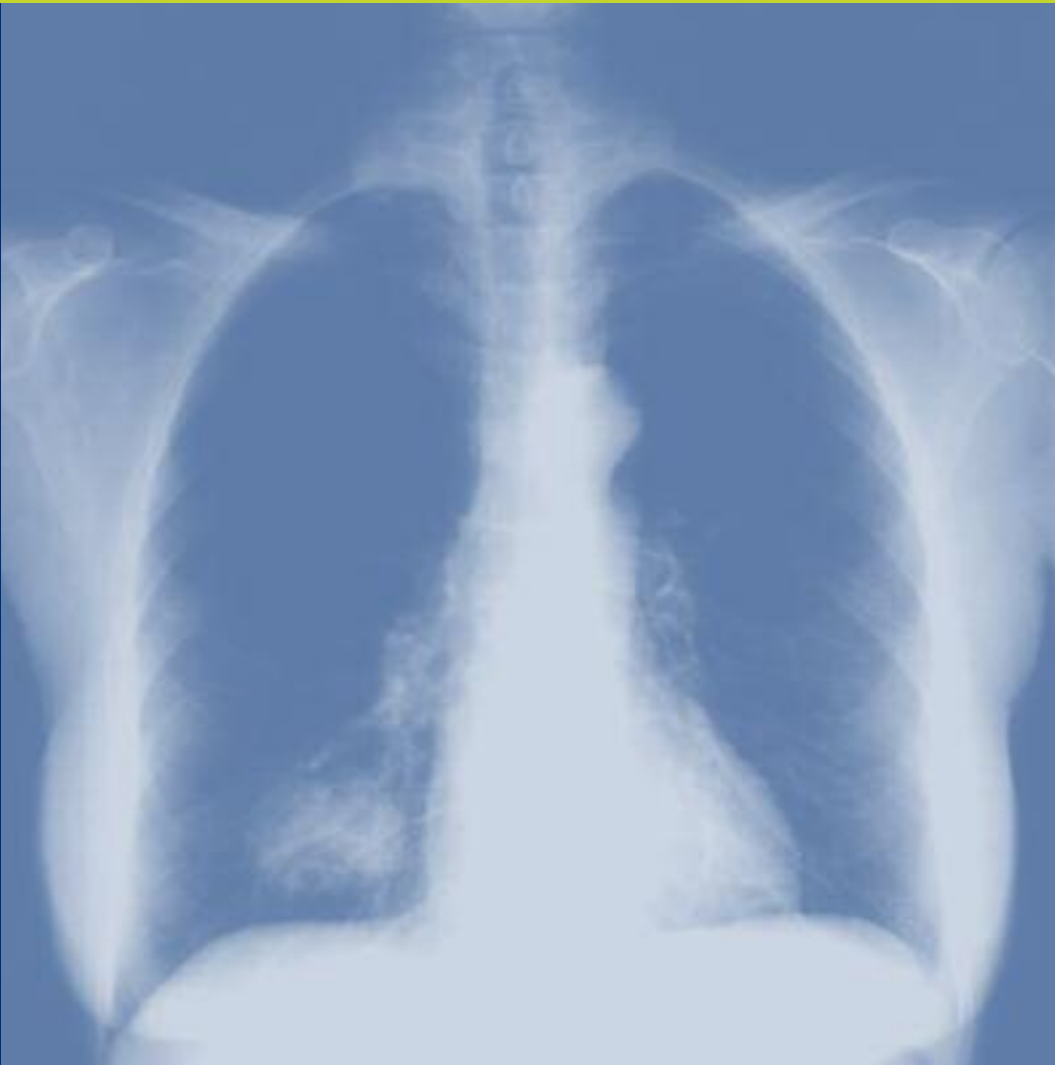




COLUMBIA UNIVERSITY

*College of Physicians  
and Surgeons*

# Thoracic Surgery



NewYork-Presbyterian Hospital/  
Columbia University Medical Center

The **General Thoracic Surgery Section** of Columbia University's Department of Surgery continues a proud tradition of excellence and leadership. For over 75 years, thoracic surgeons affiliated with the Columbia University College of Physicians and Surgeons have paved the way in the treatment of chest diseases – including tuberculosis, chest wall deformities, lung cancer, myasthenia gravis, emphysema, and lung failure. Expanding upon this legacy, thoracic surgery at NewYork-Presbyterian/Columbia has experienced remarkable growth in recent years, and is nationally recognized as a center of excellence.

