Dante J. Merlino, MD, PhD
Visiting Assistant Professor, Otolaryngology – Head and Neck Surgery
University of Illinois Chicago
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Education

July 2025 – July 2026
Hospital of the University of Pennsylvania, Philadelphia PA
Fellow, Head and Neck Surgical Oncology, Microvascular Reconstruction, and Robotic Surgery

July 2020 – June 2025
Mayo Clinic, Rochester MN
Resident Physician, Otorhinolaryngology – Head and Neck Surgery

July 2011 – May 2020
Thomas Jefferson University, Philadelphia, PA
PhD in Neuroscience, June 2018; MD, May 2020

2007 - 2011
Wake Forest University, Winston-Salem, NC
B.S. in Biology
Magna Cum Laude

Academic Appointments

University of Illinois Chicago, Chicago, IL
Visiting Assistant Professor, Department of Otolaryngology – Head and Neck Surgery August 2026 – Present
Subspecialty: Head and Neck.

Honors and Awards

Pre Doctoral Grant Awards

NIH (1F30DK103492-01A1). Obesity Suppresses the GUCY2C endocrine Gut-Brain Axis Disrupting Satiety. DC: $90,408. 6/15-6/17.

PhRMA Foundation (Pre Doctoral Fellowship in Pharmacology/Toxicology). Investigation of the Neuroprotective Effects of Guanylyl Cyclase C. DC: $20,000. 01/15-01/16.

Other Grant Awards

Mayo Clinic Otolaryngology – Head and Neck Surgery Research Executive Committee Funding Award: Department of Otolaryngology HPV Vaccination Feasibility Study DC: $1,030. 12/9/2021.

Mayo Clinic Otolaryngology – Head and Neck Surgery Spring Funding RFA. Prospective assessment of HPV associated anogenital pathology in female patients and female partners of patients with confirmed HPV associated oropharyngeal carcinoma (PAP-OP Trial). DC: $25,436. 04/01/2022.

Penn Medicine Quality & Safety Award — Honorable Mention April 2026

CCA Honorable Mention, 2025 Penn Medicine Quality & Safety Award (Corporate Quality & Safety). Project: *Standardizing Surgical Consenting and Scheduling*.

Mayo Clinic Otolaryngology Research Day

First place, poster presentations May 2021
Second place, oral presentations May 2023

Alpha Omega Alpha Honor Medical Society
Junior inductee — March 2019

Hobart Amory Hare Honor Medical Society — May 2013
Awarded to students earning academic honors in all parts of Foundations of Clinical Medicine.

Brubaker Physiology Award — Spring 2012
Awarded to students with physiology final grades above 97%.

TJU Dubbs Scholar Fellowship Award — 2011-2020
Full scholarship and stipend awarded to 5 incoming MD/PhD students per year.

Peer-Reviewed Publications

Aladetan AA, **Merlino DJ**, Vallecillo TG, Gu B, Carducci V, Romero-Brufau S. (2026) Evaluation of otolaryngology provider bias in portal messaging. *Oral Oncology*, 176, 107921; DOI: 10.1016/j.oraloncology.2026.107921.

Merlino DJ, Rourk KS, Sankar GB, Luginbuhl AJ, Boyce BJ, Chen MM, Dowling EM, Topf MC, Chai RL, Rajasekaran K, Moore EJ, Price DJ, Saieed G, Van Abel KM. (2025) Otolaryngology practitioner attitudes toward human papillomavirus vaccination in academic otolaryngology clinics. *Oral Oncology Reports*, 1(13), 100722; DOI: 10.1016/j.oor.2025.100722.

Merlino DJ, Brufau SR, Saieed G, Van Abel KM, Price DL, Archibald DJ, Ator GA, Carlson ML. (2025) Comparative assessment of otolaryngology knowledge among large language models. *The Laryngoscope*, 135(2), 629-34; DOI: 10.1002/lary.31781.

