



Jayakar V. Nayak, MD, PhD

Associate 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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ACADEMIC CONTACT INFORMATION

- **Administrative Contact**

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Bio

BIO

Dr. Jayakar V. Nayak is an Associate Professor of Otolaryngology at Stanford Otolaryngology — Head & Neck Surgery. He was born and raised in New Jersey, and received his BA with a concentration in Neurosciences from the University of Pennsylvania, and completed his MD/PhD education (PhD in immunology), as well as residency in otolaryngology, at the University of Pittsburgh. After pursuing additional Fellowship training in Rhinology and Endoscopic Sinus/Skull Base Surgery at the University of Pennsylvania, he was recruited to join the Stanford faculty in Fall 2009.

Dr. Nayak is an expert in congenital, acquired and genetic nasal and sinus disorders and in their treatment through medical and surgical alternatives. These include oral medicines, topical sprays and personalized use of medicinal compounds, as well as options that span micro-invasive, minimally invasive, external surgical approaches, and endoscopic sinus and skull base surgery where appropriate. He also serves as the chief of research in rhinology, and heads a basic science and translational research laboratory with three main areas of interest — i) nasal epithelial biology and stem cell regeneration in health and disease; ii) upper airway immunology dysfunction in chronic diseases such as cystic fibrosis and rhinosinusitis, as well as acute scenarios such as SARS-CoV-2 (COVID-19) exposure, and iii) empty nose syndrome and improving surgical procedures to optimize nasal breathing. The ultimate goal of his career is to identify ways to safely and effectively treat debilitating inflammatory and infectious sinus disorders, and improve the health and quality of life of his patients, who now hail from all around the world. Through his bench-to-bedside research, his team seeks to define the cellular and molecular determinants that lead to chronic nasal and sinus problems, in order to design more effective, targeted and affordable treatments. He also hopes to define the best methods to perform turbinate surgery to eliminate the possibility of empty nose syndrome, and improve patient outcomes.

Dr. Nayak has received numerous honors including the Commander Strike Fighter Wing Pacific Top Notch Award, the highest civilian award bestowed by the U.S. Navy for significant contributions to the Navy or its members, and the Triological Society Career Development Award to support his research endeavors. He has received 5-year R01 grant funding from the National Institutes of Health (NIH), as well research funding from the CA Institute of Regenerative Medicine (CIRM), and the Stanford SPARK program. He is a contributing author on over 110 peer-reviewed publications, serves as an invited reviewer for several medical and scientific journals, and has been invited to speak both nationally and internationally on numerous topics in modern rhinology practice, sinus and skull base surgery, and cutting edge research in rhinology.

CLINICAL FOCUS

- Cancer > Head and Neck Cancer
- Otolaryngology
- Chronic Rhinosinusitis
- Endoscopic Sinus Surgery
- Endoscopic Skullbase Surgery
- Nasal Septum and Turbinate Surgery
- Empty Nose Syndrome
- Epiphora/Excessive Tearing Surgery
- Epistaxis/Nosebleed Disorders and Surgery
- Clivus/Foramen Magnum/Odontoid Surgery
- All Varieties of Rhinologic/Sinus Disorders
- Revision Nasal Airway and Sinus Surgery

ACADEMIC APPOINTMENTS

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

ADMINISTRATIVE APPOINTMENTS

- Associate Professor, Stanford University Department of Otolaryngology - Head and Neck Surgery, (2010- present)
- Co-Director, Rhinology Fellowship Training Program, Stanford Dept. of Otolaryngology, (2011-2018)