Our primary goal is to provide our patients with the most advanced surgical techniques available. This is exemplified by our institutional commitment to minimally invasive and robotic surgery. Our surgeons are at the forefront of these therapies. By using minimally invasive surgery whenever possible, we can reduce the trauma to surrounding areas and help our patients recover faster and resume their normal activities sooner.

Throughout the years, patient care has remained our greatest strength. We understand the impact of thoracic diseases on patients and their families, and we strive to attend to their physical, psychological, and social needs. Care is delivered by a dedicated group of multidisciplinary healthcare providers including experienced thoracic surgeons, pulmonologists, cardiothoracic anesthesiologists, surgical nurses, fellows, residents, and social workers.

Our mission is to provide comprehensive compassionate care of the highest quality, a goal we have met with success. As we continually refine our efforts in delivering excellent patient care, we will continue to build on this legacy.

On behalf of our staff, I invite you to learn more about our comprehensive approach to disease management, our procedures, and our physicians.

Sincerely,

A handwritten signature in white ink on a dark blue background. The signature is cursive and appears to read "Joshua R. Sonett".

Joshua R. Sonett, MD  
Chief, Section of General Thoracic Surgery  
NewYork-Presbyterian Hospital/Columbia University Medical Center

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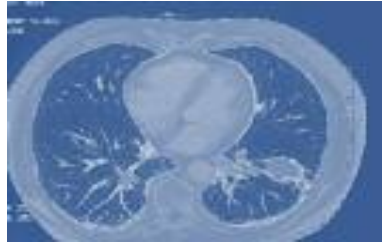
## Interdisciplinary Patient Care Programs

### High-Risk Lung Assessment Program

This program provides assessment, follow-up care, and ongoing testing when necessary, for those who have been found to have respiratory symptoms such as a chronic cough or an abnormality on an imaging study, as well as for those at risk for pulmonary disease due to family history, smoking, or environmental exposures. The program draws upon resources at NewYork-Presbyterian/Columbia University Medical Center to help patients mitigate risk factors, as well as to facilitate rapid referral to additional experts as needed, including the lung cancer team, the interstitial lung disease program, and the lung failure and transplant team.

### Thoracic Oncology Program

Promoting close collaboration among pulmonologists, oncologists, thoracic surgeons, and radiologists, the program offers patients with thoracic cancers easy access to all relevant disciplines, including pulmonary rehabilitation and radiology. The program's multidisciplinary clinical team meets weekly to discuss patients under their care, determine the most effective treatment plan, and ensure each patient is offered all appropriate options.



CT scan of the lungs

### Lung Transplant Program

NewYork-Presbyterian/Columbia is a leading center in the field of lung transplantation and has received Medicare approval as a center of excellence in lung transplantation. Lung transplant may be indicated for patients with conditions including cystic fibrosis, emphysema and interstitial lung disease. Our faculty includes thoracic surgeons and pulmonologists solely dedicated to the care of patients undergoing lung transplantation. Our outcomes are a testament to our expertise; one-year survival following lung transplant is 92%, far superior to the results of many highly regarded transplant programs in the country.

Multiple lung transplant clinical research studies are currently underway at Columbia, including studies of complications of lung transplant, post-transplant infection, platelet function



after lung transplantation, pre- and post-transplant treatments including immunosuppression, techniques in lung procurement and storage, and neurocognitive and neurological function in patients with lung disease. Genetic studies include analysis of lung disease, predisposition for organ rejection, and genetic activity during transplantation.

