#### REFERRAL

For a referral to a physician affiliated with the Institute for Asthma and Other Lung Disease or to schedule an appointment for a test procedure, please call (toll-free) 866.ASK.LUNG or 866.275.5864. For community support services (printed materials, community lectures, support group information), call 718.780.5367.

INSTITUTE FOR ADVANCED AND MINIMALLY INVASIVE SURGERY 877.DOCS.14U / 877.362.7148

**INSTITUTE FOR ASTHMA** AND LUNG DISEASES 866.ASK.LUNG / 866.275.5864

INSTITUTE FOR CANCER CARE 866.411.ONCO / 866.411.6626

INSTITUTE FOR CARDIOLOGY AND CARDIAC SURGERY 866.84.HEART / 866.844.3278

INSTITUTE FOR DIABETES AND OTHER ENDOCRINE DISORDERS 866.4.GLAND.2 / 866.445.5262

INSTITUTE FOR DIGESTIVE AND LIVER DISORDERS 866.DIGEST.1 / 866.344.3781

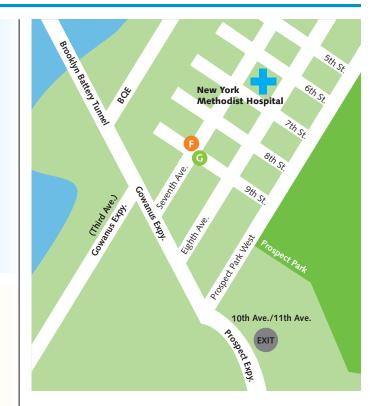
INSTITUTE FOR FAMILY CARE 866.432.CARE / 866.432.2273

INSTITUTE FOR NEUROSCIENCES 866.DO.NEURO / 866.366.3876

INSTITUTE FOR ORTHOPEDIC MEDICINE AND SURGERY 866.ORTHO.11 / 866.678.4611

**INSTITUTE FOR VASCULAR** MEDICINE AND SURGERY 866.438.VEIN / 866.438.8346

INSTITUTE FOR WOMEN'S HEALTH 877.41.WOMAN / 877.419.6626



#### OUR LOCATION 506 Sixth Street, Brooklyn, NY 11215

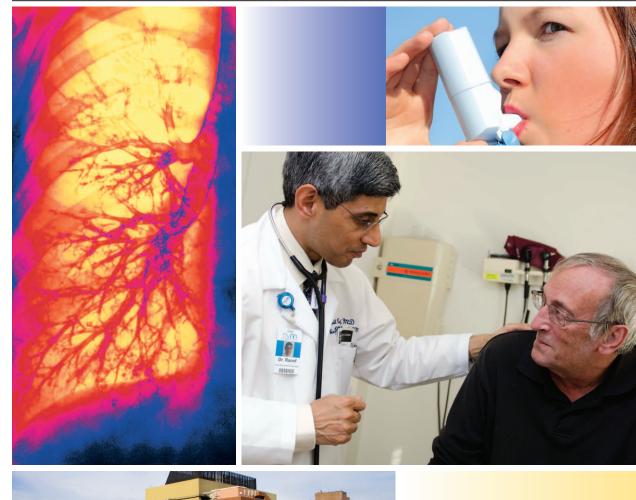
**By Bus:** #67 runs along Seventh Avenue. **By Subway:** Take the "F" or "G" to the Seventh Avenue station. Walk two blocks to the Hospital. You can transfer to the "F" or "G" from the "R" at the Fourth Avenue/Ninth Street station. Transfer to the "F" from the "A" at the Jay Street Boro Hall station.

For Cars: The parking garage entrance is on Sixth Street opposite the Hospital, between Seventh and Eighth Avenues.