HONORS AND AWARDS

- Co-Valedictorian, Woodbridge High School, New Jersey (1988)
- Baccalaureate with Honors, University of Pennsylvania (1992)
- Stanley J. Sarnoff Endowment Medical Student Research Fellowship, Salk Institute, La Jolla, CA (1994)
- Howard Hughes Medical Institute Medical Student Research Fellowship, U California, San Diego (1995)
- American Heart Association Medical Student Research Fellowship, U California, San Diego (1996)
- M.D./Ph.D. Transfer Admission & Full Scholarship Award, University of Pittsburgh (1997)
- Bernhard A. Goldman Prize in Dermatology, University of Pittsburgh (2003)
- Gold Foundation "Little Apple" Medical Student Teaching Award Finalist, University of Pittsburgh (2004)
- CORE Schering Plough Resident Research Award from the American Academy of Otolaryngology, University of Pittsburgh (2005)
- Influenza virus tropism for human nasal epithelial cells of the upper airway, Marion Avery Family Grant (2012)
- 2D and 3D Electron Microscopy Ultrastructure of Murine Nasal Cavity, Stanford Beckman Center Technology Innovation MiniGrant program (2012)
- Immune Responses to Influenza Virus in Single Human Nasal Epithelial Cells, NIH/Cooperative Centers for Translational Research on Human Immunology and Biodefense (CCHI) (2012)
- Human Mucosal Immune Responses to Influenza Virus: a Systems Biology Approach, NIH/Human Immunology Project Consortium (HIPC) (2012)
- Career Development Award - Basal cells in maintenance and regeneration of the nasal epithelium, Triological Society of the American Academy of Otolaryngology-Head and Neck Surgery (2012)
- National Finalist - Clinical Scientist Development Award, Doris Duke Charitable Foundation (December 2014)

PROFESSIONAL EDUCATION

- Board Certification: Otolaryngology, American Board of Otolaryngology (2010)
- Fellowship: University of Pennsylvania (2009) PA
- Residency: University of Pittsburgh Medical Center (2008) PA
- Internship: University of Pittsburgh Medical Center (2004) PA
- M.D., Ph.D., University of Pittsburgh School of Medicine , MD - General Medicine PhD - Immunology (2003)
- Medical Education: University of Pittsburgh School of Medicine (2003) PA
- B.A., University of Pennsylvania , Neuroscience (1992)

PATENTS

- Randall Kesten, Howard Levine, Thomas R. Jenkins, Jessica M. Liberatore and Jayakar V. Nayak. "United States Patent 9,433,347 Apparatus and ethmoid for treatment of ethmoid sinusitis", Sep 6, 2016

LINKS

- Nayak Lab Website: <https://nayaklab.stanford.edu/>
- Get a Second Opinion: <https://stanfordhealthcare.org/second-opinion/overview.html>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Upper Airway Stem Cell Biology, Fate, and Repair/Regeneration of the Airway Epithelium to treat Upper and Lower Airway Disorders

CLINICAL TRIALS

- PVP-I Nasal Sprays and SARS-CoV-2 Nasopharyngeal Titers (for COVID-19), Not Recruiting

Teaching

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Immunology (Phd Program)

Publications

PUBLICATIONS

- **The Temporoparietal Fascia Flap Transposition Technique for Ventral Skull Base Reconstruction: Anatomic Analysis and Surgical Application.** *Operative neurosurgery (Hagerstown, Md.)*
Xu, Y., Asmaro, K., Mohyeldin, A., Nunez, M. A., Mao, Y., Cohen-Gadol, A. A., Nayak, J., Fernandez-Miranda, J. C.
2024
- **Determining the minimal clinically important difference for the questionnaire of olfactory disorders in people with cystic fibrosis and factors associated with improvement after highly effective modulator therapy.** *International forum of allergy & rhinology*
Miller, J. E., Taylor-Cousar, J. L., Overdevest, J. B., Khatiwada, A., Mace, J. C., Alt, J. A., Bodner, T. E., Chowdhury, N. I., DiMango, E. A., Eshaghian, P. H., Getz, A. E., Gudis, D. A., Han, et al
2023
- **Surgical Correction of Nasal Obstruction and Its Effect on Eustachian Tube Dysfunction Symptoms.** *Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery*
Daum, R., Grimm, D., Castro Silva, B. R., Huang, A. E., Lee, J. Y., Nayak, J. V., Patel, Z. M., Hwang, P. H., Chang, M. T.
2023
- **Factors that predict pursuing sinus surgery in the era of highly effective modulator therapy.** *International forum of allergy & rhinology*

