Stanford

Michael Chang, MD

Assistant Professor of Otolaryngology - Head & Neck surgery (OHNS)

Otolaryngology (Head and Neck Surgery)

CLINICAL OFFICE (PRIMARY)

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Bio

BIO

Dr. Michael Chang is an Assistant Professor in the Department of Otolaryngology – Head & Neck Surgery at Stanford University School of Medicine. He graduated magna cum laude with honors in Neuroscience from Brown University and earned his medical degree from Yale University. He completed both his residency in Otolaryngology and his fellowship in Neuro-rhinology – Advanced Sinus & Skull Base Surgery at Stanford, where he was subsequently recruited to join the faculty.

Dr. Chang specializes in the treatment of nasal, sinus, and skull base disorders. He also leads a research lab focused on the application of artificial intelligence in surgery. His additional research interests include novel endoscopic imaging technologies, sinonasal cancer, and outcomes of surgical treatments for sinus and skull base disease. His work has received numerous research awards and has been published in high-impact journals. He regularly teaches on advancements in rhinology at national and international conferences.

Dr. Chang serves as Associate Program Director for Stanford's Rhinology Fellowship, helping to train future rhinologic surgeons. He is a member of the American Academy of Otolaryngology–Head and Neck Surgery, the North American Skull Base Society, and the American Rhinologic Society. He currently serves on the American Rhinology Society's Information Technology Committee.

CLINICAL FOCUS

- Otolaryngology
- Rhinology
- Allergy
- Skull Base

ACADEMIC APPOINTMENTS

- Assistant Professor-Univ Med Line, Otolaryngology (Head and Neck Surgery)

PROFESSIONAL EDUCATION

- Board Certification: Otolaryngology, American Board of Otolaryngology (2022)
- Fellowship, Stanford University , NeuroRhinology & Advanced Endoscopic Skull Base Surgery (2023)
- Residency, Stanford University , Otolaryngology - Head & Neck Surgery (2021)
- M.D., Yale University School of Medicine (2016)
- B.S., Brown University (2011)

LINKS

- Google Scholar: https://scholar.google.com/citations?user=bQLoD20AAAAJ

Research & Scholarship

CLINICAL TRIALS

- Perioperative Oral Steroids for Chronic Rhinosinusitis Without Polyps (CRSsNP), Not Recruiting

Teaching

STANFORD ADVISEES

Med Scholar Project Advisor

Jeffrey Huynh

Publications

PUBLICATIONS

- **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
- **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., Hooseinzadeh, F., Lee, C. K., Fernandez-Miranda, J., Hwang, P. H., Patel, Z. M., Nayak, J. V., Chang, M. T.
  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., Patel, Z. M., Hwang, P. H., Chang, M. T.
  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
- **Fluorescent guided surgery for sinonasal tumors** *MINI-INVASIVE SURGERY*
  Chang, M., Baik, F.
  2024; 8
- **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

- **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*
  Chang, M. T., Hosseini, D. K., Song, S. H., Nayak, J. V., Patel, Z. M., Lee, J. Y., Hwang, P. H.
  2020: 194599820917396
- **Update on long-term outcomes for chronic rhinosinusitis in cystic fibrosis.** *Current opinion in otolaryngology & head and neck surgery*
  Chang, M. T., Patel, Z. M.
  2019
- **Cryosurgical ablation for treatment of rhinitis: A prospective multicenter study.** *The Laryngoscope*
  Chang, M. T., Song, S. n., Hwang, P. H.
  2019
- **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
- **Feasibility of Automated Precharting using GPT-4 in New Specialty Referrals.** *AMIA Joint Summits on Translational Science proceedings. AMIA Joint Summits on Translational Science*
  Liang, A. S., Banda, J. M., Savage, T., Pandya, A., Carey, R., Megwalu, U. C., Chang, M. T., Dash, D., Corbin, C. K., Sharma, A., Thapa, R., Kotecha, N., Shah, et al
  2025; 2025: 312-321
- **Scoping review of deep learning research illuminates artificial intelligence chasm in otolaryngology-head and neck surgery.** *NPJ digital medicine*
  Liu, G. S., Fereydooni, S., Lee, M. C., Polkampally, S., Huynh, J., Kuchibhotla, S., Shah, M. M., Ayoub, N. F., Capasso, R., Chang, M. T., Doyle, P. C., Holsinger, F. C., Patel, et al
  2025; 8 (1): 265
- **Complications of Endonasal Odontoidectomy in Pediatric versus Adult Populations: A Systematic Review and Meta-Analysis.** *Journal of neurological surgery. Part B, Skull base*
  Kosaraju, N., Lee, C. K., Qian, Z. J., Fernandez-Miranda, J. C., Nayak, J. V., Chang, M. T.
  2025; 86 (1): 82-91
- **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
- **Feasibility of Automated Precharting using GPT-4 in New Specialty Referrals.** *AMIA Joint Summits on Translational Science proceedings. AMIA Joint Summits on Translational Science*