Thedinger WB, Dornhoffer JR, **Merlino DJ**, Lane JI, Carlson ML, Kircher ML. (2024) Cochlear implantation in patients with osteolytic labyrinthitis: a case series. *Otology & Neurotology*, 45(5), e406-10; DOI: 10.1097/MAO.0000000000004193.

Merlino DJ, Peraza LR, Sankar GB, Vander Wert CJ, Calcano GA, Yin LX, Moore EJ, Howlett L, Van Abel KM, Morris JM. (2023) The masticator space in 3 dimensions: combining radiographic imaging, peer-reviewed literature, and medical illustration to create an anatomically-accurate digital model. *Operative Techniques in Otolaryngology-Head and Neck Surgery*, 4(34), 236-249; DOI: 10.1016/j.otot.2023.09.018.

Merlino DJ, Vander Wert CJ, Peraza LR, Sankar GB, Yin LX, Moore EJ, Palacios VJ, Morris JM, Van Abel KM. (2023) The pharynx in three dimensions: a digital anatomical model derived from radiology, peer-reviewed literature, and medical illustration. *Operative Techniques in Otolaryngology-Head and Neck Surgery*, 4(34), 250-262; DOI: 10.1016/j.otot.2023.09.019.

Peraza LR, **Merlino DJ**, Sankar GB, Nwaiwu V, Vander Wert CJ, Yin LX, Moore EJ, Van Abel KM, Morris JM. (2023) The parotid gland, submandibular gland, and facial nerve in 3 dimensions: A digital anatomical model derived from radiology, peer-reviewed literature, and medical illustration. *Operative Techniques in Otolaryngology-Head and Neck Surgery*, 4(34), 220-235; DOI: 10.1016/j.otot.2023.09.017.

Merlino DJ, Silver CM, Yin LX, Carlson ML, Morris JM, Van Abel KM, Tasche KK (2023). Head and neck 3D cadaveric and digital atlas. *Operative Techniques in Otolaryngology-Head and Neck Surgery*, 4(34), 199-200; DOI: 10.1016/j.otot.2023.09.021.

Sankar GB*, **Merlino DJ***, Vander Wert CJ, Van Abel KM, Peraza LR, Yin LX, Moore EJ, Morris JM, Bayan SL (2023). The larynx in 3 dimensions: A digital anatomical model derived from radiographic imaging, refined with peer-reviewed literature, and optimized with medical illustration. *Operative Techniques in Otolaryngology-Head and Neck Surgery*, 4(34), 263-280; DOI: 10.1016/j.otot.2023.09.020.

Merlino DJ, Vander Wert CJ, Peraza LR, Howlett L, Yin LX, Moore EJ, … & Van Abel KM. (2022) The oral tongue and floor of mouth in three dimensions (3D): A digital anatomical model derived from radiology, peer-reviewed literature, and medical illustration. *Operative Techniques in Otolaryngology-Head and Neck Surgery*, 4(33), 259-271; DOI: 10.1016/j.otot.2022.10.006.

Merlino DJ, Vander Wert CJ, Sauer AB, Yin LX, Moore EJ, Morris JM, & Van Abel KM. (2022) Detailed 3-dimensional surgical anatomy of the soft palate: a confluence of anatomy, radiology, and medical illustration. *Operative Techniques in Otolaryngology-Head and Neck Surgery*, 4(33), 272-280; DOI: 10.1016/j.otot.2022.10.007.

Silver CM, **Merlino DJ**, Yin LX, Carlson ML, Morris JM, Patel NS, … & Tasche KK. (2022) Introduction: Creating a 3D cadaveric and digital atlas. *Operative Techniques in Otolaryngology-Head and Neck Surgery*; 4(33), 225-227; DOI: 10.1016/j.otot.2022.10.001.

Palacios VJ*, **Merlino DJ***, Anderson SS, Yeakel SR, Choby GGW, Wiedermann, JP, … & Van Abel KM (2023) Feasibility of Instituting a Clinical Otolaryngology Human Papillomavirus (HPV) Vaccination Program. *The Laryngoscope*, 1(133), 116-123; DOI: 10.1002/lary.30130.