- Beswick, D. M., Han, E. J., Mace, J. C., Markarian, K., Alt, J. A., Bodner, T. E., Chowdhury, N. I., Eshaghian, P. H., Getz, A. E., Hwang, P. H., Khanwalkar, A., Kimple, A. J., Lee, et al
2023
- **The Serpentine Sign: A Reliable Endoscopic and Radiographic Finding in Empty Nose Syndrome.** *The Laryngoscope*
Dholakia, S. S., Grimm, D., Daum, R., Bravo, D. T., Salvi, N., Zarabanda, D., Overdeest, J. B., Thamboo, A., Nakayama, T., Nayak, J. V.
2023
 - **Eustachian tube dysfunction symptoms after endonasal skull base surgery.** *International forum of allergy & rhinology*
Grimm, D., Daum, R., Castro Silva, B. R., Lee, C. K., Fernandez-Miranda, J. C., Nayak, J. V., Patel, Z. M., Hwang, P. H., Chang, M. T.
2023
 - **Development of a shortwave infrared sinuscope for the detection of cerebrospinal fluid leaks.** *Journal of biomedical optics*
Klein, T. W., Yang, S., Tusty, M. A., Nayak, J. V., Chang, M. T., Bruns, O. T., Bischof, T. S., Valdez, T. A.
2023; 28 (9): 094803
 - **Predictive factors for decreased baseline quality of life in patients with sinonasal malignancies.** *International forum of allergy & rhinology*
Fleseriu, C. M., Beswick, D. M., Maoz, S. L., Hwang, P. H., Choby, G., Kuan, E. C., Chan, E. P., Adappa, N. D., Geltzeiler, M., Getz, A. E., Humphries, I. M., Le, C. H., Abuzeid, et al
2023
 - **Multicenter Survival Analysis and Application of an Olfactory Neuroblastoma Staging Modification Incorporating Hyams Grade.** *JAMA otolaryngology--head & neck surgery*
Choby, G., Geltzeiler, M., Almeida, J. P., Champagne, P. O., Chan, E., Ciporen, J., Chaskes, M. B., Fernandez-Miranda, J., Gardner, P., Hwang, P., Ji, K. S., Kalyvas, A., Kong, et al
2023
 - **International Multicenter Study of Clinical Outcomes of Sinonasal Melanoma Shows Survival Benefit for Patients Treated with Immune Checkpoint Inhibitors and Potential Improvements to the Current TNM Staging System.** *Journal of neurological surgery. Part B, Skull base*
Lechner, M., Takahashi, Y., Turri-Zanoni, M., Ferrari, M., Liu, J., Counsell, N., Mattavelli, D., Rampinelli, V., Vermi, W., Lombardi, D., Saade, R., Park, K. W., Schartinger, et al
2023; 84 (4): 307-319
 - **Incidence of hypocortisolism with long-term budesonide irrigations for chronic rhinosinusitis.** *International forum of allergy & rhinology*
Silva, B. R., Tyler, M. A., Ma, Y., Wang, J., Nayak, J. V., Patel, Z. M., Hwang, P. H.
2023
 - **Long-term quality of life after treatment in sinonasal malignancy: A prospective, multi-center study.** *International forum of allergy & rhinology*
Maoz, S. L., Wang, E. W., Hwang, P. H., Choby, G., Kuan, E. C., Fleseriu, C. M., Chan, E. P., Adappa, N. D., Geltzeiler, M., Getz, A. E., Humphreys, I. M., Le, C. H., Abuzeid, et al
2023
 - **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., Nayak, J. V., Hwang, P. H., Adappa, N. D., Patel, Z. M.
2023
 - **International consensus statement on allergy and rhinology: Allergic rhinitis - 2023.** *International forum of allergy & rhinology*
Wise, S. K., Damask, C., Roland, L. T., Ebert, C., Levy, J. M., Lin, S., Luong, A., Rodriguez, K., Sedaghat, A. R., Toskala, E., Villwock, J., Abdullah, B., Akdis, et al
2023
 - **Radiographic predictors of occult intracranial involvement in olfactory neuroblastoma patients.** *International forum of allergy & rhinology*
Geltzeiler, M., Choby, G. W., Ji, K. S., Mace, J. C., Almeida, J. P., de Almeida, J., Champagne, P., Chan, E., Ciporen, J. N., Chaskes, M. B., Cornell, S., Drozdowski, V., Fernandez-Miranda, et al
2023
 - **Tranexamic acid does not significantly lower postoperative bleeding after endoscopic sinus and nasal surgery.** *International forum of allergy & rhinology*
Khanwalkar, A., Chan, E., Roozdar, P., Kim, D., Ma, Y., Hwang, P. H., Nayak, J. V., Patel, Z. M.
2023

