

Icahn School of Medicine at Mount Sinai
Department of Otolaryngology–Head and Neck Surgery

Outcomes and Performance | 2012



**Mount
Sinai**

Department of Otolaryngology–Head and Neck Surgery

The Mount Sinai Medical Center
One Gustave L. Levy Place, Box 1189
New York, NY 10029-6574



**Mount
Sinai**

Icahn School of Medicine at Mount Sinai | Department of Otolaryngology–Head and Neck Surgery

Outcomes and Performance 2012

Mission Statement

Mount Sinai's mission is to advance medicine through unrivaled education, research and clinical care in order to provide exceptional experiences and outcomes to patients locally and globally.

Table of Contents

2	A Message from the Dean
3	A Message from the Chairman
4	The Department of Otolaryngology–Head and Neck Surgery Practice Sites
5	Outcomes and Performance
5	Why Are Patient Outcomes So Important?
6	The Patient Experience
8	Department Volume and Growth
11	Head and Neck Oncology—The Multidisciplinary Head, Neck, and Thyroid Center
17	The Grabscheid Voice Center
21	The Sinus and Rhinology Program
24	The Otology and Neurotology—The Hearing and Balance Center
26	Pediatric Otolaryngology
27	Speech, Language, and Swallowing Program
28	Translational Research and Clinical Trials
30	Basic Science Research
35	Philanthropy and Development
36	Publications and New Books
37	Faculty Publications, 2012
40	Resident and Fellowship Scholarships, 2012
42	Innovative Programs
44	Mount Sinai's Tradition of Ear, Nose, and Throat Surgery
45	Faculty and Clinical Specialists
46	Practice Locations
47	Patient Referral

This material and more information on The Department of Otolaryngology–Head and Neck Surgery can be found at www.mountsinai.org/ent



A Message from the Dean

The Department of Otolaryngology–Head and Neck Surgery enjoys a longstanding tradition of excellence, since its founding under Dr. Emil Gruening 130 years ago, to its current visionary growth under the leadership of Eric M. Genden, MD, Professor and Chairman of Otolaryngology and Chief of the Division of Head and Neck Oncology.

The Department ranks among the top 20 programs by *U.S. News & World Report* and in 2012, its renowned researchers consistently received funding from the National Institutes of Health and other sources. Recently, the program has experienced tremendous and strategic growth in several key areas, including head and neck oncology and translational research. As thought leaders in their areas, the faculty of the oncology division regularly contributes original research to high-impact journals, including the *Journal of the American Medical Association*, *Journal of Clinical Oncology*, and *Cancer*.

The Department's surgeons are pioneers in a range of areas, including transoral robotic surgery; a procedure that offers greatly improved outcomes and reduced recovery times for patients with challenging tumors. In 2010, Dr. Genden and his team offered the nation's first course on head and neck robotic surgery attracting participants from across the country. As described in these pages, the divisions of laryngology, otology, and rhinology have also expanded their multidisciplinary programs in unique areas such as sialendoscopy, office-based laser therapy for disorders of the voice, and endoscopic skull base surgery.

It is my pleasure to share with you the accomplishments of this outstanding Department, one that exemplifies Mount Sinai's mission to advance biomedical research, drive clinical improvements, and accelerate medical innovation.

A handwritten signature in black ink that reads "Dennis".

Dennis S. Charney, MD

*Anne and Joel Eherenkranz Dean, Icahn School of Medicine at Mount Sinai
Executive Vice President for Academic Affairs, The Mount Sinai Medical Center*

A Message from the Chairman



The Mount Sinai School of Medicine, Department of Otolaryngology Head and Neck Surgery offers a unique division, Clinical Outcomes and Performance. The mission of this division is to engage the department faculty, staff, and trainees in a variety of programs designed to improve patient outcomes and physician performance. *The Fast Track Referral System* and *The Patient First Program* are two examples of progressive programs designed to improve patient care, optimize outcomes, and in turn responsibly manage the costs of health care.

This report is designed as a tool to evaluate our performance and inspire new programs to improve our outcomes. I hope that you will find this information useful in understanding the programs and care that Mount Sinai is dedicated to providing for our patients.

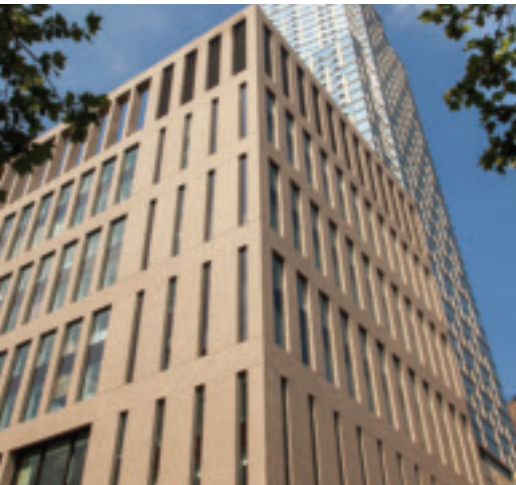
A handwritten signature in black ink, reading "Eric M. Genden". The signature is written in a cursive style and ends with a long horizontal flourish.

Eric M. Genden, MD, FACS
Professor and Chairman
Department of Otolaryngology-Head and Neck Surgery
Professor of Neurosurgery and Immunology

The Department of Otolaryngology–Head and Neck Surgery Practice Sites

Faculty, residents, and fellows of the Department of Otolaryngology–Head and Neck Surgery practice at seven practice sites including:

- 1 The Mount Sinai Medical Center, Manhattan
- 2 The Elmhurst Hospital, Elmhurst, Queens
- 3 James J. Peters Veterans Hospital, Bronx
- 4 Queens Hospital, Queens
- 5 North Shore Medical Group, Huntington, Long Island
- 6 Richmond University Hospital, Staten Island
- 7 St. Barnabas Hospital, Bronx



Situated between New York City's affluent Upper East Side and East Harlem, Mount Sinai serves one of the most diverse patient populations in the world. It is a critical safety-net hospital for many in need, while at the same time leading in world-class translational research.



Outcomes and Performance

Why Are Patient Outcomes So Important?

Our goal is to achieve excellence in patient care. Measuring outcomes and performance provides important information to recognize areas of exemplary achievement and identify those that require attention and improvement.

At The Mount Sinai Medical Center, we believe that a focus on high quality health care with the goal of improving clinical outcomes is essential. To that end, we have instituted the following two programs:

- The *Fast Track Referral System* allows referring providers to quickly and easily refer patients to our practice from their iPhone or Android phone. The system may also be utilized to reach a provider more easily. This program provides for timely appointments and direct contact between referring and treating physicians.
- The *Patient First Program* is conducted by specially trained clinical specialists who perform a preoperative assessment to identify patients with complex medical comorbidities, malnutrition, a history of infection, or coagulation disorders while seeking to identify social barriers to discharge. By identifying these patients early in their care, preoperative intervention can be introduced to limit the risk of perioperative complications and avoid delays in hospital discharge.

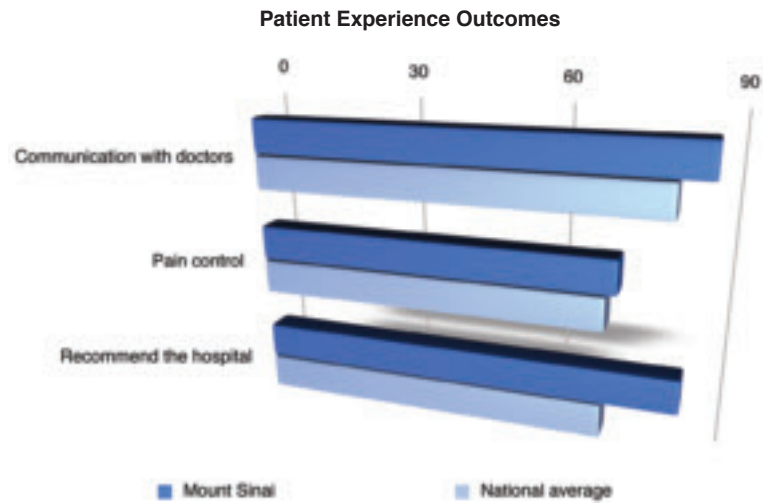


The Patient Experience



Marita Teng, MD, Assistant Professor of Otolaryngology, is a member of the multidisciplinary Head and Neck Surgery Team. Dr. Teng's clinical expertise includes microvascular and reconstructive head and neck surgery as well as thyroid and parathyroid surgery.

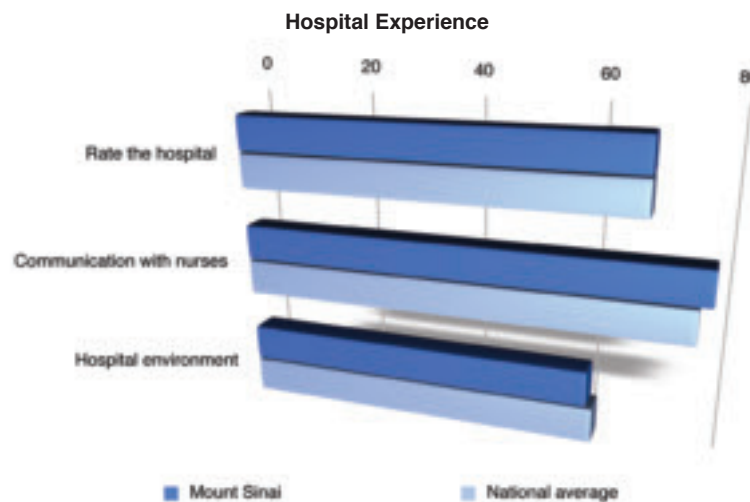
As required by The Centers for Medicare and Medicaid Services, our patients participate in the Hospital Consumer Assessment of Healthcare Provider and Systems (HCAHPS) survey. This survey is important in tracking a variety of outcomes measures, including pain management, and nurse communication with both the doctor and the patient. Mount Sinai has made great strides in achieving excellent HCAHPS scores and continues to improve on these important outcome measures.



Source: The Centers for Medicare and Medicaid Services and Hospital Consumer Assessment of Healthcare Provider and Systems Survey. www.medicare.gov/Hospitalcompare

The Patient Experience

At Mount Sinai, the patient experience is central to our mission. Using Press Ganey, a national hospital survey vendor, we administer patient surveys to carefully track more than 60 patient-experience data points. Feedback from our patients helps us to determine our strengths and identify our shortcomings so we can improve programs and procedures. We find that excellent care and patient satisfaction go hand in hand.



Source: The Centers for Medicare and Medicaid Services and Hospital Consumer Assessment of Healthcare Provider and Systems Survey. www.medicare.gov/Hospitalcompare

Department Volume and Growth

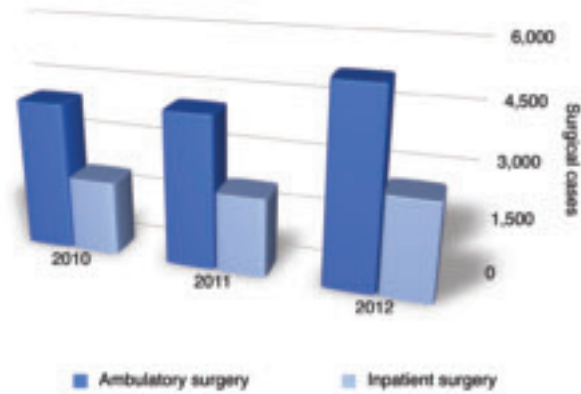
Patient Volume

The Department of Otolaryngology–Head and Neck Surgery has 120 staff members at seven practice locations and provides care for over 60,000 out patients and 5,220 surgical patients annually. The main campus is located at The Mount Sinai Medical Center in Manhattan. The Department manages six satellite practices located in the boroughs of New York City and Long Island. Department growth, as measured by ambulatory visits grew by 11 percent in 2012.



Surgical Volume

In 2012, department staff provided care for 26,000 ambulatory surgical patients and 2,220 days of admission surgical patients. Surgical volume grew by 10 percent in 2012.

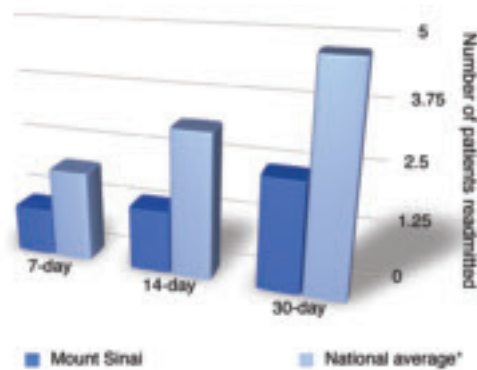


Source: University HealthSystem Consortium.

Department Volume and Growth

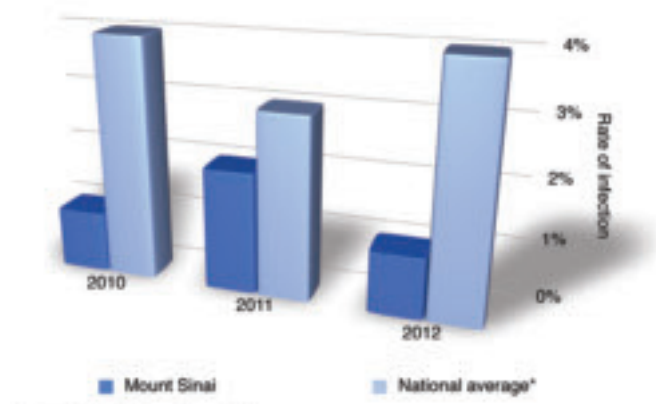
Rate of Readmission

Readmission rate is a measure of unplanned readmissions to a hospital after a previous hospital stay. It is commonly used as a measure of the quality of hospital care. Unplanned readmissions may result from a variety of causes including wound infection. Readmissions are defined as any admission to the same hospital occurring within 7, 15, or 30 days after discharge from the initial visit. The Mount Sinai Head and Neck Surgical Service has maintained 7-, 14-, and 30-day readmission rates below the national average.