Merlino DJ, Johnson JM, Tuluc M, Gargano S, Stapp R, Harshyne Jr L, Leiby BE, Flanders A, Zinner R, Axelrod R and Curry J. (2020) Discordant responses between primary head and neck tumors and nodal metastases treated with neoadjuvant nivolumab: correlation of radiographic and pathologic treatment effect. *Frontiers in oncology*, PMID: 33344227; DOI: 10.3389/fonc.2020.566315.

Merlino DJ, Barton J, Charsar BA, Rappaport JA, Lepore AC, Snook AE, Waldman SA. (2019) Two distinct GUCY2C circuits with PMV (hypothalamic) and SN/VTA (midbrain) origin. *Brain structure and function*, DOI: 10.1007/s00429-019-01949-y.

Stem J, Flickinger J, **Merlino DJ**, Caparosa E, Snook AE, Waldman SA. (2019) Therapeutic targeting of gastrointestinal cancer stem cells. *Regenerative medicine*, 14(3), 331-343.

Bashir B, **Merlino DJ**, Rappaport JA, Gnass ED, Palazzo JP, Ying F, Fearon ER, Snook AE, Waldman SA. (2019) Silencing the GUCA2A-GUCY2C tumor suppressor axis in CIN, serrated and MSI colorectal neoplasia. *Human Pathology*, 87, 103-114.

Lin A, Xiang B, **Merlino DJ**, Baybutt TR, Sahu J, Fridman A, Snook AE, Miller V. (2018) Non-thermal plasma induces immunogenic cell death *in vivo* in murine CT26 colorectal tumors. *Oncoimmunology*, 7(9), p.e1484978.

Kim GW, Lin JE, Snook AE, Aing AS, **Merlino DJ**, Li P, Waldman SA. (2016) Calorie-induced ER stress suppresses uroguanylin satiety signaling in diet-induced obesity. *Nutrition & diabetes*, 6(5), e211.

Blomain ES, **Merlino DJ**, Pattison AM, Snook AE, Waldman SA. (2016) GUCY2C hormone axis at the intersection of obesity and colorectal cancer. *Molecular pharmacology*, 90(3), 199-204.

Pattison AM, Blomain ES, **Merlino DJ**, Wang F, Crissey MAS, Kraft CL, … Waldman SA. (2016) Intestinal enteroids model guanylate cyclase C-dependent secretion induced by heat-stable enterotoxins. *Infection and Immunity*, 84(10), 3083-3091.

Pattison AM, **Merlino DJ**, Blomain ES, Waldman SA. (2016) Guanylyl cyclase C signaling axis and colon cancer prevention. *World Journal of Gastroenterology*, 22(36), 8070-7; DOI: 10.3748/wjg.v22.i36.8070.

Merlino DJ, Blomain ES, Aing AS, Waldman SA. (2014) Gut-brain endocrine axes in weight regulation and obesity pharmacotherapy. *Journal of Clinical Medicine*, 3(3), 763-794.

Marszalowicz GP, Snook AE, Magee MS, **Merlino DJ**, Berman-Booty LD, Waldman SA. (2014) GUCY2C lysosomotropic endocytosis delivers immunotoxin therapy to metastatic colorectal cancer. *Oncotarget*, 5(19), 9460-9471.

Presentations

National Presentations

Merlino DJ, Pierce C, Elahi A, Sridhara S, Cannady SB. (2026) Agent Factory: building the healthcare helpers of the future. Epic Users Group Meeting (UGM), Verona, WI, August 19, 2026.

Farber NI, Polen K, Arrighi-Allisan A, Shah K, Le KB, Faltas K, Uddanti A, Rajasekaran K, Basu D, Rassekh CH, Chalian AA, Cannady SB, Farwell G, Weinstein GS, Carey R, Brody R, Merlino DJ. (2026) Validating the use of artificial intelligence in electronic medical record data abstraction for head and neck cancer patients. Oral presentation S011, American Head and Neck Society 12th International Conference on Head and Neck Cancer, Boston, MA, July 19, 2026.