- **Fluorogenic reporter enables identification of compounds that inhibit SARS-CoV-2.** *Nature microbiology*
Yang, J., Xiao, Y., Lidsky, P. V., Wu, C., Bonser, L. R., Peng, S., Garcia-Knight, M. A., Tassetto, M., Chung, C., Li, X., Nakayama, T., Lee, I. T., Nayak, et al
2023; 8 (1): 121-134
- **SARS-CoV-2 replication in airway epithelia requires motile cilia and microvillar reprogramming.** *Cell*
Wu, C., Lidsky, P. V., Xiao, Y., Cheng, R., Lee, I. T., Nakayama, T., Jiang, S., He, W., Demeter, J., Knight, M. G., Turn, R. E., Rojas-Hernandez, L. S., Ye, et al
2022
- **High prevalence of persistent smell loss and qualitative smell dysfunction during the COVID-19 pandemic in the United States: urgent need for clinical trials.** *International forum of allergy & rhinology*
Lechner, M., Liu, J., Counsell, N., Yan, C. H., Paun, S., Eynon-Lewis, N., Sutton, L., Jayaraj, S., Batterham, R. L., Hopkins, C., Philpott, C., Lund, V. J., Hatter, et al
2022
- **Effect of dupilumab on Eustachian tube dysfunction in patients with chronic rhinosinusitis with nasal polyposis.** *International forum of allergy & rhinology*
Chang, M., Roozdar, P., Lin, Y. T., Lee, J. Y., Nayak, J. V., Patel, Z. M., Hwang, P. H.
2022
- **International Multicenter Study of Clinical Outcomes of Sinonasal Melanoma Shows Survival Benefit for Patients Treated with Immune Checkpoint Inhibitors and Potential Improvements to the Current TNM Staging System** *JOURNAL OF NEUROLOGICAL SURGERY PART B-SKULL BASE*
Lechner, M., Takahashi, Y., Turri-Zanoni, M., Ferrari, M., Liu, J., Counsell, N., Mattavelli, D., Rampinelli, V., Vermi, W., Lombardi, D., Saade, R., Park, K., Schartinger, et al
2022
- **Prospective intraoperative and histologic evaluation of cavernous sinus medial wall invasion by pituitary adenomas and its implications for acromegaly remission outcomes.** *Scientific reports*
Mohyeldin, A., Katznelson, L. J., Hoffman, A. R., Asmaro, K., Ahmadian, S. S., Eltobgy, M. M., Nayak, J. V., Patel, Z. M., Hwang, P. H., Fernandez-Miranda, J. C.
2022; 12 (1): 9919
- **Endoscopic Endonasal Approach for Suprasellar Mature Teratoma in Growing Teratoma Syndrome: 2-Dimensional Operative Video.** *Operative neurosurgery (Hagerstown, Md.)*
Vigo, V., Prolo, L. M., Nunez, M. A., Nayak, J. V., Fernandez-Miranda, J. C.
2022
- **In Response to Inferior Meatus Augmentation Procedure (IMAP) for Treatment of Empty Nose Syndrome.** *The Laryngoscope*
Chang, M. T., Nayak, J. V.
2022
- **Transplantation of Gene Edited Upper Airway Basal Stem Cells in Immunocompromised Mice Using Fibrinogen Based Scaffolds**
Vaidyanathan, S., Bravo, D. T., Desai, T. J., Porteus, M. H., Nayak, J. V.
CELL PRESS.2022: 407
- **Inferior Meatus Augmentation Procedure (IMAP) for Treatment of Empty Nose Syndrome.** *The Laryngoscope*
Chang, M. T., Bartho, M., Kim, D., Tsai, E. F., Yang, A., Dholakia, S. S., Khanwalkar, A., Rao, V. K., Thamboo, A., Lechner, M., Nayak, J. V.
1800
- **Deep learning classification of inverted papilloma malignant transformation using 3D convolutional neural networks and magnetic resonance imaging.** *International forum of allergy & rhinology*
Liu, G. S., Yang, A., Kim, D., Hojel, A., Voevodsky, D., Wang, J., Tong, C. C., Ungerer, H., Palmer, J. N., Kohanski, M. A., Nayak, J. V., Hwang, P. H., Adappa, et al
2022
- **Clinical outcomes, Kadish-INSICA staging and therapeutic targeting of somatostatin receptor 2 in olfactory neuroblastoma.** *European journal of cancer (Oxford, England : 1990)*
Lechner, M., Takahashi, Y., Turri-Zanoni, M., Liu, J., Counsell, N., Hermsen, M., Kaur, R. P., Zhao, T., Ramanathan, M. J., Schartinger, V. H., Emanuel, O., Helman, S., Varghese, et al
1800
- **Venous thromboembolism rates and risk factors following endoscopic skull base surgery.** *International forum of allergy & rhinology*

