



Lung Disease • Intensive Care Medicine • Sleep Disorders

1895 Floyd St. • Sarasota, FL 34239 • (941) 366-5864

We help to make *Breathing* easier and *Sleeping* sounder

## About the Practice:

**Lung Associates are committed to the care of their patients and to the values of trust, excellence, responsibility and respect...**

The physicians and staff of Lung Associates of Sarasota care for patients with diseases of the lungs as well as sleep disorders. The physicians are Board Certified in Pulmonary Disease and Critical Care Medicine. In-patient and out-patient coverage is available 24 hours/day. They have admitting privileges at Sarasota Memorial Hospital and

consulting privileges at HealthSouth and RidgeLake Hospitals.

Lung Associates offers onsite a Pulmonary Function Lab staffed by Registered Respiratory Therapists. In addition, an Accredited Sleep Center staffed by physicians who are Board Certified in Sleep Medicine and Registered Polysomnographic Technologists.

### What is Pulmonology?

Pulmonology is the branch of internal medicine that diagnoses and treats

diseases and abnormalities of the chest and lungs, including tuberculosis, pneumonia, bronchitis, emphysema and asthma. The most common reasons patients are referred to a pulmonologist are a persistent cough lasting three weeks or longer, shortness of breath and wheezing. Although some of these diseases typically have their onset later in life, others strike during childhood or young adulthood. Certain difficulties can be treated or cured with medication, while others require a change in the patient's lifestyle.

## Meet the Doctors:



**Bruce M. Fleegler, MD.** He attended University of Pennsylvania in obtaining his medical degree and did his internship at University of Maryland Hospital. He completed his Pulmonary Fellowship at the Hospital of the University of PA in Philadelphia.

He has served on multiple hospital committees and held administrative positions such as Medical Director of Critical Care and Chief of Staff at Sarasota Memorial Hospital. Dr Fleegler has participated in multiple clinical research studies as part of his commitment in promoting progress within the pulmonary field of medicine. In addition, he has been an invited guest speaker and authored and co-authored many articles in leading medical journals. He currently serves as Clinical Assistant Professor of Medicine at Florida State University.



**Rabih H. Loutifi, MD,** joined Lung Associates in 2008. He completed his education at American University of Beirut with a Doctorate of Medicine. His residency and internship in Internal Medicine was

at Northeastern Ohio Universities with his fellowship training in Pulmonary and Critical Care Medicine at Baylor College of Medicine in Houston TX.

Dr. Loutifi is Board Certified in Internal Medicine, Pulmonary Medicine, and Critical Care Medicine.



**Craig H. Harcup, MD,** born in Brooklyn NY, joined Lung Associates in 1984 after obtaining his medical degree from Georgetown University of Medicine. He completed his residency at Montefiore Hospital in Pittsburg, followed with a fellowship training in Pulmonary Medicine at the University of Miami.

Dr Harcup serves as Medical Director at SMH for Respiratory Services. He is boarded certified in Internal Medicine, Pulmonary Medicine, as well as Critical Care Medicine. In addition, he serves as a principal and sub investigator at the clinical research center of SMH in multiple research projects. With his medical expertise he serves as the Board Chairman at Sarasota School of Arts & Sciences and on the advisory board for the Florida Health Site.



**Gregory J. Ferreira, MD** began his training at ST George's University School of Medicine and continued his residency and fellowship training at Winthrop University Hospital in Mineola NY. He completed his Pulmonary, Critical Care, and Sleep Medicine Fellowship at Winthrop as well. He is board certified in Pulmonary Medicine as well as in Sleep Medicine.

Dr. Ferreira joined the Lung Associates in 2005 and he serves as the Medical Director for their sleep laboratory, The Sleep Center of Sarasota. He has taken a particular interest in Pulmonary Hypertension and is also involved in numerous research studies involving COPD and Pulmonary Hypertension.



**Kenneth M. Hurwitz, MD,** a born native of Florida, obtained his medical degree from USF College of Medicine in Tampa. He completed his residency in Internal Medicine at Walter Reed Army Medical Center in Washington DC as well as his Fellowship in Pulmonary and Critical Care Medicine. He is board certified in Internal Medicine, Pulmonary Medicine and Critical Medicine by the American Board of Internal Medicine.

Dr. Hurwitz has served as Medical Director of a Tuberculosis Clinic and as Directory of a Pulmonary Function Lab at Walter Reed. He joined Lung Associates of Sarasota in 2000. He has co-authored numerous clinical publications in medical journals such as Chest and the American Journal of Respiratory and Critical Care Medicine. He is an assistant professor for FSU College of Medicine and is currently the Director of Critical Care Services at Sarasota Memorial Hospital.

