

ADVANCES IN OTOLARYNGOLOGY - HEAD AND NECK SURGERY



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SAVE THE DATE

Applications for Children with Language Disorders or Autism Spectrum Disorder
May 11, 2017 / 7:30 am - 5:15 pm
Uris Auditorium
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To Register
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11th Annual Symposium Otolaryngology Update in NYC
October 26-27, 2017
The New York Marriot Marquis
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Orchestrating Comprehensive Care for the Performing Artist

While a hoarse voice, a sinus infection, a sore joint, or a bout with asthma may not signal a major concern for most individuals, for professional singers, musicians, actors, and other performing artists, these symptoms could be the harbinger of a career in jeopardy.

The Center for the Performing Artist at NewYork-Presbyterian/Weill Cornell Medical Center offers specialized expertise in performing arts medicine tailored to the needs of professional and aspiring artists. Led by the Department of Otolaryngology - Head and Neck Surgery, the Center provides multispecialty care, including disorders of the ear, nose, and throat, musculoskeletal injuries, neurological conditions and movement disorders, pulmonary conditions, and mental health issues.

“So many times performing artists will come to us with an acute problem, which we address, but they are also able to benefit from the full range of practitioners the Center has available to manage

all of their healthcare needs,” says **Michael G. Stewart, MD, MPH**, Chief of the Department of Otolaryngology - Head and Neck Surgery at Weill Cornell and Director of the Center for the Performing Artist. “One thing that often occurs with artists is that their care is fragmented. They get good individual care, but each physician doesn’t know what the other has done. There is no continuity. Our Center provides not only expertise for specific problems related to performing artists, but also coordinated communication among physicians and health practitioners they may need to see.”

“Artists come to us at different stages in their careers and from a great variety of backgrounds,” says **Nancy Amigron**, Program Manager of the Center. “Each performer is dependent upon physical and mental health to practice a demanding craft. We help to simplify the entire process by directing them to the right physician for assessment and treatment.”

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Research Holds Promise for Laryngeal Disorders

When **Michael J. Pitman, MD**, joined the Department of Otolaryngology - Head and Neck Surgery at NewYork-Presbyterian/Columbia University Medical Center as Chief of the Division of Laryngology and Director of the newly established Voice and Swallowing Institute in 2016, he brought with him expertise in voice restoration and swallowing and airway disorders. An otolaryngologist and fellowship-trained laryngologist, Dr. Pitman specializes in the diagnosis and treatment of vocal fold paralysis, cricopharyngeal dysfunction, spasmodic dysphonia, laryngopharyngeal reflux, chronic cough, laryngotracheal stenosis, vocal fold polyps, nodules, and cysts.

The Voice and Swallowing Institute provides the full spectrum of care for voice, swallowing, and breathing disorders for patients of all ages. Dr. Pitman, a highly regarded laryngologist, is joined by speech/language pathologists **Amy Cooper, MS, CCC-SLP**, Assistant Director of the Institute, and **Carly Cantor, MS, CCC-SLP**. Both



Dr. Michael J. Pitman

are also accomplished singers and musical theater performers with extensive training in the evaluation and treatment of voice disorders.

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Orchestrating Comprehensive Care for the Performing Artist *(continued from page 1)*



Nancy Amigron and Dr. Michael G. Stewart



Dr. Lucian Sulica

“Importantly,” Dr. Stewart emphasizes, “more than putting out fires and taking care of emergencies, Nancy facilitates incorporating these performing artists into our healthcare system. She is not just making matches with specialists. She facilitates the total care of the artist in need.”

The Center for the Performing Artist, created nearly a decade ago, has affiliations and contractual arrangements with a number of New York City’s most renowned cultural and performing arts institutions, including The Metropolitan Opera, the Manhattan School of Music, Carnegie Hall, The Juilliard School, and Marymount Manhattan College, which is home to a large theatre and performing arts group, and also provides preventive and ongoing care for cast members of Broadway productions.

“The Met is a large and complex organization with more than 3,000 full-time, seasonal, and part-time staff, not to mention visiting artists from across the globe who come through the opera house over the course of a given season,” says **Ann Marie Hackett**, Director of Human Resources and Labor Relations at The Metropolitan Opera. “Many of our artists have relocated to New York and may not have healthcare providers here. We have been using the Center for the Performing Artist for a few years, and they have exceeded our expectations. We have sent patients for routine healthcare visits, and specialty referrals for complicated problems and other issues. We have even referred the star of a production for an acute problem just a few hours before an evening curtain – and the problem was solved and the show went on as scheduled! We have been very impressed with the responsiveness, breadth of expertise, and integration of care at NewYork-Presbyterian/Weill Cornell.”