Merlino DJ. AI infrastructure for research & outcomes — building institutional intelligence. Invited panelist and speaker, AI in Head & Neck Surgery & Oncology pre-meeting course, American Head and Neck Society 12th International Conference on Head and Neck Cancer, Boston, MA, July 18, 2026.

Merlino DJ, Gnidovec MB, Sankar GB, Haller TJ, Wallerius KP, Douse DM … & Van Abel, KM. (2023) Vaccination against human papillomavirus in otolaryngology clinics: factors influencing provider comfort and willingness to offer point-of-care vaccination. American Head and Neck Society International Conference on Head and Neck Cancer, Montreal CA.

Regional Presentations

Merlino DJ, Wiedermann J, and Van Abel KM. (2023) HPV vaccination in otolaryngology clinics: a study of feasibility, potential impact, and provider sentiment. Minnesota Academy of Otolaryngology Annual Meeting, 01/21/23, Bloomington MN.

Institutional Presentations

Merlino DJ, Blackwell J, Farwell GS, Cannady SB. (2026) Automated multi-model AI consensus system for surgical laterality verification in otolaryngology. Poster session presented at: Penn AI in Medicine Conference, 04/17/26, Philadelphia PA.

Merlino DJ. The Scientific Method: What it is, what it's not, and how to use it to advance medicine. Mayo Clinic Otolaryngology Summer URiM Program, 6/9/23, Rochester MN.

Merlino DJ, Wiedermann J, and Van Abel KM. Vaccination against human papillomavirus in otolaryngology clinics: factors influencing provider comfort and willingness to offer point-of-care vaccination. Mayo Clinic Otolaryngology Resident Research Day, 5/12/23, Rochester MN. Awarded second prize among oral presentations.

Merlino DJ. Postoperative fluid management in free flap reconstruction. Mayo Clinic Otolaryngology Grand Rounds, Rochester MN, 4/17/23.

Merlino DJ. Intelligence unbound: The emergence of artificial intelligence in medicine. Mayo Clinic Otolaryngology Grand Rounds, Rochester MN, 2/6/23.

Merlino DJ. HPV in oropharyngeal cancer: where we've been, where we're going, and how to make a difference. Mayo Clinic Oral Health Grand Rounds, 9/6/22.

Merlino DJ. The Scientific Method: What it is, what it's not, and how to use it to advance medicine. Mayo Clinic Otolaryngology Summer URiM Program, 6/8/22.

Merlino DJ. Surgical management of cutaneous melanoma of the head and neck. Mayo Clinic Otolaryngology Grand Rounds, 5/2/22.

Merlino DJ. The Scientific Method: What it is, what it's not, and how to use it to advance medicine. Mayo Clinic Otolaryngology Summer URiM Program, 6/11/21.

Merlino DJ, Morris JM, Vander Wert C, Yin LX, Knoepke R, and Van Abel KM. (2021) Detailed 3-dimensional surgical anatomy of the soft palate: a confluence of anatomy, radiology, and medical illustration. Poster session presented at: Mayo Clinic Otolaryngology resident research day, 05/14/21. **Awarded first prize for best poster presentation.**

Merlino DJ, Charsar BA, Snook AE, Waldman SA. (2018) GUCY2C in distinct circuits in hypothalamus and midbrain. Poster session presented at: Sigma Xi Student Research Day at Thomas Jefferson University; 2018 April 10; Philadelphia, PA.

Merlino DJ, Kim GW, Waldman, SA. (2017) Gut-brain neuroendocrine signaling mediated by hypothalamic GUCY2C. Poster session presented at: Sigma Xi Student Research Day at Thomas Jefferson University; 2017 March 22; Philadelphia, PA.

Merlino DJ, Lin JE, Kim GW, Waldman, SA. (2014) An unexpected role for the intestinal tumor suppressor guanylyl cyclase C in neuroprotection. Poster session presented at: Sigma Xi Student Research Day at Thomas Jefferson University; 2014 April 2; Philadelphia, PA.