**Kisha J. Morgan, MD** attended medical school in Washington DC at HU College of Medicine. She did her internship, Internal Medicine training and Pulmonary/Critical Care fellowship at the University of Miami/Jackson Memorial Hospital. She participated in various research projects including tropical medicine specifically focusing on malaria and highly resistant tuberculosis. She joined the practice in 2005 after completion of her training.

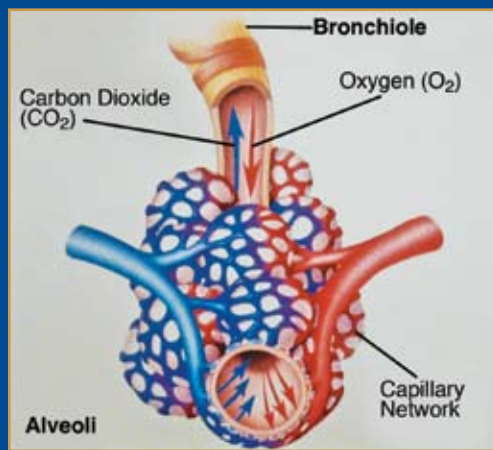


**Deborah A. Voutour, ARNP** received her MS Advanced Registered Nurse Practitioner degree from USF and joined the practice in 2003. Prior to obtaining her ARNP she worked as a nurse in several of the local hospitals in Emergency Care and Cardiac Care.

In her position, Deborah collaborates with the physicians in the ordering of diagnostic tests, treatment and management of the patient's healthcare. She also consults with other physicians and healthcare professionals.

**Jeffrey Kienzle, PA-C** joined the practice in 2004. He obtained his BS and Physician Assistant from State University of New York at Stony Brook. He began his medical career as a Medical Technologist working in New York. Mr. Kienzle is certified by the National Commission in Certification of Physician Assistants. He assists the physicians in diagnosis and treatment of patients with pulmonary and sleep disorders.





## Normal Lungs

The air we breathe in through our nose and mouth passes through the **vocal cords (larynx)** and into the **windpipe (trachea)**. The air then enters the lungs by way of two large **air passages (bronchi)**, one for each lung. The bronchi divide within each lung into smaller and smaller **air tubes (bronchioles)**, just like branches of an inverted tree. Inhaled air is brought through these airways to the millions of **tiny air sacs (alveoli)** that are contained in the lungs. **Oxygen (O<sub>2</sub>)** passes from the air sacs into the bloodstream through numerous tiny blood vessels called capillaries. Similarly, the body's waste product, **carbon dioxide (CO<sub>2</sub>)**, is returned to the air sacs and then eliminated upon each exhalation.

Normal bronchial tubes allow rapid passage of air in and out of the lungs to ensure that the levels of O<sub>2</sub> and CO<sub>2</sub> remain constant in the bloodstream. The outer walls of the bronchial tubes are surrounded by smooth muscles that contract and relax automatically with each breath. This allows the required amount of air to enter and exit the lungs to achieve this normal exchange of O<sub>2</sub> and CO<sub>2</sub>. The contraction and relaxation of the bronchial smooth muscles are controlled by two different nervous systems that work in harmony to keep the airways open.

The inner lining of the bronchial tubes, called the bronchial mucosa, contains: **(1) mucus glands** that produce just enough mucus to properly lubricate the airways; and **(2) a variety of so-called inflammatory cells** that protect the bronchial mucosa from the microorganisms, allergens, and irritants we inhale that may cause the bronchial tissue to swell. These inflammatory cells are also important players in the allergic reaction which make them a prime target for allergic inflammation.

## Diagnostic Testing

The physicians at Lung Associates will do a complete history and physical at your first appointment to evaluate the symptoms and assess the cause. In addition, the following diagnostic tests may be done during the course of treating you. They include:

**CHEST X-RAY:** to look at the lungs.

**BLOOD TESTS:** to check for anemia or low blood count.

**HEART TRACING (called an electrocardiogram or ECG):** to see if there is any heart damage.

**MUSCLE AND NERVE TESTING:** to see if your muscles or nerves are causing weak breathing muscles (this is rare).



## Pulmonary function tests:

to see how well the lungs get air in and out. These tests can help identify problems of the airways or bronchial tubes, such as COPD (chronic obstructive pulmonary disease), asthma, scarring of the lungs (fibrosis), or other breathing problems. For this test, you breathe into a mouthpiece attached to a recording device (spirometer). The information collected by the spirometer may be printed out on a chart called a spirogram.

