



Peter H. Hwang, MD

Professor of Otolaryngology - Head & Neck Surgery (OHNS) and, by courtesy, of Neurosurgery

Otolaryngology (Head and Neck Surgery)

CLINICAL OFFICE (PRIMARY)

- **Stanford Dept of Otolaryngology, Head and Neck Surgery**

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Bio

BIO

Dr. Hwang completed his undergraduate degree at Stanford University, and his MD and otolaryngology residency at the University of California, San Francisco. After completing a fellowship in rhinology at the University of Pennsylvania, Dr. Hwang served as Director of Rhinology at Oregon Health & Science University. He returned to Stanford in 2005 to lead the Division of Rhinology and Endoscopic Skull Base Surgery and currently serves as Vice Chair of Clinical Affairs for the Department of Otolaryngology-Head & Neck Surgery. Dr. Hwang has served in leadership of the American Rhinologic Society for over a decade, most recently as President of the society. Dr. Hwang also serves as Associate Editor of the International Forum of Allergy and Rhinology and Associate Editor of the World Journal of Otolaryngology. He co-edited the textbook "Rhinology: Diseases of the Nose, Sinuses, & Skull Base," which was awarded the Benjamin Franklin Award for Scientific & Technical Book of the Year. Dr. Hwang teaches on the latest advances in endoscopic sinus and skull base surgery at many national and international venues. He also trains future academic leaders in rhinology through the Stanford fellowship in rhinology and endoscopic skull base surgery. His research interests include clinical outcomes of endoscopic skull base surgery; development of innovative medical devices for treating sinus disease; and novel topical therapies for chronic rhinosinusitis.

CLINICAL FOCUS

- Cancer > Head and Neck Cancer
- Endoscopic Sinus Surgery
- Endoscopic Skull Base Surgery
- Otolaryngology
- Otolaryngology - Head & Neck Surgery (Ear, Nose and Throat)

ACADEMIC APPOINTMENTS

- Professor - University Medical Line, Otolaryngology (Head and Neck Surgery)
- Professor - University Medical Line (By courtesy), Neurosurgery

ADMINISTRATIVE APPOINTMENTS

- Vice Chair, Department of Otolaryngology-Head & Neck Surgery, (2018- present)
- Vice Chair of Clinical Affairs, Department of Otolaryngology-Head & Neck Surgery, (2015-2018)
- Chief, Division of Rhinology & Endoscopic Skull Base Surgery, Stanford School of Medicine, (2005- present)
- Co-Director, Fellowship in Rhinology & Endoscopic Skull Base Surgery, Stanford University, (2005-2015)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Associate Editor, International Forum of Allergy & Rhinology (2011 - 2022)
- Associate Editor, World Journal of Otolaryngology-Head & Neck Surgery (2015 - 2024)
- President, American Rhinologic Society (2015 - 2016)
- Co-Founder, SoundHealth medtech start-up (2020 - present)
- President-Elect, American Rhinologic Society (2014 - 2015)
- 1st Vice President, American Rhinologic Society (2013 - 2014)

PROFESSIONAL EDUCATION

- Internship: UCSF Dept of General Surgery (1992) CA
- Residency: UCSF Dept of Otolaryngology Head and Neck Surgery (1996) CA
- Fellowship: University of Pennsylvania Dept of GME (1997) PA
- Medical Education: University of California at San Francisco School of Medicine (1991) CA
- Board Certification: Otolaryngology, American Board of Otolaryngology (1997)
- Fellowship, Univ. of Pennsylvania , Rhinology & Sinus Surgery (1997)
- Residency, UC San Francisco , Otolaryngology (1996)
- MD, UC San Francisco (1991)
- BS, Stanford University , Biology (1987)

LINKS

- Co-Founded Startup: <https://soundhealth.life/>
- Google Scholar: <https://scholar.google.com/citations?user=H3IBaM8AAAAJ>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

- Clinical outcomes in patients with chronic rhinosinusitis undergoing endoscopic sinus surgery
- Development of innovative medical devices for treatment of sinus disorders
- Founder of CORSICA, a national research registry for sinus cancer