Rate of Infection

Wound infections have been identified as a major source of hospital morbidity. Wound infections can result in delayed healing, scarring, and increased length of stay. The rate of infection is determined by the number of infections that delay healing or discharge during the course of the patient admission.

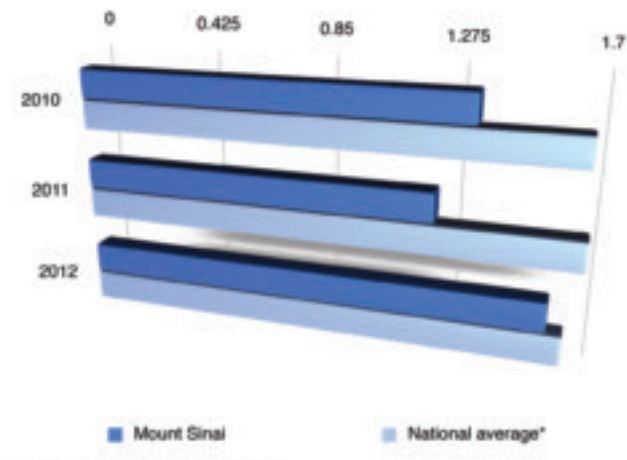


*Source: University HealthSystem Consortium.

Department Volume and Growth

Length of Stay

The length of stay rate is calculated as a ratio of the observed and the expected length of stay. The Head and Neck Surgical Service has maintained a length of stay below the national average by reducing perioperative complications and proactively managing patients with extensive comorbidities through the *Patient First Program*, established in 2011. A program coordinator identifies high-risk surgical patients and institutes an intense presurgical evaluation to optimize the patient's medical, nutritional, and social status prior to surgery. Our experience demonstrates that this program has decreased the risk of perioperative complications that often delay recovery and hospital discharge.



*Source: University HealthSystem Consortium.

Head and Neck Oncology

The Multidisciplinary Head, Neck, and Thyroid Center—A Center of Excellence

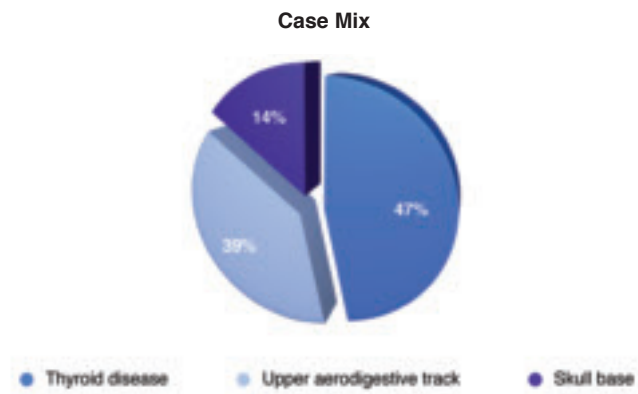
When it comes to complex diseases of the head, neck, and thyroid, one dedicated physician can treat a patient—a team of dedicated physicians can cure a patient.

A Center of Excellence established by Dennis S. Charney, MD, the Anne and Joel Eherenkranz Dean of the Icahn School of Medicine at Mount Sinai, the multidisciplinary program treats complex diseases of the head and neck. Patients commonly require treatment that may include surgery, radiotherapy, and/or chemotherapy. We believe that every patient deserves the expert consultation not from one physician, but from a team of physicians trained in head and neck oncology.

At Mount Sinai's Multidisciplinary Head, Neck, and Thyroid Center, every patient's case is reviewed by a team of more than 30 physicians from 12 different specialties. Experts in the areas of surgical oncology, radiation oncology, medical oncology, radiology, pathology, and a variety of other services, meet routinely to discuss the treatment options and personalize care for each patient. The Center's programs in personalized medicine are a result of a culture where researchers and clinicians come together to create a unique translational clinical program, that unites cutting edge science with expert clinical care.



Eric Genden, MD, Professor and Chairman of Otolaryngology, Professor of Neurosurgery and Immunology and Marshall Posner, MD, Professor of Medicine, and Professor of Gene and Cell Medicine.



Head and Neck Oncology

The Multidisciplinary Head, Neck, and Thyroid Center—A Center of Excellence



In 2012, The Mount Sinai Multidisciplinary Head, Neck, and Thyroid Center was opened in the Leon and Norma Hess Center for Science and Medicine.

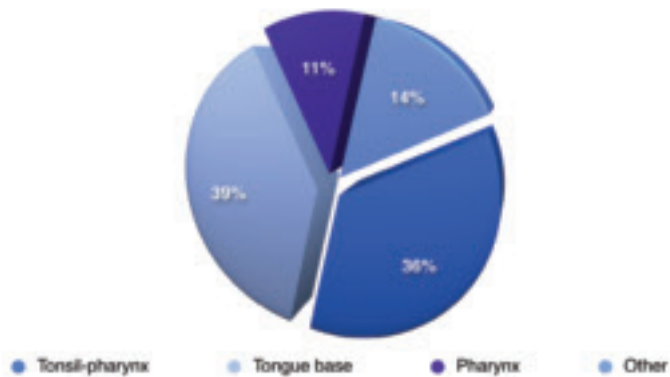
Mortality Rate

Mortality rate is a measure of the patients who expire during hospitalization. Mortality rates are calculated as a ratio of the number of deaths among hospital patients with a specific medical condition or procedure by the total number of patients admitted for that same medical condition or procedure. This risk adjustment method is used to account for the impact of individual risk factors such as age, severity of illness, and other medical problems that can put some patients at greater risk of death than others.



Transoral Robotic Surgery (TORS) Case Distribution, 2012

Robotic surgery at Mount Sinai has become a preferred method for management of select tumors of the throat and tongue base. The procedure provides a minimally invasive approach that obviates the need for external incisions. Minimally invasive surgery decreases the time under anesthesia, results in minimal blood loss, and has been shown to significantly decrease the requirement for chemotherapy and external beam radiotherapy.



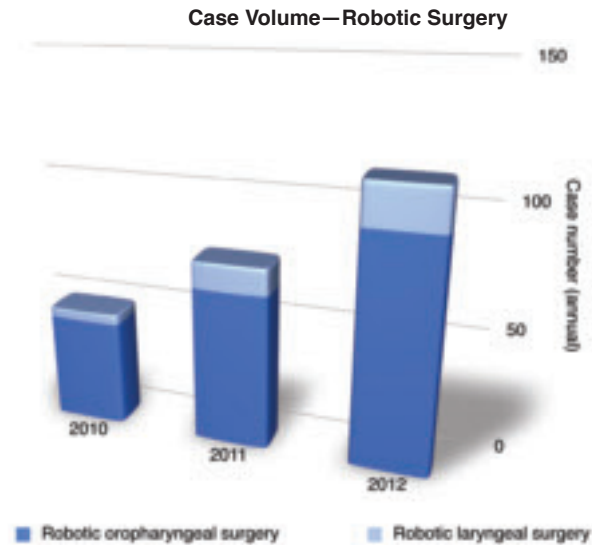
*Source: University HealthSystem Consortium.

Head and Neck Oncology

The Multidisciplinary Head, Neck, and Thyroid Center—A Center of Excellence

Transoral Robotic Surgery (TORS)

The surgical team at the Head and Neck Cancer Center are pioneers in TORS surgery. Robotic laser surgery and image-guided robotic surgery are just two examples of how the head and neck surgeons at Mount Sinai have used cutting-edge technology to improve patient safety and oncological outcomes. TORS is performed at three of Mount Sinai's teaching hospitals.

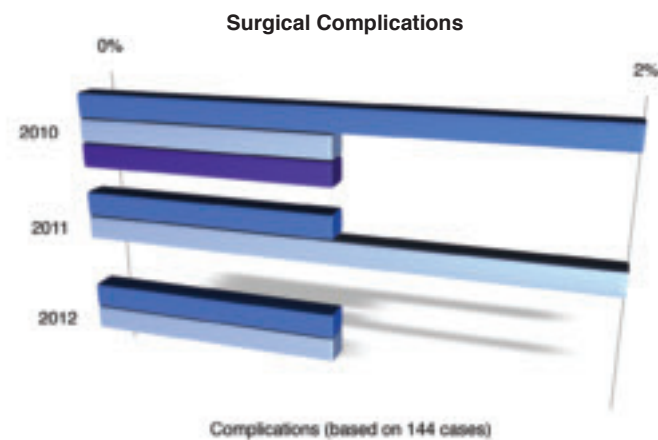


Mount Sinai surgeons were the first to perform transoral robotic surgery in the State of New York.

Mount Sinai's Department of Otolaryngology–Head and Neck Surgery ranks as one of the finest in the nation. In 2012, *U.S. News & World Report* placed us eleventh in the United States.

Transoral Robotic Surgery (TORS)

TORS provides a minimally invasive approach to the oropharynx and larynx. The complication rate in 2012 has continued to decrease as surgical and reconstructive techniques improve. Robotic surgery has improved oncological and functional outcomes for patients with oropharyngeal carcinoma. In addition it has provided a minimally invasive approach for the management of nonmalignant disease such as management of the lingual thyroid, parapharyngeal space tumors, and skull base lesion.



Head and Neck Oncology

The Multidisciplinary Head, Neck, and Thyroid Center—A Center of Excellence

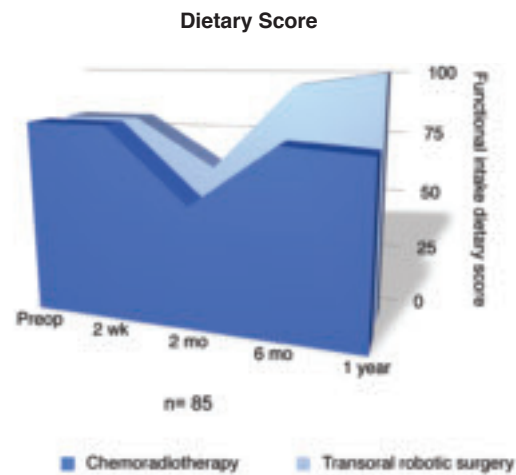


Joshua Rosenberg, MD, Assistant Professor of Otolaryngology, complements his head and neck surgery expertise with specialized training in the area of facial plastic and microvascular reconstructive surgery.

Transoral Robotic Surgery (TORS) and Outcomes

Researchers at the Icahn School of Medicine at Mount Sinai have demonstrated a significant improvement in dietary score for patients treated with TORS when compared to patients treated with chemoradiotherapy. Multiple trials are underway exploring methods to reduce the side effects of treatment while maintaining outstanding disease cure rates.

Patients treated with transoral robotic surgery for oropharyngeal carcinoma begin an oral diet 1.7 days (mean) after surgery and are discharged home 1.9 days (mean) after surgery. Our data demonstrates that patients have a decreased length of hospital stay and return to work sooner than patients treated with open surgery.

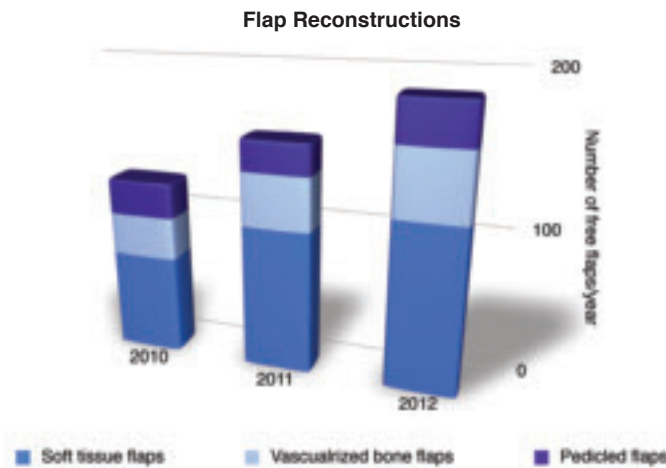


Head and Neck Oncology

The Multidisciplinary Head, Neck, and Thyroid Center—A Center of Excellence

Free Tissue Transfer

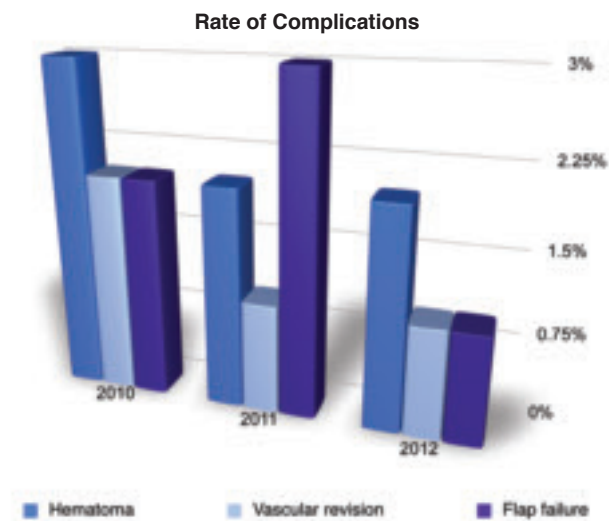
Mount Sinai is considered one of the leaders in head and neck reconstruction, routinely performing more than 200 reconstructions annually. Free tissue transfer is performed at three of the seven Mount Sinai teaching hospitals. Mount Sinai surgeons train surgeons from all over the world and recently published a book dedicated to this work, *Reconstruction of the Head and Neck*.



The dedicated team of clinical specialists of the Multidisciplinary Head and Neck team, led by Dr. Eric Genden, provides the highest level of comprehensive care to meet our patient needs. Left to right: Lyudmila Milman, Physician Assistant; Tamar Kotz, Speech Language Pathologist; Kara Bland – McNamee, Clinical Supervisor; and Dr. Eric Genden.

Complications Related to Free Tissue Transfer

The Mount Sinai Medical Center is also recognized as a world-renowned leader for free tissue transfer and reconstruction of the head and neck. Free tissue transfer is performed at three of Mount Sinai's teaching hospitals. The results represent the procedures performed at these institutions by five of the Head, Neck, and Thyroid Center's microvascular surgeons.