## DID YOU KNOW FACTS ?

If all of the air sacs (alveoli) in the lungs of a person were spread out flat, their membranes would cover an area the size of a tennis court.



## Body plethysmography:

may be used to measure Total lung capacity (TLC), which is the total amount of air your lungs can hold and Residual Volume (RV) which is the amount of air that remains in your lungs after you exhale as completely as possible. For these tests, you sit inside an airtight booth called a plethysmograph and breathe through a mouthpiece while pressure and air flow measurements are collected.

## Inhalation challenge tests:

are done to measure the response of your airways to substances (allergens) that may be causing asthma or wheezing or the effect of chemicals such as histamine or methacholine on your airways. During inhalation testing, increasing amounts of an allergen are inhaled through a nebulizer, a device that uses a face mask or mouthpiece to deliver the allergen in a fine mist (aerosol). Before and after inhaling the substance, spirometry readings are taken to evaluate lung function.

## Bronchoscopy:

If the breathing tests show that something is blocking your airway, your doctor may need to look into your airways with a lighted scope. This procedure is called a bronchoscopy. This test may also be necessary, along with a biopsy of the lung, if the chest x-ray or CT scan shows areas which are not normal.



## Gas diffusion tests:

measure the amount of oxygen and other gases that cross the lungs' air sacs (alveoli) per minute. These tests evaluate how well gases are being absorbed into your blood from your lungs. Gas diffusion tests include: Arterial blood gases, which determine the amount of oxygen and carbon dioxide in your bloodstream and Carbon monoxide diffusing capacity, which measures how well your lungs transfer a small amount of carbon monoxide (CO) into the blood.

## Exercise stress tests:

evaluate the effect of exercise on lung function tests. Spirometry readings are done after exercise and then again at rest.

## CT scan of the chest:

shows more detail than a chest x-ray and may show nodules, tumors, infections or scarring in the lungs (interstitial lung disease). Sometimes CT scans are done with contrast. This means a dye is injected into a vein to give an even more detailed view.

# Chronic Obstructive Lung Disease (COPD)

**COPD** refers to a chronic, irreversible condition that leads to airflow limitations. The most common types include emphysema and chronic bronchitis. The most common cause of the condition is cigarette smoking. Other less common causes include environmental factors such as air pollution, coal burning, and genetic factors such as Alpha-1 antitrypsin deficiency.

#### Presenting symptoms include:

- Shortness of breath
- Cough
- Wheezing
- Fatigue
- Chest pain/tightness

## Emphysema

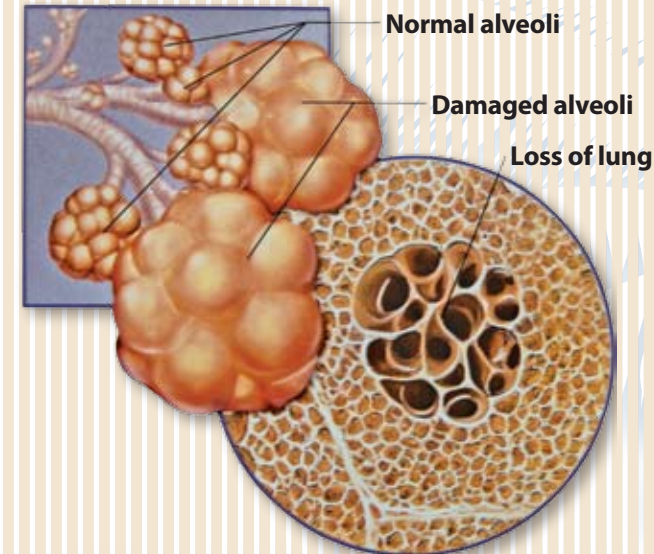
Emphysema refers to irreversible destruction of the air sacs (alveoli) in the lungs. This prevents adequate gas exchange in the lungs. When you breathe out, stale air becomes trapped inside the air sacs making it harder for fresh air (oxygen) to come in and carbon dioxide (CO<sub>2</sub>) to go out. The blood vessels around the air sacs are also damaged, which prevents fresh air (oxygen) from reaching the blood stream and carbon dioxide (CO<sub>2</sub>) from going out of the body.

#### TREATING EMPHYSEMA

This is not a curable disease, once lung damage has occurred it cannot be reversed. The goal of treatment is to stop further lung destruction and preserve lung function.