In September 2013, the Sean Parker Institute for the Voice made its debut at Weill Cornell under the umbrella of the Department of Otolaryngology - Head and Neck Surgery and functions as a close partner of the Center for the Performing Artist. “The Parker Institute represents an approach to the voice in which excellent clinical care is married to research and innovation,” says **Lucian Sulica, MD**, Director of the Institute, whose clinical expertise includes care of the performing voice. “During voicing, vocal cords are subject to repetitive stress. This cumulative injury can lead to very subtle abnormalities of performers’ vocal folds that impact voice performance. Artists often have an inclination to blame themselves and question their technique instead of seeking

a medical evaluation. It can be very satisfying identifying an underlying anatomic problem, often solvable, for someone who has been second-guessing themselves on technique for weeks.”

Understanding the physiological problems they are having with their voice and receiving accurate information is tremendously empowering for any patient, but especially performers, notes Dr. Sulica. “It’s very steadying for them,” he says. “They’re excellent to work with because they have much more self-awareness of their voice than most people, as well as very high standards. They are the patients who really push us to do our best.”

As Medical Director of Health Services for The Juilliard School, **Howard E. Rosenberg, MD**, Clinical Assistant Professor of Medicine at Weill Cornell Medicine, has a bird’s-eye view of the healthcare concerns of dancers, actors, and musicians well on their way to professional careers. “Juilliard Health Services has been collaborating with the Center for the Performing Artist for five years,” says Dr. Rosenberg. “The Center has been an invaluable resource for our students. The level of expertise and accessibility of the Center’s consultants are unparalleled. Moreover, their appreciation of the often unique needs of performing artists enhances the superior care provided to our students.”

Monica Coen Christensen, EdD, Dean of Students of the Manhattan School of Music, concurs. “As a high-profile conservatory with almost 1,000 student musicians, we recognize that the well-being of our students is at the very heart of our enterprise,” says Dr. Christensen. “In a very short period of time, we have come to rely heavily on the resource that is the Center for the Performing Artist. When we send our students to Weill Cornell, we know they will have their health needs met, but we also know that they will be treated with respect. Because Manhattan School of Music students come from 55 countries, many of our students are very far from home. The sense that they have been truly taken care of – in addition to being medically treated – is just so important. For all these reasons, the Center for the Performing Artist has become very valuable to us.”

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Research Holds Promise for Laryngeal Disorders *(continued from page 1)*

When Dr. Pitman lectures on the subject, he often invokes the image of the vocal athlete. “It’s like a sports medicine physician taking care of a baseball player, but with a focus on the voice,” says Dr. Pitman. “Vocal athletes come in many forms. They may be professional singers or, very likely, teachers. Teachers actually have the highest voice demand of any profession and the highest rate of injury and vocal problems.”

Adds Dr. Pitman, “What is so important to me is customer service for our patients, making appointments easy for them and providing a welcoming and comfortable environment in which to care for them. When a patient comes to see us, they are anxious. We not only listen to their voice, but also to their individual needs, concerns, and goals.”

Previously Dr. Pitman served as Chief of Laryngology at New York Eye and Ear Infirmary of Mount Sinai. Coming to Columbia, says Dr. Pitman, afforded him the opportunity to not only grow the Division of Laryngology, drawing on Columbia’s extensive resources, including the Neurological Institute of New York, but also to further research in the field of voice restoration. Among the first items on his agenda was the establishment of a basic science laboratory with scientists specializing in the anatomy and physiology of the recurrent laryngeal nerve and nerve regeneration, an area that Dr. Pitman notes is being diligently investigated by only a few researchers worldwide. Current research in the lab is looking at the role of trophic factors expression in laryngeal muscles in order to enhance the selective reinnervation of the larynx required for the restoration of the voice following nerve injury.

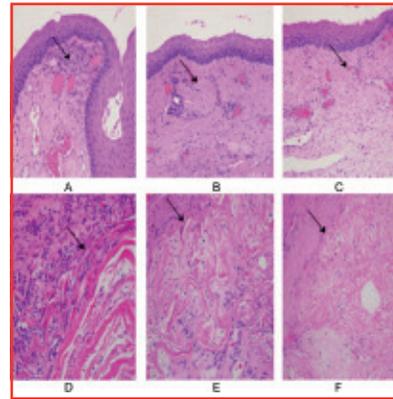
A Stimulation Device for Spasmodic Dysphonia

“There have been few improvements in the treatment of spasmodic dysphonia since the early 80s,” notes Dr. Pitman. “Care involves injections with botulin toxin in the neck every three months. The results of this approach are suboptimal for a number of reasons. They’re painful, the optimal voice is only present between 30 to 50 percent of that cycle, and patients are really tethered to their physician.”

In seeking a better treatment for spasmodic dysphonia, Dr. Pitman began investigating the feasibility of an implantable electrical stimulation device – a modification of a cochlear implant – to treat this disorder through neuromodulation of the muscle spindle gamma loop. Dr. Pitman tested the device in five patients who underwent daily stimulation of the left thyroarytenoid muscle below the level of α -motor neuron activation for five consecutive days. The proof-of-concept study evaluated whether electrical stimulation of this muscle would improve symptoms.