Head and Neck Oncology

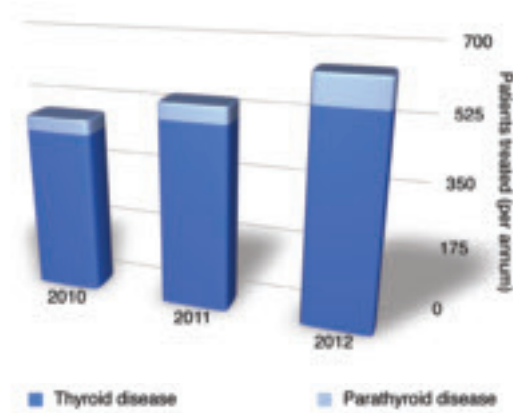
The Multidisciplinary Head, Neck, and Thyroid Center—A Center of Excellence



The Mount Sinai Multidisciplinary Head, Neck, and Thyroid Center was designated as a Center of Excellence by Dr. Charney.

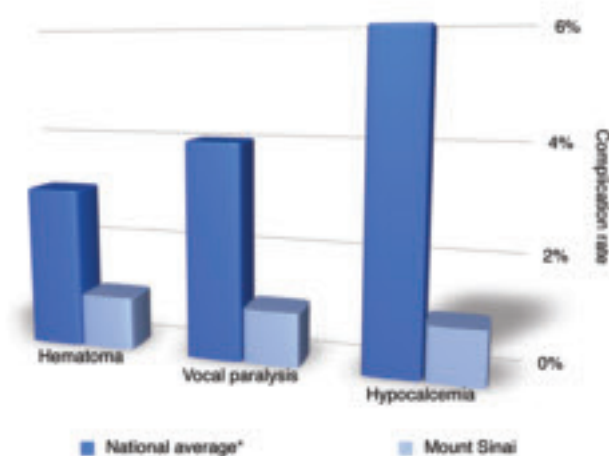
Thyroid and Parathyroid Surgery

The Thyroid Center at the The Mount Sinai Medical Center treats local, regional, and international patients with both benign and malignant thyroid and parathyroid disease. The Center has expanded clinical trials for advanced and unresectable disease. In 2012, over 600 procedures were performed.



Thyroid and Parathyroid Surgery

Complications of thyroidectomy and parathyroidectomy can have a significant impact on a patient's quality of life. Vocal cord monitoring and intraoperative parathyroid hormone assessment have contributed to low complication rates. At Mount Sinai, in 2012, complication rates were well below the national average.



*National average based on nationally reported rates of complication.

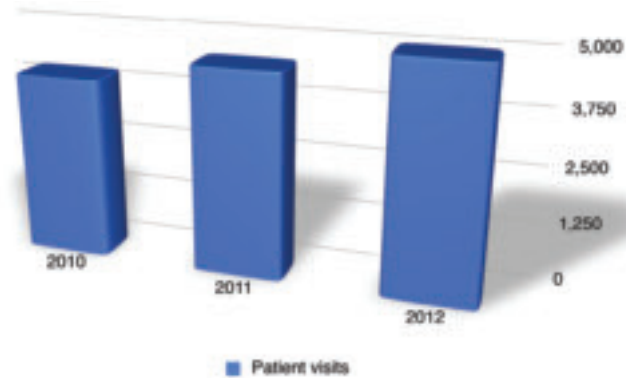
References: 1. Bergamaschi R, Becouran G, Ronceray J, Arnaud JP. Morbidity of thyroid surgery. *Am J Surg.* 1998; 176(1): 71-5.
2. Singh B, Lucente FE, Shaha AR. Substernal goiter: a clinical review. *Am J Otolaryngol.* 1994; 15(6): 409-16.

The Grabscheid Voice Center

The Grabscheid Voice Center was named in honor of Eugen Grabscheid, MD, for his dedication to the care and study of the professional voice.

Eugen Grabscheid, MD (1916-1985), pioneered voice care and otolaryngology for performing artists and practiced at Mount Sinai in New York for over 50 years. The Grabscheid Voice Center is an internationally recognized program that continues his legacy through state-of-the-art, comprehensive and interdisciplinary patient care, as well as service to the voice community. While the Center possesses a unique understanding of the needs of singers, actors, and lecturers, its professionals service a wide spectrum of patients with clinical needs.

Patients at the Grabscheid Voice Center are afforded access to top physicians and surgeons with the following specialties: allergy, gastroenterology, infectious disease, pulmonary, endocrinology, physical medicine and rehabilitation, neurology, and speech and language pathology.



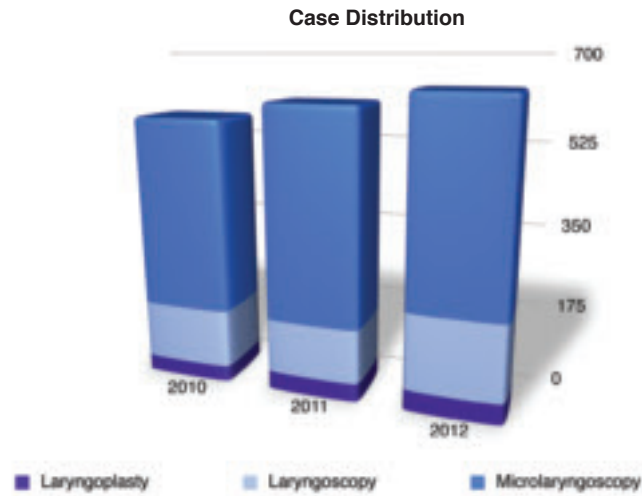
The Grabscheid Voice Center



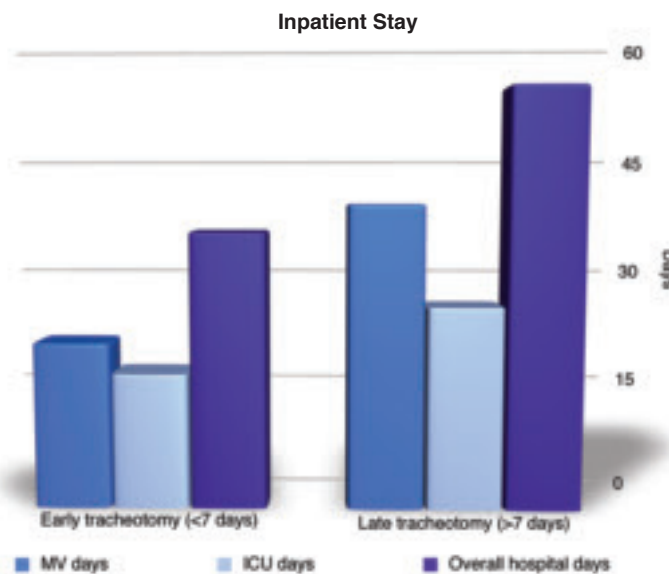
Kenneth Altman, MD, PhD, Associate Professor of Otolaryngology, is an expert in the evaluation and treatment of laryngeal disorders including voice, swallowing, airway disorders, and chronic cough.

Surgical Laryngology

The laryngology service at the Grabscheid Voice Center led by Kenneth Altman, MD, PhD, continued to grow in 2012. The multidisciplinary team provided surgical care for 280 outpatients administering both office-based therapy and outpatient surgical therapy.



Laryngologists at the Icahn School of Medicine at Mount Sinai examined the impact of early tracheotomy in nontrauma patients related to duration of mechanical ventilation (MV) intensive care unit (ICU) stay, and overall hospital stay. They found that early tracheotomy in ICU patients is associated with earlier ICU discharge, shorter duration of MV, and decreased length of overall hospital stay and does not affect mortality. Days of MV and days of ICU stay affect days of overall hospital stay.



Reference: Tong CC, Kleinberger AJ, Paolino J, Altman KW. Tracheotomy timing and outcomes in the critically ill. *Otolaryngology Head Neck Surg.* 2012; 147(1): 44-51.

The Grabscheid Voice Center

Laryngologists at Mount Sinai studied upper airway symptoms among responders to the terrorist attack on 9/11. Researchers found that the symptoms were progressive and multifactorial and recommended a multidisciplinary approach that includes respiratory retraining and laryngeal desensitization with a speech pathologist trained in airway disorders.

Researchers recommended the following for World Trade Center responders:

- 1. Avoidance of triggers.** Patients are educated about recognizing, monitoring, and avoiding triggers to their hypersensitivity.
- 2. Functional control over laryngeal adductor reflexes (LAR).** This involves increasing sensory awareness of chronic laryngeal tension, purposeful hyperabduction of the vocal folds through “sniffing” and lower pharyngeal constrictor relaxation, prevention of throat clearing, and suppression of cough (the latter may also be aided through the use of cough suppressants).
- 3. Forestalling the cough response.** By using suppression techniques such as swallowing and relaxed nasal breathing, the patients gain cortical control and increase their abilities to suppress brainstem cough reflexes.
- 4. Progressive desensitization.** Once patients are able to control their LAR spasms, triggers are gradually reintroduced to challenge patient control. This step resets the threshold of response by incrementally desensitizing the patient to their triggers. By slowly increasing the dose of trigger, they eventually can reestablish a normal response to these noxistimuli (irritants that stimulate the cough or laryngeal spasm reflex). In many cases, we have been able to treat patients and extinguish the response altogether.

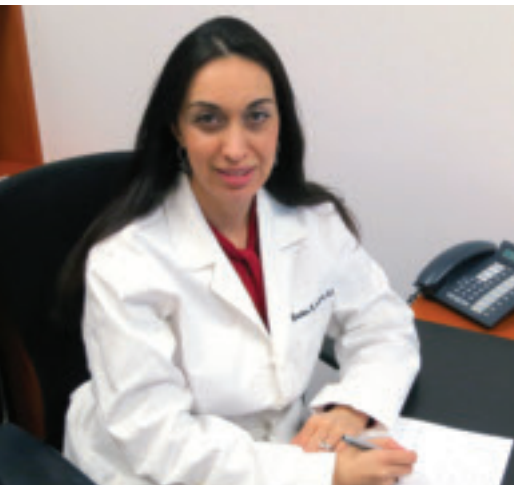


Clinical evaluation of World Trade Center responders revealed a high degree of progressive laryngeal hypersensitivity. The findings led to a model and treatment to reverse this condition. Pictured at left are Kenneth Altman, MD, PhD (far left), and Daniel McCabe, DMA.

Reference: McCabe D, Altman KW. Laryngeal hypersensitivity in the World Trade Center-exposed population: the role for respiratory retraining. Am J Respir Crit Care Med. 2012; 186(5): 402-403.

The Grabscheid Voice Center

Laryngology and Voice Disorders

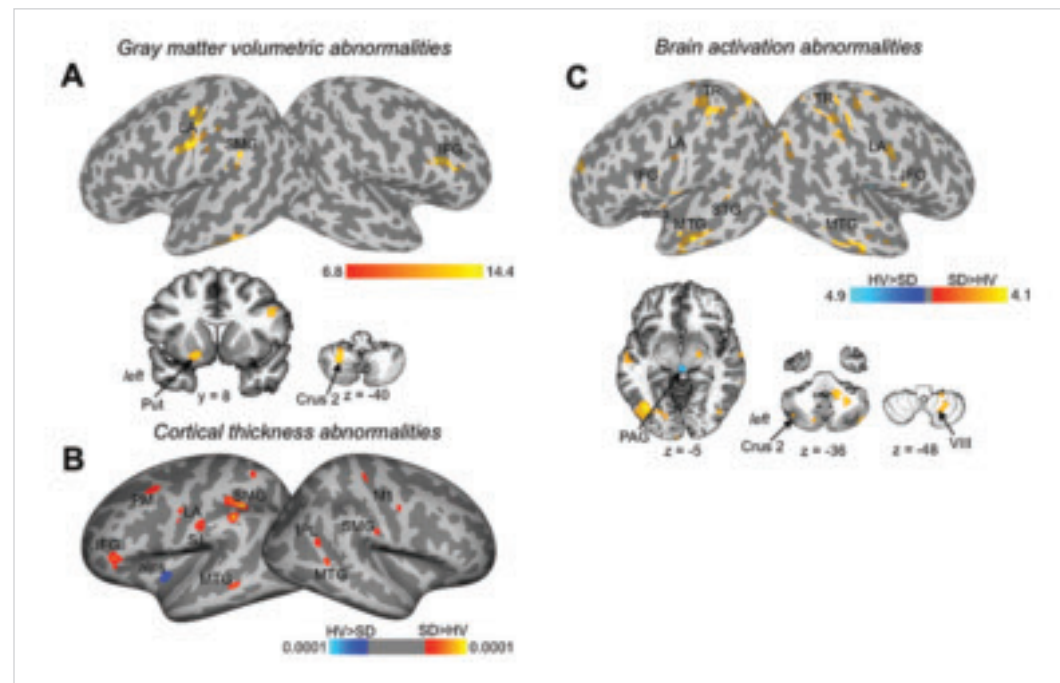


Kristina Simonyan, MD PhD, Associate Professor of Neurology and Otolaryngology, studies spasmodic dysphonia combining her knowledge of neuroanatomy and voice disorders to establish a unique program.

New Research

Researcher Kristina Simonyan, MD, PhD, studies spasmodic dysphonia (SD). This condition is a primary focal dystonia characterized by involuntary spasms in the laryngeal muscles during speech production. Although recent studies have found abnormal brain function and white matter organization in SD, the extent of gray matter alterations, their structure—function relationships and correlations with symptoms—remain unknown.

Patients with SD have increased gray matter volume, cortical thickness, and brain activation in key structures of the speech control system, including the laryngeal sensorimotor cortex, inferior frontal gyrus, superior/middle temporal and supramarginal gyri, and in a structure commonly abnormal in other primary dystonias, the cerebellum.



