification for ENT Managers and Administrators Is Needed Now More Than Ever

The Administrator Support Community for ENT (ASCENT) developed a certification program in 2005, the Certification in Otolaryngology Practice Management (COPM), to set the bar for ENT practice management. The program was developed to test competency and knowledge in six key domains of ENT practice management. They include basic ENT knowledge, finance and accounting, marketing, operations, technology, and human resources.



This program has been successful over the years. Practice management has become increasingly more complex and ENT practices need an administrator who can address the many varying issues that arise in today's practice. That is where certification comes in. While daunting to those who have been out of school for a while, the exam consists of 150 questions in all six core domains with varied percentages (Table 1). The exam is online, which allows the candidate to test in the convenience of their home or workplace.

Why should you have your manager or administrator certify?

First and foremost, lifelong learning. Healthcare is changing at lightning speed, and so the administrator needs to keep up with the new compliance issues, regulatory issues, laws, and trends affecting practices today. ASCENT believes in lifelong learning, and this certification brings personal satisfaction and increased knowledge stimulation to the candidate. The process of studying or reviewing for the certification exam provides a source of professional development that increases

the candidate's knowledge base regardless of their experience level. The certification also demonstrates their commitment to your practice, assesses their knowledge, and brings increased value to your practice, physician(s), staff, and patients.

How does this certification process work?

First, there is a short application. Once accepted, the examinee can register to take the exam. ASCENT offers self-assessment exams, a resource manual, and study notes to help the applicant prepare. The exam is timed for a maximum of four hours and can be taken from any computer—but not a tablet or phone—at the candidate's convenience. There is a web block-out to prevent examinees from looking up answers. Exam scores are given immediately after completion via email.

After certification is complete, those certified are expected to obtain continuing education credits to recertify every two years. Continuing education can be obtained in a variety of ways: through attending ASCENT or other practice management meetings, writing practice management articles, presenting at meetings or webinars, and writing test questions, to name a few. The other option is to retest.

The certification process validates an administrator's knowledge that equates to success in a leadership role and the ability to manage an ENT practice professionally. Isn't that what you need in your practice today?



More recently, we were asked to extend certification for vendors who go into a patient office so that they would have additional credentials signifying that they are

knowledgeable in practice management and understand what goes on in an ENT practice. Therefore, utilizing the same framework, ASCENT developed the Certification in Otolaryngology Practice Management-Corporate (COPM-C), which tests for competency in ENT practice management. This program has been successful and well-received. In fact, many of those who have obtained the certification maintain that the credential actually was recognized as a positive when they are in the ENT practice. Don't you want your vendors to understand how practices operate so they can help you make the right choices in products and services needed in your office?

Table 1

Core Competencies	
Basic ENT Knowledge	10%
Finance and Accounting	20%
Marketing	10%
Operations	30%
Technology	10%
Human Resources	20%

Find out more about ASCENT at www.askASCENT.org. Ask your administrator to join Administrator Support Community for ENT (ASCENT), which—in addition to resources and education—provides a network to help you work through common practice issues. Find out more about ASCENT's certification at www.askASCENT.org/COPM. ■

Celebrates 10 Years

Reena Dhanda Patil, MD

2020 has certainly been an uncertain and thought-provoking year thus far, with the global pandemic and the recent civil rights movement leading to a great deal of self-reflection concerning the way we “do” medicine and live our day-to-day lives. One constant through all of these ups and downs has been the bright light of the upcoming Women in Otolaryngology (WIO) Section’s 10-year anniversary during the AAO-HNSF 2020 Virtual Annual Meeting & OTO Experience. Over the past year, a great deal of planning has gone into making this a meaningful and fun-filled event. Our WIO members feel, more than ever, that support from our colleagues is vital to our continued well-being and development. Now that the Annual Meeting has been moved to a virtual format, we are looking forward to seeing each other over video and connecting further with many thanks to the nimble AAO-HNS staff in adjusting our programming to a new format.

The 10-year celebration of WIO will be marked by a number of events. The speaker at our General Assembly will be the renowned ecologist Nalini Nadkarni, PhD. This amazing woman is a professor of biology and director for the Center of Science and Math at the University of Utah and best known for her pioneering work in the Costa Rican rainforest canopies, using mountain climbing equipment to make her ascent. She is an accomplished author as well as the recipient of many awards and fellowships. And to “top” it all off, Dr. Nadkarni is such a role model for women in science that Mattel, Inc., in partnership with National Geographic, recently marketed the Entomologist TreeTop Barbie, inspired by her passion and commitment.

We will then virtually clink our glasses and enter our WIO gala to watch the long-awaited WIO history video premiere. This video will feature stories of women in our specialty, from the early 1970s through today, as well as impressions of more than 20 women and men who collaborated to form the WIO Section. We will celebrate trailblazers’ influence on the careers of contemporary female otolaryngologists and enjoy many images of WIO wearing all their professional hats. Please join us for this fantastic and informative program of events this fall as we enter a new era of connecting and conferencing online. ■

2020 WIO Helen F. Krause, MD Trailblazer Award

This award recognizes an individual who has furthered the interests of women in the field of otolaryngology.

WIO is pleased to announce **Kathleen L. Yaremchuk, MD, MSA**, as the 2020 Helen F. Krause, MD Trailblazer Award recipient. Dr. Yaremchuk is the chair of the Department of Otolaryngology-Head and Neck Surgery at Henry Ford Health System.

As one of the few female otolaryngology chairs, she has transformed the Otolaryngology Department at Henry Ford Hospital from a respected community program to an up-and-coming academic powerhouse. Her efforts have resulted in the department being ranked in the top 50 programs by the *U.S. News and World Report* for three years in a row. This was accomplished by advocating for quality patient care, hiring talented and motivated faculty, focusing on resident education, and making research, scholarly activity, and innovation a priority. In addition, she has held multiple leadership positions with local, national, and international professional

societies, published numerous peer-reviewed articles and book chapters, edited several books and journals, and lectured nationally and internationally.

She has served as chair of the Society of University Otolaryngologists Head & Neck Surgeons Gender Disparity Committee and chair of the AAO-HNS Women in Otolaryngology Section. In addition, Dr. Yaremchuk has published multiple articles addressing and highlighting the importance of women in otolaryngology. She mentors and advocates for female residents and faculty members by supporting their interests. Due to her influence and accomplishments, she has provided experience and exposure opportunities to help further their careers.

In February 2020, she was appointed for a two-year term as the chair of Henry Ford Medical Group’s Board of Governors, the first female to ever serve in this role. ■



2020 WIO Exemplary Sr. Trainee Award

This annual award recognizes an outstanding female senior resident or fellow in an otolaryngology-head and neck surgery training program who demonstrates excellence in leadership, research, education, and mentoring.

WIO is pleased to announce **Leila Jean Mady, MD, PhD, MPH**, as the 2020 Exemplary Sr. Trainee Award recipient. As chief resident in the Department of Otolaryngology-Head and Neck Surgery at the University of Pittsburgh Medical Center, Dr. Mady has distinguished herself as a mentor, researcher, presenter, author, and clinician.

She has transformed the didactic teaching program and served as a mentor to many female residents and inspired them with her enthusiasm for conducting research. Most recently, she developed a Grand Rounds program inviting outstanding women from around the country. During the recent pandemic, she organized and moderated a weekly discussion covering the 50 head and neck articles every resident should know.

Dr. Mady has conducted extensive research, including an investigation into the association between air pollution and chronic sinusitis, studied numerous aspects

of head and neck cancer survivorships, and investigated a new biodegradable stent. Her biodegradable stent research earned her a CORE Grant in 2018. She was invited to present her results on cancer survivorships during the 2018 Otolaryngology Spring Meeting. She has published more than 40 peer-reviewed articles.

Dr. Mady is the recipient of many awards, including a first prize oral presentation during The American Academy of Otolaryngic Allergy Annual Meeting in 2017 and, more recently, at the Robert A. & George C. Shein Resident Research Competition in 2018.

Dr. Mady obtained her bachelor’s degree in finance with a concentration in chemistry from New York University. She subsequently pursued graduate studies through a joint MD/PhD/MPH program at Rutgers University. ■





“This incredible opportunity revealed what a responsibility I have, and that we all have, to give back to otolaryngology and work to improve healthcare in our community.”

Working to Improve Healthcare in Our Community

Dr. Douglas D. Backous as a keynote speaker at MedTech Rising in Cork, Ireland, December 2018

Douglas D. Backous, MD, has a large ear and neurotology practice with Proliance Surgeons at Puget Sound ENT in Edmonds, Washington. He performs inpatient and skull base surgery at the Swedish Neuroscience Institute in Seattle, as well as outpatient otologic surgery in Edmonds and at a satellite facility, Ear Nose and Throat Associates, in Puyallup.

He is the director of the Seattle Advanced Otolaryngology Fellowship, which produces one graduate annually. Dr. Backous is Director-at-Large (Private Practice) on the American Academy of Otolaryngology–Head and Neck Surgery (AAO-HNS) Board of Directors and was previously Chair of the AAO-HNS Hearing Committee and Skull Base Surgery Committee.

“I consider my ability to be an otolaryngologist both a privilege and a

responsibility,” Dr. Backous explains. “I went to college at Seattle Pacific University to play intercollegiate soccer, having no idea that I would meet professors there who would encourage me to think big and discover a dream to pursue.”

While performing home nursing duties as a work-study student, he met a patient with terminal ALS who motivated him to become a doctor and serve others with respect and dignity. At the University of Washington School of Medicine, Dr. Backous met **Charles W. Cummings, MD**, who modeled for him how otolaryngology was fun, challenging, and a place to make a difference. During residency at Baylor College of Medicine, he learned the ins and outs of practicing ENT and connected with influential mentors.

“Dr. Herman Jenkins and Dr. Newton Coker opened my eyes to neurotology and

guided me to Johns Hopkins University in Baltimore. There, I was reunited with Dr. Cummings to complete my fellowship under **Dr. Lloyd Minor** and **Dr. John Niparko**,

two mentors who taught me how I could most effectively contribute to our specialty. This incredible opportunity revealed what a responsibility I have, and that we all have, to give back to otolaryngology and work to improve healthcare in our community.”

In 1997, Dr. Backous made a difficult decision to leave full-time academic medicine to serve his home community back in the Pacific Northwest. “Most of the referrals I receive come from other otolaryngologists in and around Washington, Alaska, Idaho,



Douglas D. Backous, MD

and northern Oregon,” he says. “I host regional and online education forums for otolaryngologists, audiologists, and primary care physicians to give back to those who refer to me. My goal in regional education is to make advanced ENT care available closer to patients’ homes by partnering with local physicians. I also co-host the nationally subscribed Seattle Advanced Otology and Rhinology course annually at the Seattle Science Foundation with my practice partner in Puyallup, **Dr. Greg Davis.**”

In his practice, Dr. Backous provides leading-edge treatments for pediatric and adult patients with hearing loss, deafness, chronic ear infection, cholesteatoma acoustic neuromas, and facial nerve disorders. His professional passion is ensuring access to care for patients who choose to hear with cochlear implants, brainstem implants, osseointegrated devices, and hearing aids.

Regarding the COVID-19 pandemic, Dr. Backous feels that otolaryngologists need to lead the way for safer in-office and surgical care delivery. “We are uniquely suited, due to our balance of office-based and operating room-based care, to inform industry and develop products that are safer for caregivers and patients,” he says. “We can create clinical pathways for safer care of the upper aerodigestive tract where many viruses and pathogens concentrate.”

In an AAO-HNS COVID-19 podcast on [“Reopening Your Practice,”](#) Dr. Backous describes that at least half of his regional neurotology practice patients come from two to three hours away, some by plane. Video conferencing has become an important tool during the pandemic. Under current regulations, similar reimbursement for coding is applied to appropriate clinical evaluations online. “We came up with a physical exam that includes patients taking their own pulse and respiration. It is surprising how many people have their own oxygen saturation monitors and blood pressure cuffs at home.” Practitioners can then bill on key elements or by time spent in medical decision-making and counseling, even justifying level four consults.

“I recently did consultation leading to eventual emergency surgery on a patient with an acoustic neuroma and brainstem compression. The patient was completely evaluated and consented by me and the neurosurgeon using video conferencing. We met the patient in person the morning of surgery. I see telemedicine as a huge piece to my practice moving forward to help shrink the waiting room while providing essential access to patients at a distance or to those who cannot easily come to the office for care.”

Dr. Backous feels that the Academy’s response during the COVID-19 pandemic is an example of how we as a specialty can mobilize our resources, as well as our resourcefulness, to provide relevant information and care in a timely fashion to support our members and patients in the United States and abroad. “I have always valued the AAO-HNS as an organization that looks out for me and my ability to

practice. The educational opportunities, governmental advocacy, and attention to the health and welfare of otolaryngology cannot be overstated.”

Young members who would like to grow into Academy leadership should heed the advice that Dr. Cummings provided Dr. Backous during his fellowship. He suggested volunteering for tasks at the committee level and then delivering on those commitments. Getting involved with the Board of Governors at the state and local levels is a great place to start and is filled with mentoring opportunities as well.