- Chang, M. T., Jitaroon, K., Song, S., Roozdar, P., Wangworat, Y., Ibrahim, N., Ma, Y., Rao, V. K., Chang, S. D., Fernandez-Miranda, J. C., Patel, Z. M., Dodd, R. L., Hwang, et al
2021
- **Comparison of endoscopic sinus surgery timing in lung transplant patients with cystic fibrosis.** *International forum of allergy & rhinology*
Johnson, J. R., Hwang, P. H., Nayak, J. V., Patel, Z. M.
2021
 - **Inflammatory molecular endotypes of nasal polyps derived from Caucasian and Japanese populations.** *The Journal of allergy and clinical immunology*
Nakayama, T., Lee, I. T., Le, W., Tsunemi, Y., Borchard, N. A., Zarabanda, D., Dholakia, S. S., Gall, P. A., Yang, A., Kim, D., Akutsu, M., Kashiwagi, T., Patel, et al
2021
 - **The Effect of Povidone-Iodine Nasal Spray on COVID-19 Nasopharyngeal Viral Load in Patients: A Randomized Control Trial.** *The Laryngoscope*
Zarabanda, D., Vukkadala, N., Phillips, K. M., Qian, Z. J., Mfuh, K. O., Hatter, M., Lee, I. T., Rao, V. K., Hwang, P. H., Domb, G., Patel, Z. M., Pinsky, B. A., Nayak, et al
2021
 - **Determinants of SARS-CoV-2 entry and replication in airway mucosal tissue and susceptibility in smokers.** *Cell reports. Medicine*
Nakayama, T., Lee, I. T., Jiang, S., Matter, M. S., Yan, C. H., Overvest, J. B., Wu, C., Goltsev, Y., Shih, L., Liao, C., Zhu, B., Bai, Y., Lidsky, et al
2021: 100421
 - **The Inferior Turbinate: Role in Normal Respiration and Airway Obstruction** *CURRENT OTORHINOLARYNGOLOGY REPORTS*
Thamboo, A., Ayoub, N., Maul, X., Nayak, J.
2021
 - **Ethacridine inhibits SARS-CoV-2 by inactivating viral particles.** *PLoS pathogens*
Li, X., Lidsky, P., Xiao, Y., Wu, C., Garcia-Knight, M., Yang, J., Nakayama, T., Nayak, J. V., Jackson, P. K., Andino, R., Shu, X.
2021; 17 (9): e1009898
 - **Assessment of Opioid Use and Analgesic Requirements After Endoscopic Sinus Surgery: A Randomized Clinical Trial.** *JAMA otolaryngology-- head & neck surgery*
Ayoub, N. F., Choby, G., Turner, J. H., Abuzeid, W. M., Raviv, J. R., Thamboo, A., Ma, Y., Chandra, R. K., Chowdhury, N. I., Stokken, J. K., O'Brien, E. K., Shah, S., Akbar, et al
2021
 - **Surgical approach is associated with complication rate in sinonasal malignancy: A multicenter study.** *International forum of allergy & rhinology*
Beswick, D. M., Hwang, P. H., Adappa, N. D., Le, C. H., Humphreys DO, I. M., Getz, A. E., Suh, J. D., Aasen, D. M., Abuzeid, W. M., Chang, E. H., Kaizer, A. M., Kindgom, T. T., Kohanski, et al
2021
 - **SARS-CoV-2 infects human pancreatic beta cells and elicits beta cell impairment.** *Cell metabolism*
Wu, C., Lidsky, P. V., Xiao, Y., Lee, I. T., Cheng, R., Nakayama, T., Jiang, S., Demeter, J., Bevacqua, R. J., Chang, C. A., Whitener, R. L., Stalder, A. K., Zhu, et al
2021
 - **Long-Term Outcomes of Inferior Meatus Augmentation Procedure to Treat Empty Nose Syndrome.** *The Laryngoscope*
Dholakia, S. S., Yang, A., Kim, D., Borchard, N. A., Chang, M. T., Khanwalkar, A., Lechner, M., Nayak, J. V.
2021
 - **Evaluating the Use of Fibrinogen Based Scaffolds to Transplant Airway Basal Stem Cells for the Treatment of Cystic Fibrosis**
Vaidyanathan, S., Bravo, D. T., Nayak, J. V., Porteus, M. H.
CELL PRESS.2021: 260-261
 - **SARS-CoV-2 entry factors are expressed in nasal, ocular, and oral tissues: implications for COVID-19 prophylaxes/therapeutics**
Lee, I., Nakayama, T., Jiang, S., Goltsev, Y., Schurch, C., Zhu, B., McIlwain, D., Chu, P., Chen, H., Tzankov, A., Matter, M., Nayak, J., Nolan, et al
MOSBY-ELSEVIER.2021: AB2
 - **The empty nose syndrome 6-item questionnaire (ENS6Q): a diagnostic tool to distinguish empty nose syndrome from primary nasal obstruction.** *International forum of allergy & rhinology*
Amanian, A., Hari, K., Habib, A., Dholakia, S. S., Nayak, J., Thamboo, A.