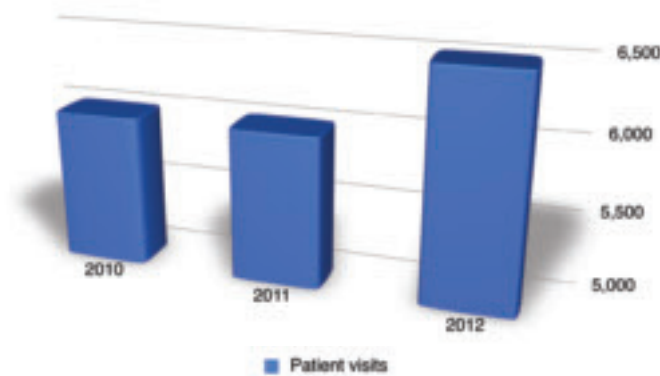
These findings provide evidence for coupling between structural and functional abnormalities at different levels within the speech production system in SD.

Reference: Simonyan K, Ludlow CL. Abnormal structure-function relationship in spasmodic dysphonia. *Cereb Cortex*. 2012; 22(2): 417-25.

The Sinus and Rhinology Program

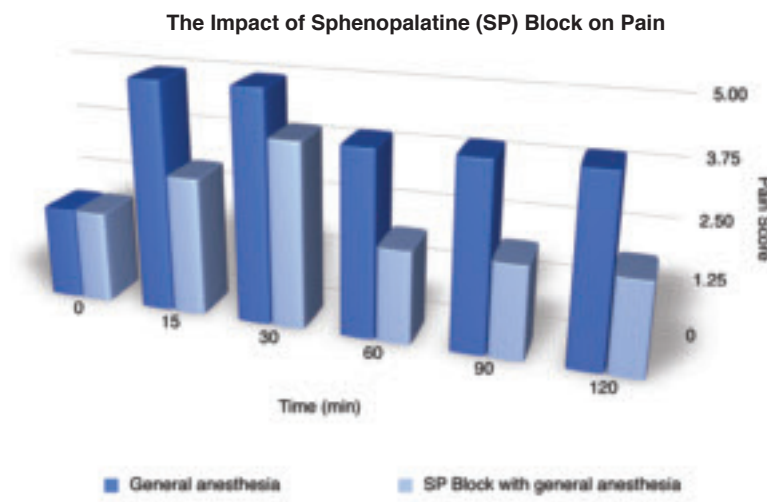
The Sinus and Rhinology Program is comprised of specialists from a variety of different medical disciplines.

The Sinus and Rhinology Program offers comprehensive management of nasal and sinus disease and has been at the forefront in the management of all disorders affecting the sinonasal area. Through its close relationship with the Department of Medicine's Divisions of Allergy and Immunology, Pulmonary Medicine, and Oncology, this growing program provides the collective expertise of a multidisciplinary approach necessary to address both inflammatory and neoplastic conditions of the nasal cavity and sinuses.



Recently, our sinus and rhinology team presented data demonstrating the role for sphenopalatine ganglion blockade in reducing postoperative pain following endoscopic sinus surgery.

This study of 102 patients published in the *American Journal of Rhinology and Allergy* demonstrated that sphenopalatine blockade significantly reduced the pain in patients undergoing endoscopic sinus surgery. This study has changed the way pain management is utilized in patients undergoing endoscopic sinus surgery at Mount Sinai.



The Allergy Screening Program is dedicated to providing the most up-to-date treatment for adult patients who suffer from allergies. Our treatment plans are based upon the latest practice parameters and recommendations published by the American Academy of Allergy, Asthma and Immunology.

Reference: DeMaria S Jr, Govindaraj S, Chinosorvatana N, Kang S, Levine AI. Bilateral sphenopalatine ganglion blockade improves postoperative analgesia after endoscopic sinus surgery. *Am J Rhinol Allergy*. 2012; 26(1): e23-7.

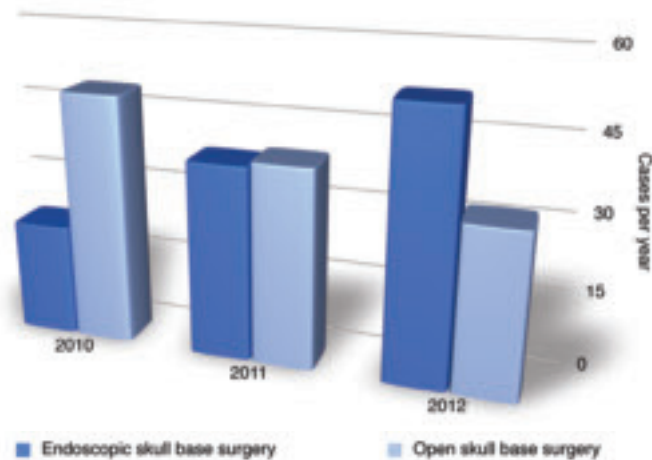
The Sinus and Rhinology Program



Highly recognized in his field, William Lawson, MD, DDS, Professor of Otolaryngology, specializes in primary and revision rhinoplasty, facial plastic and reconstructive surgery, and sinonasal and anterior skull base tumors.

Revision Endoscopic Sinus Surgery—Complications

Recurrent chronic sinusitis represents a challenging clinical entity. On rare occasions, surgery represents a method for management. Complication rates for revision endoscopic sinus surgery range between zero and 5 percent at Mount Sinai. In 2012, surgeons of the Department of Otolaryngology–Head and Neck Surgery performed 151 revision sinus surgeries. With the exception of epistaxis, complication rates for these procedures were below 1 percent.

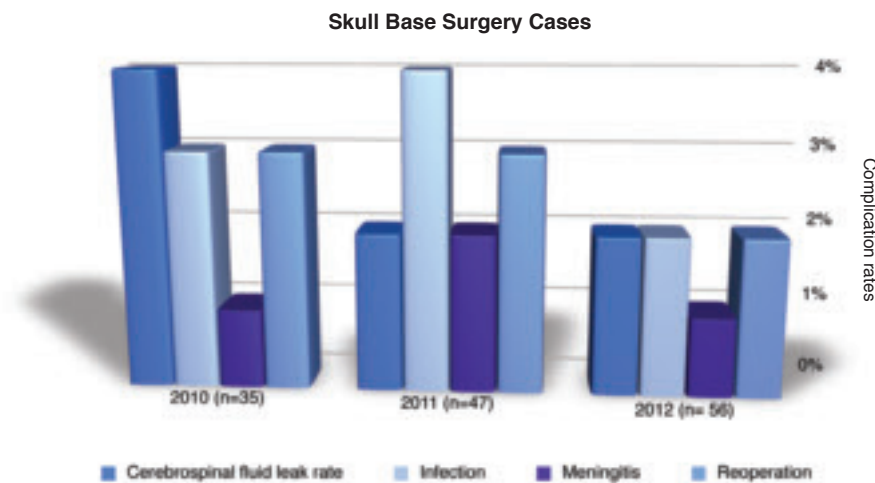


The Sinus and Rhinology Program

Skull Base Surgery

Under the leadership of Satish Govindaraj, MD, and William Lawson, MD, skull base surgery outcomes have continued to improve. Although there has been a steady increase in the number of cases performed, the complication rate remains low.

Endoscopic skull base surgery for both benign and malignant lesions has been shown to provide a minimally invasive approach that results in excellent outcomes. Patients spend less time in the operating room and have a shorter length of stay when compared to patients treated with traditional open surgery.



As an expert rhinologist, Satish Govindaraj, MD, Assistant Professor of Otolaryngology, the focus of his clinical care includes paranasal sinus surgery, as well as endoscopic sinus and endoscopic skull base surgery.

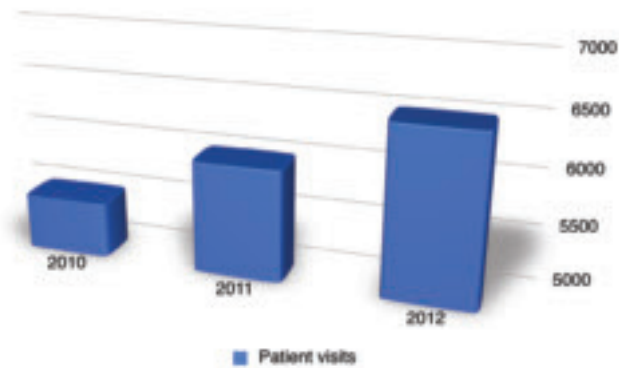
The Otolaryngology and Neurotology Program The Hearing and Balance Center



The clinical and academic interests of Eric Smouha, MD, Associate Professor of Otolaryngology, span all aspects of otology and neurotology with a central interest in hearing preservation, treatment of acoustic neuromas, and diseases of the skull base.

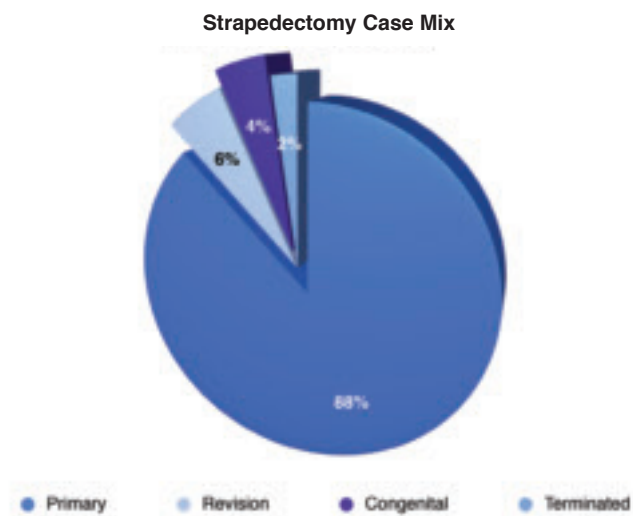
The Hearing and Balance Center provides a wide spectrum of care for patients with otologic, neurotologic, and balance disorders.

The Center manages care including the diagnosis and treatment of cholesteatoma and chronic ear disease. The Center evaluates patients for hearing disorders including, otosclerosis, balance disorders, facial nerve disorders, acoustic neuroma, and skull base disease. Our multidisciplinary team also provides cochlear implantation services.



The Hearing and Balance Center provides a wide spectrum of care for patients with otologic, neurotologic, and balance disorders.

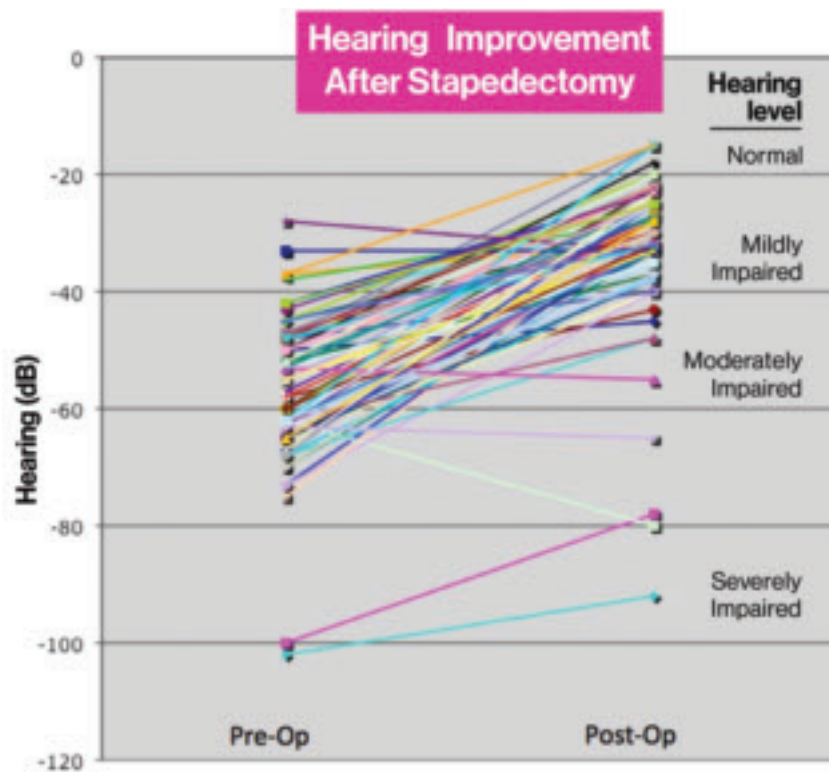
Stapedectomy is performed for a variety of disorders. While primary stapedectomy comprises the majority of procedures by The Hearing and Balance Center, revision and congenital fixation procedures are also performed.



The Otolaryngology and Neurotology Program The Hearing and Balance Center

The Hearing and Balance Center provides a wide spectrum of care for patients with otologic, neurotologic, and balance disorders.

Stapedectomy was first performed in the United States in 1956. The procedure entails mobilization of the stapes footplate to improve hearing as a result of footplate fixation. The outcomes of stapedectomy at Mount Sinai have been excellent. The complication rates are below 1 percent.



Karen Siegel, AuD, Director of Audiology, along with the audiology professional staff provide expertise in diagnostic testing, pediatric evaluations, hearing aid dispensing, cochlear implants, and balance testing.