Merlino DJ, Benovic JL. (2012) G protein-coupled receptor kinase 2 binds and phosphorylates the nuclear protein, nucleophosmin. Poster session presented at: 3rd Annual Thomas Jefferson University MD/PhD Scholars Retreat; 2012 October 13; Philadelphia, PA.

Merlino DJ, Waldman SA. (2011) Guanylyl cyclase C is constitutively internalized and colocalizes with lysosomes *in vitro*. Poster session presented at: 2nd Annual Thomas Jefferson University MD/PhD Scholars Retreat; 2011 October 15; Philadelphia, PA.

Video Presentations

Merlino DJ, Goates A, and Price DL. Total Laryngectomy. Published on Headmirror.com

Book Chapters

Van Abel KM, **Merlino DJ**, Moore EJ. (2023) Chapter 96: Surgical Therapy of Oropharyngeal Cancer, In Cummings Otolaryngology 8e, Elsevier Health Sciences. Accepted.

Snook AE, Blomain ES, Aing AS, **Merlino DJ**, Waldman SA. (2016) Guanylyl Cyclase Receptors, In Encyclopedia of Cell Biology, edited by Ralph A. Bradshaw and Philip D. Stahl, Academic Press, Waltham, 2016, Pages 56-60, ISBN 9780123947963, DOI: 10.1016/B978-0-12-394447-4.30005-0.

Mentorship and Teaching

Mayo Clinic

Resident mentor, **Otolaryngology Summer Research Education Program (SREP)** May 2023-July 2025

Served as a formal one-on-one resident mentor to an undergraduate researcher participating in the Mayo Clinic Otolaryngology SREP. Worked with the undergraduate researcher to develop, plan, and execute a summer research project, present the project, and design and submit an application for regional and national conferences. Specifically, worked one-on-one with Amira Aladetan to investigate the role of patient portal messaging in potential provider bias, as well as to investigate the most common patient message types, concerns, and questions seen in patient portal messaging.

Mentored students:

Amira Aladetan (2023) – Carlton University class of 2024, applying to medical school this cycle; met weekly to discuss project progress, conference presentations, and manuscript preparation.

George Sankar (2023) – Former Mayo Clinic Otolaryngology Research Fellow, current otolaryngology resident at the University of Minnesota; mentored on 3D head and neck anatomy project, Pap-OP clinical trial, and HPV vaccination initiative.

Victoria Palacios (2021) - University of Nevada, Reno School of Medicine Class of 2024, current Pediatrics resident at Stanford Medicine; worked on HPV vaccination in otolaryngology clinics.

Research Experience

Mayo Clinic

Resident representative, Department of Otolaryngology April 2023-July 2025

Otolaryngology Innovation Group

Worked with departmental leadership and Division of Artificial Intelligence and machine learning to develop and implement innovative strategies that improve research efficiency and automate tasks.

Project manager, Department of Otolaryngology August 2022-July 2025

Initiation of HPV vaccination program in otolaryngology clinics

Coordinated with providers, nursing staff, business administrators, scheduling staff, clinical informatics team members, to launch HPV vaccination initiative within Otolaryngology clinics. Regularly met with members from all teams to ensure that project is meeting deadlines, that regulatory documentation has been filed, and that providers, nurses, and all others involved in patient care are aware of the initiative and understand the workflow. To date, have vaccinated over 10 patients.

Co-principal investigator, Department of Otolaryngology May 2022-July 2025

Prospective assessment of HPV associated anogenital pathology in female patients and female partners of patients with confirmed HPV associated oropharyngeal carcinoma

Procured funding, developed protocols, and coordinated with research coordinators and providers from Otolaryngology, Medical Oncology, Radiation Oncology, and Gynecology to help enroll patients in a prospective clinical trial. Participated in weekly meetings to evaluate accrual data. To date, have accrued over 70 patients.