Affiliate: Weill Cornell Medical College

# The Institute for **ASTHMA and OTHER** LUNG DISEASES



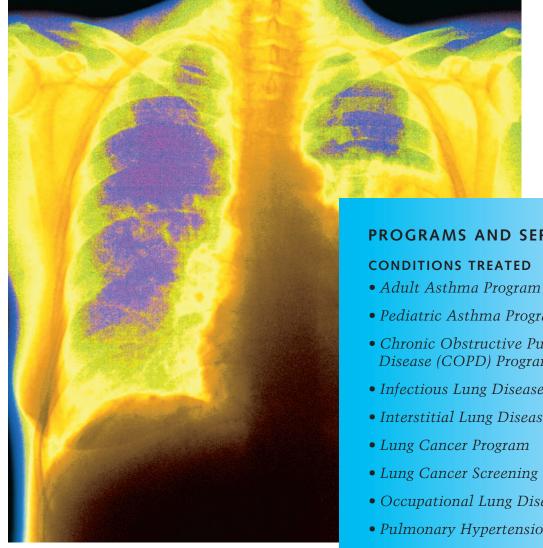




he Institute for Asthma and Lung Diseases at New York Methodist Hospital brings together a unique team of specialists and medical services to provide coordinated, comprehensive screening, diagnosis and treatment of a broad range of lung conditions.

The Institute's panel of physician specialists includes both pediatric and adult pulmonologists, critical care specialists and allergists. A larger constellation of physicians - interventional pulmonologists, medical oncologists, radiologists, radiation oncologists and surgeons - consults on an as-needed basis. State-of-the-art specialty laboratories — including the Interventional Pulmonology Suite, the Pulmonary Function Laboratory, and the Sleep Disorders Center — are conveniently located on the Hospital campus.

Referrals to the specialists, programs and services available at New York Methodist Hospital can be made through an individual's primary care physician or can be requested directly through the Institute's referral service. All diagnostic and therapeutic procedures are performed at New York Methodist Hospital or in the offices of the referred physician. Physicians and other health professionals affiliated with the Institute are available to speak to community groups on a variety of topics related to the prevention and treatment of asthma and other lung disorders.



Cough, shortness of breath, abnormal breathing patterns, chest pain, and chest tightness are the most common clinical signs of lung disease. When one or more of these symptoms are present, it may mean that some important function of the lung has been compromised.

#### **PROGRAMS AND SERVICES**

- Pediatric Asthma Program
- *Chronic Obstructive Pulmonary* Disease (COPD) Program
- Infectious Lung Disease Program
- Interstitial Lung Disease Program

- Occupational Lung Disease Program
- Pulmonary Hypertension Center
- Sleep Disorders Center

#### **DIAGNOSTIC AND TREATMENT** MODALITIES

- Pulmonary Function Laboratory
- Interventional Pulmonolgy Program
- Thoracic Surgery
- Critical Care Inpatient Services
- Pulmonary Rehabilitation Program
- Smoking Cessation Seminars

## CONDITIONS TREATED

#### ADULT ASTHMA PROGRAM

Asthma, a chronic disease of the lungs, occurs when inflammation of the bronchial tubes (the airways to the lungs) causes excess mucus production and a narrowing of the tubes. Symptoms can be mild or severe-ranging from minor wheezing and coughing to extreme difficulty breathing.

Physicians in the adult asthma program diagnose asthma based on physical examination, medical history and the results of pulmonary function tests, which can be performed in the Hospital's Pulmonary Function Laboratory or in the physician's office during the visit.

After a diagnosis of asthma has been made, and depending on the patient's specific symptoms and test results, a variety of treatment options may be available to manage the condition. The physician may prescribe certain medications and devices, which can include inhalers, spacers that attach to inhalers, nebulizers that deliver medication in a mist that is inhaled into the lungs, and medication in tablet form. Much of the time, symptoms are triggered by something specific: a virus, allergies, exercise, particles in the air, etc. Identifying and eliminating these triggers is essential. Some of the procedures we offer to eliminate these triggers include aspirin densensitization, and administration of omalizumab, which is an advanced therapy for severe allergies associated with asthma.

#### PEDIATRIC ASTHMA PROGRAM

Nearly nine million children in the United States have asthma, making it the most common chronic illness of childhood. These numbers appear to be increasing, especially in urban settings. Symptoms may include cough, rapid or noisy breathing, chest congestion and/or tightness, shortness of breath and wheezing.