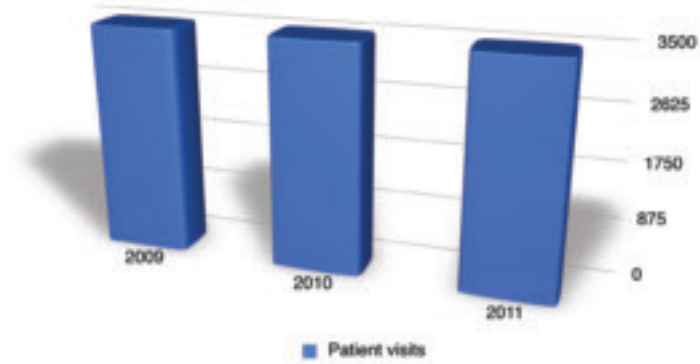
Pediatric Otolaryngology



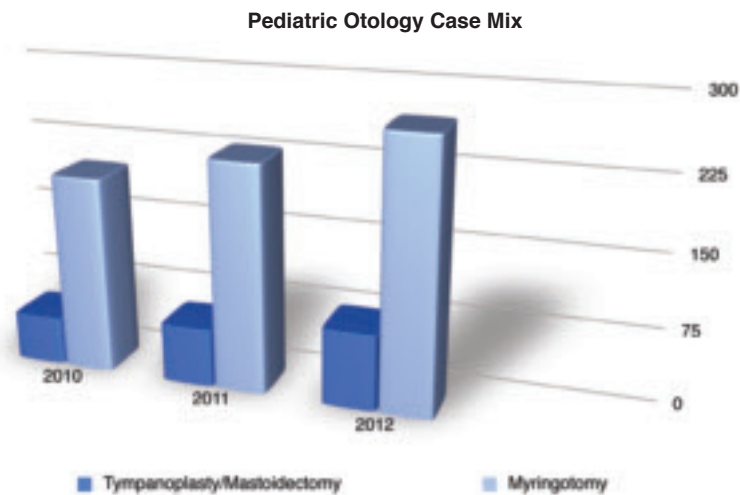
Michael Rothschild, MD, Clinical Professor of Pediatric Otolaryngology, is an expert in the field of Pediatric Otolaryngology treating children with common, congenital, and acquired conditions of the head and neck.

The Kravis Children's Hospital at The Mount Sinai Medical Center is home to the pediatric otolaryngology program.

The Division of Pediatric Otolaryngology evaluates and treats disorders of the head and neck in children. In this growing area, all aspects of pediatric disorders are seen, with special emphasis placed upon communicative disorders, airway problems, infectious diseases, neoplasms, congenital anomalies and paranasal sinus disorders. All aspects of medical and surgical therapy are provided, including tympanostomy, mastoidectomy, detailed airway endoscopic and carbon dioxide procedures, and airway reconstruction.



The Division of Pediatric Otolaryngology in the Kravis Children's Hospital at The Mount Sinai Medical Center have continued to grow, performing over 400 otologic procedures at The Mount Sinai training hospitals. In addition to cochlear implantation, the team also performs bone-anchored hearing aids. Data from 2012 demonstrates 0 percent rate of major complications.

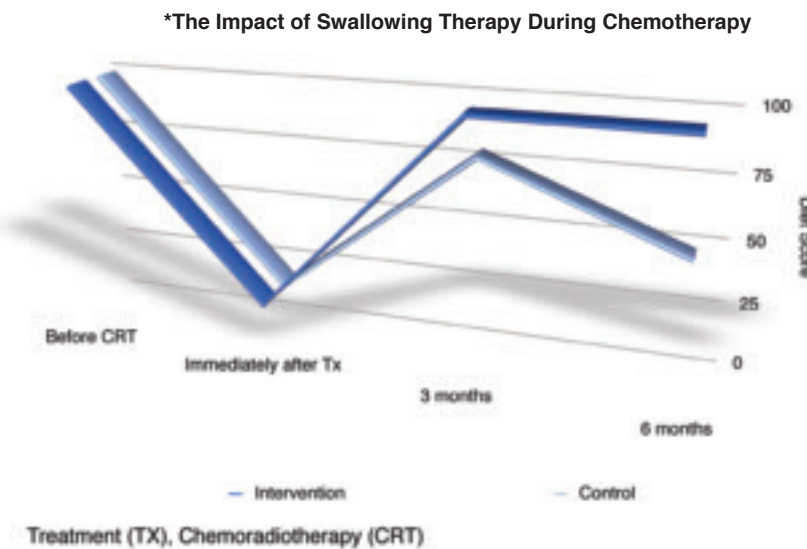


Speech, Language, and Swallowing Program

The Division of Speech, Language, and Swallowing Pathology provides expert care for patients with speech and swallowing disorders, as well as care for the professional voice. Integral to the head and neck oncology and laryngology programs, our speech pathology program grew by more than 25 percent in 2012.



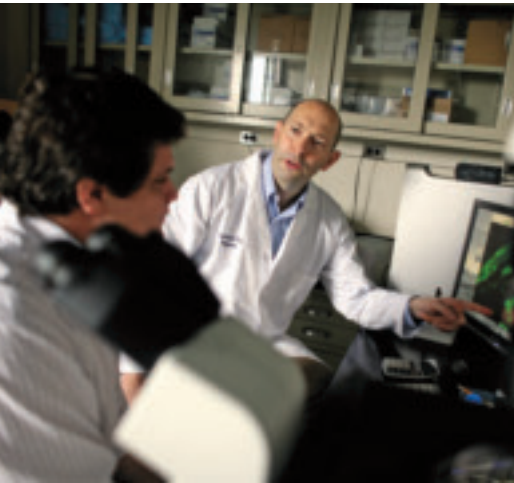
In 2012, the Mount Sinai Speech, Language, and Swallowing therapy team published results from a randomized trial evaluating the use of prophylactic swallowing exercises for patients undergoing combined chemoradiotherapy.* This is an important consideration given the exceptionally high rate of acute and chronic swallowing disorders that arise following combined therapy. Researchers found that patients who performed prophylactic swallowing exercises had improved swallowing function at three and six months.



Specially trained speech language pathologists, Tamar Kotz and Daniel McCabe, work in tandem with our otolaryngologists to provide diagnostic and rehabilitative services to treat swallowing, voice, hoarseness, choking and breathing disorders.

Reference: Kotz T, Federman AD, Kao J, Milman L, Packer S, Lopez-Prieto C, Forsythe K, Genden EM. Prophylactic swallowing exercises in patients with head and neck cancer undergoing chemoradiation: a randomized trial. Arch Otolaryngol Head Neck Surg. 2012; 138(4): 376-382.

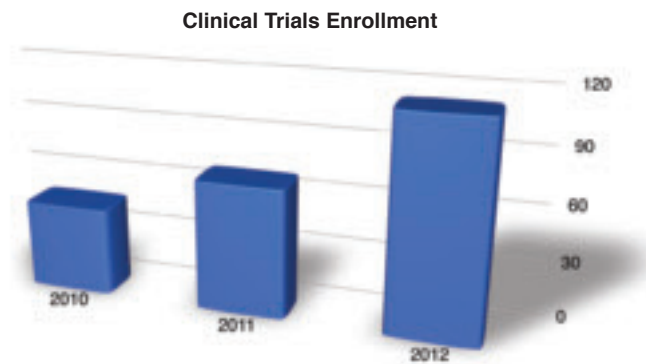
Translational Research and Clinical Trials



Mount Sinai's Department of Otolaryngology offers The Steven H. Sacks one-year research fellowship for medical students interested in research in otolaryngology.

Translational research and clinical trials allow our patients the opportunity to benefit from the remarkable discoveries that our research scientists achieve.

Translational research and clinical trials bring breakthroughs in basic science research from the laboratory bench to the patient bedside. The clinical trials available to our patients have grown significantly over the last several years. Trials for the management of human papilloma virus-induced cancers, thyroid cancers, and advanced disease have been introduced.



Translational Research and Clinical Trials

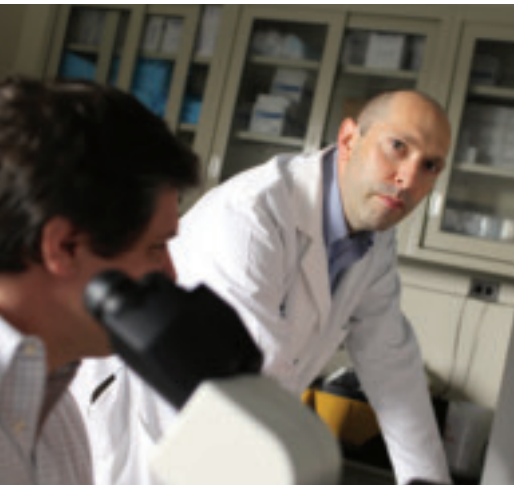
Listed is a select group of 20 ongoing clinical trials at the Mount Sinai Multidisciplinary Head and Neck Cancer Center.

1. Phase I Study of Cabazitaxel-PF Induction Chemotherapy in Patients with Locally Advanced Squamous Cell Carcinoma of the Head and Neck
2. A Randomized, Double-Blind Phase II Safety Study of Cetuximab, Using IMClone Versus Boehringer Ingelheim Manufacturing Processes, in Combination With Cisplatin or Carboplatin and 5-Fluorouracil in the First-Line Treatment of Patients With Locoregionally Recurrent and/or Metastatic Squamous Cell Carcinoma of the Head and Neck
3. A Phase II Trial Using RAD001 for Patients with Radioiodine Refractory Thyroid Cancer
4. HPV Oral Transmission Study in Partners Over Time (HOTSPOT)
5. Biomarkers of Immune Function as Predictors of Head and Neck Squamous Cell Carcinoma Response to Therapy
6. Social Support, Emotional Disclosure, and Adjustment to Head and Neck Cancer
7. Evaluation of a Miniaturized Microscope Device for the Detection of Esophageal Squamous Cell Cancer
8. In Vivo Multimodal Imaging of Upper Aerodigestive Epithelium
9. A Prospective, Multicenter Study, to Evaluate the Efficacy and Safety of [18F]-ML-10, a PET Imaging Radiotracer, in Early Detection of Response of Non-Hematological Tumors to Concurrent Chemoradiotherapy (ApoSense)
10. The Effect of Prophylactic Swallowing Exercises on Head and Neck Cancer Patients
11. Concurrent and Maintenance Sunitinib and Image-Guided Radiation Therapy for Oligometastases
12. A Double-Blind, Randomized Phase III Study Evaluating the Efficacy and Safety of Sorafenib Compared to Placebo in Locally Advanced/Metastatic RAI-Refractory Differentiated Thyroid Cancer
13. Plasticity of a CD49^{high} Transiently Quiescent Population Directs Stochastic Tumor-Initiating Capacity in Head and Neck Squamous Cell Carcinoma
14. Transoral Robotic Surgery and the impact on quality of life and function
15. Prognostic Significance of p16 and Immune Infiltration in Head and Neck Cancer
16. A Randomized, Double-blind, Multicenter Two-Stage Adaptive Phase 3 Study of Intravenous Administration of REOLYSIN® (Reovirus Type 3 Dearing) in Combination with Paclitaxel and Carboplatin versus Chemotherapy Alone in Patients with Metastatic or Recurrent Squamous Cell Carcinoma of the Head and Neck who have Progressed on or after Prior Platinum-Based Chemotherapy
17. A Phase 2, Multi-center, Randomized, Double-blind, Placebo-controlled Clinical Trial to Evaluate the Safety and Efficacy of ALD518 in the Reduction of Oral Mucositis in Subjects With Head and Neck Cancer Receiving Concomitant Chemotherapy and Radiotherapy
18. A Multicenter, Randomized, Double-Blind, Placebo-Controlled, Phase 3 Trial of E7080 in 131I- Refractory Differentiated Thyroid Cancer
19. A Randomized, Double-blind, Placebo-Controlled, Phase III Study to Evaluate the Efficacy and Safety of Afatinib (BIBW 2992) as Adjuvant Therapy After Chemo-Radiotherapy in Primary Unresected Patients with Stage III, IVa, or IVb Loco-Regionally Advanced Head and Neck Squamous Cell Carcinoma
20. An Open-label Phase 2 Study of ACE-041 in Patients with Recurrent or Metastatic Squamous Cell Carcinoma of the Head and Neck



Marshall Posner, MD, is the Director of Head and Neck Medical Oncology. Under his guidance, the clinical trials program has expanded significantly.

Basic Science Research

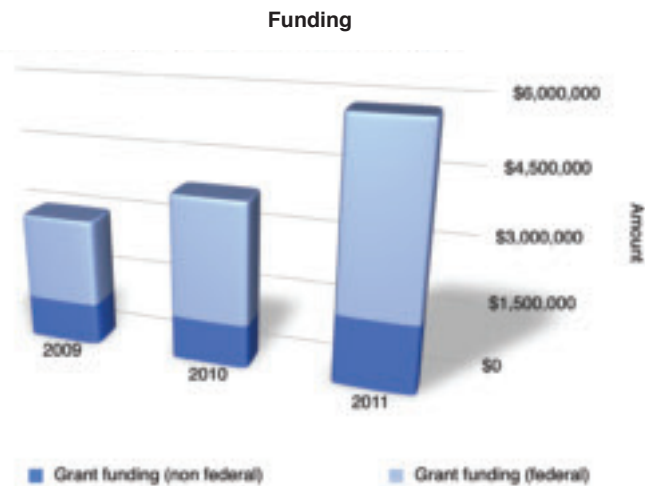


Andrew Sikora, MD, PhD, Assistant Professor of Otolaryngology, and his laboratory study the role of inflammation in cancer-mediated immunosuppression, and targeted therapy approaches to activating anti-cancer immune responses by blocking inflammatory molecules.

The basic science program provides the foundation for scientific discovery that makes Mount Sinai a leader in innovation.

The last two decades have seen great advances in understanding of the molecular, cellular, and physiological mechanisms driving tumor formation, metastasis, and persistence of residual disease. These advances include increased understanding of the genetic and epigenetic heterogeneity of cancers; the complexity of tumor-host crosstalk, including immune subversion and escape; and the elucidation of specific molecular pathways supporting the growth and survival of tumor cells. Research grants enable our team to study these pathways in an effort to develop novel treatments.

In 2011, grant funding continued to increase and our research team continues to make scientific contributions to high-impact basic science journals.



Basic Science Research

Federal and foundation-derived funding of our basic and translational science programs continued to grow in 2011. Listed is a representation of our actively funded programs in basic science research.

Tumor microenvironments determining migration, dissemination, and dormancy (TMEN, U54)

Purpose: The major research focus of our proposed TMEN Center is the study of the microenvironments in primary tumors that drive tumor cell dissemination and survival, and dormancy and growth at secondary organs.

Type: U54CA163131

Agency: NIH/NCI

Investigator: Julio Aguirre-Ghiso, PhD (PI)

Functional determinants of metastatic dormancy

Purpose: To study the role of p53, BHLHB3 and ATF6 signaling pathways in the induction of dormancy and survival of dormant disseminated tumor cells in the bone marrow. Also, to isolate and functionally characterize bone marrow disseminated tumor cells in different target organs.