He adds that the Academy can grow by embracing members from different generations and ethnicities to ensure programs exist to provide opportunities for future leaders to learn and be mentored. “The Board and senior leadership team constantly seek ways to hear from members to define the Academy’s direction and purpose.” ■



Dr. Douglas D. Backous teaching at Miyazaki University, Japan, August 2019

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AAO-HNSF 2020 **VIRTUAL** ANNUAL MEETING & OTO EXPERIENCE

Opening Weekend Live Education Sessions

The AAO-HNSF 2020 Virtual Education Program includes an outstanding lineup of over 300 education sessions presented by expert speakers from around the world.

Beginning Sunday, September 13, the program includes both LIVE and new on-demand sessions. Be sure to tune in to these LIVE education sessions during the Opening Kick-off Weekend.

Sunday, September 13

11:30 AM - 12:30 PM

Comprehensive Otolaryngology
The Future of Telemedicine in Otolaryngology
Douglas M. Hildrew, MD

Head and Neck Surgery
Immunotherapy for Cancer Treatment: What the Otolaryngologist Needs to Know
Larissa Sweeny, MD (Moderator); Clint T. Allen, MD; Nicole C. Schmitt, MD; Ravindra Uppluri, MD, PhD

Otology/Neurotology
Endoscopic Ear Surgery: Tips and Pearls
Joao-Flavio Nogueira Jr., MD (Moderator); Daniel J. Lee, MD; Muaz Tarabichi, MD; Daniele Marchioni, MD

Rhinology/Allergy
FESS, Biologics, and Biomarkers, Oh My!: A Case-Based Approach to Decision-Making for Nasal Polyposis
Christine Blanche Franzese, MD (Moderator); Cecelia Damask, DO; Sarah K. Wise, MD, MCSR; Stella E. Lee, MD

1:00 pm - 2:00 pm

John Conley, MD Lecture on Medical Ethics
Shifting Action and Innovation Mindsets to Embrace Social Determinants of Health - Ethical and Practical Considerations for All
Anand K. Devaiah, MD

2:00 PM - 3:00 PM

Comprehensive Otolaryngology
The Current Status of COVID-19 Testing, Transmission, and Immunity
Ken Kazahaya, MD, MBA; Joel Selanikio, MD

Laryngology/Broncho-Esophagology
A Basic Videostroboscopy Interpretation Course
Peak Woo, MD

Patient Safety and Quality Improvement
Do You Juul? Vaping and Related Emerging Public Health Threats in Otolaryngology
Karthik Balakrishnan, MD, MPH (Moderator); Robert K. Jackler, MD; Michael J. Brenner, MD; Ryan M. Collar, MD

Pediatric Otolaryngology
Pediatric Open Airway Surgery: State-of-the-Art
Michael J. Rutter, MD; Alessandro de Alarcon, MD

3:00 PM - 4:00 PM

Comprehensive Otolaryngology (International Symposia)
Global Otolaryngology 2020: Your Academy Around the World
J. Pablo Stolzovitzky, MD (Moderator); Dirk Heinrich, MD, PhD; Sheng-Po Hao, MD

Facial Plastic and Reconstructive Surgery
Reconstructive Debates: 2020
Jeffrey J. Houlton, MD (Moderator); Matthew O. Old, MD; Chaz L. Stucken, MD; Shaun Desai, MD

Sleep Medicine (International Symposia)
Current Topics in Sleep Medicine: New Diagnostic Tools, Advanced Surgical Options, and Evaluating Benefits of Surgery
Chae-Seo Rhee, MD, PhD (Moderator); Seok Hyun Cho, MD; Jae-Hoon Cho, PhD, MPH; Robert H. Chun, MD

Monday, September 14

10:00 AM - 11:00 AM

Comprehensive Otolaryngology
The Future of Otolaryngology Practice
Gavin Setzen, MD

Comprehensive Otolaryngology
Medical Marijuana in Otolaryngology: What Is Its Role?
Brian J. McKinnon, MD, MBA, MPH

Otology/Neurotology
Comprehensive Tympanoplasty Techniques: Endoscopes to Lateral Grafts
J. Walter Kutz, MD; Dennis I. Bojrab, MD

Patient Safety and Quality Improvement
What Matters in the End: Care at the End of Life in Otolaryngology
Andrew J. Redmann, MD (Moderator); Andrew G. Shuman, MD; Susan D. McCammon, MD; Roger D. Cole, MD

Rhinology/Allergy
New and Improved Therapeutic Options for Patients with Olfactory Loss
Zara M. Patel, MD (Moderator); Eric H. Holbrook, MD; Justin H. Turner, MD, PhD; Bradley J. Goldstein, MD, PhD

11:30 AM - 12:30 PM

Business of Medicine/Practice Management
Continuing Certification in Otolaryngology-Head and Neck Surgery: Need-to-Know Updates for 2020
John S. Rhee, MD MPH (Moderator); Mark C. Weissler, MD; Jeffrey P. Simons, MD; Brian Nussenbaum, MD

Facial Plastic and Reconstructive Surgery
Comprehensive Management of Facial Palsy
Nate Jowett, MD; Theresa A. Hadlock, MD

Head and Neck Surgery
Cutaneous Melanoma: Contemporary 2020 Management Pearls
Cecelia E. Schmalbach, MD, MSc; Carol R. Bradford, MD

Sleep Medicine
Update on Scientific Trials and Systematic Reviews in Sleep Surgery 2020
Phillip S. LoSavio, MD (Moderator); Megan L. Durr, MD; Jeffrey J. Stanley, MD; Derek J. Lam, MD, MPH

2:00 PM - 3:00 PM

Head and Neck Surgery
Sentinel Node Biopsy for Oral Cavity Cancer: Making the Case
David M. Coggnetti, MD; Stephen Y. Lai, MD PhD

Laryngology/Broncho-Esophagology
How Data-Driven Multidisciplinary Tracheostomy Teams Transform Care, Prevent Harm, and Save Lives
Brandon S. Hopkins, MD (Moderator); Michael J. Brenner, MD; Tiffany P. Raynor, MD; Vinciya Pandian, PhD, RN

Otology/Neurotology
The Leading Edge: What's New in Hearing Research?
Adrien A. Eshraghi, MD, MSc; Ronna Hertzano, MD, PhD

Pediatric Otolaryngology
Pediatric Hearing Loss: CMV, Genetics, Imaging, and More
Margaret A. Kenna, MD MPH; Daniel Choo, MD

3:00 PM - 4:00 PM

Comprehensive Otolaryngology
Shifting Sands: The COVID-19 'Science' that Informs ENT Practice in the Fog of War
C. W. David Chang, MD

Endocrine Surgery
Neck Dissection for Thyroid Cancer and the ATA Guidelines
Brendan C. Stack, Jr., MD

Otology/Neurotology (International Symposia)
CEORL-HNS/EAONO Symposium: Cutting-edge Otology/Neurotology in Europe - Changing Treatment Worldwide
Per Cayé-Thomasen, MD (Moderator); Christoph Arnoldner, MD; Stefan K. Plontke, MD, PhD; Shakeel Riaz Saeed, FRCS(Ed), FRCS

Tuesday, September 15

10:00 AM - 11:00 AM

Comprehensive Otolaryngology
Wellbeing: It's time for a 360° Approach
Jo A. Shapiro, MD

Head and Neck Surgery
Controversies in Parotid Surgery: Is There Evidence?
Richard V. Smith, MD (Moderator); Samir Khariwala, MD; Bevan Yueh, MD, MPH; Carol R. Bradford, MD

Otology/Neurotology
Complex BPPV, Cupulolithiasis, Horizontal and Superior Canals
John C. Li, MD

Sleep Medicine
Drug-Induced Sleep Endoscopy in Obstructive Sleep Apnea
Eric James Kezirian, MD, MPH; Nicolaas De Vries, MD, PhD

11:30 AM - 12:30 PM

Comprehensive Otolaryngology
Nasal Valve Primer: Everything You Need to Know (Simplified)
Grant Gillman, MD

Head and Neck Surgery
Contemporary Management of Carotid Body Tumors and Paragangliomas of the Neck
James L. Netteville, MD; Sarah L. Rohde, MD

Patient Safety and Quality Improvement
Avoiding Complications in Endoscopic Sinus Surgery
David A. Gudas, MD (Moderator); Benjamin Saul Bleier, MD; Kibwei A. McKinney, MD; Zachary M. Soler, MD

Rhinology/Allergy
Innovations in Treatment of Chronic Rhinosinusitis with Nasal Polyposis: From Bench Research to Clinical Practice
Jivianne Lee, MD (Moderator); Joseph K. Han, MD; Troy D. Woodard, MD; Andrew Lane, MD

1:00 pm - 2:00 pm

H. Bryan Neel III, MD, PhD Distinguished Research Lecture
Shifting Paradigms in Otolaryngology with 3D Printing
Glenn E. Green, MD

2:00 PM - 3:00 PM

Business of Medicine/Practice Management
Online Reputation Management (Non-CME)
Karen A. Rizzo, MD (Moderator); Christopher Y. Chang, MD; Angela K. Sturm-O'Brien, MD; Aaron Minc, JD

Endocrine Surgery
Intraoperative Parathyroid Localization: A Panel Review of New Technologies and Presentation of Cases
Gregory W. Randolph, MD (Moderator); David J. Terris, MD; Michael C. Singer, MD; Whitney Elizabeth Liddy, MD

Laryngology/Broncho-Esophagology
Common Causes of Hoarseness that are Commonly Missed
Jacob Pieter Noordzij, MD; Seth M. Cohen, MD, MPH

Pediatric Otolaryngology
Kids Today: Rapid Review of Guidelines and Consensus Statements
Debra G. Weinberger, MD (Moderator); Jennifer J. Shin, MD, SM; David H. Darrow, DDS; David E. Tunkel, MD

3:00 PM - 4:00 PM

Facial Plastic and Reconstructive Surgery
Transgender Care in Otolaryngology: Facial and Vocal Gender Affirming Surgery
Rahul Seth, MD; Philip Daniel Knott, MD; VyVy N. Young, MD

Head and Neck Surgery (International Symposia)
Head & Neck Cancer Screening, from Bench to Clinical Practice
Eugene N. Myers, MD, FRCS Edin (Hon) (Moderator); Napadon Tangjaturonrasme, MD; Sheng-Po Hao, MD; Chih-Yen Chien, MD

Laryngology/Broncho-Esophagology
Leuko Lot: A Lot of Laryngeal Leukoplakia
Priya D. Krishna, MD (Moderator); Nausheen Jamal, MD; Mark A. Fritz, MD; Ross Mayerhoff, MD

Otology/Neurotology
Pediatric Cochlear Implantation: Better Decisions, Better Outcomes
Blake C. Papsin, MD, FRCS; Sharon L. Cushing, MD

Specialty-Focused Weeks Live Education Sessions

Participate in the specialty-focused weeks for exclusive access to in-depth coverage of subspecialty topics. Each week will include a mix of live and new on-demand content as well as a set of tools for interacting with speakers for Q&A. All scheduled broadcast sessions will be available on demand through the end of October. The recorded content* will be available after this date via OTO Logic, the AAO-HNSF forthcoming Otolaryngology Education Platform, for three years to all registered attendees.

*with presenters' permissions

This schedule only includes live events. For the complete schedule, including on-demand programming, go to www.entannualmeeting.org and click on "Schedule" in the main menu.

Please note that the schedule is subject to change.



SPECIALTY-FOCUSED LIVE EDUCATION SCHEDULE

Business of Medicine/Practice Management

WEDNESDAY, SEPTEMBER 16

8:00 AM - 9:00 AM

#What? 2.0: The Dos and Don'ts of Social Media in Otolaryngology (Non-CME)

Hayley L. Born, MD (Moderator); Leslie R. Kim, MD, MPH;
Jennifer A. Villwock, MD; Aaron Minc, JD

Leadership Lessons: Strategies for Success (Non-CME)

Evelyn Kalyoussef, MD (Moderator); Mona M. Abaza, MD, MS;
Carol R. Bradford, MD; Lee D. Eisenberg, MD, MPH

THURSDAY, SEPTEMBER 17

8:00 PM - 9:00 PM

E&M Coding and Documentation for Proper Reimbursement

James Lin, MD; Jay R. Shah, MD

SUNDAY, SEPTEMBER 20

4:00 PM - 5:00 PM

From Vapor to Venture:

How to Start and Sustain Something Big

Jennifer J. Shin, MD, SM (Moderator); Robert T. Sataloff, MD,
DMA; Richard M. Rosenfeld, MD, MPH, MBA; Robert J. Ruben, MD

Patient Safety and Quality Improvement

WEDNESDAY, SEPTEMBER 16

8:00 AM - 9:00 AM

Opioid Sparing Strategies in Otolaryngology:
Approaches to Eliminate Opioids

Heather Maureen Weinreich, MD (Moderator);
Vikas Mehta, MD, MPH; John D. Cramer, MD; David H. Chi, MD

Unequal Treatment: How Healthcare Disparities Negatively
Impact Our Otolaryngology Patients

Sarah N. Bowe, MD (Moderator); Karthik Balakrishnan, MD, MPH;
Regan W. Bergmark, MD; Uchechukwu C. Megwalu, MD, MPH

THURSDAY, SEPTEMBER 17

8:00 PM - 9:00 PM

Counseling, Shared Decision Making, and Palliative Surgery

Larissa Sweeney, MD (Moderator); Susan D. McCammon, MD;
Norman D. Hogikyan, MD; Andrew M. Coughlin, MD

SUNDAY, SEPTEMBER 20

4:00 PM - 5:00 PM

Can Simulation Be Used as a Tool to Assess Competence of
Aging Surgeons?