CLINICAL TRIALS

- Identification and Characterization of Novel Proteins and Genes in Head and Neck and/or Skin Cancer, Recruiting
- Phase II CT Followed by Surgery and Post-Operative RT vs Surgery and Post-Operative RT in NPNSCC, Not Recruiting

Teaching

STANFORD ADVISEES

Med Scholar Project Advisor

Riley Vo

Publications

PUBLICATIONS

- **Disease Remission: A Scoping Review With Thematic Analysis of the Scientific Literature With Implications for Chronic Rhinosinusitis.** *International forum of allergy & rhinology*
Parail, N., Warner, L., Gray, S. T., Hopkins, C., Hwang, P. H., Wise, S. K., Phillips, K. M., Sedaghat, A. R.
2026
- **Minimal Clinically Important Difference of the Sinonasal Outcome Test in Sinonasal Malignancy.** *The Annals of otology, rhinology, and laryngology*
Maoz, S. L., Lee, M., Fischer, J. L., Choby, G., Hwang, P. H., Wang, E. W., Kuan, E. C., Adappa, N. D., Geltzeiler, M., Getz, A. E., Humphreys, I. M., Le, C. H., Pinheiro-Neto, et al
2026: 34894261428393
- **Determining the Minimal Clinically Important Difference of the 40-Item Smell Identification Test in People With Cystic Fibrosis** *INTERNATIONAL FORUM OF ALLERGY & RHINOLOGY*
Oh, E., Miller, J. E., Lee, M. J., Zemke, A., Baraghoshi, D., Strand, M. J., Alt, J. A., Bodner, T. E., Chang, M., Chowdhury, N. I., Eshaghian, P. H., Getz, A. E., Goralski, et al
2026
- **Air Pollution and Particulate Matter: Implications in Upper Airway Disease.** *International forum of allergy & rhinology*
Bergmark, R. W., Ahmed, O. G., Chaaban, M. R., Filip, P., Fischer, J., Hannikainen, P. A., Hwang, P. H., Kim, J., Lam, K., Lee, J. T., Lee, S. E., Lin, S. Y., Makary, et al
2026
- **Endoscopic transnasal sphenopalatine ganglion block for chronic craniofacial pain.** *European archives of oto-rhino-laryngology : official journal of the European Federation of Oto-Rhino-Laryngological Societies (EUFOS) : affiliated with the German Society for Oto-Rhino-Laryngology - Head and Neck Surgery*
Liu, D. T., Roozdar, P., Chan, E., Yong, M., Barad, M. J., Qian, X., Hwang, P. H., Chang, M. T.
2026
- **Artificial Intelligence-Based Quantification of Indocyanine Green Fluorescence for Standardized Perfusion Assessment in Endoscopic Skull Base Surgery** *JOURNAL OF NEUROLOGICAL SURGERY PART B-SKULL BASE*
Sethi, S., Daum, R., Grimm, D., Yong, M., Hosseinzadeh, F., Lee, C. K., Fernandez-Miranda, J. C., Nayak, J. V., Patel, Z. M., Hwang, P. H., Chang, M. T.
2026
- **Treatment burden and healthcare resource utilization in patients with chronic rhinosinusitis with nasal polyps who did or did not undergo functional endoscopic sinus surgery: a US real-world retrospective cohort study.** *Journal of comparative effectiveness research*
Isaman, D. L., Corbett, M., Lee, S. E., Peters, A. T., Hwang, P. H., Reitsma, S., Petruski-Ivleva, N., Nash, S., Jacob-Nara, J. A.
2026: e250065
- **Added Sinonasal Morbidity of Transpterygoid Approach versus Transsphenoidal Approach: A Case-Controlled Analysis.** *Journal of neurological surgery. Part B, Skull base*
Saroya, J., Huang, A. E., Hoosinzadeh, F., Lee, C. K., Fernandez-Miranda, J., Hwang, P. H., Patel, Z. M., Nayak, J. V., Chang, M. T.
2026; 87 (1): 43-49
- **AI-RWAY A SCALABLE SMARTPHONE BASED AIRWAY SCREENING TOOL FOR OSA AND SDB FOR USE @ SCALE IN PEDIATRIC AND ADULT POPULATIONS**
Gopi, P., Yoon, A., Phelps, E., Hwang, P., Lin, B., Mohan, V.
ELSEVIER.2026