Type: RO1CA109182

Agency: NCI

Investigator: Julio Aguirre-Ghiso, PhD (PI)

Translational machinery in stress signaling and tumor suppression

Purpose: To determine the extent and mechanism by which TRM9 is down-regulated in tumors. To analyze the tumor suppressor and signaling mechanisms of TRM9.

Type: R21ES017146

Agency: NIEHS

Investigator: Julio Aguirre-Ghiso, PhD (Co-PI)

Targeting iNOS to inhibit myeloid-derived suppressor cells (MDSC) in melanoma

Purpose: The goal of this project is to determine the role of inducible nitric oxide synthase (iNOS) in the induction of immunosuppressive myeloid-cells, and to test the ability of pharmacologic iNOS inhibition to reverse cancer-associated immunosuppression.

Type: K08 CA154963 Career Development Award

Agency: National Cancer Institute, NIH

Investigator: Andrew Sikora, MD/PhD (PI)

Role of activated EGFR and COX-2 in metastasis and escape from tumor dormancy

Purpose: The goal of this project is to test the hypothesis, inhibition of inflammatory signaling through the COX-2 and iNOS pathways in combination with inhibition of EGFR signaling will prevent dissemination and growth of head and neck cancer cells in a mouse model.

Type: R03DE021741-01A1

Agency: National Institute of Dental and Craniofacial Research, NIH

Investigator: Andrew Sikora, MD/PhD (PI); Julio Aguirre-Ghiso, PhD (Co-I)



Julio Aguirre-Ghiso, PhD, Associate Professor of Medicine and Director of Head and Neck Basic Research, emphasizes his research on the overlapping themes of cancer cell biology, signal transduction, tumor microenvironment, metastasis and specifically cancer dormancy; the goal is to design new rational therapies to eradicate dormant tumor cells or induce a chronic state of dormancy that renders them indolent.

Basic Science Research

Plasticity of head and neck cancer initiating cells

Purpose: To identify tumor initiating “stem” cells in HNSCC and determine whether their behavior follows a stochastic or hierarchical model. Also, to identify the underlying mechanisms driving tumor initiating cell behavior and its link to cancer dormancy.

Type: Investigator-initiated research project

Agency: NYSTEM

Investigator: Julio Aguirre-Ghiso, PhD (PI)

Regulation of disseminated tumor cell fate by RAR and NR2F1 signaling

Purpose: To study the role of RAR and NR2F1 to the dormancy of disseminated tumor cells to the bone marrow and lung in HNSCC and breast cancer models.

Type: Collaborative grant

Agency: Samuel Waxman Cancer Research Foundation

Investigator: Julio Aguirre-Ghiso, PhD (Co-I)

Methods of treating head and neck squamous cell carcinoma residual disease

Purpose: To perform preclinical testing of small molecules that disrupt uPAR-integrin-EGFR signaling in HNSCC.

Type: Collaborative grant

Agency: MSSM: Technology Development Fund Award

Investigator: Julio Aguirre-Ghiso, PhD (PI)

Characterization of the endogenous immune response in HPV+ oropharyngeal squamous cell carcinoma patients receiving radiation-based therapy

Purpose: The major goal of this project is to examine the HPV-specific immune response in patients with HPV+ and HPV- oropharyngeal cancer before and after radiation-based therapy.

Type: MSSM Tisch Cancer Center Developmental Award

Agency: MSSM

Investigator: Andrew Sikora, MD, PhD (Co-PI), Seunghee Kim-Schulze, PhD (Co-PII)

Regulation by p38 and NR2F1 signaling of early dissemination and dormancy of breast cancer cells

Purpose: To study the role of NR2F1 and p38 signaling in the regulation of an epithelium to mesenchyme transition and early dissemination from pre-malignant mammary epithelium that is HER2 positive.

Type: BC112380

Agency: DOD

Investigator: Maria Soledad Sosa, PhD (PI), Julio Aguirre-Ghiso, PhD (Mentor)

The Icahn School of Medicine at Mount Sinai is home to 14 translational research institutes, is among the top 20 medical schools in receipt of National Institutes of Health grants, and is the top-funded independent medical school.

Basic Science Research

Improving oral health and quality of life after oral cancer: A web-based approach

Purpose: This study proposes a web-based intervention, called Computer Assisted oral health Rehabilitation and Support (CARES), which is guided by Self Determination Theory (SDT). Specific aims are: 1a) To develop and evaluate the content of the CARES intervention; 1b) To evaluate the feasibility of the CARES prototype; and 2) To pilot test the initial efficacy of CARES.

Type: R34 DE022273

Agency: NIH/NIDCR

Investigator: Hoda Badr, PhD

Couple-focused symptom management intervention for older lung cancer patients and their spouses

Purpose: This is a pilot study grant funded through the Claude D. Pepper Older American Independence Centers (OAIC)—‘Promoting Independence through Pain and Symptom Management’ Center grant. Specific aims of this mentored pilot study are to: 1) use in-depth interviews to develop and refine a couple-focused intervention for older lung cancer patients and their partners; and 2) to pilot test the intervention in a small, randomized trial.

Type: NIA P30 AG028741-01A2

Agency: OAIC

Investigator: Albert Siu, MD; Hoda Badr, PhD

Role of neurotransmission and functional CNS networks in spasmodic dysphonia

Purpose: To identify dopaminergic and GABAergic abnormalities and their relationship and influences on organization of functional brain networks controlling speech production in patients with spasmodic dysphonia

Type: 5R00DC009629-04

Agency: NIH/NIDCD

Investigator: Kristina Simonyan, MD, PhD (PI)

Imaging genetics of spasmodic dysphonia

Purpose: To identify brain imaging abnormalities associated with genetic risk factors as predictors for detection, diagnosis, and assessment of risk of spasmodic dysphonia

Type: 1R01DC011805-01A1

Agency: NIH/NIDCD

Investigator: Kristina Simonyan, MD, PhD (PI)

Cortical-subcortical interaction in PD and normal speech

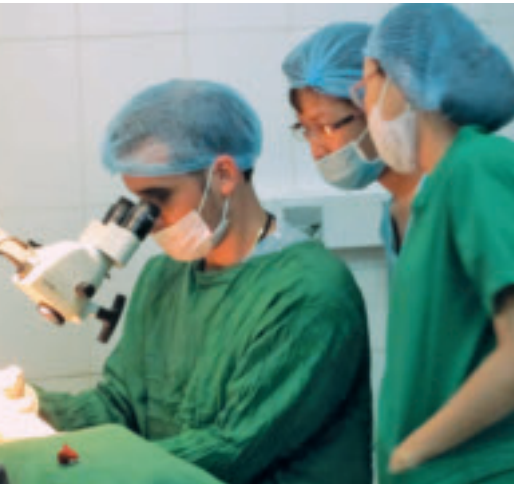
Purpose: To investigate interactions between cortical and subcortical brain regions during speech production by measuring regional cerebral blood flow in patients with Parkinson’s disease

Type: 2R01DC007658-06A1

Agency: NIH/NIDCD

Investigator: Sidtis and Sidtis (PIs), Kristina Simonyan, MD, PhD (subcontract PI)

Basic Science Research



Anthony DelSignore, MD, Otolaryngology Resident, participates in humanitarian efforts providing surgical training to residents in other countries throughout the world. (Global ENT Outreach, Phnom Penh, Cambodia. July 2012)

Targeted inhibition of inducible nitric oxide synthase (iNOS) to enhance sensitivity of head and neck squamous cell carcinoma to cisplatin-based therapy

Purpose: The major goal of this project is to determine the feasibility of pharmacologic inhibition of inducible nitric oxide synthase (iNOS) in combination with chemotherapy as a treatment for head and neck cancer.

Type: NIH Clinical Research Loan Repayment Program (LRP)

Agency: NIH

Investigator: Andrew Sikora, MD/PhD (PI)

Optical systems for in vivo molecular imaging of cancer

Purpose: The major goal of this project is to develop new contrast agents and optimize micro-endoscopic evaluation to discriminate benign from cancerous tissue in the upper aerodigestive tract and other sites.

Type: 2R01 CA103830-06 (Renewal)

Agency: National Cancer Institute, NIH (PI Richards-Kortum / Anandasabapathy)

Investigator: Andrew Sikora, MD/PhD (Co-PI), Eric Genden, MD (Co-I)

Spousal support and emotional disclosure in head and neck cancer

Purpose: Specific aims are to: (1) examine the associations between patients'/spouses reported/observed communication behaviors and their cognitive processing; (2) examine associations between couples' communication styles at the initiation of treatment and patient and spouse psychological functioning and general QOL four months after treatment; and (3) to examine associations between patient symptom distress, patient disclosure, and patient cognitive processing over the course of radiation treatment for HNC.

Type: K07CA124668-01A2

Agency: NIH/NCI

Investigator: Hoda Badr, PhD

Self-determination theory and lifestyle behaviors in Barrett's esophagus (BE) patients

Purpose: Specific aims are to: (1) characterize the lifestyle behaviors (eg, diet, physical activity [PA], smoking, alcohol use) of patients with BE from baseline to six months later, and, to evaluate a Self-Determination Theory process model for patient lifestyle change during the same time frame; and (2) to determine the effects of spousal autonomy support at baseline on patients' autonomous motivation and perceived competence to engage in recommended lifestyle changes (ie, to eat a healthier diet, engage in more PA, achieve a healthy body weight, and stop smoking and drinking alcohol) at baseline and three and six months later.

Type: R03CA136056-01

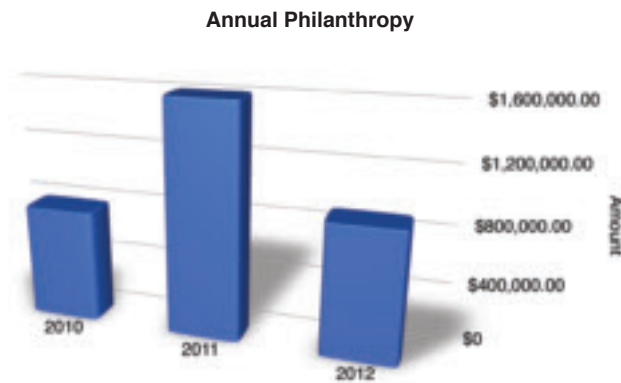
Agency: NIH/NCI

Investigator: Hoda Badr, PhD

Philanthropy and Development

Donations have been instrumental in funding medical research, programs in public education, and resident training.

Research and programs in public education are dependent on philanthropy. Grateful patients and their families have been instrumental in many of the new programs that have been initiated this year. In recent years, charitable donations have been used to establish a center for the study of human papilloma virus associated cancer, tissue banking for medical research, a medical student research scholarship, and patient education materials for the prevention and early identification of head and neck cancer.



The state-of-the-art Leon and Norma Hess Center for Science and Medicine increases Mount Sinai's research capacity by a half a million square feet, and serves as the focal point for basic and translational research. Opened in Fall 2012, it features six full floors of laboratory space, two floors of outpatient clinical space, and houses the country's most advanced imaging facilities.

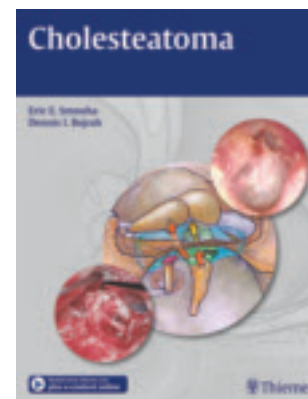
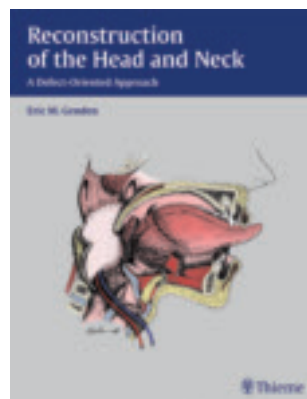
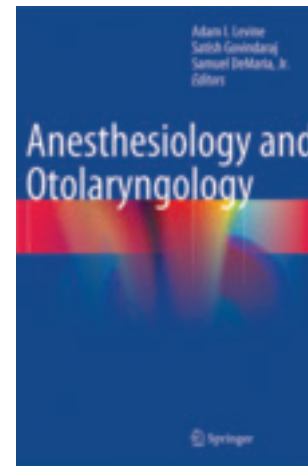
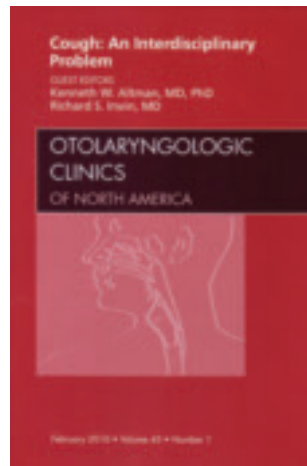
Publications and New Books



Mount Sinai faculty authored four books in 2012 in the areas of head and neck reconstruction, otology, head and neck anesthesia, and laryngology.

Mount Sinai has a proud tradition of educating residents, fellows, and practicing physicians.

In 2012, the Mount Sinai faculty published four new books in the areas of head and neck surgery, head and neck reconstruction, management of otologic disease, and cough.