2021

- **Oral Corticosteroids Following Endoscopic Sinus Surgery for Chronic Rhinosinusitis Without Nasal Polyposis: A Randomized Clinical Trial.** *JAMA otolaryngology-- head & neck surgery*
Chang, M. T., Noel, J. n., Ayoub, N. F., Qian, Z. J., Dholakia, S. n., Nayak, J. V., Patel, Z. M., Hwang, P. H.
2021
- **Targeted replacement of full-length CFTR in human airway stem cells by CRISPR/Cas9 for pan-mutation correction in the endogenous locus.** *Molecular therapy : the journal of the American Society of Gene Therapy*
Vaidyanathan, S. n., Baik, R. n., Chen, L. n., Bravo, D. T., Suarez, C. J., Abazari, S. M., Salahudeen, A. A., Dudek, A. M., Teran, C. A., Davis, T. H., Lee, C. M., Bao, G. n., Randell, et al
2021
- **Inferior meatus augmentation procedure (IMAP) normalizes nasal airflow patterns in empty nose syndrome patients via computational fluid dynamics (CFD) modeling.** *International forum of allergy & rhinology*
Malik, J., Dholakia, S., Spector, B. M., Yang, A., Kim, D., Borchard, N. A., Thamboo, A., Zhao, K., Nayak, J. V.
2020
- **ACE2 localizes to the respiratory cilia and is not increased by ACE inhibitors or ARBs.** *Nature communications*
Lee, I. T., Nakayama, T., Wu, C., Goltsev, Y., Jiang, S., Gall, P. A., Liao, C., Shih, L., Schurch, C. M., McIlwain, D. R., Chu, P., Borchard, N. A., Zarabanda, et al
2020; 11 (1): 5453
- **Ethacridine inhibits SARS-CoV-2 by inactivating viral particles in cellular models.** *bioRxiv : the preprint server for biology*
Li, X., Lidsky, P., Xiao, Y., Wu, C. T., GarciaKnight, M., Yang, J., Nakayama, T., Nayak, J. V., Jackson, P. K., Andino, R., Shu, X.
2020
- **Outcomes in Treatment of Rhinosinusitis in the Setting of Medication Induced Immunosuppression.** *American journal of rhinology & allergy*
Alapati, R., Nayak, J. V., Hwang, P. H., Patel, Z. M.
2020: 1945892420947932
- **In Reply: Precautions for Endoscopic Transnasal Skull Base Surgery During the COVID-19 Pandemic** *NEUROSURGERY*
Patel, Z. M., Fernandez-Miranda, J., Hwang, P. H., Nayak, J. V., Dodd, R. L., Sajjadi, H., Jackler, R. K.
2020; 87 (2): E162–E163
- **Insertion of the CFTR cDNA in the Endogenous Locus in Airway Stem Cells Using CRISPR/Cas9 Restores CFTR Function to Wild-Type Levels in Differentiated Epithelia**
Vaidyanathan, S., Sellers, Z. M., Bravo, D. T., Le, W., Randell, S. H., Desai, T. J., Kuo, C. J., Nayak, J. V., Porteus, M. H.