- **Outcomes for Sinonasal Undifferentiated Carcinoma (SNUC): An International Multi-Center Retrospective Cohort Study.** *Cancers*
Liu, J., Takahashi, Y., Rehman, U., Turri-Zanoni, M., Mattavelli, D., Counsell, N., Ferrari, M., Rampinelli, V., Vermi, W., Lombardi, D., Saade, R., Park, K. W., Emanuel, et al
2026; 18 (3)
- **Regional disparities in cost-effectiveness of biologics for CRSwNP should not modify the strategy.** *Rhinology*
Fieux, M., Carsuzaa, F., Chang, M., Hwang, P. H., Patel, Z. M., Tringali, S., Favier, V., Margier, J.
2026
- **Predictive Value of Ipratropium Responsiveness on Posterior Nasal Nerve Neurectomy Outcomes in Chronic Rhinitis.** *Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery*
Maddineni, S., Hwang, P. H., Ayoub, N. F., Patel, Z. M., Nayak, J. V., Chang, M. T.
2025
- **Artificial Intelligence for Endoscopic Surveillance Post-Treatment for Nasopharyngeal Carcinoma: Detection of Recurrence and Osteoradionecrosis.** *International forum of allergy & rhinology*
Levi, L., Huynh, J. D., Wang, Y., Fieux, M., Manavi, M. S., Renteria, A., Sethi, S. K., Ayoub, N., Patel, Z., Nayak, J. V., Hwang, P., Chang, M. T.
2025
- **Distinguishing Suspected Invasive Fungal Sinusitis From Its Mimics: A Clinicopathologic Analysis of Histopathology-Negative Cases.** *International forum of allergy & rhinology*
Idler, B. M., Renteria, A., Liu, D. T., Rubio-Jimenez, I., Levi, L., Nayak, J. V., Patel, Z. M., Chang, M. T., Rahman, M., Hwang, P. H., Ayoub, N. F.
2025
- **Using Indocyanine Green Fluorescence Angiography to Evaluate the Impact of Surgical and Patient Factors on Posterior Septal Artery Perfusion in Endoscopic Skull Base Surgery.** *Journal of neurological surgery. Part B, Skull base*
Daum, R., Grimm, D., Yong, M., Hosseinzadeh, F., Lee, C. K., Fernandez-Miranda, J. C., Nayak, J. V., Patel, Z. M., Hwang, P. H., Chang, M. T.
2025; 86 (6): e2-e7
- **Development and psychometric validation of the Chronic Rhinosinusitis Control Test.** *Rhinology*
Cotter, R. A., Lee, C. W., Wilson, K., Althoff, S. F., Alsaleh, S., Anselmo-Lima, W. T., Bernal-Sprekelsen, M., Chandra, R. K., Constantinidis, J., Fokkens, W. J., Halderman, A. A., Herzog, T., Hopkins, et al
2025
- **Proton Beam vs Intensity-Modulated Radiotherapy in Olfactory Neuroblastoma.** *JAMA otolaryngology-- head & neck surgery*
Tang, A., Adida, S., Donohue, J., Olson, B., Krippaehne, E., Roozdar, P., Goetschel, K., Gago, G., Almeida, J. P., Champagne, P. O., Fernandez-Miranda, J. C., Gardner, P., Hwang, et al
2025
- **The Influence of Nasal Cavity Dimensions on Frequency of Treatment for Rhinitis Symptoms.** *International forum of allergy & rhinology*
Levi, L., Mohan, V., Ma, Y., Meliadis, C., Gopi, P., Nayak, J. V., Lin, B., Hwang, P. H., Johnson, J., Nadeau, K., Blaiss, M., Ray, T. S.
2025
- **Does Debridement of Intracranial Disease in Acute Invasive Fungal Sinusitis Improve Survival?** *JOURNAL OF NEUROLOGICAL SURGERY PART B-SKULL BASE*
Huang, A. E., Lee, C. K., Nayak, J. V., Hwang, P. H., Patel, Z. M., Fernandez-Miranda, J. C., Chang, M. T.
2025
- **Utilizing a publicly accessible automated machine learning platform to enable diagnosis before tumor surgery.** *Communications medicine*
Hosseinzadeh, F., Liu, G., Tsai, E., Mahmoudi, A., Yang, A., Kim, D., Fieux, M., Levi, L., Abdul-Hadi, S., Adappa, N. D., Alt, J. A., Altartoor, K. A., Bany, et al
2025; 5 (1): 419
- **Functionality of Pituitary Tumors Impacts Sinonasal Quality of Life Before and After Endoscopic Surgery.** *The Laryngoscope*
Wongworawut, Y., Hwang, P. H., Nayak, J. V., Dodd, R., Fernandez-Miranda, J. C., Patel, Z. M.
2025
- **Multi-scaled transcriptomics of chronically inflamed nasal epithelium reveals immune-epithelial dynamics and tissue remodeling in nasal polyp formation.** *Immunity*
Liao, G., Nakayama, T., Zhu, B., Lee, I. T., Yeung, J., Yeo, Y. Y., Chang, Y., Wang, C., Liao, S. C., Nkosi, D., Renteria, A., Bravo, D. T., Overdevest, et al