Liang, A. S., Banda, J. M., Savage, T., Pandya, A., Carey, R., Megwalu, U. C., Chang, M. T., Dash, D., Corbin, C. K., Sharma, A., Thapa, R., Kotecha, N., Shah, et al
2025; 2025: 312-321

- **Evaluating the quality and readability of ChatGPT-generated patient-facing medical information in rhinology.** *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*
  Fazilat, A. Z., Brenac, C., Kawamoto-Duran, D., Berry, C. E., Alyono, J., Chang, M. T., Liu, D. T., Patel, Z. M., Tringali, S., Wan, D. C., Fieux, M.
  2024
- **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
- **Stepwise Empty Nose Syndrome Evaluation (SENSE) test-A modified cotton test for reduced bias in office diagnosis of empty nose syndrome.** *International forum of allergy & rhinology*
  Levi, L., Yang, A., Tsai, E. F., Ma, Y., Ibrahim, N., Dholakia, S. S., Rao, V. K., Renteria, A., Cao, X., Chang, M. T., Nayak, J. V.
  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
- **Complications of Endonasal Odontoidectomy in Pediatric versus Adult Populations: A Systematic Review and Meta-Analysis** *JOURNAL OF NEUROLOGICAL SURGERY PART B-SKULL BASE*
  Kosaraju, N., Lee, C. K., Qian, Z., Fernandez-Miranda, J. C., Nayak, J. V., Chang, M. T.
  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.
  2024
- **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
- **An Exploratory Analysis of the Chronic Rhinosinusitis Online Support Community.** *OTO open*
  Ulloa, R., Tam, B., Orozco, F. R., Castellanos, C. X., Chang, M. T., Hur, K.
  2023; 7 (4): e88
- **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
- **International consensus statement on allergy and rhinology: Sinonasal tumors.** *International forum of allergy & rhinology*
  Kuan, E. C., Wang, E. W., Adappa, N. D., Beswick, D. M., London, N. R., Su, S. Y., Wang, M. B., Abuzeid, W. M., Alexiev, B., Alt, J. A., Antognoni, P., Alonso-Basanta, M., Batra, et al
  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
- **Environmental Risk Factors for Pediatric Epistaxis vary by Climate Zone.** *The Laryngoscope*
  Wei, E. X., Green, A., Chang, M. T., Hwang, P. H., Sidell, D. R., Qian, Z. J.
  2023