David E. Eibling, MD (Moderator); Ellen S. Deutsch, MD, MS;
Brian Nussenbaum, MD, MHCM; Edward A. Maitz, PhD

Rhinology/Allergy

THURSDAY, SEPTEMBER 24

8:00 PM - 9:00 PM

Cerebrospinal Fluid Leaks: A Crash Course for the
Otolaryngologist

Stilianos E. Kountakis, MD, PhD

SATURDAY, SEPTEMBER 26

11:00 AM - 12:00 PM

Allergy: It's Not Just the Nose!

Christopher Brook, MD (Moderator); Maria C. Veling, MD;
Peter C. Weber, MD, MBA; Jacob Pieter Noordzij, MD

Sinus Headache, Migraine, and the Otolaryngologist

Mark Mehle, MD

Head and Neck Surgery/Endocrine Surgery

WEDNESDAY, SEPTEMBER 30

8:00 AM - 9:00 AM

Endocrine Surgery

Beyond the Guidelines: Advanced Pediatric Thyroid Cancer

Evaluation and Management

Anthony Sheyn, MD (Moderator); Daniel C. Chelius, Jr., MD;
Jeffrey C. Rastatter, MD; Lourdes Quintanilla-Dieck, MD

Head and Neck Surgery

Integration of Multidisciplinary Survivorship Care into Head
and Neck Cancer Practice

Jonas T. Johnson, MD; Marci Lee Nilsen, PhD, RN

THURSDAY, OCTOBER 1

8:00 PM - 9:00 PM

Endocrine Surgery

Controversies in the Management of Thyroid Nodules

Ashok R. Shaha, MD

Head and Neck Surgery

Evidence-Based Approach to Oropharynx
Cancer, Update 2020

Neil D. Gross, MD; F. Christopher Holsinger, MD

SATURDAY, OCTOBER 3

11:00 AM - 12:00 PM

Endocrine Surgery

Rare 'Can't Miss' ENT Infections: TB, Leishmaniasis, Lyme
Disease, and Others (International Symposia)

Marlene L. Durand, MD; Rui Imamura, MD;
Diana M. Murillo-Omuku, MD; Mohan Kameswaran, MD

Head and Neck Surgery

Intraoperative Nerve Monitoring in Head and Neck Surgery

Joseph Scharpf, MD; Gregory W. Randolph, MD;
Jennifer J. Shin, MD, SM; Lisa A. Orloff, MD

SUNDAY, OCTOBER 4

1:00 PM - 2:00 PM

Eugene N. Myers, MD International Lecture on
Head and Neck CancerSurgeon Is a Major Prognostic Factor of Head and Neck
Cancer Patients Undergoing Primary and Salvage Surgery

Luiz P. Kowalski, MD, PhD

4:00 PM - 5:00 PM

Endocrine Surgery

Hyperparathyroidism: Pearls and Pitfalls of
Diagnosis and Management

David L. Steward, MD; Maisie L. Shindo, MD

Head and Neck Surgery

Teaching an Old Dog New Tricks: Managing Depth of
Invasion in Oral Cavity Cancer

Daniel L. Faden, MD; Cherie-Ann O. Nathan, MD;
Mark A. Varvares, MD; Harry Quon, MD

Otology/Neurotology

WEDNESDAY, OCTOBER 7

8:00 AM - 9:00 AM

Chronic Ear Surgery: Surgical Techniques and
Avoidance of Complication

Matthew L. Kircher, MD; Eleanor Y. Chan, MD; Seilesh Babu, MD

THURSDAY, OCTOBER 8

8:00 PM - 9:00 PM

Evidence-Based Otology for the General Otolaryngologist

Michael G. Stewart, MD, MPH; Kevin D. Brown, MD, PhD

SATURDAY, OCTOBER 10

11:00 AM - 12:00 PM

Management of Spontaneous CSF Otorrhea

Rick F. Nelson, MD, PhD; Simon I. Angeli, MD

SUNDAY, OCTOBER 11

4:00 PM - 5:00 PM

Expanding Criteria for Cochlear Implantation

Matthew L. Bush, MD, PhD (Moderator); Matthew L. Carlson, MD;
Sandra Prentiss, PhD; Rene Gifford, PhD

Medical Workup of Pediatric Sensorineural Hearing Loss:
Case Presentation

Oliver F. Adunka, MD (Moderator); Daniel Choo, MD;
Craig A. Buchman, MD; Margaret A. Kenna, MD, MPH

Sleep Medicine

WEDNESDAY, OCTOBER 7

8:00 AM - 9:00 AM

Addressing Controversies in Pediatric Sleep Endoscopy:
A Review of the New AAO-HNSF Clinical Consensus
Statement on DISE

Cristina Baldassari, MD; Derek J. Lam, MD, MPH; Stacey L.
Ishman, MD, MPH; James M. Ruda, MD



AAO-HNSF 2020 **VIRTUAL** ANNUAL MEETING & OTO EXPERIENCE

SPECIALTY-FOCUSED LIVE EDUCATION SCHEDULE

Sleep Medicine (continued)

THURSDAY, OCTOBER 8

8:00 PM - 9:00 PM

Oral Appliance Therapy Made Simple in Your Comprehensive Sleep Apnea Practice

Ofer Jacobowitz, MD, PhD; James Lapeyre Connolly, MD

Laryngology/Broncho-Esophagology

WEDNESDAY, OCTOBER 14

8:00 AM - 9:00 AM

Chronic Cough and Dysphagia

Gregory R. Dian, MD (Moderator); Maggie A. Kuhn, MD;
Milan R. Amin, MD; VyVy N. Young, MD

THURSDAY, OCTOBER 15

8:00 PM - 9:00 PM

Challenging Voice Cases: Foundation to Finesse in Voice Disorder Care (nonexclusive)

Clark A. Rosen, MD (Moderator); Dinesh K. Chhetri, MD;
Milan R. Amin, MD; Douglas Roth, MD; C. Blake Simpson, MD

SATURDAY, OCTOBER 17

11:00 AM - 12:00 PM

Voice and Swallowing Made Ridiculously Simple

Adam D. Rubin, MD; Michael J. Pitman, MD

SUNDAY, OCTOBER 18

4:00 PM - 5:00 PM

Awake Vocal Fold Injection in the Office: When, Why, How
Lucian Sulica, MD

Pediatric Otolaryngology

WEDNESDAY, OCTOBER 14

8:00 AM - 9:00 AM

Evidence-Based Otitis Media 2020

Richard M. Rosenfeld, MD, MPH, MBA

THURSDAY, OCTOBER 15

8:00 PM - 9:00 PM

Current Concepts in Otitis Media

Joseph E. Kerschner, MD

SATURDAY, OCTOBER 17

11:00 AM - 12:00 PM

Pediatric OSA Update 2020

Cristina Baldassari, MD; Stacey L. Ishman, MD, MPH

SUNDAY, OCTOBER 18

4:00 PM - 5:00 PM

Exploring Pediatric Rhinosinusitis: Updates in Management of Rhinitis, Rhinosinusitis, and Complicated Sinusitis

Patrick C. Walz, MD (Moderator); David A. Gudis, MD;
Amanda L. Stapleton, MD; Naweel I. Chowdhury, MD

Comprehensive Otolaryngology

WEDNESDAY, OCTOBER 21

8:00 AM - 9:00 AM

Near Misses, Never Events, and Just Plain Scary Cases - How to Mitigate These Events

Matthew Smith, MD (Moderator); C.W. David Chang, MD;
Stephen C. Matur, MD; Carl H. Snyderman, MD, MBA

THURSDAY, OCTOBER 22

8:00 PM - 9:00 PM

Food Allergies: Understanding Guidelines through Interactive Practical Cases

Cecelia Damask, DO; Matthew W. Ryan, MD

SATURDAY, OCTOBER 24

11:00 AM - 12:00 PM

Telemedicine: Practical Tips for Implementation into Your Daily Practice

David S. Cohen, MD (Moderator); Manan Shah, MD;
David M. Cognetti, MD; John F. Kokesh, MD

SUNDAY, OCTOBER 25

4:00 PM - 5:00 PM

Recent Publications That Could Change Your Practice in Pediatric Otolaryngology, General Otolaryngology, and Head and Neck Surgery

Jennifer J. Shin, MD, SM (Moderator); Michael G. Stewart, MD, MPH; Scott E. Brietzke, MD, MPH; Bevan Yueh, MD, MPH

Facial Plastic and Reconstructive Surgery

WEDNESDAY, OCTOBER 21

8:00 AM - 9:00 AM

Modern Concepts in Nasal Reconstruction

David A. Shaye, MD, MPH (Moderator); Travis T. Tollefson, MD, MPH; Linda N. Lee, MD; Benjamin C. Marcus, MD

THURSDAY, OCTOBER 22

8:00 PM - 9:00 PM

Nasal Reconstruction in the 21st Century: From Small to All
Stephen S. Park, MD; Catherine Meller, MD

SATURDAY, OCTOBER 24

11:00 AM - 12:00 PM

Cleft Lip and Palate: What Every ENT Should Know
Larry D. Hartzell, MD; Adam Johnson, MD

SUNDAY, OCTOBER 25

4:00 PM - 5:00 PM

Current Trends in Computer-Aided Reconstructive Surgery
Neal D. Futran, MD, DMD; Jeffrey J. Houlton, MD



TAKE PART IN LIVE GENERAL ASSEMBLIES

Board of Governors (BOG)

Saturday, September 12, 5:00 pm - 6:00 pm

Section for Residents and Fellows (SRF)

Sunday, September 13, 5:00 pm - 6:00 pm

Young Physician Section (YPS)

Monday, September 14, 5:00 pm - 6:00 pm

International Advisory Board (IAB)

Saturday, October 3, 8:00 am - 10:00 am

Women in Otolaryngology (WIO)

Saturday, October 3, 5:00 pm - 6:00 pm

REGISTRATION RATES

Online registration is fast, easy and secure. You will receive a confirmation letter immediately. Visit www.entannualmeeting.org to register today.

Registration Category	Member	Nonmember
Domestic (Physicians, Nonphysicians, Military, and Advanced Practice Providers)	\$395 USD	\$595 USD
International (Physicians, Nonphysicians, Military, and Advanced Practice Providers)	\$320 USD	\$520 USD
International Middle Income Countries	\$160 USD	\$260 USD
International Lower Income Countries	\$80 USD	\$130 USD
Residents/Medical Students	\$158 USD	\$357 USD

Individuals who reside in one of the 2020 Guest Countries (Caribbean, Egypt, Germany, and Taiwan) will receive an additional \$50 discount.



CME credit you earn counts for MOC. Successful completion of the CME internet live and enduring activities, which includes participation in the evaluation component, enables the participant to meet the expectations of the American Board of Otolaryngology's Maintenance of Certification (MOC) program. It is the AAO-HNSF's responsibility as CME activity provider to submit participant completion information to ACCME for the purpose of recognizing participation.

COVID-19 PRESENTATIONS

One of the highlights of our upcoming 2020 Virtual Annual Meeting will be a series of late-breaking presentations with ties to the COVID-19 pandemic as it relates to both current and future practice models for otolaryngologists. This year's virtual format is more conducive to the inclusion of last-minute information and expansion of our Panel Presentations beyond what has traditionally been possible at live meetings. We are confident that the five presentations listed below will bring immediate and long-term value to you in your practice.

The Future of Telemedicine in Otolaryngology

Sunday, September 13, 11:30 AM - 12:30 PM

Our Telemedicine Committee was reactivated last year and has had an extremely active first year under the leadership of Chair, **Douglas M. Hildrew, MD**, also the moderator of this panel. The pandemic necessitated an urgent adoption of telemedicine by otolaryngologists, who as a group were relatively inexperienced using the technology. The panel will review lessons learned from that experience as well as look into the future use, need for improved technology, how telemedicine fits into existing and future payment systems, and how it can increase access to specialty care.

The Current Status of COVID-19 Testing, Transmission, and Immunity

Sunday, September 13, 2:00 PM - 3:00 PM

This panel, moderated by **Ken Kazahaya, MD, MBA**, Chair of the Infectious Disease Committee, will feature an epidemiologist, a virologist, and our Opening Ceremony keynote speaker, **Joel Selanikio, MD**. They will review the current status of testing, including types of testing, availability, reliability, and potential future testing options. The group will also discuss the different strains of the coronavirus and the effect of mutation on transmission and severity of disease, as well as the development and effectiveness of immunity. They will also offer their thoughts on the upcoming winter and spring as it relates to disease penetrance.

The Future of Otolaryngology Practice

Monday, September 14, 10:00 AM - 11:00 AM

The "Future of Otolaryngology" Task Force, chaired by **Gavin Setzen, MD**, has been extremely active during the pandemic and provided our membership with timely updates and resources such as "Guidance for Return to Practice for Otolaryngology-Head and Neck Surgery." The Task Force has also been looking at all aspects of current practice, both how the pandemic has changed practice now and ways to help shape how they will evolve in the future. The panel will review their thoughts on how future practice models will look, including consolidation, the future of the regulatory and payment environment, and the future of education and training and workforce issues.