2025

- **Role of somatostatin receptor 2 (SSTR2) in pituitary adenomas.** *Clinical and translational medicine*
Power, Y., Liu, J., Rehman, U., Kjerimi, A., Schartinger, V., Counsell, N., Starup-Hansen, J., Newall, N., Lund, V. J., Mohyeldin, A., Fernandez-Miranda, J. C., Lavezo, J., Patel, et al
2025; 15 (8): e70435
- **Patency of the Cavernous Sinus After Medial Wall Resection: An Observational Study** *JOURNAL OF NEUROLOGICAL SURGERY PART B-SKULL BASE*
Renteria, A. E., Fieux, M., Castro, B., Levi, L., Hung, L., Azevedo, A., Lee, C. K., Chang, M. T., Hwang, P. H., Nayak, J., Fischbein, N., Fernandez-Miranda, J., Patel, et al
2025
- **The extra cost of biologics as first-line treatment in uncontrolled chronic rhinosinusitis with nasal polyps with no previous sinus surgery is overwhelming: a budget impact analysis.** *Rhinology*
Fieux, M., Margier, J., Bartier, S., Chang, M., Carsuzaa, F., Hwang, P. H., Patel, Z. M., Tringali, S., Favier, V., Savary, T.
2025
- **Expert Strategies: Skull Base Reconstruction-Global Perspectives, Insights, and Algorithms through a MixedMethods Approach.** *International forum of allergy & rhinology*
Kuan, E. C., Talati, V., Patel, J. A., Nguyen, T. V., Abiri, A., Pang, J. C., Goshtasbi, K., Liu, L., Craig, J. R., Papagiannopoulos, P., Phillips, K. M., Tajudeen, B. A., Adappa, et al
2025: e23596
- **Abridging the 22-Item Sino-Nasal Outcome Test (SNOT-22) in People With Cystic Fibrosis: Limiting Survey Burden.** *International forum of allergy & rhinology*
Chen, H., Fischer, J. L., Tibbe, T. D., Sedaghat, A. R., Han, E. J., Mace, J. C., Alt, J. A., Bodner, T. E., Chowdhury, N. I., Gao, Y. A., Hwang, P. H., Khanwalkar, A., Kimple, et al
2025: e23591
- **Response to "Letter to the Editor Regarding Ambient Particulate Matter and Frequency of Outpatient Visits for Chronic Rhinosinusitis in the United States".** *International forum of allergy & rhinology*
Yang, H. H., Grimm, D., Velasquez, E., Hwang, P. H.
2025: e3599
- **Neoadjuvant chemotherapy and surgery versus surgery for organ preservation of T3 and T4a nasal and paranasal sinus squamous cell carcinoma (NPNSCC) ECOG-ACRIN EA3163.** *Clinical cancer research : an official journal of the American Association for Cancer Research*
Saba, N. F., Flamand, Y., Lin, D. T., Chung, C. H., McDonald, M. W., Flampouri, S., Khan, S. A., Snyderman, C. H., Hanna, E. Y., El-Sayed, I. H., Solares, C. A., Le, C. H., Ghaly, et al
2025
- **Olfaction, Eating Preference, and Quality of Life in Cystic Fibrosis Chronic Rhinosinusitis.** *The Laryngoscope*
Liu, C. M., Fischer, J. L., Lee, M. J., Mace, J. C., Kimple, A. J., Markarian, K., Alt, J. A., Bodner, T. E., Chowdhury, N. I., Chung, S. Y., Eshaghian, P. H., Gao, Y. A., Getz, et al
2025
- **Ipsilateral Nasoseptal Flaps in a Transpterygoid Approach: Technical Pearls and Reconstruction Outcomes.** *Journal of neurological surgery. Part B, Skull base*
Chang, M. T., Grimm, D., Asmaro, K., Yong, M., Low, C., Lee, C. K., Nayak, J. V., Hwang, P. H., Fernandez-Miranda, J. C., Patel, Z. M.
2025; 86 (1): 76-81
- **Durable reconstitution of sinonasal epithelium by transplant of CFTR gene corrected airway stem cells.** *bioRxiv : the preprint server for biology*
Bravo, D. T., Vaidyanathan, S., Baker, J., Sinha, V., Tsai, E., Roozdar, P., Kong, W. W., Atkinson, P. J., Patel, Z. M., Hwang, P. H., Rao, V. K., Negrin, R. S., Wine, et al
2025
- **Added Sinonasal Morbidity of Transpterygoid Approach versus Transsphenoidal Approach: A Case-Controlled Analysis** *JOURNAL OF NEUROLOGICAL SURGERY PART B-SKULL BASE*
Saroya, J., Huang, A. E., Hoosinzadeh, F., Lee, C. K., Fernandez-Miranda, J., Hwang, P. H., Patel, Z. M., Nayak, J. V., Chang, M. T.
2025