Faculty Publications, 2012

1. Adelstein DJ, Ridge JA, Brizel DM, et al. Transoral resection of pharyngeal cancer: summary of a national cancer Institute head and neck cancer steering committee clinical trials planning meeting, November 6-7, 2011, Arlington, Virginia. *Head Neck*. 2012 Sep 26.
2. Agbetoba A, Govindaraj S, Lawson W, Som P. Radiology quiz case 2: solitary bone cyst. *Arch Otolaryngol Head Neck Surg*. 2012; 138(7): 685, 686.
3. Ando K, Kernan JL, Liu PH, et al. PIDD death-domain phosphorylation by ATM controls prodeath versus prosurvival PIDDosome signaling. *Mol Cell*. 2012; 47(5): 681-93.
4. Anvekar RA, Ascioia JJ, Lopez-Rivera E, et al. Sensitization to the mitochondrial pathway of apoptosis augments melanoma tumor cell responses to conventional chemotherapeutic regimens. *Cell Death Dis*. 2012; 3: e420.
5. Azagra de Miguel A, Som PM. Caso 42. *Radiologia*. 2012; 54(4): 370-1, 379-382.
6. Bluestone A, Ackert J, Som PM. The CT appearance of a corneal melt: report of 2 cases. *AJNR Am J Neuroradiol*. 2012; 33(5): E72-73.
7. Bonomi M, Camille N, Misiukiewicz K, et al. Assessment and management of mucositis in head and neck cancer patients. *Clinical Investigation*, 2012, 12: 1231-1240.
8. Bonomi MR, Misiukiewicz K, Posner M, Maki RG. Squamous cell carcinoma of the oral tongue in two patients previously exposed to long-term pegylated liposomal doxorubicin. *Oncologist*. 2012; 17(12): 1594-1595.
9. Bragado P, Estrada Y, Sosa MS, et al. Analysis of marker-defined HNSCC subpopulations reveals a dynamic regulation of tumor initiating properties. *PLoS One*. 2012; 7(1): e29974.
10. Bragado P, Sosa MS, Keely P, Condeelis J, Aguirre- Ghiso JA. Microenvironments dictating tumor cell dormancy. *Recent Results Cancer Res*. 2012; 195: 25-39.
11. Burton MJ, Altman KW, Rosenfeld RM. Extracts from the cochrane library: topical anaesthetic or vasoconstrictor preparations for flexible fibre- optic nasal pharyngoscopy and laryngoscopy. *Otolaryngol Head Neck Surg*. 2012; 146(5): 694-697.
12. Cagan RL, Aguirre-Ghiso JA. A local view of cancer. *Dev Cell*. 2012; 22(3): 472-474.
13. Cichero JA, Altman KW. Definition, prevalence and burden of oropharyngeal dysphagia: a serious problem among older adults worldwide and the impact on prognosis and hospital resources. *Nestle Nutr Inst Workshop Ser*. 2012; 72: 1-11.
14. de Almeida JR, Genden EM. Robotic assisted reconstruction of the oropharynx. *Curr Opin Otolaryngol Head Neck Surg*. 2012; 20(4): 237-245.
15. de Almeida JR, Genden EM. Robotic surgery for oropharynx cancer: promise, challenges, and future directions. *Curr Oncol Rep*. 2012; 14(2): 148-157.



Benjamin Malkin, MD, Assistant Professor of Otolaryngology, directs the Division of Otolaryngology at Elmhurst Hospital, Queens, providing extensive training to otolaryngology residents.

Faculty Publications, 2012



Uchechukwu Megwalu, MD, Assistant Professor of Otolaryngology, directs the Otolaryngology Division at Queens Hospital.

16. de Almeida JR, Park RC, Genden EM. Reconstruction of transoral robotic surgery defects: principles and techniques. *J Reconstr Microsurg*. 2012; 28(7): 465-472.
17. DeMaria S Jr, Govindaraj S, Chinosorvatana N, Kang S, Levine AI. Bilateral sphenopalatine ganglion blockade improves postoperative analgesia after endoscopic sinus surgery. *Am J Rhinol Allergy*. 2012; 26(1): e23-27.
18. Digonnet A, Hamoir M, Andry G, et al. Post-therapeutic surveillance strategies in head and neck squamous cell carcinoma. *Eur Arch Otorhinolaryngol*. In press.
19. Genden EM, Aguirre-Ghiso JA. Oropharyngeal cancer biology and treatment: insights from messenger RNA sequence analysis and transoral robotic surgery. *Mayo Clin Proc*. 2012; 87(3): 211-2.
20. Genden EM, O'Malley BW Jr, Weinstein GS, et al. Transoral robotic surgery: role in the management of upper aerodigestive tract tumors. *Head Neck*. 2012; 34(6): 886-893.
21. Genden EM, Sambur IM, de Almeida JR, et al. Human papillomavirus and oropharyngeal squamous cell carcinoma: what the clinician should know. *Eur Arch Otorhinolaryngol*. 2013; 270(2): 405-416.
22. Genden EM. The role for surgical management of HPV-related oropharyngeal carcinoma. *Head Neck Pathol*. 2012; 6(suppl 1): S98-103.
23. Goldstein G, Govindaraj S. Rhinologic issues in pregnancy. *Allergy Rhinol (Providence)*. 2012; 3(1): e13-15.
24. Goldstein GH, Illoreta AM, Ojo B, Malkin BD. Incentive spirometry for the tracheostomy patient. *Otolaryngol Head Neck Surg*. 147(6): 1065-1068.
25. Govindaraj S, Agbetoba A, Becker S. Revision sinus surgery. *Oral Maxillofac Surg Clin North Am*. 2012; 24(2): 285-293, ix.
26. Gutiérrez-Uzquiza Á, Arechederra M, Bragado P, Aguirre-Ghiso JA, Porras A. p38 α mediates cell survival in response to oxidative stress via induction of antioxidant genes: effect on the p70S6K pathway. *J Biol Chem*. 2012; 287(4):2632-2642.
27. Jang D, Teng MS, Genden, EM. Palliative surgery for head and neck cancer with extensive skin involvement. *Laryngoscope*. In press.
28. Jayaraman P, Parikh F, Lopez-Rivera E, et al. Tumor-expressed inducible nitric oxide synthase controls induction of functional myeloid-derived suppressor cells through modulation of vascular endothelial growth factor release. *J Immunol*. 2012; 188(11): 5365-537.
29. Klionsky DJ, Abdalla FC, Abeliovich H, et al. Guidelines for the use and interpretation of assays for monitoring autophagy. *Autophagy*. 2012; 8(4): 445-544.
30. Kim RS, Avivar-Valderas A, Estrada Y, et al. Dormancy signatures and metastasis in estrogen receptor positive and negative breast cancer. *PLoS One*. 2012; 7(4): e35569.
31. Ko EC, Genden EM, Misiukiewicz K, et al. Toxicity profile and clinical outcomes in locally advanced head and neck cancer patients treated with induction chemotherapy prior to concurrent chemoradiation. *Oncol Rep*. 2012; 27(2): 467-474.

Faculty Publications, 2012

32. Kotz T, Federman AD, Kao J, Milman L, et al. Prophylactic swallowing exercises in patients with head and neck cancer undergoing chemoradiation: a randomized trial. *Arch Otolaryngol Head Neck Surg.* 2012; 138(4): 376-382.
33. Levy L, Vila PM, Park CW, et al. High resolution optical imaging of benign and malignant mucosa in the upper aerodigestive tract: an atlas for image-guided surgery. 2012, ISRN – *Minimally Invasive Surgery.* (Vol 2012): 9. Article ID: 364285.
34. Londino lii AV, Miles BA. The role of free tissue transfer in merkel cell carcinoma of the head and neck. *J Skin Cancer.* 2012; 2012: 742303.
35. McCabe D, Altman KW. Laryngeal hypersensitivity in the world trade center-exposed population: the role for respiratory retraining. *Am J Respir Crit Care Med.* 2012; 186(5): 402-403.
36. Misiukiewicz K, Posner M. Time to change the treatment paradigms in anaplastic thyroid carcinoma. *Oncology (Williston Park).* 2012; 26(4): 408, 410.
37. Ojo B, Genden EM, Teng MS, Milbury K, Misiukiewicz KJ, Badr H. A systematic review of head and neck cancer quality of life assessment instruments. *Oral Oncol.* 2012; 48(10): 923-937.
38. Raz E, Saba L, Hagiwara M, et al. Parotid gland atrophy in patients with chronic trigeminal nerve denervation. *AJNR Am J Neuroradiol.* 2012.
39. Sikora AG, Hailemichael Y, Overwijk WW. Conference scene: immune effector mechanisms in tumor immunity. *Immunotherapy.* 2012; 4(2): 141-143.
40. Sosa MS, Bragado P, Debnath J, Aguirre-Ghiso JA. Regulation of tumor cell dormancy by tissue microenvironments and autophagy. *Adv Exp Med Biol.* 2013; 734: 73-89.
41. Strojan P, Ferlito A, Medina JE, et al. Contemporary management of lymph node metastases from an unknown primary to the neck: a review of diagnostic approaches. *Head Neck.* 2013; 35(1): 123-132.
42. Tong CC, Kao J, Sikora AG. Recognizing and reversing the immunosuppressive tumor microenvironment of head and neck cancer. *Immunol Res.* 2012; 54(1-3): 266-274.
43. Tong CC, Kleinberger AJ, Paolino J, Altman KW. Tracheotomy timing and outcomes in the critically ill. *Otolaryngol Head Neck Surg.* 2012; 147(1): 44-51.
44. Tong CC, Ko EC, Sung MW, et al. Phase II trial of concurrent sunitinib and image-guided radiotherapy for oligometastases. *PLoS One.* 2012; 7(6): e36979.
45. Tong CC, Lau KH, Rivera M, et al. Prognostic significance of p16 in locoregionally advanced head and neck cancer treated with concurrent 5-fluorouracil, hydroxyurea, cetuximab and intensity-modulated radiation therapy. *Oncol Rep.* 2012; 27(5): 1580-1586.
46. Vila PM, Park CW, Pierce MC, et al. Discrimination of benign and neoplastic mucosa with a high-resolution microendoscope (HRME) in head and neck cancer. *Ann Surg Oncol.* 2012; 19(11): 3534-3539.



Anthony Reino, MD, Associate Clinical Professor of Otolaryngology, directs the Division of Otolaryngology at the James J. Peters Veterans Hospital. Mount Sinai surgeons at the hospital were the first Veterans Hospital to establish a transoral robotic surgery program.

Resident and Fellowship Scholarships, 2012



Andrew Kleinberger, MD, Otolaryngology Resident, enjoyed working with the OR staff to provide care during a humanitarian effort in Nigeria. The program, *Face to Face*, is sponsored by the American Academy of Facial Plastic and Reconstructive Surgery.

Publications

Goldstein G, Iloreta J, Malkin B. Incentive spirometry for the tracheostomy patient. *Otolaryngology Head and Neck Surg.* 2012.

Iloreta J, Adappa N, Govindaraj S. Trephine. *Atlas of Endo Sinus and Skull Base Surg.* In press.

Jiang N, Del Signore A, Iloreta J, Malkin B. Evaluation of a teaching tool to increase the accuracy of pilot balloon palpation for measuring tracheostomy tube cuff pressure. Submitted for consideration in the Triological Society's Eastern Sections Meeting Resident Research Award. Submitted to the *Laryngoscope* for publication.

Jiang N, Kern R, Altman K. Histopathological evaluation of chronic rhinosinusitis: a critical review. Submitted to ARJA for publication.

Levine A, DeMaria S, Iloreta J, Teng M. Head and neck cancer surgery I: Resection. *Anesthesia and Otolaryngology.* 2012.

Levy L, Jiang N, Smouha E, Richards-Kortum R, Sikora A. Optical imaging with a high-resolution microendoscope to identify cholesteatoma of the middle ear. *Laryngoscope.* In press.

Olarte LS, Megwalu UC. The impact of demographic and socioeconomic factors on major salivary gland cancer survival Submitted for publication in *Otolaryngology Head and Neck Surg.*

Pawha P, Jiang N, Spilberg K, Luttrell M, Govindaraj S. Chapter 2: gross and radiographic anatomy. Submitted for publication in the book *Anesthesiology and Otolaryngology.*

Presentations at National Meetings

Anthony DelSignore: Global ENT Outreach Mission Trip to Phnom Penh: Building a Sustainable Overseas Otolaryngology Program (AAO-HNS/F meeting in Washington DC) Nancy Jiang, Aldo Londino: Primary Cardiac Angiosarcoma with Tonsillar Metastasis (AHNS meeting in Toronto, Summer 2012).

Chaz L. Stucken. Epistaxis in Facial Trauma Patients. Oral Presentation at Multidisciplinary Trauma Conference, Elmhurst Hospital.

de Almeida JR, Holsinger C, Miles B, Stucken CL, Teng MS, Villanueva N, Genden EM. A multi-institutional transoral robotic surgery (TORS) for oropharyngeal outcomes study. Talk presented at: AHNS International Conference on Head & Neck Cancer, 2012.

Stucken CL, de Almeida JR, Tong CCL, Genden EM. Transoral Robotic Surgery for Smokers. Talk presented at: AHNS International Conference on Head & Neck Cancer, 2012.

Vila PM, Stucken CL, Morris LG, Posner MR, Genden EM, Sikora AG. Nodal metastases as a prognostic factor for squamous cell carcinoma of the tonsil in the pre- and post- HPV era. Talk presented at: AHNS International Conference on Head & Neck Cancer, 2012.