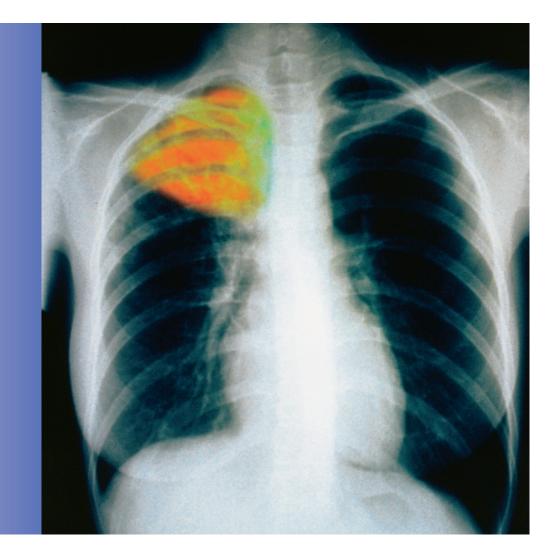
As conditions may present differently in children than in adults, it is important to see a physician who specializes in pediatric asthma. In addition to a physical examination, the doctor will consider the family history of asthma (there may be a genetic predisposition to the disease), allergens and irritants to which the child is exposed, severity of symptoms, and results from breathing tests.

A certified asthma educator is on staff to provide both inpatient and outpatient education to children and adults in how to manage and control asthma exacerbation and in the use of asthma medication and the devices that administer medication.

Working with parents, pediatricians, pediatric pulmonologists, the asthma educator, and a pediatric allergist will create an effective plan to manage the condition. As is the case with adults who have asthma, children must learn to avoid environmental triggers. Medication administered via inhalers, nebulizers and tablets may be prescribed.



The Department of Emergency Medicine and the Pediatric Emergency Service are open at all times to treat patients who are experiencing an severe asthma *attacks. All the technology and equipment needed to* treat these attacks are located in specially designated areas, making emergency treatment efficient and comfortable for patients.



#### CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) PROGRAM

Chronic obstructive pulmonary disease (COPD) is an umbrella term that describes a group of lung diseases that make breathing difficult. COPD is very common, and is the fourth leading cause of death in United States. Emphysema (damaged air sac interfering with oxygen intake and carbon dioxide removal) and chronic bronchitis (inflamed and narrowed airways with increased mucous production) are the two main conditions that constitute COPD. Most patients may have a combination of these in their lungs. The initial symptoms of COPD include shortness of breathespecially on exertion-and cough with phlegm production, particularly in the morning. COPD is most often caused by cigarette smoking.

Diagnosing COPD requires appropriate diagnostic tests, including lung function tests, spirometry, or chest x-ray. Patients diagnosed with COPD may be prescribed medications to be used with an inhaler or nebulizer, and will need to take some important steps to improve their condition: quitting smoking, maintaining good nutrition and a regular exercise program, taking your medications regularly, and getting a pneumonia vaccine and yearly flu vaccines. It is important to maintain regular monitoring of the condition and make adjustments as necessary.

### INFECTIOUS LUNG DISEASE PROGRAM

Pulmonary infections occur in when a person's defense mechanisms against infection are impaired. Pneumonia-an infection of the lung caused by streptococcal pneumonia bacteria — is the most common lung infection. Agents like viruses, in the case of influenza and bacteria, in the case of tuberculosis; as well as fungi, parasites, and occasional non-pathogens may also cause infections in the lung.

When atypical organisms cause a lung infection, pulmonologists use many diagnostic procedures, including bronchoscopy with biopsy of the lung, needle aspiration of lymph nodes or masses, aspiration of the pleural fluid and biopsy of pleura. Once the diagnosis is made, the pulmonary specialists work closely with infectious disease specialists to select the most appropriate treatment for that condition.

### INTERSTITIAL LUNG DISEASE PROGRAM

Commonly called pulmonary fibrosis, interstitial lung disease (ILD) accounts for 15 percent of cases seen by pulmonologists. ILD is a term that that actually includes more than 130 lung disorders — all of which are characterized by scarring of the lungs. Among the most common interstitial lung disorders are pulmonary fibrosis, hypersensitivity pneumonitis, sarcoidosis, and vascular granulomatosis.