- **Transient Global Amnesia After Endoscopic Septoplasty and Turbinate Reduction.** *Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery*
Rahman, A. S., Hwang, P. H., Liu, D. T.
2025
- **Unilateral Versus Bilateral Endoscopic Resection of Olfactory Neuroblastoma: Pooled Analysis From Prospective and Retrospective Multicenter Data.** *International forum of allergy & rhinology*
Abiri, A., Nguyen, T. V., Chen, H., Krippaehne, E., Lerner, D. K., Rahman, A. S., Roozdar, P., Rosvall, B. R., Sabbaj, M., Workman, A. D., Wu, S., Adappa, N. D., Beswick, et al
2025
- **Machine learning of endoscopy images to identify, classify, and segment sinonasal masses.** *International forum of allergy & rhinology*
Levi, L., Ye, K., Fieux, M., Renteria, A., Lin, S., Xing, L., Ayoub, N. F., Patel, Z. M., Nayak, J. V., Hwang, P. H., Chang, M. T.
2025
- **Comparing Efficacy of Steroid Irrigation + Steroid-eluting Sinus Stent Versus Steroid Irrigation Alone for Maintaining Frontal Sinus Patency After Sinus Surgery: A Randomized Controlled Trial.** *International forum of allergy & rhinology*
Fieux, M., Noel, J., Roozdar, P., Neves, C. A., Yan, C. H., Tyler, M., Rathor, A., Chang, M. T., Nayak, J. V., Hwang, P. H., Patel, Z. M.
2025
- **Utilization of ChatGPT for Rhinology Patient Education: Limitations in a Surgical Sub-Specialty.** *OTO open*
Huang, A. E., Chang, M. T., Khanwalkar, A., Yan, C. H., Phillips, K. M., Yong, M. J., Nayak, J. V., Hwang, P. H., Patel, Z. M.
2025; 9 (1): e70065
- **Correlation of the Sinonasal Outcome Test-22 With the University of Washington Quality of Life in Assessing Quality of Life in Sinonasal Malignancy Utilizing a Multicenter Prospective Observational Cohort Registry.** *International forum of allergy & rhinology*
Fleseriu, C. M., Wang, E. W., Beswick, D. M., Maoz, S. L., Hwang, P. H., Kuan, E. C., Adappa, N. D., Geltzeiler, M., Abuzeid, W. M., Pinheiro-Neto, C. D., Getz, A. E., Humphries, I. M., Le, et al
2025
- **Estimating Maxillary Sinus Volume Using Smartphone Camera** *IEEE OPEN JOURNAL OF ENGINEERING IN MEDICINE AND BIOLOGY*
Meliadis, C., Feng, E., Johnson, E., Zhu, W., Gopi, P., Mohan, V., Hwang, P. H., Johnson, J., Lin, B. Y.
2025; 6: 256-260
- **Association between US Wildfires and Health Care Utilization for Acute Rhinosinusitis** *International Forum of Allergy & Rhinology*
Levi, L., Levi, A., Fieux, M., Velasquez, E., Vo, R. H., Grimm, D., Hwang, P. H.
2025
- **Posterior nasal nerve surgical neurectomy versus ablation for chronic rhinitis.** *American journal of otolaryngology*
Maddineni, S., Hwang, P. H., Patel, Z. M., Nayak, J. V., Chang, M. T.
2024; 46 (1): 104553
- **Reply to "To the editor: Ambient particulate matter and frequency of outpatient visits for chronic rhinosinusitis in the United States".** *International forum of allergy & rhinology*
Yang, H. H., Grimm, D., Velasquez, E., Hwang, P. H.
2024
- **Pathologic dural invasion is associated with regional recurrence in olfactory neuroblastoma: A multi-institutional study.** *International forum of allergy & rhinology*
Tang, A., Taori, S., Fung, N., Almeida, J. P., Champagne, P. O., Fernandez-Miranda, J. C., Gardner, P., Hwang, P. H., Nayak, J. V., Patel, C., Patel, Z. M., Celda, M. P., Pinheiro-Neto, et al
2024
- **Using Indocyanine Green Fluorescence Angiography to Evaluate the Impact of Surgical and Patient Factors on Posterior Septal Artery Perfusion in Endoscopic Skull Base Surgery** *JOURNAL OF NEUROLOGICAL SURGERY PART B-SKULL BASE*
Daum, R., Grimm, D., Yong, M., Hosseinzadeh, F., Lee, C. K., Fernandez-Miranda, J. C., Nayak, J., Patel, Z. M., Hwang, P. H., Chang, M. T.
2024
- **Ambient particulate matter and frequency of outpatient visits for chronic rhinosinusitis in the United States.** *International forum of allergy & rhinology*
Yang, H. H., Grimm, D., Velasquez, E., Hwang, P. H.