Shifting Sands: The COVID-19 "Science" that Informs ENT Practice in the Fog of War

Monday, September 14, 3:00 PM - 4:00 PM

The healthcare crisis precipitated by the rapid spread of COVID-19 created the need for timely information across the medical community worldwide. This resulted in an avalanche of "scientific publications," all with the intent of informing colleagues and improving care. Not all these publications were "created equal" in terms of scientific rigor and accuracy. **C.W. David Chang, MD**, Co-chair of the Patient Safety and Quality Improvement Committee, will moderate a panel that takes a critical look at the literature produced and the process necessary to assess the value. They will also look at alternative pathways that may be more effective in future times of need.

Wellbeing: It's Time for a 360° Approach

Tuesday, September 15, 10:00 AM - 11:00 AM

Physician stress and burnout has been a recognized problem for the past several years and has received a great deal of attention and study. This year the COVID-19 pandemic and subsequent social unrest have acted as multipliers to the pre-existing conditions facing physicians and the entire healthcare team. **Jo A. Shapiro, MD**, will moderate this panel as they take a full 360° look at the situation and how effective intervention can help mitigate symptoms and improve your health during this troublingly uncertain time.





Service and Leadership Awards

A special thank you to **Albert L. Merati, MD**, AAO-HNS/F Immediate Past President and Chair of the Board of Directors Awards Task Force. Through the task force's inaugural work, led by Dr. Merati, the AAO-HNS/F streamlined the application and submission process to identify and recognize individuals for their notable contributions to the profession and the communities they serve.

Distinguished Award for Humanitarian Service

The Distinguished Award for Humanitarian Service is awarded to a member who is widely recognized for a consistent, stable character distinguished by honesty, zeal for truth, integrity, love, devotion to humanity, and a self-giving spirit.

This year's awardee is **Merry E. Sebelik, MD**. She is a professor in Emory University's Department of Otolaryngology–Head and Neck Surgery, serving in the Division of Head and Neck Endocrine Surgery at the Winship Cancer Institute. She serves as a faculty mentor with Emory University's Global Health Resident Scholar Program, partnering with otolaryngology training in Ethiopia.



Dr. Sebelik has been privileged to work with otolaryngology colleagues in many parts of the world. She has served on and is Past-Chair of the American Academy of Otolaryngology–Head and Neck Surgery Foundation (AAO-HNSF) Humanitarian Efforts Committee, watching the interest of AAO-HNS members in global health flourish over nearly 20 years.

Dr. Sebelik particularly enjoys teaching head and neck surgery skills and is an American College of Surgeons (ACS) ultrasound instructor. She co-directed an ACS thyroid and parathyroid ultrasound course at the University of Cape Town to head and neck surgeons living and working in Sub-Saharan Africa. She is eager to expand Head and Neck Point-of-Care ultrasound expertise, most recently teaching at the third Annual African Head and Neck Society meeting in Harare, Zimbabwe.

Through her interest in global surgical deficits, Dr. Sebelik has been privileged to collaborate with colleagues and trainees in many low- and middle-income countries, and thus facilitate care to head and neck patients who may otherwise have little access to surgical care.

Dr. Sebelik received her medical degree and OTO-HNS training at the Medical College of Wisconsin as well as fellowship training in Head and Neck Surgical Oncology at The University of Texas MD Anderson Cancer Center in Houston, Texas. ■

Jerome C. Goldstein, MD Public Service Award

The Jerome C. Goldstein, MD Public Service Award is given annually to recognize an outstanding member for his or her commitment and achievement in service within the United States, either to the public or to other organizations, when such service promises to improve patient welfare.

This year's awardee is **Joseph E. Kerschner, MD**, who currently serves as the dean of the Medical School and executive vice president and provost, professor of Otolaryngology and Communication Sciences and Microbiology and Immunology at the Medical College of Wisconsin (MCW). His colleagues describe him as a quadruple threat; a sought-after clinician, a beloved teacher of students and residents, a National Institutes of Health-funded otitis media researcher, and a leader both inside and outside of the specialty. His work has improved patient welfare, shaping the future of medical education, crafting national medical education policies, enriching his local institution and community, and conducting groundbreaking transitional otitis media research.



Dr. Kerschner's commitment to advocating for underrepresented minority staff, faculty, and students and his community is unparalleled. He has served on various boards and committees within MCW and the greater Milwaukee community including the Association of American Medical Colleges, the American Society of Pediatric Otolaryngology, University of Wisconsin-Milwaukee Foundation and Research Boards, and Camp Kesem (a nationwide college student-led organization that raises funds to send children of adults with cancer to summer camps and programs).

Dr. Kerschner received his MD from MCW and completed a general surgery internship and otolaryngology residency at the University of South Florida and a pediatric otolaryngology fellowship at the MCW and Children's Hospital of Wisconsin. ■

Holt Leadership Award

The Holt Leadership Award is awarded annually to the Resident or Fellow-in-Training who best exemplifies the attributes of a young leader: honesty, integrity, fairness, advocacy, and enthusiasm. The Award recognizes exemplary efforts on behalf of the Section for Residents and Fellows-in-Training (SRF) of the AAO-HNS/F for the promotion of the missions and goals of the association.

This year's awardee is **Aurora G. Vincent, MD**, a fellow with the Facial Plastic Surgery Associates in Houston, Texas.



As a senior resident, she mentored residents to become involved in research and was appointed the department's research director. Dr. Vincent was instrumental in developing the first multidisciplinary head and neck transgender clinical service in the Department of Defense and personally devised the sterno-omohyoid dual-vector free muscle flap, which is rapidly becoming the standard treatment for long-standing flaccid facial paralysis across the U.S. Army.

Dr. Vincent has published nine peer-reviewed papers and 15 invited articles. She has won 10 awards for her research at various local, regional, and national venues, military and civilian alike. She serves as a reviewer for multiple journals, a board member for the Northwest Academy of Otolaryngology, and a member of the Madigan Army Medical Center critical care committee. She recently participated in a mission to Lima, Peru, where she and her team provided 81 hearing aids and 164 pairs of glasses and performed 115 cleft surgeries.

Dr. Vincent has been recognized with the Kenyan Joyce Award for the best research paper and the MG Floyd L. Wergeland Award for the top graduating resident.

Dr. Vincent earned her MD from the Uniformed Services University in 2013 and completed her residency at Madigan Army Medical Center in 2018. ■

Nikhil J. Bhatt, MD International Humanitarian Award

The International Humanitarian Award honors a non-U.S. otolaryngologist-head and neck surgeon who has selflessly treated people for whom access to care would have been financially or physically prohibitive.

This year's awardee is **Marlinda Adham, MD, PhD**. Dr. Adham's

distinguished academic career includes important leadership positions such as the current general secretary of the Indonesian Otorhinolaryngology–Head and Neck Society, past-president of the Asian Society of Head and Neck Oncology, and founder and course director of the Indonesian ORL–Head and Neck Surgery and Oncology Training Program.

In 2006, Dr. Adham organized the annual Thyroid Mission in Southern Maluku because many of the local population have thyroid nodules thought to be caused by iodine deficiency. Most of the patients are poor, live far from the hospital, and have transportation difficulties.

The local hospital-Karel Sadsuitubun and the agency Empowerment of Family Health (PKK) informs the community and primary care physicians by radio to announce the arrival of the Thyroid Mission. The PKK assists in informing, collecting, and preparing the patients for surgery.

Composed of ENT faculty and residents from various medical centers in Indonesia, the Thyroid Mission stays onsite for one week performing around 50 thyroid surgeries in five days. All specimens are examined by pathologists in the RSCM Hospital in Jakarta. Patients who are found to have a malignant tumor are followed up with a total thyroidectomy. Dr. Adham's work with the Thyroid Mission has shaped the spirit of cooperation and sharing to help the unfortunate patients.

A native of Indonesia, Dr. Adham received her medical degree from the University of Indonesia, followed by a residency in otorhinolaryngology. She received her PhD from the Free University in Amsterdam, Netherlands. She is currently a member of the faculty in the Department of Otorhinolaryngology, Faculty of Medicine at the University of Indonesia. ■



Nikhil J. Bhatt, MD International Public Service Award

The International Public Service Award honors a non-U.S. otolaryngologist-head and neck surgeon whose achievements have advanced the specialty.

This year's awardee is **M. Shahed Quraishi, MD**. In 2005, Professor



Quraishi founded the ENT Masterclass, a teaching platform for ENT surgeons and allied professionals that provides ENT training and educational resources through his free multimedia training platform. ENT Masterclass reach spans 15 countries across four continents and is delivered by a volunteer faculty network of over 250 eminent professors/surgeons of ENT from all over the world.

Since 2008, ENT Masterclass has published a yearbook, a 150-page review journal; four annual courses webcast live all over the world; and the "Cyber Textbook of Surgery," a selection of 450 ENT surgical/training videos from open-source access. His platform also provides an international traveling scholarship and an annual gold and silver medal for best research papers presented by trainees in ENT.

Professor Quraishi's efforts also include the training and teaching of residents in the United Kingdom. He served as the program director for higher surgical training in South Yorkshire and is a member of the Court of Examiners at the Royal College of Surgeons in England.

In 2017, Queen Elizabeth II presented Dr. Quraishi with the "Order of the British Empire" for his service to medical education and the National Health Service. His excellence in teaching was recognized by the Middle East Academy of Otolaryngology–Head and Neck Surgery with the Heinz Stammberger Award for Excellence in Teaching in 2019.

Professor Quraishi is currently an ENT surgeon in the United Kingdom where he has practiced as a consultant since 2004. ■

As an add-on maintenance treatment in adult patients with inadequately controlled chronic rhinosinusitis with nasal polyposis (CRSwNP)



TAKE A DIFFERENT PATH TO CRSwNP CONTROL

DUPIXENT IS THE FIRST BIOLOGIC APPROVED IN CRSwNP that targets the inflammation underlying the disease—so your patients can achieve and maintain control

INDICATION

DUPIXENT is indicated as an add-on maintenance treatment in adult patients with inadequately controlled chronic rhinosinusitis with nasal polyposis (CRSwNP).

IMPORTANT SAFETY INFORMATION

CONTRAINDICATION: DUPIXENT is contraindicated in patients with known hypersensitivity to dupilumab or any of its excipients.

WARNINGS AND PRECAUTIONS

Hypersensitivity: Hypersensitivity reactions, including generalized urticaria, rash, erythema nodosum, anaphylaxis and serum sickness or serum sickness-like reactions, were reported in <1% of subjects who received DUPIXENT in clinical trials. If a clinically significant hypersensitivity reaction occurs, institute appropriate therapy and discontinue DUPIXENT.

Conjunctivitis and Keratitis: Conjunctivitis occurred more frequently in subjects with chronic rhinosinusitis with nasal polyposis who received DUPIXENT. There were no cases of keratitis reported in the CRSwNP development program. Advise patients to report new onset or worsening eye symptoms to their healthcare provider.

Eosinophilic Conditions: Patients being treated for asthma may present with serious systemic eosinophilia sometimes presenting with clinical features of eosinophilic pneumonia or vasculitis consistent with eosinophilic granulomatosis with polyangiitis (EGPA), conditions which are often treated with systemic corticosteroid therapy. These events may be associated with the reduction of oral corticosteroid therapy. Physicians should be alert to vasculitic rash, worsening pulmonary symptoms, cardiac complications, and/or neuropathy presenting in their patients with eosinophilia.

 Visit [DUPIXENTHCP.com/CRSwNP](https://www.dupilumab.com/CRSwNP)

DUPIXENT PROVIDED RAPID AND SUSTAINED IMPROVEMENT IN SENSE OF SMELL¹

AT WEEK 52

71% IMPROVEMENT IN UPSIT SCORE

with DUPIXENT 300 mg Q2W + INCS (n=150) (**9.53** from a baseline score of **13.46**) vs **6% worsening** with placebo + INCS (n=153) (**-0.77** from a baseline score of **13.78**) (LSM difference: 10.30 [95% CI: 8.50, 12.10]) in Trial 2 (secondary endpoint)¹

67% OF THE TOTAL IMPROVEMENT IN SENSE OF SMELL WAS SEEN AFTER THE FIRST DOSE, AS MEASURED AT WEEK 2^{1,a}

^a Change in UPSIT score at Week 2 (LSM difference vs placebo: 5.36 [95% CI: 3.62, 7.10]).¹

AT WEEK 24

63% REDUCTION IN THE NUMBER OF PATIENTS WITH ANOSMIA^{1,2,b}

^b 79% (n=228/287, pooled DUPIXENT arms) of patients taking DUPIXENT 300 mg Q2W + INCS had anosmia at baseline, which was reduced to 30% (n=84/280, pooled DUPIXENT arms) at Week 24 in Trial 2. There was almost no change with placebo: 76.7% (n=115/150 total patients) of patients taking placebo + INCS had anosmia at baseline, which was reduced to 76.6% (n=111/145 total patients) at Week 24 in Trial 2.^{1,2}

IMPORTANT SAFETY INFORMATION

WARNINGS AND PRECAUTIONS (cont'd)

Eosinophilic Conditions (cont'd): Cases of eosinophilic pneumonia were reported in adult patients who participated in the asthma development program and cases of vasculitis consistent with EGPA have been reported with DUPIXENT in adult patients who participated in the asthma development program as well as in adult patients with co-morbid asthma in the CRSwNP development program. A causal association between DUPIXENT and these conditions has not been established.