The diseased lung has been removed, and the new, healthy lung is sewn directly to the heart. The new lung begins to function as soon as the connections to the heart are completed.

## ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ Advanced Surgical Techniques

### Image-Guided Thoracic Surgery

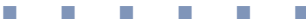
Image-guided technology utilizes advanced imaging techniques to construct a 3D image of the patient's anatomy. The image is used in the planning of surgery, or during surgery as a real-time 3D anatomical map. Facilitating precise viewing of tissues and structures in the lungs and mediastinum, image-guided techniques promote high precision and minimal invasiveness in surgery, and may facilitate non-surgical approaches. The technology is especially appropriate for patients who would otherwise be unable to tolerate an invasive operation.

### Video-Assisted Thoracic Surgery VATS

Minimally invasive thoracic surgery enables the physician to conduct a variety of diagnostic and therapeutic procedures through smaller incisions in the chest wall and without the need to spread the ribs to gain access to the lungs or esophagus. In selected patients, most procedures that can be done through a standard incision can also be performed with VATS. Benefits for patients include less post-operative pain, shorter hospital stays, faster recovery from surgery, and a quicker return to full activity.

### Tracheal Surgery

Because the blood supply to the trachea is limited and difficult to predict, tracheal surgery is not a straightforward procedure and requires specific surgical training and experience. Several of our surgeons are specially trained in surgery for the management of tracheal stenosis, which is often caused by tracheal tumors, benign strictures, and inflammation due to breathing tubes.



## Thoracic Diseases

**Lung Cancer** Lung cancer is the most common form of cancer in the United States, with 170,000 new cases appearing each year. It is also the leading cause of death from cancer. Early detection can improve survival, however because it has no symptoms in its early stages, lung cancer is often well advanced at the time of diagnosis. When lung cancer is further advanced, surgery in combination with chemotherapy or radiation therapy may still be curative. Several novel therapies are being developed and tested at Columbia to improve the survival rate of lung cancer patients.

In cooperation with the Division of Oncology, we offer innovative clinical trials for patients with all stages of lung cancer, many of which test the newest drugs. Several of these trials, including advanced chemotherapy regimens and vaccines, are only available at Columbia University Medical Center.

**Esophageal Cancer** As with lung cancer, a multidisciplinary approach is used to evaluate and treat patients with esophageal carcinoma. Working closely with our colleagues from interventional gastroenterology, we offer patients with pre-cancerous changes, also known as Barrett's disease, photodynamic therapy (PDT) or endoscopic mucosal resection (EMR) whenever appropriate. For those patients requiring esophageal resection, our surgeons are pioneering new esophageal cancer surgery techniques, such as minimally invasive esophagectomy (MIE). This procedure allows a more rapid recovery, with reduced incisional pain compared to standard open surgery.

**Emphysema** NewYork-Presbyterian/Columbia is the only medical center in the tri-state area designated by the National Institutes of Health (NIH) as a center of excellence in lung volume reduction surgery (LVRS) for the treatment of emphysema. Surgical removal of the severely damaged sections of the lungs facilitates better function of the remaining areas, while decreasing the work of breathing. We participated in a NIH-sponsored, seven-year prospective randomized trial that studied the



The Emphasys Endobronchial Valve (EBV™) redirects inhaled air to healthier lung segments by blocking airflow to the diseased portion.

effects of LVRS on survival, lung function, and quality of life. The results of this trial, published in the *New England Journal of Medicine*, confirmed that LVRS significantly improves survival and quality of life in carefully selected patients with emphysema. LVRS is performed using minimally invasive techniques.

While all patients with advanced emphysema are evaluated for LVRS, not everyone is an appropriate

candidate. We are a leading center helping to test and develop endobronchial devices to redirect airflow toward healthier lung segments. This minimally invasive procedure may improve patients' exercise capacity, breathing, and quality of life, without the need for surgery.