2024

- **Environmental factors and the incidence of pediatric epistaxis: A systematic review with meta-analysis.** *International journal of pediatric otorhinolaryngology*
Sharifi, A., Hwang, P. H., Zojaji, M., Ghaedsharaf, S., Samadzadeh, S., Ghaffari, M. E., Qian, Z. J.
2024; 186: 112152
- **Nasal endoscopy score thresholds to trigger consideration of chronic rhinosinusitis treatment escalation and implications for disease control.** *Rhinology*
Sedaghat, A. R., Cotter, R. A., Alobid, I., Alsaleh, S., Anselmo-Lima, W. T., Bernal-Sprekelsen, M., Chandra, R. K., Constantinidis, J., Fokkens, W. J., Franzese, C., Gray, S. T., Halderman, A. A., Holbrook, et al
2024
- **Role of Early Postoperative Measurement of Copeptin in Prediction of Diabetes Insipidus Following Pituitary Surgery in Adults: a systematic review plus meta-analysis.** *World neurosurgery*
Sharifi, A., Hwang, P. H., Kouhi, A., Zojaji, M., Ghaffari, M. E., Ghaedsharaf, S.
2024
- **A response to Min et al.** *International forum of allergy & rhinology*
Grimm, D. R., Qian, Z. J., Yong, M., Hwang, P. H.
2024
- **Use of customised binaural beats for the treatment of chronic insomnia**
Lin, K., Ma, Y., Lin, B., Hwang, P., Mohan, V., Gopi, P., Kushida, C.
WILEY.2024
- **Comparative analysis of traditional machine learning and automated machine learning: advancing inverted papilloma versus associated squamous cell carcinoma diagnosis.** *International forum of allergy & rhinology*
Hosseinzadeh, F., Mohammadi, S. S., Palmer, J. N., Kohanski, M. A., Adappa, N. D., Chang, M. T., Hwang, P. H., Nayak, J. V., Patel, Z. M.
2024
- **Impact of sociodemographic status and sex on chronic rhinosinusitis and olfaction in people with cystic fibrosis.** *International forum of allergy & rhinology*
Han, E. J., Liu, C. M., Fischer, J. L., Mace, J. C., Markarian, K., Alt, J. A., Bodner, T. E., Chowdhury, N. I., Eshaghian, P. H., Gao, Y. A., Getz, A. E., Hwang, P. H., Khanwalkar, et al
2024
- **University of Washington Quality of Life subdomain outcomes after treatment of sinonasal malignancy: A prospective, multicenter study.** *International forum of allergy & rhinology*
Mao, S. L., Golzar, A., Choby, G., Hwang, P. H., Wang, E. W., Kuan, E. C., Adappa, N. D., Geltzeiler, M., Getz, A. E., Humphreys, I. M., Le, C. H., Pinheiro-Neto, C. D., Fischer, et al
2024