Reduction of Corticosteroid Dosage: Do not discontinue systemic, topical, or inhaled corticosteroids abruptly upon initiation with DUPIXENT. Reductions in corticosteroid dose, if appropriate, should be gradual and performed under the direct supervision of a physician. Reduction in corticosteroid dose may be associated with systemic withdrawal symptoms and/or unmask conditions previously suppressed by systemic corticosteroid therapy.

Patients with Co-Morbid Asthma: Advise patients with co-morbid asthma not to adjust or stop their asthma treatments without consultation with their physician.

Parasitic (Helminth) Infections: It is unknown if DUPIXENT will influence the immune response against helminth infections. Treat patients with pre-existing helminth infections before initiating therapy with DUPIXENT. If patients become infected while receiving treatment with DUPIXENT and do not respond to anti-helminth treatment, discontinue treatment with DUPIXENT until the infection resolves.

University of Pennsylvania Smell Identification Test (UPSIT) score (range 0 to 40): higher score indicates improvement.

INCS, intranasal corticosteroids; LSM, least squares mean; Q2W, once every 2 weeks.

Please see additional Important Safety Information throughout and brief summary of full Prescribing Information on the following pages.

DUPIXENT® 
(dupilumab) Injection 300mg

DUPIXENT OFFERS A NONSTEROIDAL OPTION TO REDUCE NASAL CONGESTION AND OBSTRUCTION

Significantly improved NC score at Weeks 24 (coprimary endpoint) and 52 (secondary endpoint) in patients who were uncontrolled on standard of care^{1,3,a}

AT WEEK 52

54%

IMPROVEMENT IN NC SCORE

with DUPIXENT 300 mg Q2W + INCS (n=150) (-1.35 from a baseline score of 2.48) vs 16% improvement with placebo + INCS (n=153) (-0.37 from a baseline score of 2.38) (LSM difference: -0.98 [95% CI: -1.17, -0.79]) in Trial 2

- **51% IMPROVEMENT AT WEEK 24** with DUPIXENT Q2W + INCS (n=295, pooled DUPIXENT arms) (-1.25 from a baseline score of 2.46) vs **16% improvement** with placebo + INCS (n=153) (-0.38 from a baseline score of 2.38) (LSM difference: -0.87 [95% CI: -1.03, -0.71]) in Trial 2

^a All patients in the placebo and DUPIXENT arms were on a background therapy of INCS, mometasone furoate nasal spray.

Trial 1^{3,a}: 24-week study—276 adults (≥18 years) were randomized to receive either DUPIXENT 300 mg Q2W + INCS for 24 weeks (n=143), or placebo + INCS for 24 weeks (n=133). Subjects enrolled in Trial 1 were required to be on background INCS^a and to have CRSwNP despite prior sino-nasal surgery or prior treatment with, or who were ineligible to receive or were intolerant to, systemic corticosteroids in the past 2 years. Patients with chronic rhinosinusitis without nasal polyposis were not included in these trials. Rescue with systemic corticosteroids or surgery was allowed at investigators' discretion. The total population of patients in Trial 1 was unrestricted by minimum baseline blood eosinophil count. **Coprimary endpoints:** Change from baseline at Week 24 in NC score averaged over 28 days and bilateral endoscopic nasal polyps score (NPS). **Key secondary endpoints:** Change from baseline at Week 24 in daily loss of smell score, LMK-CT score, SNOT-22 score, and UPSIT score. **Prespecified pooled analysis:** Change from baseline at Week 52 in proportion of patients requiring systemic corticosteroids or sino-nasal surgery. **Patient demographics:** Mean age: 50 years; male: 57%; mean CRSwNP duration: 11 years; patients with ≥1 prior surgery: 72%; patients with SCS use in previous 2 years: 65%; mean bilateral endoscopic NPS,^b range 0-8: 5.8; mean NC score,^b range 0-3: 2.4; mean LMK sinus CT total score,^b range 0-24: 19; mean loss of smell score^b (AM), range 0-3: 2.7; mean SNOT-22 total score,^b range 0-110: 49.4; mean blood eosinophil count: 440 cells/μL; mean total IgE: 212 IU/mL; atopic medical history, overall: 75%; asthma: 58%; NSAID-ERD: 30%.

Trial 2^{3,a}: 52-week study—448 adults (≥18 years) were randomized to receive either DUPIXENT + INCS 300 mg Q2W for 52 weeks (n=150),^c DUPIXENT + INCS 300 mg Q2W for 24 weeks, followed by Q4W^d through Week 52 (n=145),^c or placebo + INCS for 52 weeks (n=153). Subjects enrolled in Trial 2 were required to be on background INCS^a and to have CRSwNP despite prior sino-nasal surgery or prior treatment with, or who were ineligible to receive or were intolerant to, systemic corticosteroids in the past 2 years. Patients with chronic rhinosinusitis without nasal polyposis were not included in these trials. Rescue with systemic corticosteroids or surgery was allowed at investigators' discretion. The total population of patients in Trial 2 was unrestricted by minimum baseline blood eosinophil count. **Coprimary endpoints:** Change from baseline at Week 24 in NC score averaged over 28 days and bilateral endoscopic NPS. **Key secondary endpoints:** Change from baseline at Weeks 24 and 52 in NC score (at Week 52), NPS (at Week 52), daily loss of smell score, LMK-CT score, SNOT-22 score, and UPSIT score. **Prespecified pooled analysis:** Change from baseline at Week 52 in proportion of patients requiring systemic corticosteroids or sino-nasal surgery. **Patient demographics:** Mean age: 52 years; male: 62%; mean CRSwNP duration: 11 years; patients with ≥1 prior surgery: 58%; patients with SCS use in previous 2 years: 80%; mean bilateral endoscopic NPS,^b range 0-8: 6.1; mean NC score,^b range 0-3: 2.4; mean LMK sinus CT total score,^b range 0-24: 18; mean loss of smell score^b (AM), range 0-3: 2.8; mean SNOT-22 total score,^b range 0-110: 51.9; mean blood eosinophil count: 430 cells/μL; mean total IgE: 240 IU/mL; atopic medical history, overall: 82%; asthma: 60%; NSAID-ERD: 27%.

Nasal congestion/obstruction (NC) score (range 0 to 3): reduced score indicates improvement.

^b Higher scores indicate greater disease severity.

^c In Trial 2, data from baseline to Week 24 are pooled from DUPIXENT Q2W treatment arms (n=295).

^d The recommended dose of DUPIXENT for adult patients with CRSwNP is 300 mg given subcutaneously every other week.

IMPORTANT SAFETY INFORMATION

ADVERSE REACTIONS: The most common adverse reactions (incidence ≥1%) in patients with CRSwNP are injection site reactions, eosinophilia, insomnia, toothache, gastritis, arthralgia, and conjunctivitis.

DRUG INTERACTIONS: Avoid use of live vaccines in patients treated with DUPIXENT.

AM, morning; LMK-CT, Lund-Mackay computed tomography; NSAID-ERD, nonsteroidal anti-inflammatory drug-exacerbated respiratory disease; Q4W, once every 4 weeks; SCS, systemic corticosteroid; SNOT-22, 22-item Sino-Nasal Outcome Test.

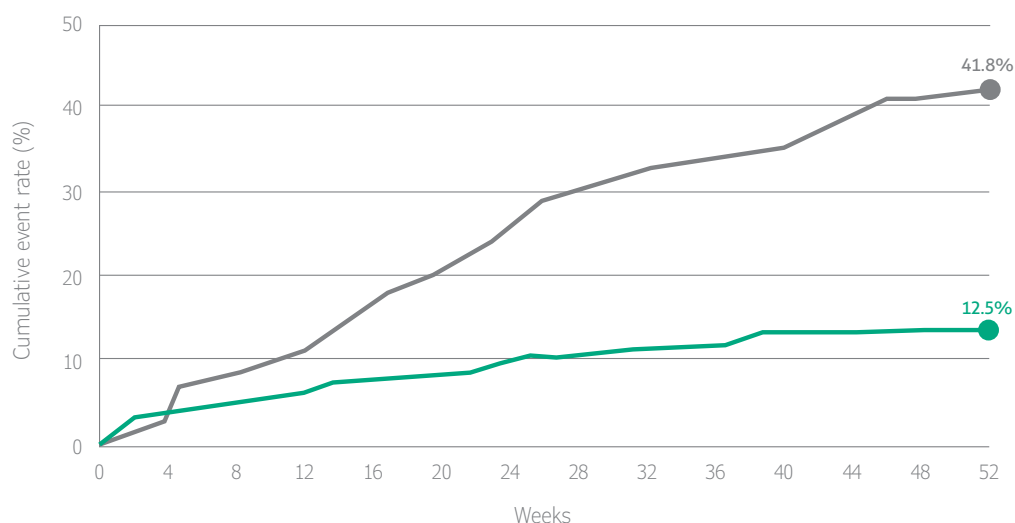
➤ Visit [DUPIXENTHCP.COM/CRSwNP](https://www.dupilumab.com/CRSwNP)

DUPIXENT[®]
(dupilumab) Injection 300mg

DUPIXENT REDUCED STEROID USE AND SURGERY FOR THE MAJORITY OF PATIENTS

Significantly reduced SCS use or the need for sino-nasal surgery vs placebo in a prespecified multiplicity-controlled pooled analysis of Trials 1 and 2^{3,a}

Time to first SCS use or CRSwNP surgery during the treatment period



**76%
REDUCTION**

at Week 52 with
DUPIXENT vs placebo
(HR: 0.24 [95% CI:
0.17, 0.35])

— DUPIXENT 300 mg Q2W + INCS
(Day 0: n=438; Week 24: n=376;
Week 52: n=100)

— Placebo + INCS
(Day 0: n=286; Week 24: n=187;
Week 52: n=61)



74% FEWER PATIENTS
REQUIRED SCS
USE AT WEEK 52

(HR: 0.26 [95% CI: 0.18, 0.38])³

• **75% REDUCTION IN SCS COURSES PER YEAR**
(RR: 0.25 [95% CI: 0.17, 0.37])³



83% FEWER PATIENTS
REQUIRED SINO-
NASAL SURGERY
AT WEEK 52

(HR: 0.17 [95% CI: 0.07, 0.46])³

^a Individually, SCS reduction and need for sino-nasal surgery were not multiplicity-adjusted endpoints.

IMPORTANT SAFETY INFORMATION USE IN SPECIFIC POPULATIONS

- **Pregnancy:** Available data from case reports and case series with DUPIXENT use in pregnant women have not identified a drug-associated risk of major birth defects, miscarriage or adverse maternal or fetal outcomes. Human IgG antibodies are known to cross the placental barrier; therefore, DUPIXENT may be transmitted from the mother to the developing fetus.
- **Lactation:** There are no data on the presence of DUPIXENT in human milk, the effects on the breastfed infant, or the effects on milk production. Maternal IgG is known to be present in human milk. The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need for DUPIXENT and any potential adverse effects on the breastfed child from DUPIXENT or from the underlying maternal condition.

References: 1. Data on file, Sanofi US. LIBERTY NP SINUS-52, CSR. 2018. 2. Bachert C, Han JK, Desrosiers M, et al. Efficacy and safety of dupilumab in patients with severe chronic rhinosinusitis with nasal polyps (LIBERTY NP SINUS-24 and LIBERTY NP SINUS-52): results from two multicentre, randomised, double-blind, placebo-controlled, parallel-group phase 3 trials. *Lancet*. 2019;394(10209):1638-1650. 3. DUPIXENT Prescribing Information. 4. Data on file, Sanofi US. Clinical overview (chronic rhinosinusitis with nasal polyposis). 2018.

HR, hazard ratio; RR, risk ratio.

Please see brief summary of full Prescribing Information on the following pages.

SANOFI GENZYME 

REGENERON

Brief Summary of Prescribing Information

1 INDICATIONS AND USAGE

1.3 Chronic Rhinosinusitis with Nasal Polyposis

DUPIXENT is indicated as an add-on maintenance treatment in adult patients with inadequately controlled chronic rhinosinusitis with nasal polyposis (CRSwNP).

4 CONTRAINDICATIONS

DUPIXENT is contraindicated in patients who have known hypersensitivity to dupilumab or any of its excipients [see *Warnings and Precautions* (5.1)].

5 WARNINGS AND PRECAUTIONS

5.1 Hypersensitivity

Hypersensitivity reactions, including generalized urticaria, rash, erythema nodosum and serum sickness or serum sickness-like reactions, were reported in less than 1% of subjects who received DUPIXENT in clinical trials. If a clinically significant hypersensitivity reaction occurs, institute appropriate therapy and discontinue DUPIXENT [see *Adverse Reactions* (6.1, 6.2)].

5.2 Conjunctivitis and Keratitis

In subjects with CRSwNP, the frequency of conjunctivitis was 2% in the DUPIXENT group compared to 1% in the placebo group in the 24-week safety pool; these subjects recovered. There were no cases of keratitis reported in the CRSwNP development program [see *Adverse Reactions* (6.1)].

Advise patients to report new onset or worsening eye symptoms to their healthcare provider.