## DID YOU KNOW FACTS ?

The National Heart, Lung, and Blood Institute (NHLBI) estimates that 12 million adults have COPD, and another 12 million are undiagnosed or developing COPD.



#### TREATMENT

The focus is on improving quality of life and limiting the intrusion of emphysema on daily activities by:

- Stop smoking (#1 Goal)
- Education, Counseling, and support Groups
- Pulmonary Rehabilitation – Programs that will improve overall physical endurance and sense of well being.
- Medications – that include pills and/or inhalers

**Bronchodilators** that are used to relax the smooth muscles and allow more air flow. **Corticosteroids** help suppress the inflammatory components of COPD. Many patients with emphysema need only take steroids when their symptoms flare, but others require daily therapy (eg. albuterol, spiriva, servent, advair, foradil or atrovent).

**Antibiotics** may be prescribed when the usually clear sputum changes color, or when the patient presents with systemic signs of an infection (fever, chills, weakness).

**Oxygen** may be required as the disease progresses. Often it begins with nighttime use, then with exercise, and as the disease worsens, the need to use oxygen during the day for routine activities increases.

## Prominent Risk Factors:

**1. SMOKING** COPD most often occurs in those 40 years of age and older who have a history of smoking, either current or former smokers. Although as many as 1 out of 6 individuals with COPD have never smoked, smoking does remain the most common cause of COPD and accounts for as many as 9 out of 10 COPD-related deaths.

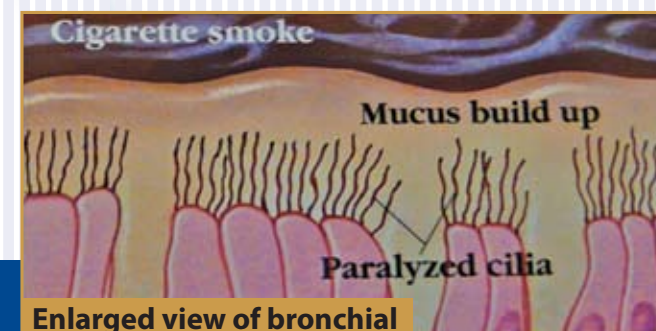
**2. ENVIRONMENTAL FACTORS** COPD can also occur in those who have had long-term contact with harmful pollutants either outside or in the workplace. Some of these harmful lung irritants include certain chemicals, dust, or fumes in the workplace. Heavy or long-term contact with secondhand smoke or other lung irritants may also cause COPD.

**3. GENETIC FACTORS** Alpha-1 Antitrypsin (AAT) Deficiency is the most common known genetic risk factor for emphysema. Alpha-1-related COPD is caused by a deficiency of the AAT protein in the bloodstream that allows white blood cells to begin to harm the lungs and lung deterioration occurs.

## Important Steps for Better Living with COPD:

- Quit smoking (This is the number one goal)
- Get flu and pneumonia shots
- Understand your COPD medicines
- Exercise and get good nutrition
- Conserve your energy and control stress
- Control your breathing
- Use oxygen therapy
- Manage acute exacerbations

Remember, your best chance of success is with the help of others.



## What is Bronchitis?

Bronchitis is a respiratory disease in which the mucous membrane in the lungs' bronchial passages becomes inflamed. As the irritated membrane swells and grows thicker, it narrows or shuts off the tiny airways in the lungs, resulting in coughing spells accompanied by thick phlegm and breathlessness. The disease comes in two forms: acute (lasting less than 6 weeks) and chronic (reoccurring frequently for more than two years).

**ACUTE BRONCHITIS** is responsible for the hacking cough and phlegm production that sometimes accompany an upper respiratory infection. In most cases the infection is viral in origin, but sometimes it's caused by bacteria. If you are otherwise in good health, the mucous membrane will return to normal after you've recovered from the initial lung infection, which usually lasts for several days.

**CHRONIC BRONCHITIS** is a serious long-term disorder that often requires regular medical treatment. If you are a smoker and come down with acute bronchitis, it will be much harder for you to recover. Smoking may do sufficient damage to the cilia to prevent them from functioning properly or even eventually stop functioning altogether. The lungs are then vulnerable to viral and bacterial infections, which over time distort and permanently damage the lungs' airways. This permanent condition is called COPD.