Co-founder, Departments of Otolaryngology and Neuroradiology May 2021-November 2023

Three-Dimensional Head and Neck Anatomy

With three other co-founders in Otolaryngology, Neuroradiology, and Medical Illustration, designed an anatomically accurate head and neck model incorporating relevant musculature, neurovascular structures, mucosal surface anatomy, and bony anatomy. Developed virtual reality, augmented reality, and printed 3D models for education and training.

Thomas Jefferson University

Medical student researcher, Department of Otolaryngology

In collaboration with Dr. Adam Luginbuhl, MD December 2018-June 2020

In patients with HNSCC undergoing neoadjuvant PD-1 inhibition with nivolumab, investigated whether changes in tumor volume measured by CT accurately represented treatment effect quantified by pathological analysis. (associated with clinical trial NCT03238365).

Graduate student researcher, Department of Pharmacology and Experimental Therapeutics

Laboratory of Scott Waldman, MD, PhD July 2013-July 2018

Investigated the role of guanylyl cyclase C (GUCY2C) as a regulator of appetite, neuronal injury, and recovery from injury in the hypothalamus. Using western blot analysis, immunofluorescence microscopy, qRT-PCR, and functional assays, mapped the localization of GUCY2C in the central nervous system. Utilizing ablation and tracing studies, determined the source of GUCY2C neuronal projections, to define the hypothalamic and midbrain GUCY2C circuitry. Determined whether addition of exogenous GUCY2C ligand affects consumption of calories or degree of injury in mice fed a high-fat diet.

Leadership and Volunteer Experience

Mayo Clinic

Clinical Practice Committee, Mayo Clinic Department of Otolaryngology

Resident representative July 2023-July 2024

Participate in monthly meetings with Department of Otolaryngology leadership, to discuss ways to improve the Department, adapt to enterprise-wide changes, and anticipate coming challenges. Communicate any major changes, recommendations, and concerns to the rest of the residency program.

American Cancer Society

HPV Roundtable, American Cancer Society

Mayo Clinic Representative August 2023-July 2025

Along with two other attending physicians, represent Mayo Clinic within the multidisciplinary committee organized by the American Cancer Society. Participate in quarterly meetings to discuss strategies for increasing HPV vaccination.

Thomas Jefferson University

Alpha Omega Alpha Honor Medical Society

Co-chair, AOA Mentors Program July 2019-June 2020

Coordinate one-on-one mentorships between MS4s and MS3s via development, distribution, and analysis of surveys, as well as student outreach. Compile list of "common MS3 questions" and offer guidance to MS4s requesting assistance with mentorship. Serve as a mentor for numerous SKMC MS3 students.

Committee member, AOA Tutors July 2019-June 2020

Helped connect students requesting tutoring assistance with AOA members available to serve as tutors. Serve as a tutor for SKMC MS1, MS2, and MS3 students.

Committee member, AOA Step 1 & 2 Panel July 2019-June 2020

Helped organize and schedule a panel discussion for SKMC MS1, MS2, and MS3 students to discuss study strategies, resource utilization, and time management skills for the USMLE Step 1 and Step 2 examinations.

Jefferson Physician Scientist Association

Vice President of Recruitment June 2013- August 2015

Developed and organized interview days for prospective MD/PhD students, including managing campus tours, scheduling applicant dinners, and selecting student interviewers. Reviewed student interview evaluations and represented students on admissions committees.

Work Experience

Sidney Kimmel Medical College at Thomas Jefferson University, Philadelphia PA

Teaching Assistant, USMLE Step 1 Prep; IDeA Program Summer 2017

Helped develop and implement the inaugural intensive medical school "crash course" for Princeton students accepted to the SKMC IDeA program. Taught clinical anatomy and physiology of multiple organ systems in the context of the USMLE Step 1 exam. Also trained subsequent teaching assistants working in the same role.

Wake Forest University Learning Assistance Center, Winston-Salem NC

Biology, Chemistry, and Physics Tutor November 2008-May 2011

Developed communication and training skills while tutoring other Wake Forest University undergraduate students in Cell Biology, Genetics, and introductory Physics classes, leading both individual and group tutoring.