Shortness of breath with exercise and a nonproductive cough are the most common symptoms. Other symptoms may include weight loss, fever, fatigue, muscle and joint pain. ILD can be caused by occupational and environmental exposure to organic and inorganic dust, gases and fumes; infections; connective tissue disease such as lupus and rheumatoid arthritis; and chemotherapy and radiation.

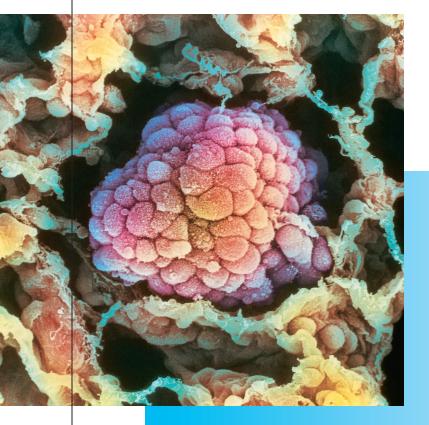
The diagnosis of ILD is made after physicians at the Institute take a medical history, conduct a physical exam, and review the results of tests, which may include a chest x-ray, blood tests, pulmonary function tests, exercise tests, a special type of bronchoscopy to check inflammatory cells in the lung, and surgical lung biopsy, all of which are available at New York Methodist Hospital.

Treatment may include medication, supplemental oxygen, pulmonary rehabilitation, and, if known, eliminating the source of the problem.

#### LUNG CANCER PROGRAM

Depending on the type and stage of the disease, treating lung cancer often requires more than one approach—not just chemotherapy for example, but surgery, radiation, or a combination of these treatments. Treatment may involve services at multiple locations from multiple physicians, technologists and other specialists. The Institute's Comprehensive Lung Cancer Center coordinates and consolidates all services related to the treatment of lung cancer in a single institution.

The Center includes a core group of physicians who are radiation and medical oncologists, thoracic surgeons, pulmonologists, interventional pulmonologists, and interventional radiologists. This entire team of experts meets on a bi-weekly basis to discuss all new cases, and obtain input from all members of the team. The result is a well-coordinated plan of care.



The best way to prevent lung cancer caused by tobacco use is to never start smoking or to quit smoking. Low-dose CT screening is recommended for those people who meet National Lung Screening Trial criteria:

- Current or former smokers aged 55 to 74 years
- A smoking history of at least 30 pack-years
- No history of lung cancer

#### LUNG CANCER SCREENING

When detected at an early stage, lung cancer can be more easily treated, thus leading to higher survival rates. However, early stage lung cancer does not always cause symptoms. The Lung Cancer Screening Program, part of the Hospital's Comprehensive Lung Cancer Center, features a multidisciplinary care team of experts who collaborate to diagnose lung cancer. A lung cancer screening begins with a thorough evaluation by a Program physician, followed by a low-dose, computed topography (CT) scan of the chest. Studies have shown a 20 percent reduction in deaths from lung cancer among current or former heavy smokers who were screened with low-dose computed tomography (CT) versus those screened by traditional chest X-ray. In the event of an abnormal test, the team members will help the patient access all medically necessary, state-of-the-art services.

## OCCUPATIONAL LUNG DISEASE PROGRAM

Occupational lung disease is the most common work-related illness in the United States. Occupational lung cancer is caused by the inhalation of carcinogens in the workplace. Asbestosis, a progressive disease marked by lung tissue scarring, is caused by exposure to microscopic asbestos fibers. Byssinosis, or brown lung disease, is caused by dust from hemp, flax and cotton processing. This chronic condition severely affects lung function. Other occupational lung diseases include: occupational asthma (which occurs when an individual is exposed to dust, vapors, gases or fumes which trigger an asthma attack), black lung disease (limited to coal workers), hypersensitivity pneumonitis (caused by the inhalation of fungus spores from organic sources) and silicosis (resulting from exposure to silica in mines, foundries, stone, clay and glass manufacturing). New York Methodist Hospital's pulmonologists have also evaluated hundreds of World Trade Center rescue workers.