- **The Utility of a "Second-Look" Debridement Following Endonasal Skull Base Surgery in the Pediatric Population.** *Journal of neurological surgery. Part B, Skull base*
Chang, M. T., Huang, A. E., Quon, J. L., Fernandez-Miranda, J. C., Wen, C. Z., Eide, J. G., Kshirsagar, R. S., Qian, Z. J., Nayak, J. V., Hwang, P. H., Adappa, N. D., Patel, Z. M.
2024; 85 (3): 313-317
- **Predictors of Sinonasal Improvement After Highly Effective Modulator Therapy in Adults with Cystic Fibrosis.** *The Laryngoscope*
Beswick, D. M., Liu, C. M., Overvest, J. B., Zemke, A., Khatiwada, A., Gudis, D. A., Miller, J. E., Kimple, A., Tervo, J. P., DiMango, E., Goralski, J. L., Keating, C., Senior, et al
2024
- **Recurrence morbidity of olfactory neuroblastoma.** *International forum of allergy & rhinology*
Melder, K., Mace, J. C., Choby, G., Almeida, J. P., Champagne, P., Chan, E., Ciporen, J., Chaskes, M. B., Fernandez-Miranda, J., Fung, N. K., Gardner, P., Hwang, P., Ji, et al
2024
- **The effect of PM2.5 on acute sinusitis: A population-based study.** *International forum of allergy & rhinology*
Grimm, D., Qian, Z. J., Yong, M., Hwang, P. H.
2024

- **SNOT-22 subdomain outcomes following treatment for sinonasal malignancy: A prospective, multicenter study.** *International forum of allergy & rhinology*
Grimm, D. R., Beswick, D. M., Maoz, S. L., Wang, E. W., Choby, G. W., Kuan, E. C., Chan, E. P., Adappa, N. D., Geltzeiler, M., Getz, A. E., Humphreys, I. M., Le, C. H., Abuzeid, et al
2024
- **Patient perspectives on chronic rhinosinusitis in cystic fibrosis: Symptom prioritization in the era of highly effective modulator therapy.** *International forum of allergy & rhinology*
Liu, C. M., Han, E. J., Fischer, J. L., Mace, J. C., Mattos, J. L., Markarian, K., Alt, J. A., Bodner, T. E., Chowdhury, N. I., Eshaghian, P. H., Getz, A. E., Hwang, P. H., Khanwalkar, et al
2024
- **Impact of dupilumab prescribing on utilization of medical and surgical therapies for chronic rhinosinusitis with nasal polyps.** *International forum of allergy & rhinology*
Low, C. M., Wang, A. R., Yong, M., Nayak, J., Patel, Z., Hwang, P. H.
2024
- **Ipsilateral Nasoseptal Flaps in a Transpterygoid Approach: Technical Pearls and Reconstruction Outcomes** *JOURNAL OF NEUROLOGICAL SURGERY PART B-SKULL BASE*
Chang, M. T., Grimm, D., Asmaro, K., Yong, M., Low, C., Lee, C. K., Nayak, J. V., Hwang, P. H., Fernandez-Miranda, J. C., Patel, Z. M.
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