## Symptoms of bronchitis:

- A cough that is frequent and produces mucus
- A lack of energy
- A wheezing sound when breathing, which may or may not be present
- A fever, which may or may not be present

You should see your physician if you have any of these symptoms:

- A chest cold that lasts for more than two weeks
- A fever greater than 102°F
- A cough that produced blood
- A shortness of breath or wheezing

If you have a dry cough and cough up little to no mucus, the physicians at Lung Associates may prescribe a cough medicine to suppress your cough. He or she may also prescribe an expectorant to help loosen mucus so it can be more easily coughed up.

Because most episodes of bronchitis are caused by viruses, antibiotics will not be useful or necessary. Exceptions would be bronchitis caused by a bacterial infection or bronchitis in a person who has impaired lung function.

## DID YOU KNOW FACTS ?

COPD (Chronic Obstructive Pulmonary Disease) affects an estimated 24-36 million individuals in the U.S. and over half of them are undiagnosed—meaning they don't know they have COPD.

## DID YOU KNOW FACTS ?

COPD is the fourth leading cause of death in the U.S., accounting for 126,129 deaths in 2003.

## Asthma

Asthma is a chronic inflammation of the bronchial tubes (airways) that cause swelling and narrowing of the airways. The result is difficulty breathing. The bronchial narrowing is usually either totally or at least partially reversible with treatments.

Bronchial tubes that are chronically inflamed may become overly sensitive to allergens or irritants. In sensitive individuals, the bronchial tubes are more likely to swell and constrict when exposed to triggers such as allergens, tobacco smoke, or exercise. This muscle constriction of the airways is called bronchospasm, which causes the airway to narrow further.

### TYPICAL SYMPTOMS AND SIGNS OF ASTHMA

The symptoms of asthma vary from person to person and in any individual from time to time. It is important to remember that many of these symptoms can be subtle and similar to those seen in other conditions so diagnostic testing is important in recognizing this disorder. This naturally influences the type and dose of medication prescribed, which may vary from one individual to another.

### THE MAJOR RECOGNIZED SYMPTOMS:

- **Shortness of breath:** especially with exertion or at night
- **Wheezing:** a whistling or hissing sound when breathing out
- **Coughing:** may be chronic, is usually worse at night and early morning, and may occur after exercise or when exposed to cold, dry air



## What is Pleurisy?

Pleurisy is inflammation of the linings around the lungs (the pleura). There are two layers of pleura: one covering the lung (termed the visceral pleura) and the other covering the inner wall of the chest (the parietal pleura). These two layers are lubricated by pleural fluid.

Pleurisy is frequently associated with the accumulation of extra fluid in the space between the two layers of pleura. This fluid is referred to as a pleural effusion. Pleurisy is also referred to as pleuritis.

The pain fibers of the lung are located in the pleura. When this tissue becomes inflamed, it results in a sharp pain in the chest that is worse with breathing in, aka pleurisy. Other symptoms of pleurisy can include cough, chest tenderness, and shortness of breath.

### PLEURISY CAN BE CAUSED BY ANY OF THE FOLLOWING CONDITIONS:

- **Infections:** bacterial, fungus, parasites, or viruses Inhaled chemicals or toxic substances: exposure to some cleaning agents like ammonia
- **Collagen vascular diseases:** lupus, rheumatoid arthritis
- **Cancers:** the spread of lung cancer or breast cancer to the pleura
- **Tumors of the pleura:** mesothelioma or sarcoma
- **Congestion:** heart failure
- **Obstruction of lymph channels:** as a result of centrally located lung tumors
- **Trauma:** rib fractures or irritation from chest tubes used to drain air or fluid from the pleural cavity in the chest
- **Certain drugs:** drugs that can cause lupus-like syndromes
- **Abdominal processes:** such as pancreatitis, cirrhosis of the liver
- **Lung infarction:** lung tissue death due to lack of oxygen from poor blood supply

## Diagnosing Pleurisy:

Pleurisy is diagnosed first by clinical findings of symptoms and listening to the lungs with stethoscope for specific friction rubs. In addition the following may be ordered to help with the diagnosis:

**CHEST X-RAY** is an accurate tool in diagnosing small amounts of fluid in the pleural space.

**ULTRASOUND** is also a very sensitive method of detecting the presence of pleural fluid.

**CT SCAN** can be very helpful in detecting trapped pockets of pleural fluid as well as in determining the nature of the tissues surrounding the area.

**ASPIRATION**, the removal of pleural fluid with a needle and syringe is essential in diagnosing the cause of pleurisy. The fluid's color, consistency, and clarity are analyzed in the laboratory.

## Thoracentesis

Thoracentesis is a procedure to remove fluid from the space between the lungs and the chest wall called the pleural space. It is done with a needle inserted through the chest wall. This pleural fluid may be sent to a lab to determine what may be causing the fluid to accumulate in the pleural space.