#### PULMONARY HYPERTENSION CENTER

Pulmonary hypertension is a rare but serious disease that causes high blood pressure in the arteries that supply blood to the lungs. When these tiny blood vessels become narrowed, blocked or destroyed, blood pressure builds, thus making the heart work harder to force the blood through these channels. If the pressure is high enough, eventually the heart can't keep up with the increasing demands, and less blood circulates through the lungs, resulting in low oxygen availability to the tissues of the body. The increased stress on the heart can eventually lead to heart failure and death.

Until recently, effective medical therapy did not exist for this condition. Now, medical therapy that prolongs life and improves quality of life is available at the

Institute's Pulmonary Hypertension Center. The Center provides an integrated approach to the diagnosis and management of pulmonary hypertension and offers on-site diagnostic testing, including catheterization of the right heart. The patient care team includes a primary care physician, a pulmonologist specializing in pulmonary hypertension, a pulmonary hypertension nurse, as well as specialists in cardiology, rheumatology, sickle cell disease and radiology.

#### SLEEP DISORDERS CENTER

Sleep disorders are very common problem, yet they are frequently undiagnosed. The vast majority of sleep disorders are the result of breathing abnormalities, including obstructive sleep apnea (a potentially life-threatening condition that causes breathing to stop frequently throughout the night), severe snoring (which can be a symptom of a serious upper airway disorder), and breathing disorders related to cardiac and neurologic disease. Many symptoms of lung conditions—such as asthma and COPD—that are present when an individual is awake may worsen when asleep.

Patients—both children and adults—who are potential candidates for sleep studies will be referred to the Hospital's state-of-the-art Sleep Disorders Center, which offers full daytime and nighttime sleep studies in a hotel-like bedroom located across



the street from the Hospital. Normal activities can be maintained prior to and after the study. The study, which is painless, monitors brain patterns, heart activity, breathing, and muscle movements. If a sleep disorder is diagnosed, appropriate treatments are utilized to eliminate symptoms associated with the sleep disorder and improve the cardiovascular health of the patient. The Sleep Disorders Center also offers a comprehensive insomnia program as well as home-based sleep studies. The Center is one of the few sleep centers in Brooklyn to receive full accreditation from the American Academy of Sleep Medicine.



## DIAGNOSTIC AND TREATMENT MODALITIES PULMONARY FUNCTION LABORATORY

Physicians refer patients (both pediatric and adult) to the Institute's Pulmonary Function Laboratory to evaluate the extent of lung disease, to determine the effectiveness of new and current treatments, and to measure how severely the lungs are damaged.

Many of the tests performed at the Laboratory are non-invasive, which means they do not involve needles, dye or x-rays. Among these non-invasive tests is spirometry, which measures the air flow in different parts of the lungs. Many physicians recommend that smokers and those exposed to certain irritants or who have symptoms like cough and shortness of breath, should undergo spirometry testing regularly.

Services at the Pulmonary Function Laboratory also include plethysmography, the most accurate test available to measure total lung volume; bronchial provocation testing, which provides physicians with valuable treatment information for the management of asthma; pulmonary stress tests to evaluate lung and cardiac limitations at full exertion, and arterial blood gas studies to analyze gas pressures in the blood.

#### INTERVENTIONAL PULMONOLOGY PROGRAM

Interventional pulmonology is a less invasive way to diagnose and treat lung disorders. New York Methodist Hospital is the only hospital in Brooklyn and one of the few in the nation to offer —this a minimally invasive technique, which can take the place of traditional surgery in the treatment of lung disease. Interventional pulmonologists work closely with oncologists, radiation oncologists, radiologists, thoracic surgeons and other health professionals to determine the best route of care for each patient.

Because most interventional pulmonology services are performed on an outpatient basis, patients recover quickly and can more easily continue their chemotherapy or radiation treatments.

Using modern technology, interventional pulmonologists perform a variety of diagnostic, therapeutic and palliative procedures. These include stenting and laser therapy for patients with lung cancer, endobronchial ultrasound to determine the stage of lung cancer, autofluorescence bronchoscopy to detect early changes of lung cancer in the airways, electromagnetic navigation to guide biopsy instruments to small lesions, and other modalities to relieve airway obstruction caused by benign lesions such as polyps or scar tissue. Interventional pulmonology is especially beneficial for patients with lung cancer, a disease on the rise in Brooklyn. Patients suffering from lung cancer often experience airway blockages that cause significant shortness of breath, limiting patients' ability to undergo chemotherapy or radiation.