5.3 Eosinophilic Conditions

Patients being treated for asthma may present with serious systemic eosinophilia sometimes presenting with clinical features of eosinophilic pneumonia or vasculitis consistent with eosinophilic granulomatosis with polyangiitis, conditions which are often treated with systemic corticosteroid therapy. These events may be associated with the reduction of oral corticosteroid therapy. Physicians should be alert to vasculitic rash, worsening pulmonary symptoms, cardiac complications, and/or neuropathy presenting in their patients with eosinophilia. Cases of eosinophilic pneumonia were reported in adult patients who participated in the asthma development program and cases of vasculitis consistent with eosinophilic granulomatosis with polyangiitis have been reported with DUPIXENT in adult patients who participated in the asthma development program as well as in adult patients with co-morbid asthma in the CRSwNP development program. A causal association between DUPIXENT and these conditions has not been established.

5.5 Reduction of Corticosteroid Dosage

Do not discontinue systemic, topical, or inhaled corticosteroids abruptly upon initiation of therapy with DUPIXENT. Reductions in corticosteroid dose, if appropriate, should be gradual and performed under the direct supervision of a physician. Reduction in corticosteroid dose may be associated with systemic withdrawal symptoms and/or unmask conditions previously suppressed by systemic corticosteroid therapy.

5.6 Patients with Comorbid Asthma

Advise patients with CRSwNP who have co-morbid asthma not to adjust or stop their asthma treatments without consultation with their physicians.

5.7 Parasitic (Helminth) Infections

Patients with known helminth infections were excluded from participation in clinical studies. It is unknown if DUPIXENT will influence the immune response against helminth infections.

Treat patients with pre-existing helminth infections before initiating therapy with DUPIXENT. If patients become infected while receiving treatment with DUPIXENT and do not respond to anthelmintic treatment, discontinue treatment with DUPIXENT until the infection resolves.

6 ADVERSE REACTIONS

The following adverse reactions are discussed in greater detail elsewhere in the labeling:

- Hypersensitivity [see *Warnings and Precautions* (5.1)]
- Conjunctivitis and Keratitis [see *Warnings and Precautions* (5.2)]

6.1 Clinical Trials Experience

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in practice.

Chronic Rhinosinusitis with Nasal Polyposis

A total of 722 adult subjects with chronic rhinosinusitis with nasal polyposis (CRSwNP) were evaluated in 2 randomized, placebo-controlled, multicenter trials of 24 to 52 weeks duration (CSNP Trials 1 and 2). The safety pool consisted of data from the first 24 weeks of treatment from both studies. In the safety pool, the proportion of subjects who discontinued treatment due to adverse events was 5% of the placebo group and 2% of the DUPIXENT 300 mg Q2W group.

Table 4 summarizes the adverse reactions that occurred at a rate of at least 1% in subjects treated with DUPIXENT and at a higher rate than in their respective comparator group in CSNP Trials 1 and 2.

Table 4: Adverse Reactions Occurring in ≥1% of the DUPIXENT Group in CRSwNP Trials 1 and 2 and Greater than Placebo (24 Week Safety Pool)

Adverse Reaction	CSNP Trial 1 and Trial 2	
	DUPIXENT 300 mg Q2W N=440 n (%)	Placebo N=282 n (%)
Injection site reactions ^a	28 (6%)	12 (4%)
Conjunctivitis ^b	7 (2%)	2 (1%)
Arthralgia	14 (3%)	5 (2%)
Gastritis	7 (2%)	2 (1%)
Insomnia	6 (1%)	0 (<1%)
Eosinophilia	5 (1%)	1 (<1%)
Toothache	5 (1%)	1 (<1%)

^a Injection site reactions cluster includes injection site reaction, pain, bruising and swelling.

^b Conjunctivitis cluster includes conjunctivitis, allergic conjunctivitis, bacterial conjunctivitis, viral conjunctivitis, giant papillary conjunctivitis, eye irritation, and eye inflammation.

The safety profile of DUPIXENT through Week 52 was generally consistent with the safety profile observed at Week 24.

Specific Adverse Reactions

Conjunctivitis

In the 52-week CRSwNP study (CSNP Trial 2), the frequency of conjunctivitis was 3% in the DUPIXENT subjects and 1% in the placebo subjects; all of these subjects recovered [see *Warnings and Precautions* (5.2)].

Eczema Herpeticum and Herpes Zoster

Among CRSwNP subjects there were no reported cases of herpes zoster or eczema herpeticum.

Hypersensitivity Reactions

Hypersensitivity reactions were reported in <1% of DUPIXENT-treated subjects. These included serum sickness reaction, serum sickness-like reaction, generalized urticaria, rash, erythema nodosum, and anaphylaxis [see *Contraindications* (4), *Warnings and Precautions* (5.1), and *Adverse Reactions* (6.2)].

Eosinophils

DUPIXENT-treated subjects had a greater initial increase from baseline in blood eosinophil count compared to subjects treated with placebo. In subjects with CRSwNP, the mean and median increases in blood eosinophils from baseline to Week 16 were 150 and 50 cells/mcL, respectively.

Across all indications, the incidence of treatment-emergent eosinophilia (≥500 cells/mcL) was similar in DUPIXENT and placebo groups. Treatment-emergent eosinophilia (≥5,000 cells/mcL) was reported in <2% of DUPIXENT-treated patients and <0.5% in placebo-treated patients. Blood eosinophil counts declined to near baseline levels during study treatment [see *Warnings and Precautions* (5.3)].

Cardiovascular (CV)

In the 24-week placebo controlled trial in subjects with CRSwNP (CSNP Trial 1), CV thromboembolic events (CV deaths, non-fatal myocardial infarctions, and non-fatal strokes) were reported in 1 (0.7%) of the DUPIXENT group and 0 (0.0%) of the placebo group. In the 1-year placebo controlled trial in subjects with CRSwNP (CSNP Trial 2), there were no cases of CV thromboembolic events (CV deaths, non-fatal myocardial infarctions, and non-fatal strokes) reported in any treatment arm.

6.2 Immunogenicity

As with all therapeutic proteins, there is a potential for immunogenicity. The detection of antibody formation is highly dependent on the sensitivity and specificity of the assay. Additionally, the observed incidence of antibody (including neutralizing antibody) positivity in an assay may be influenced by several factors, including assay methodology, sample handling, timing of sample collection, concomitant medications, and underlying disease. For these reasons, comparison of the incidence of antibodies to dupilumab in the studies described below with the incidence of antibodies in other studies or to other products may be misleading.

Approximately 5% of subjects with atopic dermatitis, asthma, or CRSwNP who received DUPIXENT 300 mg Q2W for 52 weeks developed antibodies to dupilumab; ~2% exhibited persistent ADA responses, and ~2% had neutralizing antibodies.

Approximately 4% of subjects in the placebo groups in the 52-week studies were positive for antibodies to DUPIXENT; approximately 2% exhibited persistent ADA responses, and approximately 1% had neutralizing antibodies.

The antibody titers detected in both DUPIXENT and placebo subjects were mostly low. In subjects who received DUPIXENT, development of high titer antibodies to dupilumab was associated with lower serum dupilumab concentrations [see *Clinical Pharmacology* (12.3) in the full Prescribing Information].

Two subjects who experienced high titer antibody responses developed serum sickness or serum sickness-like reactions during DUPIXENT therapy [see *Warnings and Precautions* (5.1)].

7 DRUG INTERACTIONS

7.1 Live Vaccines

Avoid use of live vaccines in patients treated with DUPIXENT.

7.2 Non-Live Vaccines

Immune responses to vaccination were assessed in a study in which subjects with atopic dermatitis were treated once weekly for 16 weeks with 300 mg of dupilumab (twice the recommended dosing frequency). After 12 weeks of DUPIXENT administration, subjects were vaccinated with a Tdap vaccine (Adacel®) and a meningococcal polysaccharide vaccine (Menomune®). Antibody responses to tetanus toxoid and serogroup C meningococcal polysaccharide were assessed 4 weeks later. Antibody responses to both tetanus vaccine and meningococcal polysaccharide vaccine were similar in dupilumab-treated and placebo-treated subjects. Immune responses to the other active components of the Adacel and Menomune vaccines were not assessed.

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Pregnancy Exposure Registry

There is a pregnancy exposure registry that monitors pregnancy outcomes in women exposed to DUPIXENT during pregnancy.

Please contact 1-877-311-8972 or go to <https://mothertobaby.org/ongoing-study/dupixent/> to enroll in or to obtain information about the registry.

Risk Summary

Available data from case reports and case series with DUPIXENT use in pregnant women have not identified a drug-associated risk of major birth defects, miscarriage, or adverse maternal or fetal outcomes. Human IgG antibodies are known to cross the placental barrier; therefore, DUPIXENT may be transmitted from the mother to the developing fetus. In an enhanced pre- and post-natal developmental study, no adverse developmental effects were observed in offspring born to pregnant monkeys after subcutaneous administration of a homologous antibody against interleukin-4-receptor alpha (IL-4Rα) during organogenesis through parturition at doses up to 10-times the maximum recommended human dose (MRHD) (see *Data*). The estimated background risk of major birth defects and miscarriage for the indicated populations are unknown. All pregnancies have a background risk of birth defect, loss or other adverse outcomes. In the U.S. general population, the estimated background risk of major birth defects and miscarriage in clinically recognized pregnancies is 2% to 4% and 15% to 20%, respectively.

Data

Animal Data

In an enhanced pre- and post-natal development toxicity study, pregnant cynomolgus monkeys were administered weekly subcutaneous doses of homologous antibody against IL-4Rα up to 10-times the MRHD (on a mg/kg basis of 100 mg/kg/week) from the beginning of organogenesis to parturition. No treatment-related adverse effects on embryofetal toxicity or malformations, or on morphological, functional, or immunological development were observed in the infants from birth through 6 months of age.

8.2 Lactation

Risk Summary

There are no data on the presence of dupilumab in human milk, the effects on the breastfed infant, or the effects on milk production. Maternal IgG is known to be present in human milk. The effects of local gastrointestinal and limited systemic exposure to dupilumab on the breastfed infant are unknown. The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need for DUPIXENT and any potential adverse effects on the breastfed child from DUPIXENT or from the underlying maternal condition.

8.4 Pediatric Use

CRSwNP

CRSwNP does not normally occur in children. Safety and efficacy in pediatric patients (<18 years of age) with CRSwNP have not been established.

8.5 Geriatric Use

Of the 440 subjects with CRSwNP exposed to DUPIXENT, a total of 79 subjects were 65 years or older. Efficacy and safety in this age group were similar to the overall study population.

10 OVERDOSE

There is no specific treatment for DUPIXENT overdose. In the event of overdosage, monitor the patient for any signs or symptoms of adverse reactions and institute appropriate symptomatic treatment immediately.

17 PATIENT COUNSELING INFORMATION

Advise the patients and/or caregivers to read the FDA-approved patient labeling (Patient Information and Instructions for Use).

Pregnancy Registry

There is a pregnancy exposure registry that monitors pregnancy outcomes in women exposed to DUPIXENT during pregnancy. Encourage participation in the registry [see *Use in Specific Populations* (8.1)].

Administration Instructions

Provide proper training to patients and/or caregivers on proper subcutaneous injection technique, including aseptic technique, and the preparation and administration of DUPIXENT prior to use. Advise patients to follow sharps disposal recommendations [see *Instructions for Use*].

Hypersensitivity

Advise patients to discontinue DUPIXENT and to seek immediate medical attention if they experience any symptoms of systemic hypersensitivity reactions [see *Warnings and Precautions* (5.1)].

Conjunctivitis and Keratitis

Advise patients to consult their healthcare provider if new onset or worsening eye symptoms develop [see *Warnings and Precautions* (5.2)].

Eosinophilic Conditions

Advise patients to notify their healthcare provider if they present with clinical features of eosinophilic pneumonia or vasculitis consistent with eosinophilic granulomatosis with polyangiitis [see *Warnings and Precautions* (5.3)].

Reduction in Corticosteroid Dosage

Inform patients to not discontinue systemic or inhaled corticosteroids except under the direct supervision of a physician. Inform patients that reduction in corticosteroid dose may be associated with systemic withdrawal symptoms and/or unmask conditions previously suppressed by systemic corticosteroid therapy [see *Warnings and Precautions* (5.5)].

Patients with Comorbid Asthma

Advise patients with atopic dermatitis or CRSwNP who have comorbid asthma not to adjust or stop their asthma treatment without talking to their physicians [see *Warnings and Precautions* (5.6)].

Corneal Neurotization for Trigeminal Anesthesia

Nate Jowett, MD, and Roberto Pineda, MD

Trigeminal anesthesia may arise as a devastating consequence of extirpation of skull base tumors, such as large vestibular schwannomas. Insult to trigeminal nerve afferents leads to neurotrophic keratopathy (NK), a degenerative disease of the ocular surface characterized by progressive corneal epithelial defects, ulceration, vascularization, and perforation. Paralytic lagophthalmos from concurrent facial nerve injury accelerates disease progression toward corneal blindness (Fig. 1).¹

The pathophysiology of NK comprises absent protective sensory feedback, impaired blink and tear reflexes, and loss of neurotrophic support to the ocular surface. Neurotrophic factors, such as nerve growth factor, produced by and released from trigeminal nerve corneal afferents, are essential for the normal growth, differentiation, and survival of corneal cells.^{2,3}



Figure 1. Neurotrophic keratitis. Severe corneal opacification is demonstrated in a patient with combined facial paralysis and trigeminal anesthesia following extirpation of a large vestibular schwannoma.

Even in the absence of mechanical trauma, loss of neurotrophic support to the ocular surface results in morphologic and metabolic disturbances that may impair vision.