### THORACENTESIS MAY BE DONE TO:

- \* Determine the cause of excess pleural fluid (pleural effusion).
- \* Relieve shortness of breath and pain caused by a pleural effusion.

## DID YOU KNOW FACTS ?

Asthma is now the most common chronic illness in children, affecting one in every 15. In North America, 5% of adults are also afflicted. In all, there are about 1 million Canadians and 15 million Americans who suffer from this disease.

The number of new cases and the yearly rate of hospitalization for asthma have increased about 30% over the past 20 years. Even with advances in treatment, asthma deaths among young people have more that doubled.

There are about 5,000 deaths annually from asthma in the U.S. and about 500 deaths per year in Canada.

Prolonged attacks of asthma that do not respond to treatment with bronchodilators are a medical emergency. Physicians call these severe attacks "status asthmaticus," and they require immediate emergency care.

## Tuberculosis at a Glance

- Tuberculosis (TB) is an infection, primarily in the lungs (a pneumonia), caused by bacteria called Mycobacterium tuberculosis. It is spread usually from person to person by breathing infected air during close contact.
- TB can remain in an inactive (dormant) state for years without causing symptoms or spreading to other people.
- When the immune system of a patient with dormant TB is weakened, the TB can become active (reactivate) and cause infection in the lungs or other parts of the body.
- The risk factors for acquiring TB include close-contact situations, alcohol

and IV drug abuse, and certain diseases (for example, diabetes, cancer, and HIV) and occupations (for example, health-care workers).

- The most common symptoms of TB are fatigue, fever, weight loss, coughing, and night sweats.
- The diagnosis of TB involves skin tests, chest x-rays, sputum analysis (smear and culture), and PCR tests to detect the genetic material of the causative bacteria.
- Inactive tuberculosis may be treated with an antibiotic, isoniazid (INH), to prevent the TB infection from becoming active.
- Active TB is treated, usually successfully, with INH in combination with

one or more of several drugs, including rifampin, ethambutol, pyrazinamide, and streptomycin.

- Drug-resistant TB is a serious, as yet unsolved, public-health problem, especially in Southeast Asia, the countries of the former Soviet Union, Africa, and in prison populations. Poor patient compliance, lack of detection of resistant strains, and unavailable therapy are key reasons for the development of drug-resistant TB.
- The occurrence of HIV has been responsible for an increased frequency of tuberculosis. Control of HIV in the future, however, should substantially decrease the frequency of TB.

# What is a Pulmonary Embolism?

If a **blood clot (thrombus)** forms in the one of the body's veins, it has the potential to break off and enter the circulatory system and travel (or embolize) through the heart and become lodged in the one of the branches of the pulmonary artery of the lung. A clot that travels through the circulatory system to another location is known as an embolus.

A pulmonary embolus clogs the artery that provides blood supply to part of the lung. The embolus not only prevents the exchange of oxygen and carbon dioxide, but it also decreases blood supply to the lung tissue itself, potentially causing lung tissue to die (infarct). A pulmonary embolus is one of the life-threatening causes of chest pain and should always be considered when a patient presents to a healthcare provider with complaints of chest pain and shortness of breath.

**Non-thrombus causes of pulmonary embolus are rare but include:** fat emboli from a broken femur, an amniotic fluid embolus in pregnancy, and in some cases, tumor tissue from cancer.



## PULMONARY EMBOLISM IS DIAGNOSED WITH:

- **History and physical examination:** Listening to heart and breath sounds, assessing extremities for signs of DVT, and concise history of chest pain and symptoms.
- **Basic Testing includes:** CBC, Electrolytes, BUN, Creatinine blood test, Chest x-ray, EKG.
- **Definitive Tests:** The most definitive frequently used test is the Cat Scan Angiogram. This is an xray image similar to nost cat scans where a donut shaped machine creates three dimensional images of the lungs including the blood vessels. Dye is injected through a vein in the arm to show blockage in the pulmonary arteries.

## ARDS

ARDS occurs when there is severe inflammation in both lungs resulting in an inability of the lungs to function properly. What causes this widespread lung inflammation called ARDS.....the truth is that no one knows the precise reason why ARDS occurs.

We do know that ARDS can be caused by two basic mechanisms. The first is a direct physical or toxic injury to the lungs. Examples of this include the inhalation of vomited stomach contents (aspiration), smoke or other toxic fumes, and a severe "bruising" of the lungs that usually occurs after a severe blow to the chest.