- **In Response to Social Media Utilization in Otolaryngology: A Scoping Review.** *The Laryngoscope*
  Huang, A. E., Chang, M. T.
  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
- **Social Media Utilization in Otolaryngology: A Scoping Review.** *The Laryngoscope*
  Huang, A. E., Chan, E. P., Stave, C. M., Patel, Z. M., Hwang, P. H., Chang, M. T.
  2023
- **Rhinolithiasis misdiagnosed as intranasal osteoma: Diagnostic challenges in the telehealth era.** *SAGE open medical case reports*
  Kiessling, P., Hwang, P., Chang, M.
  2023; 11: 2050313X231207204
- **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
- **Novel Therapies in Olfactory Disorders** *CURRENT OTORHINOLARYNGOLOGY REPORTS*
  Chang, M. T., Patel, Z. M.
  2022: 1-6
- **In Response to Inferior Meatus Augmentation Procedure (IMAP) for Treatment of Empty Nose Syndrome.** *The Laryngoscope*
  Chang, M. T., Nayak, J. V.
  2022
- **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
- **The Nasal Vestibular Body and Its Role in Nasal Obstruction** *CURRENT OTORHINOLARYNGOLOGY REPORTS*
  Yang, A., Kim, D., Tsai, E., Chang, M. T., Low, C. M., Ibrahim, N.
  2022
- **Implementation of a Standardized Perioperative Pain Management Protocol to Reduce Opioid Prescriptions in Otolaryngologic Surgery.** *Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery*
  Chang, M. T., Lalakea, M. L., Shepard, K., Saste, M., Munoz, A., Amoils, M.
  1800: 1945998211071116
- **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
- **Challenging our assumptions: oral corticosteroids and chronic rhinosinusitis without nasal polyposis.** *International forum of allergy & rhinology*
  Chang, M. T., Hwang, P. H.
  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
- **Sinonasal Ewing sarcoma misdiagnosed as recurrent glomangiopericytoma: Case report and literature review** *Otolaryngology Case Reports*
  Huang, A. E., Hwang, P. H., Lin, J. H., Chang, M. T.

2021; 21: 100369

- **International Consensus Statement on Rhinology and Allergy: Rhinosinusitis.** *International forum of allergy & rhinology*
  Orlandi, R. R., Kingdom, T. T., Smith, T. L., Bleier, B., DeConde, A., Luong, A., Poetker, D. M., Soler, Z., Welch, K. C., Wise, S. K., Adappa, N., Alt, J. A., Anselmo-Lima, et al
  2020
- **Retrograde parotidectomy under local anesthesia for benign, malignant, and inflammatory lesions.** *American journal of otolaryngology*
  Chang, M., Coughran, A., Lee, Y., Collins, J., Sirjani, D.
  2019
- **Operative Management of Vocal Fold Avulsion Following Pediatric Laryngotracheal Separation.** *Ear, nose, & throat journal*
  Chang, M. T., Schoppy, D. W., Schoppy, K. K., Sidell, D. R.
  2019: 145561319866821
- **The 50 Most Cited Articles in Facial Plastic Surgery.** *Aesthetic plastic surgery*
  Chang, M. T., Schwam, Z. G., Schutt, C. A., Kamen, E. M., Paskhover, B.
  2017; 41 (5): 1202-1207
- **Clinical and molecular insights into adenoid cystic carcinoma: Neural crest-like stemness as a target.** *Laryngoscope investigative otolaryngology*
  Yarbrough, W. G., Panaccione, A., Chang, M. T., Ivanov, S. V.
  2016; 1 (4): 60-77
- **NOTCH1 and SOX10 are Essential for Proliferation and Radiation Resistance of Cancer Stem-Like Cells in Adenoid Cystic Carcinoma.** *Clinical cancer research : an official journal of the American Association for Cancer Research*
  Panaccione, A., Chang, M. T., Carbone, B. E., Guo, Y., Moskaluk, C. A., Virk, R. K., Chiriboga, L., Prasad, M. L., Judson, B., Mehra, S., Yarbrough, W. G., Ivanov, S. V.
  2016; 22 (8): 2083-95
- **Severe epistaxis due to aberrant vasculature in a patient with STAT-1 mutation.** *Head & neck*
  Chang, M. T., Schwam, Z. G., Hajek, M. A., Paskhover, B., Judson, B. L.
  2016; 38 (3): E68-70
- **Applications of 3-Dimensional Printing in Facial Plastic Surgery.** *Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons*
  Schwam, Z. G., Chang, M. T., Barnes, M. A., Paskhover, B.
  2016; 74 (3): 427-8
- **High rate of bilaterality in internal auditory canal metastases.** *American journal of otolaryngology*
  Chang, M. T., Michaelides, E. M.
  2015; 36 (6): 798-804
- **Quantifying interhospital patient sharing as a mechanism for infectious disease spread.** *Infection control and hospital epidemiology*
  Huang, S. S., Avery, T. R., Song, Y., Elkins, K. R., Nguyen, C. C., Nutter, S. K., Nafday, A. A., Condon, C. J., Chang, M. T., Chrest, D., Boos, J., Bobashev, G., Wheaton, et al
  2010; 31 (11): 1160-9