Management of NK includes topical medical therapies, tarsorrhaphy, and bandage contact lenses. Though such interventions may halt NK progression and promote healing of the ocular surface, they do not address the underlying etiology of the disease.⁴ In 2009, it was demonstrated that NK progression could be reversed by transposition of healthy contralateral supraorbital and supratrochlear nerve branches to the affected ocular surface.⁵ Increasing evidence supports trigeminal sensory nerve transfer for vision protection and restoration in the setting of unilateral trigeminal anesthesia.⁶⁻⁸ Recently we demonstrated that transfer of sensory axons of the ipsilateral great auricular nerve to the corneal stroma using an interposition nerve autograft can improve vision and restore sensation to the ocular surface with minimal donor site morbidity (Fig. 2).⁹

Surgical transfer of healthy sensory axons to mitigate the loss of corneal afferent input is analogous to transfer of healthy motor axons of the hypoglossal nerve to restore facial tone in the setting of facial paralysis. As muscles demonstrate markedly decreased receptivity to neurotization following denervation periods exceeding one-two years, motor nerve transfers are contraindicated in the setting of long-standing facial paralysis. However, otolaryngologists and ophthalmologists need to be aware there exists no equivalent time limit when contemplating sensory neurotization of an anesthetic cornea; benefits have been reported for patients with histories of NK in excess of 20 years prior to corneal neurotization surgery.⁵ Corneal neurotization may carry particular benefit for patients with advanced cornea opacification or perforation, wherein the goal is to render them candidates for second-stage

corneal transplant to help restore their vision.

Corneal neurotization is an emerging technique in the United States and the world and carries risk of iatrogenic vision loss. The most important factors determining success are the underlying disease process, surgeon experience, and each patient's capacity to regenerate transferred nerves. In our opinion, the procedure is optimally performed in a team approach comprising specialists in corneal and cranial nerve surgery. We currently advise against the use of Avance[®] Nerve Grafts (Axogen, Inc.) for corneal neurotization, as considerable evidence points to increased risk of suboptimal neurotization where long processed nerve allografts are substituted for nerve autografts.¹⁰ Patients need to be aware that successful corneal neurotization does not guarantee improved vision and that corrective lenses may still be needed after surgery to maximize vision and protect the cornea. Though a successful surgical result decreases the risk of corneal injury and vision loss, some risk will remain. As corneal healing following neurotization in NK is believed to result from restoration of neurotrophic support to the ocular surface, future research should seek to compare the effectiveness of topical recombinant trophic factors alone (i.e., CenegeMin) or in combination with corneal neurotization procedures. ■

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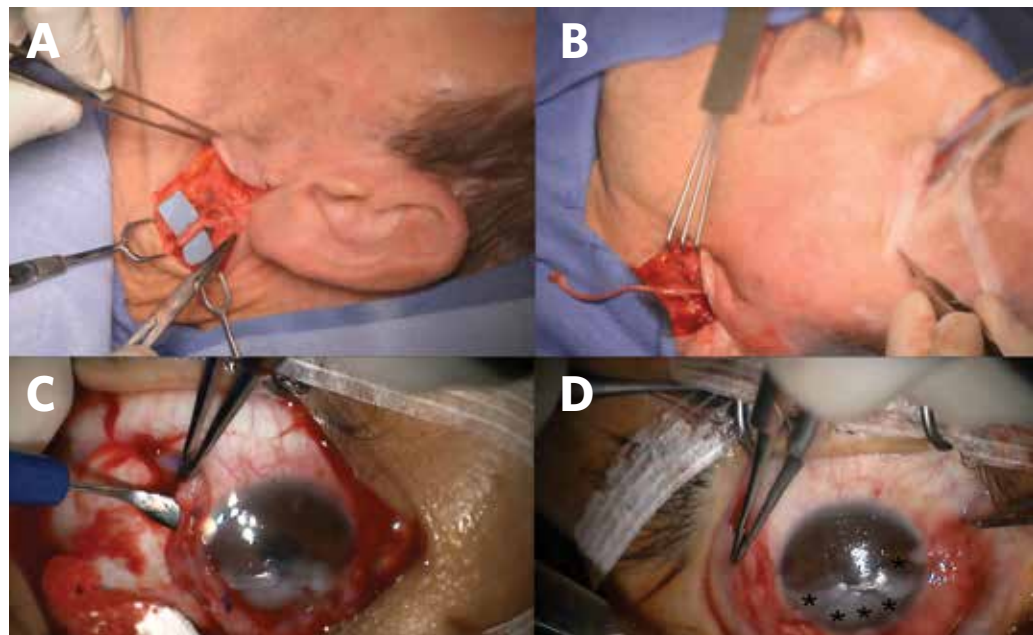


Figure 2. Great auricular nerve transfer for corneal neurotization. (A) Anterior and posterior branches of the great auricular nerve are identified. (B) A sural nerve autograft is harvested and inset between the great auricular nerve and inferior fornix. (C) Tunnels are made into the corneal stroma (C), and (D) nerve fascicles (*) positioned about the limbus to restore corneal sensory input.



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FROM THE EDUCATION COMMITTEES

Facial Reinnervation

Marc Hale Hohman, MD, for the Facial Plastic & Reconstructive Surgery Education Committee

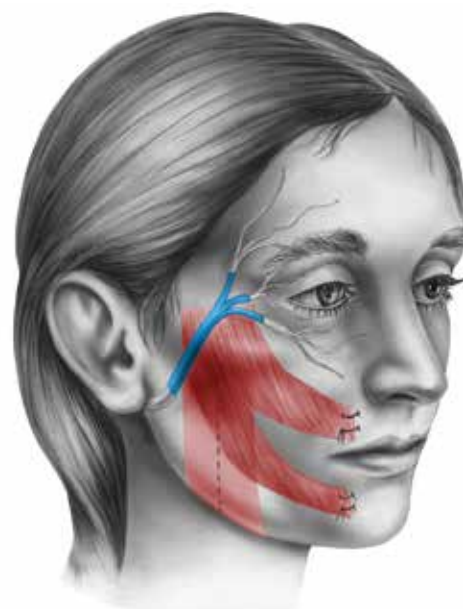
For patients with flaccid paralysis, the timing of intervention is critical because reinnervation options require the presence of viable muscle. Once denervated, muscle will begin to atrophy and fibrose after 12-18 months, and axons regrow at ~1 mm per day; therefore, even after a nerve repair is performed, it can still take months for the axons to reach the target motor endplates. For this reason, most surgeons will operate early whenever possible. Reinnervation is preferred over reanimation because the results appear more natural when the native facial musculature is used instead of placing an implant or transferring a muscle.

At its simplest, reinnervation is the repair of an injured nerve, whether a primary neurorrhaphy or cable graft, but it can also involve different types and combinations of nerve graft, depending on the specific deficits. Nerve injuries are ideally repaired within three days so that a stimulator can locate the distal stump before Wallerian degeneration is complete. More distal injuries have a better prognosis, and the small branches medial to the lateral canthus do not usually require repair to recover function. On the other hand, the more proximal the injury, the greater the likelihood of synkinesis. The fewer muscles the injured nerve branch innervates, the better the chance of a non-synkinetic recovery.

In cases with no viable proximal facial

nerve, such as some acoustic neuroma patients, a nerve transfer may be required. There are many options, including the masseteric, hypoglossal, and contralateral facial nerve via cross face grafting. The masseteric nerve works well for smile rehabilitation because of its axon count, proximity to the recipient buccal facial nerve branch, and minimal donor deficit. The caveat to the masseteric nerve is that since the masseter muscle has low resting tone, the masseteric nerve does not provide much resting tone for the face, and is, therefore, better suited to restoration of voluntary movements, like smiling, particularly because masseteric nerve transfer patients need to bite down in order to smile. The hypoglossal nerve however does provide good resting tone and can also be used to restore voluntary movements. Unfortunately, loss of tongue function is more problematic than loss of the masseter; young patients may tolerate it well, but as they age, the oral deficit can become worse than the facial one would have been. Partial hypoglossal-facial transfers and jump grafts limit the donor deficit but also limit the potential for a good facial reinnervation.

Lastly, there are theoretical advantages of cross face nerve grafting, but results are inconsistent at best. The deficit from the donor nerves are minimal, both from the sural nerve graft harvest and from the donor buccal branch, and by connecting a buccal branch of the intact side to a corresponding branch on the paralyzed side, asynchronous and spontaneous smile should result because the patient does not



have to bite or move their tongue to fire the nerve. Part of the problem may be a high rate of axonal loss across a long graft and two neurorrhaphies. Secondly, the cross face nerve graft is dependent on the function of the good facial nerve, which means that it is contraindicated in patients likely to develop a contralateral facial palsy, as in neurofibromatosis type 2. Since these donor nerves each have strengths and weaknesses, they are often used in combination to provide a synergistic result. A good example would be a hypoglossal-facial jump graft for resting tone with a masseteric nerve transfer for a smile and a cross face nerve graft for an eye blink. This would potentially restore resting tone and two volitional movements with minimal functional deficit or synkinesis. ■

Tech Talk

Work-from-Home Cybersecurity and Performance

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

Home cybersecurity, like other types of security, requires a layered, in-depth approach. Every device on your home Wi-Fi needs to be secured. The basics include ensuring every connected computer has anti-virus and malware software, all software is updated and patched on a regular basis, and tablets are kept up-to-date with patches and only run trusted apps (no jailbreaking your phone). Following these basic cybersecurity practices is good but not enough.

What is often overlooked is the cable modem and Wi-Fi router connecting you to the internet. When was the last time your cable modem was replaced? If you cannot recall, it may be time to replace it, if for no other reason than that older modems may be less secure and are not able to support the newer speeds internet service providers offer.

The same thing is true with your Wi-Fi router. Do you know how old it is? More importantly, do you know how to log into it? It is very possible that your Wi-Fi router still has the default password for its administrator account. Hackers know the default passwords for various brands, and this is their first step to break into your virtual home. If you do not know how old your Wi-Fi router is and/or do not know how to login to it, it is time to replace it.

A big benefit of upgrading your Wi-Fi router is getting one that includes security features such as blocking access to known malicious sites, preventing intrusions, blocking infected devices from participating in botnets, and parental control. Following is a brief outline of how to ensure your new Wi-Fi router is secure:

- Change your router's username and password
- Change the network name
- Enable the security features built in to your router
- Every month check for firmware updates
- Do not use Wired Equivalent Privacy (WEP) due to known security holes
- Use Wi-Fi Protected Access version 2 (WPA2)

Work-from-Home Performance

Most Wi-Fi routers come with four Ethernet ports. If you can connect your computer to one of these ports via an Ethernet cable you will get faster access than with Wi-Fi.¹ Even at the same throughput speeds, Ethernet is faster than Wi-Fi. This is due to the nature of the two different transmission protocols.

Both Wi-Fi and Ethernet were designed as shared media, enabling multiple devices to share the same wire or radio wave. However, each handles traffic congestion differently and therein lies the performance difference.² To visualize the transmission of data, picture a convoy of tractor-trailers going down the highway. The trucks are following each other single file in one lane traveling across a border. Each of these trucks represents a data packet.

With Ethernet, each truck continues across, one after the other, and only stops when there is a collision (data packets colliding). When this occurs the next truck to cross waits a random period before proceeding and the rest of the convoy repeats the behavior pattern. This behavior is known as collision detection. Wi-Fi uses a collision avoidance method. Each device sharing the radios waves may not be able to "see" other devices so they may not be able to detect a collision. Instead of collision detection, Wi-Fi tries to avoid collisions. In the convoy scenario as each truck crosses the

border, the next truck always stops and waits a random period before proceeding. This stop-and-go nature avoids collisions but slows down delivery. The collision avoidance behavior of Wi-Fi makes it slower than Ethernet.