Anthony DelSignore: Global ENT Outreach Mission Trip to Phnom Penh: Building a Sustainable Overseas Otolaryngology Program (AAO-HNS/F meeting in Washington DC) Nancy Jiang, Aldo Londino: Primary Cardiac Angiosarcoma with Tonsillar Metastasis (AHNS meeting in Toronto, Summer 2012)

Resident and Fellowship Scholarships, 2012

Instructional Courses

Anthony DelSignore, Jaymarc Iloreta: AO North America Challenges and Advances: Orbital Reconstruction (New Orleans, LA, 2012)

Jaymarc Iloreta: MUSC SinusMasters Endoscopic Skull Base/Rhinology Cadaver Course (Charleston, SC)

Jaymarc Iloreta: Medtronic Endoscopic Sinus Surgery/Skull Base Cadaver Course (Jacksonville, FL)

Chaz Stucken: Minimally Invasive Facial Rejuvenation Hands-On Workshop for Residents and Fellows (Great Neck, NY, August 7, 2012)

Abib Agbetoba, Anthony DelSignore, Jaymarc Iloreta, Nancy Jiang, Lucia Olarte, Anthony Prince: AAO-HNS/F National Meeting (Washington, DC, September, 2012) AAO-HNS/F: Committee Participation

Abib Agbetoba: Rhinology & Paranasal Sinus Committee and Skull Base Surgery Committee

Lucia Olarte: WIO Leadership Development and Mentorship WIO Research & Survey Committee

Awards

Abib Agbetoba, Anthony DelSignore, Jaymarc Iloreta, Anthony Prince: Resident Leadership Grant Award to attend the AAO-HNS Academy Meeting

Anthony DelSignore: AAO-HNS/F Humanitarian Resident Travel Grant

Humanitarian Efforts

Andrew Kleinberger: *Face to Face*, American Academy of Facial Plastic and Reconstructive Surgery, Nigeria (November, 2011)

Lucia Olarte: Virtue Foundation, Ulaanbaatar, Mongolia (May, 2012)

Anthony DelSignore: Global ENT Outreach, Phnom Penh, Cambodia (July, 2012)

Anthony Prince: Partners in Health at Zanmi Lasante, Cange, Haiti (August, 2012)

Lucia Olarte: Medical Mission for Children, Quito, Ecuador (October, 2012)



Lucia Olarte, MD, Otolaryngology Resident, participates in the mission efforts in both Ecuador and Mongolia. Otolaryngology residents have participated in five individual humanitarian outreach programs for 2012 in Cambodia, Ecuador, Haiti, Mongolia and Nigeria.

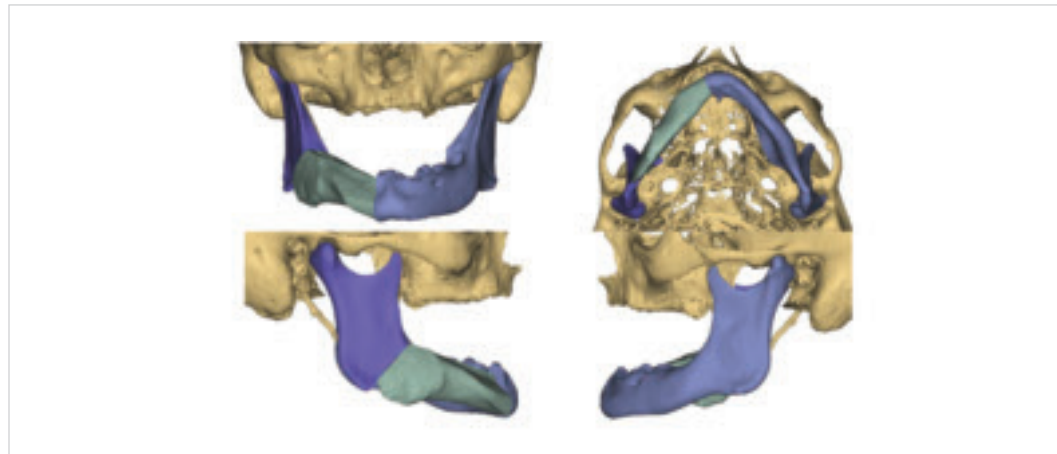
Residents have published eight clinical papers and presented at six national and international meetings.

Innovative Programs

Free tissue transfer of the maxillofacial region for osseous defects is one of the most complicated reconstructive challenges faced by head and neck oncologic surgeons. Traditional techniques are limited with the surgeon visually determining the appropriate placement of the reconstructive elements in space. This leads to increased operating times, increased costs, and in many cases results in inaccurate reconstruction. Computerized virtual surgical planning is revolutionizing head and neck oncologic reconstruction. The Department of Otolaryngology–Head and Neck Surgery is currently developing a program to employ and develop these techniques to improve reconstruction quality and efficiency.

Mount Sinai offers fellowship training in head and neck oncology and microvascular reconstruction, laryngology, and facial plastics.

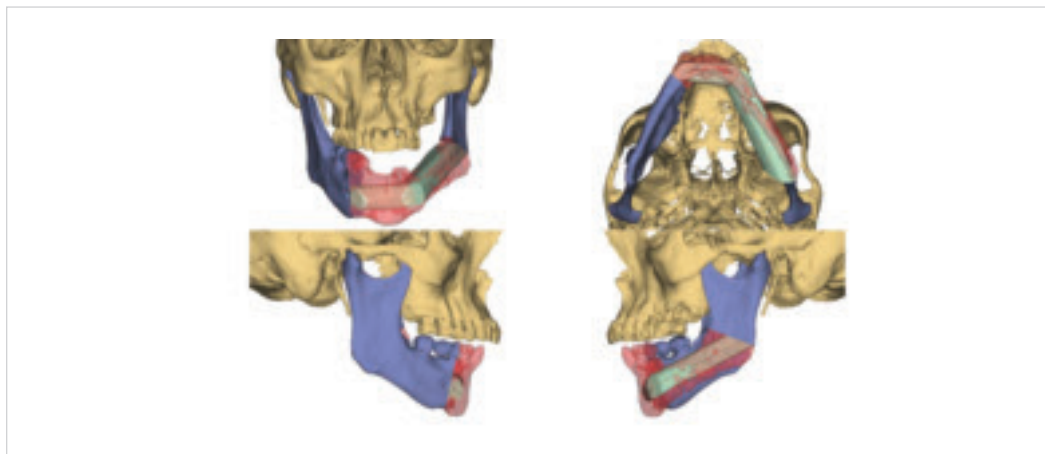
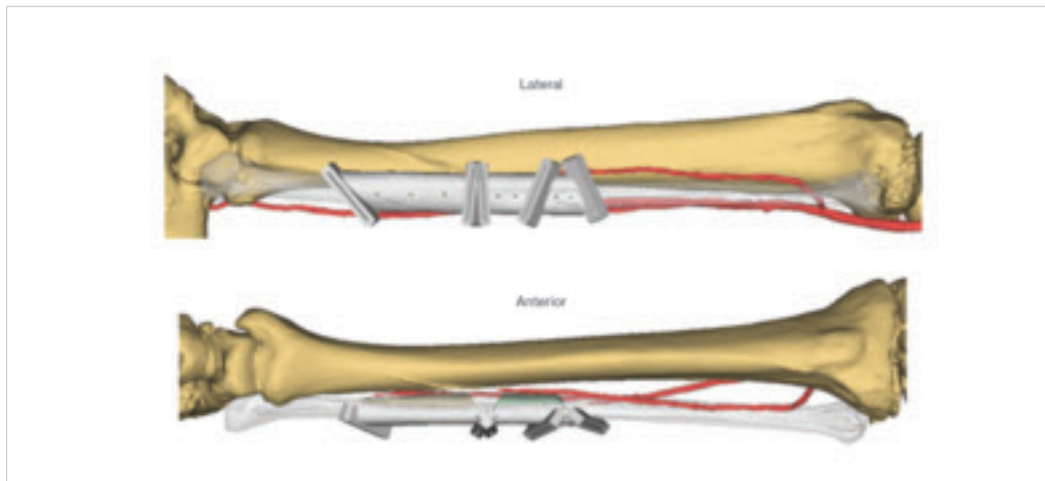
Right: The surgical resection of the mandible has been planned in the virtual environment. Cutting guides are manufactured and then transferred to the patient during surgery to improve resection accuracy.



Innovative Programs

Computerized surgical plans are created in a virtual environment allowing the surgeon to perform virtual surgery and create customized treatment plans. These are then transferred to surgical guides which allow extremely accurate reconstruction for complicated situations where predicting parameters affecting the reconstruction is difficult, if not impossible.

In the example below the proposed fibular bone graft for reconstruction has been planned and surgical cutting guides are used to harvest and section the fibula for accurate mandibular reconstruction. This complicated surgery would be extremely difficult to reproduce accurately by hand and increase operative times and costs.



Brett Miles, DDS, MD, Assistant Professor of Otolaryngology, is highly specialized in the areas of microvascular and maxillofacial reconstruction.

Mount Sinai's Tradition of Ear, Nose, and Throat Surgery

Directors and Chairmen of Ear, Nose, and Throat Services at The Mount Sinai Hospital

Eye and Ear

1879–1910 Emil Gruening, MD

Otology

1910–1921 Frederick Whiting, MD
1921–1936 Isidore Friesner, MD
1936–1946 Jacob Maybaum, MD

Laryngology

1903–1911 D. Bryson Delavan, MD
1911–1917 Emil Mayer, MD
1917–1932 Sidney Yankauer, MD
1932–1946 Rudolph Kramer, MD

Otolaryngology

1946–1954 Rudolph Kramer, MD
1954–1972 Joseph L. Goldman, MD
1972–1995 Hugh F. Biller, MD
1995–2004 Mark Urken, MD
2005–Present Eric M. Genden, MD

The early history of Mount Sinai's Program for Otolaryngology began in the study of otology. Since Emil Gruening, MD, performed the first complete mastoidectomy at The Mount Sinai Hospital nearly 130 years ago, the hospital, and subsequently, the School of Medicine, have become nationally recognized for excellence in the field of Otolaryngology–Head and Neck Surgery.

In reviewing the history of the department, several highlights are noted. The first is a sense of innovation. From the introduction of nearly 30 surgical procedures and instruments by Sidney Yankauer, MD, to the work of Hugh Biller, MD, and William Lawson, MD, on conservation laryngeal surgery and the pectoralis flap, innovation and creativity have been the hallmark of our work.

These advances have had immeasurable impact on the lives of our patients and in some cases, have changed the standard of medical care worldwide. Today, with the advent of transoral robotic surgery, the progress of endoscopic rhinology, and the further advancement of laryngeal and otologic care, we continue to press forward to deliver excellent care to our patients.



"To understand what the future holds, it is essential to understand and appreciate our past."

—Eric M. Genden, MD

Faculty

Eric Genden, MD

Professor and Chairman of Otolaryngology
Professor of Neurosurgery and Immunology
Director, The Multidisciplinary Head, Neck, and Thyroid Center

William Lawson, MD, DDS

Professor and Vice Chairman of Otolaryngology
Director, Facial Plastic Surgery Center
Eugen Grabscheid Research Professor of Otolaryngology

Kenneth Altman, MD, PhD

Associate Professor of Otolaryngology
Director, Eugen Grabscheid Voice Center

Julio Aguirre-Ghiso, PhD

Director, Basic Science Research

Satish Govindaraj, MD

Director, Endoscopic Skull Base Surgery

Fred Lin, MD

Director, Mount Sinai Sleep Surgery Center

Benjamin Malkin, MD

Director, Department of Otolaryngology,
City Hospital at Elmhurst
Associate Director, Otolaryngology Residency Program

Uchechukwu Megwalu, MD

Director, Department of Otolaryngology,
Queens Hospital Center

Brett Miles, MD, DDS

Multidisciplinary Head and Neck Surgery Center
Co-Director, Head and Neck Fellowship Program

Anthony Reino, MD

Director, Department of Otolaryngology,
James J. Peters Veterans Hospital

Joshua Rosenberg, MD

Director, Otolaryngology Services—Staten Island
Head and Neck and Facial Plastic Surgery

Michael Rothschild, MD

Director, Pediatric Otolaryngology

Andrew Sikora, MD, PhD

Director, Translational Research

Eric Smouha, MD

Director, Hearing and Balance Center

Marita Teng, MD

Multidisciplinary Head and Neck Surgery
Director, Otolaryngology Residency Program

Clinical Specialists

Physician Assistants

Sherryleen Elisca, RPA-C

Rhinology/Allergy Center

Stephanie Mendez, RPA-C

Inpatient Services

Lyudmila Milman, RPA-C

Head and Neck Surgery Center

Tanya Sharrieff, RPA-C

Inpatient Services

Mei Kuen Xie, RPA-C

Inpatient Services

Lev Yagudayev, RPA-C

Laryngology & Otology Centers

Audiologists

Karen Siegel, AuD, CCC-A

Director, Audiology
Hearing and Balance Center

Debra Fried, MS, CCC-A

Manager of the Newborn Hearing
Screening Program

Elena Kagan, AuD, CCC-A

Hospital-based Services

Rhea Varadi, AuD, CCC-A

Hearing and Balance Center

Speech Language Pathologists

Tamar Kotz, MS, CCC-SLP

Speech & Swallowing Rehabilitation

Daniel McCabe, DMA, CCC-SLP

Dysphagia, Vocology

The Mount Sinai Medical Center encompasses The Mount Sinai Hospital and the Icahn School of Medicine at Mount Sinai and is acclaimed internationally for its excellence in research, patient care, and education across a range of specialties.

Practice Locations

Mount Sinai Otolaryngology— Manhattan Campus

Faculty Practice Associates
5 East 98th Street, 8th floor
New York, NY 10029
Telephone: 212-241-9410

Center for Science and Medicine— Cancer Center

10 East 102nd Street, 3rd floor
New York, NY 10029
Telephone: 212-241-9410

Mount Sinai Otolaryngology— Staten Island

2052 Richmond Avenue, Suite 1C
Staten Island, NY 10306
Telephone: 718-420-1279

Mount Sinai North Shore Medical Group

325 Park Avenue
Huntington, NY 11743
Telephone: 212-241-9410

Elmhurst Hospital Center

Otolaryngology
79-01 Broadway – H2-69
Elmhurst, NY 11373
Telephone: 718-334-3392

James J. Peters Veterans Medical Center

Otolaryngology
130 West Kingsbridge Road
Bronx, NY 10468
Telephone: 718-584-9000 x5992

The Queens Hospital Center

Otolaryngology
82-68 164th Street
Jamaica, NY 11432
Telephone: 718-334-3392

St. Barnabas Hospital

4422 3rd Avenue
New York, NY 10457
Telephone: 718-960-9000



Patient Referral

Physician Access Services

This service offers referring doctors access to

The Mount Sinai Medical Center

Telephone: 212-241-4983

Toll Free: 877-241-4983

Fax: 212-241-8863

The Mount Sinai Department of Otolaryngology– Head and Neck Surgery

5 East 98th Street

New York, NY 10029

Telephone: 212-241-9410

Fax: 212-427-4088

www.mountsinai.org/ent