“Considering the importance of the gamma loop in the pathophysiology of spasmodic dysphonia, targeting the loop for treatment was prudent,” says Dr. Pitman. “We were able to demonstrate in this early study that by stimulating patients using a wire electrode, their voices got much better. We now need to study this in a larger group of patients, particularly to optimize electrode placement and stimulation parameters.

“This implantable device has the potential to deliver a painless self-administered treatment as an alternative to botulin toxin therapy,” continues Dr. Pitman. “Patients would be able to help themselves by simply turning on the stimulator whenever they need treatment.”



A-C: Sham vocal folds at 2, 4, and 6 weeks. Arrows point to the area of the microflap and concomitant inflammation. D-F: Experimental vocal folds at 2, 4, and 6 weeks. The small intestinal submucosa graft is seen in the right lower corner of the images. The canine superficial lamina propria is in the left upper corner of the images. The arrows indicate the interface between them. Both vocal folds at 6 weeks after implantation harbored minimal inflammation.

A Major Focus on Vocal Folds

“Vocal fold scarring is one of the most difficult conditions to treat,” notes Dr. Pitman. “There are many surgeries we can do, but unfortunately, when there are a lot of different choices, it means that there isn’t one that’s great.”

One procedure, which offers an 80 to 85 percent success rate for the treatment of vocal fold scarring, is temporalis fascia transplant. Developed by a surgeon in Japan, it is performed by only a handful of surgeons worldwide, including Dr. Pitman, who has treated some 40 patients with this procedure. His experience prompted him to investigate the use of small intestinal submucosa, which functions in the same way as temporalis fascia but, he believes, could provide a better result.

To this end, Dr. Pitman has been investigating the efficacy of grafting porcine-derived small intestinal submucosa (SIS) into the vocal fold superficial lamina propria layer. “In our pre-clinical studies, we have found that at six weeks post implantation, the vocal folds showed new, normal appearing extracellular matrix of the superficial lamina propria, which was diffusely dispersed throughout the implant,” says Dr. Pitman. “On biopsy three months out, the graft was no longer visible and the tissue looked quite normal. There was no evidence of new fibrosis suggesting that superficial lamina propria implantation with SIS results in minimal tissue inflammation with minimal risk of vocal fold scarring.”

Dr. Pitman’s goal is to offer this treatment in an injectable form, which would be much more user friendly. “We hope to be able to inject it into the vocal folds to stimulate the fibroblasts in the area to create new tissue specific to that environment.”

Dr. Pitman underscores that there are a number of exciting routes for regeneration, including bioscaffolding, stem cells, and growth factors. “We have shown in animal models that a bio-scaffold impregnated with growth factors can actually stimulate native fibroblasts to regenerate the tissue,” says Dr. Pitman. “Imagine if we could reverse vocal fold scarring and degeneration with a few in-office injections.”

Out of the OR and into the Office

Office-based laryngeal procedures represent a preferred alternative to the use of the operating room or other resource-intensive settings. They are generally very well tolerated by patients for disorders such as recurrent respiratory papilloma, vocal fold polyps, Reinke’s edema, and laryngeal dysplasia. In-office laryngeal procedures

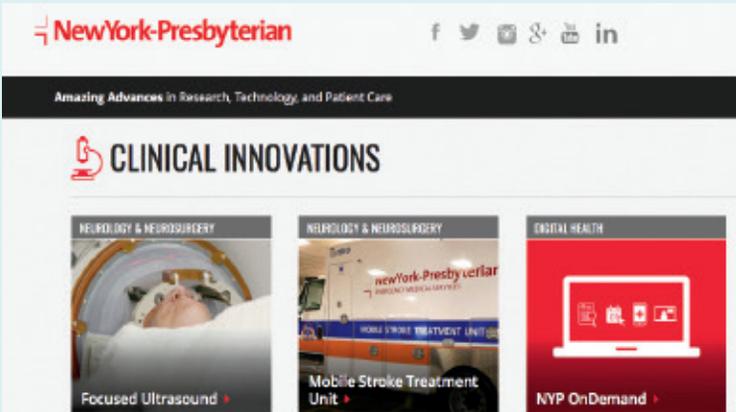
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Research Holds Promise for Laryngeal Disorders *(continued from page 3)*

decrease patient morbidity and offer cost savings compared to direct laryngoscopy in the OR under general anesthesia.

Marsupialization of laryngeal and vallecular mucocoeles is one procedure that lends itself to the office-based environment. To look at this more closely, Dr. Pitman and colleagues evaluated the use of the 532-nanometer pulsed potassium-titanyl-phosphate (KTP) laser for the treatment of benign laryngeal and vallecular mucocoeles in the office. They found that patients uniformly tolerated the procedure well with minimal and often no bleeding.

“There were no complications and, in all instances, the pathology was consistent with a benign mucosal cyst and the patients’ symptoms resolved,” says Dr. Pitman. “We were able to demonstrate that using a KTP laser in-office is a safe and effective procedure and should be considered as a viable alternative to treatment in the OR.”

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