The other mechanism that causes ARDS is more common but is more difficult to understand. When a person is very sick or the body severely injured, some chemical signals are released into the bloodstream. These signals reach the lung, and the lung reacts to these messages by becoming inflamed, thus causing lung failure. Examples of this type of indirect lung injury include the presence of a severe infection somewhere in the body (sepsis), a severe injury to some part of the body, severe bleeding that requires many units of blood, and some types of drug overdoses. There are several other rare causes of ARDS, but the two most common causes are sepsis and severe trauma.

At this time there is no specific treatment for ARDS although several therapies are now being tested. Patients with ARDS are supported on a breathing machine (ventilator) to maintain enough oxygen in the bloodstream while they recover from ARDS and their other injuries or illness.

## What is Sarcoidosis?

Sarcoidosis involves inflammation that produces tiny lumps of cells in various organs in your body that are not a form of cancer. The lumps are called granulomas because they look like grains of sugar or sand and can be seen only with a microscope. They can grow and clump together, making many large or small groups of lumps. If many granulomas form in an organ, they can affect how the organ works.

# Pneumonia at a Glance

- Pneumonia is a lung infection that can be caused by different types of microorganisms, including bacteria, viruses, and fungi.
- Symptoms of pneumonia include cough with sputum production, fever, and sharp chest pain on inspiration (breathing in).
- Pneumonia is suspected when a doctor hears abnormal sounds in the chest, and the diagnosis is confirmed by a chest x-ray.
- Bacteria causing pneumonia can be identified by sputum culture.
- A pleural effusion is a fluid collection around the inflamed lung.
- Bacterial and fungal (but not viral) pneumonia can be treated with antibiotics.

The physicians and their clinical extenders work together in planning and implementing your care in treating the condition you present with. This



collaboration and team work will provide you with the best care and outcomes to improve your quality of life.

## DID YOU KNOW FACTS ?

Spontaneous pneumothorax affects about 9,000 persons each year in the U.S. who have no history of lung disease. This type of pneumothorax is most common in men between the ages of 20 and 40, particularly in tall, thin men. Smoking has been shown to increase the risk for spontaneous pneumothorax.



## What is a pneumothorax?

A pneumothorax is a collection of free air in the chest outside the lung that causes the lung to collapse.

### WHAT ARE THE TYPES OF PNEUMOTHORAX?

A spontaneous pneumothorax, also referred to as a **primary pneumothorax**, occurs in the absence of a traumatic injury to the chest or a known lung disease.

A **secondary pneumothorax** occurs as a result of an underlying condition. Pneumothorax may also occur following an injury to the chest wall such as a fractured rib, any penetrating injury (gun shot or stabbing), surgical invasion of the chest, or may be deliberately induced in order to collapse the lung. A pneumothorax can also develop as a result of underlying lung diseases, including cystic fibrosis, chronic obstructive pulmonary disease (COPD), lung cancer, asthma, and infections of the lungs.

Symptoms of a pneumothorax include chest pain that usually has a sudden onset. The pain is sharp and may lead to feelings of tightness in the chest. Shortness of breath, rapid heart rate, rapid breathing, cough, and fatigue are other symptoms of pneumothorax. The skin may develop a bluish color (termed cyanosis) due to decreases in blood oxygen levels.

A pneumothorax is diagnosed by examination of the chest with a stethoscope. This reveals decreased or absent breath sounds over the affected lung, but the diagnosis is confirmed by chest x-ray.

### HOW IS A PNEUMOTHORAX TREATED?

A small pneumothorax without underlying lung disease may resolve on its own in one to two weeks. A larger pneumothorax and a pneumothorax associated with underlying lung disease often require aspiration of the free air and/or placement of a chest tube to evacuate the air. Possible complications of chest tube insertion include pain, infection of the space between the lung and chest wall (the pleural space), hemorrhage (bleeding), fluid accumulation in the lung, and low blood pressure (hypotension). In some cases, the leak does not close on its own. This is called a bronchopleural fistula, and may require chest surgery to repair the hole in the lung.

# Pulmonary Fibrosis

**Pulmonary Fibrosis (PF)** is a debilitating disease-marked by progressive scarring of the lungs-that gradually interferes with a person's ability to breathe. PF belongs to a family of approximately 100 related diseases, called interstitial lung diseases, which have similar characteristics and can result in lung scarring. This scarring is most often referred to as pulmonary fibrosis.