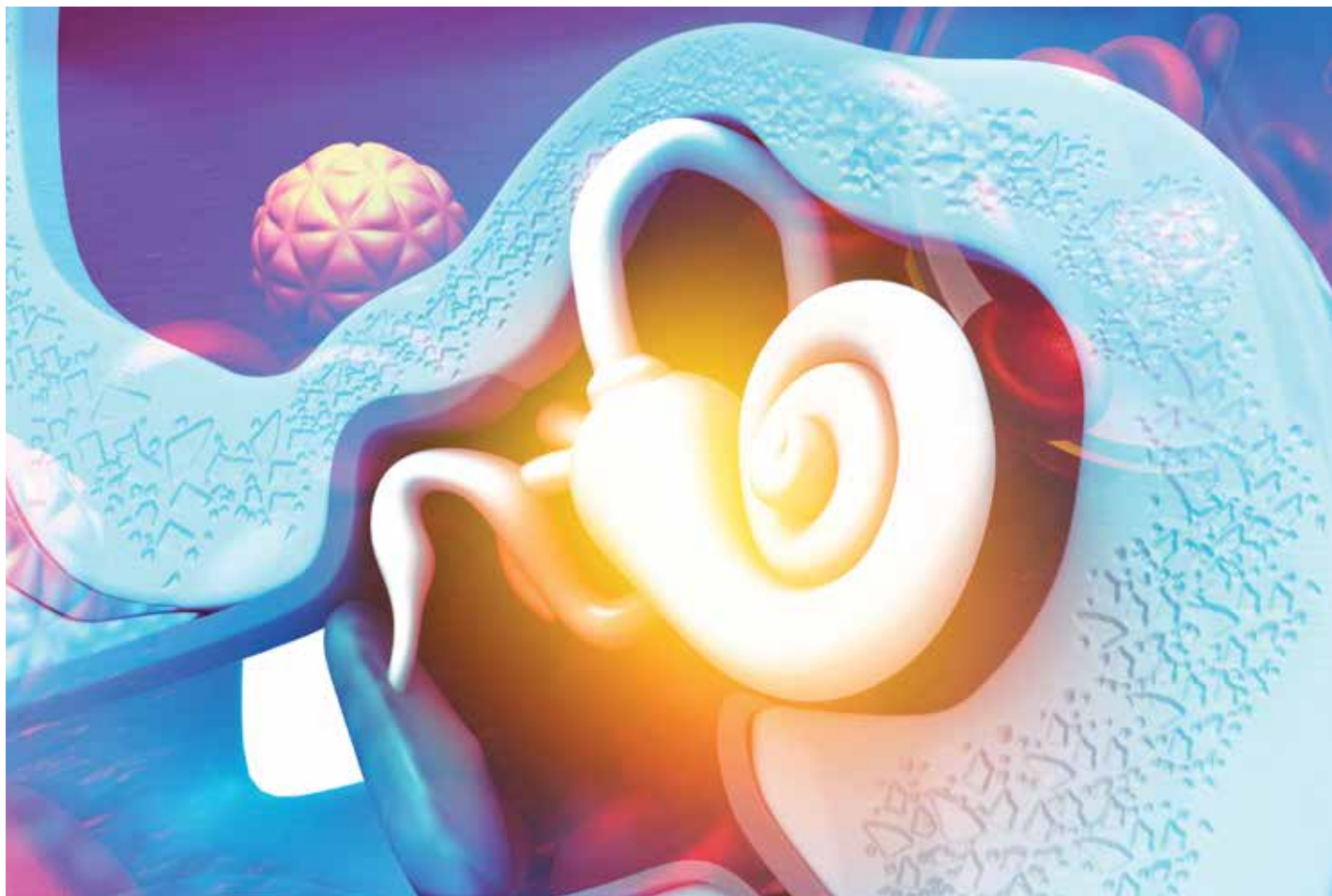
One tip for improving streaming performance, or to extend Ethernet's reach to the far side of your home, is to invest in a couple of powerline adaptors. These use the electric wire in your home to extend Ethernet. Plug one powerline adaptor to an electrical outlet near your Wi-Fi router and connect an Ethernet cable between it and the router. Plug the other powerline adaptor in an outlet near your smart TV and connect an Ethernet cable between it and the TV. You now have an Ethernet connection to your TV. I did this several years ago and have never had a buffering problem.

Looking Ahead

As the internet of things (IoT) evolves, these, too, will require security. Like other devices, IoT firmware (or software) must be updated on a regular basis. Set it and forget it is not an acceptable security model. IoT devices typically use stripped-down versions of open-source software, which may very well leave IoT devices vulnerable. And if they cannot be updated then they truly are vulnerable. The Mirai botnet, consisting of hacked webcams, almost took down the internet back in October 2016. The concern is real. Remember: security in layers, all connected devices need to be secure, and all must be upgradable. A great place to start is securing your home Wi-Fi router. ■

¹ If your laptop does not have a built-in Ethernet port, you will need to get a docking station or a USB dongle with an Ethernet port.

² On a shared media network only one device can send data at any moment.



Eustachian Tube Dysfunction: Evidence and Controversies

Edward D. McCoul, MD, MPH

Eustachian tube dysfunction (ETD) is a common diagnosis in general otolaryngology practice. Most patients present with mild symptoms of aural fullness, hearing loss, tinnitus, and otalgia. Despite the prevalence of ETD in children, a standardized approach to diagnosis and management in the adult patient has been lacking. A Clinical Consensus Statement sponsored by the American Academy of

Otolaryngology–Head and Neck Surgery Foundation has recently summarized the published evidence for the practicing clinician and forms the basis for the following discussion.

The most common form of ETD is obstructive ETD, defined as the impaired ability to equalize pressure between the middle ear and nasopharynx. The diagnostic approach should focus on ruling out other causes of similar symptoms, including temporomandibular joint disorders, endolymphatic hydrops, and patulous ETD.

Chronic otitis media, tympanic membrane perforation, and cholesteatoma are direct sequelae of chronic ETD and may require specialized management.

Key components of the clinical workup include: 1) history, including the ability to perform a modified Valsalva maneuver; 2) pneumatic otoscopy; 3) impedance audiometry; 4) nasal endoscopy; and 5) patient-reported symptom assessment. Although many patients experience persistent symptoms, some individuals are symptomatic only during periods of

barochallenge such as diving or air travel. Otoscopy may show reduced tympanic membrane mobility, middle ear effusion, or chronic changes to the tympanic membrane. Impedance audiometry (or tympanometry) provides a quantitative measure of middle ear ventilation, which indirectly reflects Eustachian tube function. A significant limitation is that tympanometry may be falsely negative if the patient is asymptomatic at the time of the test.

Nasal endoscopy should not be overlooked as it allows the identification of extrinsic causes of ETD, such as adenoid hypertrophy or a nasopharyngeal mass. Endoscopy also can identify inflammation at the Eustachian tube nasopharyngeal orifice, which may indicate the presence of allergic rhinitis, chronic rhinosinusitis, or extra-esophageal reflux. In these cases, medical management of the comorbid inflammatory disease is warranted before considering additional intervention aimed at the Eustachian tube.

Patient-reported outcome measures are useful for summarizing symptom burden and providing a benchmark for tracking a patient's course of symptoms over time. The 7-item Eustachian Tube Dysfunction Questionnaire (ETDQ-7) is a validated instrument that has been used in clinical studies and can be readily incorporated into clinical practice.

While the history of Eustachian tube surgery dates back nearly 200 years, the past 20 years have seen a resurgence of interest in treatments aimed at modifying the structure and function of that organ. Treatments including laser ablation, mucosal tissue removal, and cartilaginous reshaping have been suggested. More recently, balloon dilation of the Eustachian tube (BDET) has emerged as a treatment option. In BDET, a catheter with a balloon is temporarily inserted and inflated within the cartilaginous portion of the Eustachian tube. Multiple devices are now available with FDA labeling for the treatment of obstructive ETD.

The need for radiologic imaging prior to BDET has been debated. While the proximity of the carotid canal to the bony Eustachian tube has been noted, the current

generation of FDA-approved devices includes design elements that prevent advancement of the instrument beyond the cartilaginous portion of the lumen. A dehiscent carotid artery identified on imaging is a contraindication to use of a device without a depth marker.

Controversy exists regarding the full range of indications for BDET. At a minimum, current evidence suggests that BDET may be offered to patients with chronic symptoms (three months or greater) with elevated symptom scores (i.e., ETDQ-7), persistent middle ear effusion or non-adherent atelectasis, abnormal tympanometry, and inflammation at the Eustachian tube orifice. Patients with a strong history of intermittent symptoms on barochallenge and signs of Eustachian tube inflammation may also be good candidates for BDET. It is unclear whether symptomatic patients without objective abnormalities may benefit from BDET, as several studies have shown mixed results.

Randomized controlled trials have demonstrated subjective and objective improvements in 55% to 70% of patients undergoing BDET with topical nasal steroid compared to those receiving topical nasal steroid alone. These results seem to be durable up to 12 months following the procedure. Technical aspects related to the duration of dilation and the ideal setting for this procedure remain to be determined. Success with BDET is likely to be predicated upon conscientious patient selection and a focus on patient-reported symptoms.

Myringotomy with tympanostomy has been the mainstay for surgical management of obstructive ETD for decades. Although tympanostomy tubes do not directly remedy the dysfunction at the Eustachian tube, they provide reliable symptom relief and should be offered along with BDET as alternative therapies. However, myringotomy with or without tympanostomy tube placement is not a mandatory prerequisite to offering BDET. In cases where a functioning tympanostomy tube fails to relieve symptoms of ETD, an alternative diagnosis should be sought.

Adjunctive procedures may have

a role in treating obstructive ETD.

Adenoidectomy may be useful to eliminate extrinsic compression from a large central adenoid pad. The presence of adenoid tissue arising from the mucosa of the torus tubarius may lend itself to endoscopic ablation, though evidence for this and other adjunctive procedures is lacking. Select patients with chronic ear pathology may be candidates for BDET at the time of middle ear surgery.

Amid growing interest in ETD as a clinical entity, further investigation should expand the evidence base and guide the clinician in the diagnosis and management of this common condition. The coming years are likely to witness a deepening appreciation of the pathophysiology of obstructive ETD and lead to new avenues for medical and surgical treatment. ■

Presented at the AAO-HNSF 2019 Annual Meeting & OTO Experience in New Orleans, LA

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The AAO-HNSF Clinical Consensus Statement: Balloon Dilation of the Eustachian Tube can be found at <https://journals.sagepub.com/doi/full/10.1177/0194599819848423>.

Challenging Bronchoscopy: Dos and Don'ts for a Successful Procedure



Figure 1

Michel N. Nassar, MD, Kaalan E. Johnson, MD, Charles M. Myer IV, MD, Evan J. Propst, MD, MSc, Scott M. Rickert, MD, and Christina J. Yang, MD

In September 2019, during the AAO-HNSF Annual Meeting & OTO Experience in New Orleans, we presented an airway panel titled, “Challenging Bronchoscopy: Dos and Don'ts for a Successful Procedure.” Our target audience was diverse—the resident-in-training, the physician on call and covering for airway emergencies, as well as the airway expert interested in simulation as an educational tool. The idea was simple—ask airway experts to share challenging cases with the audience and how they managed those cases. The other members of the panel were simultaneously running an airway simulation, projected on two large screens (Figure 1). This allowed the audience to think about the case, see a live demonstration of said case, and interact in real-time with the panel.

But what renders a bronchoscopy procedure challenging? Several factors, in fact.

Some are linked to the pathology itself. Take an airway foreign body as an example. It occurs up to 2.5 million times each year in the United States and may result in as many as 2,000 deaths.¹ The combined rate of mortality or anoxic brain injury to those patients hovers around 4%.² The nature of the foreign body (i.e., round bead), the location in a distal bronchus with difficult access, the potential for bleeding, and airway edema are all to be considered and prepared for. Another example can be hemorrhage resulting from an intraluminal mass biopsy or a draining empyema resulting in significant amounts of purulent material. The endoscopist will need to juggle the need to ventilate (aggressive suctioning, possible selective main stem intubation if the bleeding

source is from the opposite side) and to establish hemostasis (endotracheal tube cuff to apply pressure against the bleeding source, use of local vasoconstrictors or cautery).

Other factors are patient-related. It is not uncommon for the craniofacial patient to present with micrognathia/retrognathia, midface retrusion, and macroglossia, and that may lead to oral/oropharyngeal airway obstruction and issues with exposure, ventilation, and visualization. It is exceptionally important to optimize laryngoscope and bronchoscope (rigid or flexible) placement in order to have a successful airway evaluation and/or intervention. There are many techniques to help visualize an airway, and it is important to feel comfortable with both rigid and flexible options as they may be needed in these challenging cases. One must remember that every complex airway is unique and a small, subtle adjustment can have a large impact on the success of the surgery.

Finally, a challenging bronchoscopy can sometimes be self-inflicted. Seemingly straightforward bronchoscopies can become challenging due to factors such as inadequate team training, equipment unavailability, infrastructure, and poor communication among OR staff, anesthesiology, and otorhinolaryngology team members. Training and preparing for an airway emergency are of utmost importance. Simulation can supplement clinical exposure and provide a safe learning environment for self-paced practice. Thus, bronchoscopy simulation is a major component in boot camps, intensive courses that have been shown to improve self-assessment of confidence,^{3,4} knowledge,⁵ and proficiency.⁶ Various models and modalities including mannikins, animal models, 3D printed models, and virtual reality can be utilized for standard rigid bronchoscopy, foreign body removal, and advanced endoscopic procedures.

Simulation prior to bronchoscopy has become even more essential during the global COVID-19 pandemic. Additional personal protective equipment (PPE) such as N95 masks, goggles, face shields, and impermeable gowns can lead to sweating, fogging, neck discomfort, CO₂ retention, and headache. Powered air-purifying respirators (PAPR) are

more comfortable to wear but the blowing air makes communication difficult. Added concerns about donning PPE, especially in emergent situations, can be cognitively taxing. Additional drapes placed over patients to minimize the spread of droplets can make sharing the airway with the anesthesiologist confusing. Early collaborative multidisciplinary simulation is essential to identify and mitigate potential issues and improve situational awareness and team dynamics. Checklists and surgical pauses are even more important during these cases. For academic centers, surgical education during the COVID-19 pandemic has been difficult due to distancing requirements, limitations on the number of personnel in the operating room, and requirements for the staff surgeon to perform the case to shorten the duration of droplet exposure.

Airway simulation is essential for surgical education as well as team-building efficiency. It is uniquely positioned to train and prepare for a high acuity, low-frequency event such as airway bronchoscopy.

A special thanks to the AAO-HNSF and the Simulation Committee for their sponsorship and support. ■

Presented at the AAO-HNSF 2019 Annual Meeting & OTO Experience in New Orleans, LA

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