CELL PRESS.2020: 569–70
- **In Reply: Precautions for Endoscopic Transnasal Skull Base Surgery During the COVID-19 Pandemic.** *Neurosurgery*
Patel, Z. M., Fernandez-Miranda, J., Hwang, P. H., Nayak, J. V., Dodd, R. L., Sajjadi, H., Jackler, R. K.
2020
- **Letter: Precautions for Endoscopic Transnasal Skull Base Surgery During the COVID-19 Pandemic.** *Neurosurgery*
Patel, Z. M., Fernandez-Miranda, J., Hwang, P. H., Nayak, J. V., Dodd, R., Sajjadi, H., Jackler, R. K.
2020
- **Endoscopic endonasal resection of a large tuberculoma sella meningioma.** *Neurosurgical focus: Video*
Mohyeldin, A., Nayak, J. V., Fernandez-Miranda, J. C.
2020; 2 (2): V3
- **Indications and Outcomes for Patients With Limited Symptoms Undergoing Endoscopic Sinus Surgery.** *American journal of rhinology & allergy*
Rahman, A. S., Hwang, P. H., Alapati, R., Lin, Y., Nayak, J. V., Patel, Z. M., Yan, C. H.
2020: 1945892420912159
- **Effect of Omega-3 Supplementation in Patients With Smell Dysfunction Following Endoscopic Sellar and Parasellar Tumor Resection: A Multicenter Prospective Randomized Controlled Trial.** *Neurosurgery*
Yan, C. H., Rathor, A., Krook, K., Ma, Y., Rotella, M. R., Dodd, R. L., Hwang, P. H., Nayak, J. V., Oyesiku, N. M., DelGaudio, J. M., Levy, J. M., Wise, J., Wise, et al
2020

- **The cotton test redistributes nasal airflow in patients with empty nose syndrome.** *International forum of allergy & rhinology*
Malik, J., Thamboo, A., Dholakia, S., Borchard, N. A., McGhee, S., Li, C., Zhao, K., Nayak, J. V.
2020
- **Inferior Meatus Augmentation Procedure (IMAP) to Treat Empty Nose Syndrome: A Pilot Study.** *Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery*
Thamboo, A., Dholakia, S. S., Borchard, N. A., Patel, V. S., Tangbumrungham, N., Velasquez, N., Huang, Z., Zarabanda, D., Nakayama, T., Nayak, J. V.
2020: 194599819900263
- **Hemodynamic changes in patients undergoing office-based sinus procedures under local anesthesia.** *International forum of allergy & rhinology*
Chang, M. T., Jitaroon, K. n., Nguyen, T. n., Yan, C. H., Overdevest, J. B., Nayak, J. V., Hwang, P. H., Patel, Z. M.
2020; 10 (1): 114–20
- **The Effect of Endoscopic Sinus Surgery on Eustachian Tube Dysfunction Symptoms.** *Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery*
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