Many people who have undergone traditional treatment options in the past but have had minimal results, are able to enjoy a greatly improved quality of life after undergoing an interventional pulmonology procedure. Most patients have a low risk of complications, have rapid relief from symptoms and go home the same day as the procedure.

#### THORACIC SURGERY

Thoracic surgery is used to treat patients whose conditions necessitate surgery of the lung, esophagus, chest wall, diaphragm or other structures within the chest. The thoracic surgeons at NYM offer highly advanced procedures, techniques, and therapies for thoracic conditions, which affect the heart, lungs, and chest area. Minimally invasive thoracic surgery (thoracic surgery using smaller incisions) can often be used to treat chest, lung, and heart diseases, including lung cancer. Advanced techniques include video-assisted thoracic surgery (VATS) and roboticassisted surgery.

Minimally invasive thoracic surgery is associated with less bleeding, less need for blood transfusions, and less harm to a patient's immune system, compared to traditional surgery. In addition, patients experience less pain, a shorter hospital stay, and a faster recovery.

New York Methodist Hospital has been named a Center of Excellence Epicenter for Robotic Thoracic Surgery, the first such center in the Northeast and the third in the United States. The da Vinci® Surgical System, a powerful tool, provides advanced three-dimensional visualization and enhanced dexterity that allows the surgeon to operate through tiny incisions, providing increased surgical precision and, in many cases, a better outcome and a better patient experience.

#### CRITICAL CARE INPATIENT SERVICES

The Critical Care Unit at New York Methodist Hospital is a 20-bed combined medical and surgical intensive care unit. Under the direction of a board-certified intensivist, a multidisciplinary team comprised of physicians, critical care nurses, respiratory therapists, critical care pharmacists, dietitians, social workers and clergy cares for patients admitted to the intensive care unit.

The most advanced technology is available on the Unit, including high-frequency ventilation, volume diffusive ventilation, extracorporeal lung support, and bedside ultrasound.

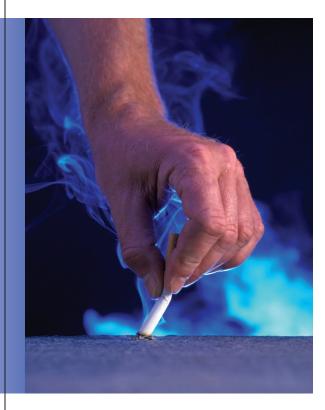


#### PULMONARY REHABILITATION PROGRAM

Pulmonary rehabilitation is a medically supervised program designed to help individuals with respiratory diseases improve their breathing and enhance their quality of life. Individuals with conditions such as chronic bronchitis, emphysema, pulmonary fibrosis, pre and post lung transplant and pulmonary hypertension can benefit greatly from pulmonary rehabilitation.

Pulmonary rehabilitation is offered on an outpatient basis in the pulmonary rehabilitation lab on the Hospital campus. A commitment of three, one-hour sessions each week for eight weeks is suggested to achieve maximum potential. The program begins with an evaluation consisting of a six-minute walk test and pulmonary exercise stress test. This is followed by an evaluation by one of the Institute's board-certified pulmonologists.

For qualified candidates, a typical pulmonary rehabilitation program consists of education on proper breathing techniques, aerobic and conditioning training, flexibility exercises utilizing a variety of equipment to gradually build strength and stamina. Heart rate, blood pressure, oxygen saturation levels are closely monitored throughout each session.



#### SMOKING CESSATION SEMINARS

Smoking and tobacco use is the leading preventable cause of emphysema, chronic obstructive pulmonary disease (COPD), heart disease, stroke and cancer. The Institute for Asthma and Lung Diseases offers options for patients who want more information about quitting. Individual counseling sessions with pulmonologists familiar with the struggles of smoking cessation are available. Group courses for smoking cessation, involving counseling and peer support, are available and taught by an experienced instructor. Questions about medication options, free smoking cessation resources, information about the risks of smoking and health benefits of smoking cessation are answered during these sessions.