## Myasthenia Gravis & Thymic Tumors

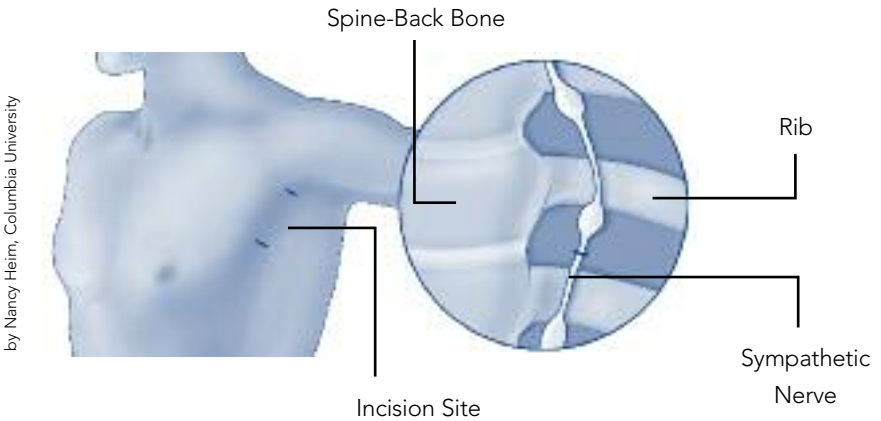
For well over 50 years, NewYork-Presbyterian/Columbia has been internationally recognized as a leader in the diagnosis and treatment of myasthenia gravis and treatment of thymic tumors. Our current research efforts are directed toward the development of a more standardized staging system to allow comparison of different medical and surgical therapies. Surgical management of myasthenia gravis has evolved to include minimally invasive techniques and active participation of multiple disciplines such as neurology, pain management, pulmonology, and critical care. Our team approach to patients with myasthenia gravis has dramatically improved the effectiveness and safety of thymectomy (removal of the thymus gland), which can now be recommended even for patients with advanced muscle weakness.

## Mesothelioma

NewYork-Presbyterian/Columbia has been designated a center of excellence in the management of mesothelioma by the National Cancer Institute of the National Institutes of Health. We are currently studying several new treatments, including a novel lung-sparing procedure utilizing minimally invasive techniques to deliver chemotherapy and radiation directly to the tumor (intrapleural catheter treatment). We are also studying a multimodality (or combination) approach, which includes vaccine therapy, in vitro chemosensitivity testing, and drug analysis, followed by surgical removal and radiotherapy. A multimodality approach to this disease may offer patients the best chance to be cured.

## Hyperhidrosis

Hyperhidrosis (excessive sweating) is a problem that affects many people. For some people excessive sweating can severely restrict their lifestyle and can be socially debilitating. Endoscopic thoracic sympathectomy (ETS) is a minimally invasive procedure that completely eliminates this disorder. The Center for Hyperhidrosis at Columbia is well established as a center of excellence. For more information, please visit the center's web site: [www.hyperhidrosiscumc.com](http://www.hyperhidrosiscumc.com).



The sympathetic nerve traverses across the ribs (inset). In an ETS procedure, the nerve is clamped as it crosses over the third rib, instantly eliminating hyperhidrosis.



## Recent Publications

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## Contact Us:

For further information, please call 212.305.3408 or toll-free 1.800.543.2782. Consultative services are available throughout the New York metropolitan area.

[www.columbiathoracic.org](http://www.columbiathoracic.org) • [www.hyperhidrosiscumc.com](http://www.hyperhidrosiscumc.com)

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### Hospital Affiliations

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Good Samaritan Hospital, Suffern, New York  
Nyack Hospital, New York

#### Orange County

Orange Regional Medical Center  
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Arden Hill Hospital, Goshen, New York