## WHAT CAUSES PF?

While the cause of PF remains a mystery, what researchers suspect is that PF involves changes in the lung's normal healing process. PF patients may have an exaggerated or uncontrolled healing response that, over time, produces excessive fibrous scar tissue - or fibrosis - in the lungs. This scarring, in turn, causes the lung's tiny air sacs, called alveoli, to thicken and stiffen-rendering them less able to function and provide the body with the oxygen it needs.

Exactly what sets this abnormal tissue-repair process in motion is unclear. The body's own immune response may play a major role. Researchers are investigating a number of potential risk factors that may make a person more likely to develop PF. These risks may include:

- Cigarette smoking
- Occupational exposure to dusty environments (e.g. wood or metal dust)
- Genetic predisposition (10-15 percent of cases)
- Viral or bacterial lung infections
- Acid reflux disease

**PF hinders a person's ability to take in oxygen.** It causes shortness of breath and is usually associated with a persistent dry cough. The disease progresses over time, leading to an increase in lung scarring and a worsening of symptoms such as fatigue and weakness, chest discomfort, clubbing of the ends of the fingers or toes. Unfortunately, PF is ultimately disabling and fatal.

As you can imagine, PF symptoms can greatly impact quality of life. Fortunately, there are things you and the physicians at Lung Associates can do to help minimize lifestyle-altering affects of the disease



# Lung Cancer

People worry about lung cancer because so many people die of it. About 500,000 people in the United States die every year of cancer. Almost one third of them will die of lung cancer. This is because, in most instances, lung cancer disease is not detected until the cancer has spread outside the lungs. But, when lung cancer is found in the early stages, it can be cured. Even late-stage lung cancer can be treated. This is why it is important for you to know if you are at risk for lung cancer.

**There are two major types of lung cancer: small cell and non-small cell lung cancer.** Non-small cell lung cancer is by far the most common type of lung cancer. About four out of five people who have lung cancer have non-small cell lung cancer.

**One of the first signs of lung cancer is beginning to feel out of breath.** Another early symptom might be a cough that will not go away. Sometimes pain is the first symptom. Pain in the chest, the back, or even the arms is common. Pain can also be a sign of advanced disease. Coughing up blood is a sign that lung cancer might be developing. Unexplained weight loss is another sign. If you have any of these symptoms, see your doctor right away.

One of the first tests will probably be a spiral CT scan of your chest. The CT scan will more clearly define any possible tumor or tumors in your lungs. It can be used to see very small growths, called nodules. Nodules that can be found by CT scan may be as small as a grain of rice.



# Pulmonary Hypertension

Pulmonary hypertension generally results from constriction, or stiffening, of the pulmonary arteries that supply blood to the lungs. Consequently, it becomes more difficult for the heart to pump blood forward through the lungs. This stress on the heart leads to enlargement of the right heart and eventually fluid can build up in the liver and other tissues, such as the in the legs.

## WHAT CAUSES PULMONARY HYPERTENSION?

Secondary Pulmonary hypertension can be caused by diseases of the heart and the lungs, such as: chronic obstructive pulmonary disease (COPD), emphysema, failure of the left heart ventricle, recurrent pulmonary embolism, systemic diseases such as scleroderma, dermatomyositis, lupus erythematosus, sarcoidosis, human immunodeficiency virus (HIV), advanced liver disease, and also by chronic low blood oxygen levels as in some patients with sleep apnea or other long-standing

(chronic) lung disease.

When pulmonary hypertension occurs without underlying heart and lung disease or other illnesses, it is called primary pulmonary hypertension. Primary pulmonary hypertension is more common in younger people and more frequently seen in females.

Symptoms may include: shortness of breath that worsens with activity, cough, fatigue, dizziness, syncope, and lethargy. As it advances, right heart failure, weakness, and breathlessness may get worse and retention of fluid due to failure of the heart to pump blood forward.

## Fall/Winter Advice for Respiratory Patients

### HUMIDITY

In the summer, it is sometimes hard for you to think of needing more humidity. But in the fall and winter months, it's extremely important. In fact, two related subjects are equally important - adding humidity to winter-dried air and keeping your humidifying devices germ-free.

Your Lungs require a great deal of moisture - actually 100% relative humidity - to keep their cleansing systems working and you free from infection. The nose provides a great deal of this moisture to incoming air but in wintertime, it is vastly overworked by very dry air. Briefly, here's why cold air is not capable of holding much moisture. When this cold air is heating in your house, the warmer air is capable of holding more moisture but the moisture is not present in the air so the relative humidity drops exceedingly low... often as low as 6 or 7 percent relative humidity. Dry air can be extremely harmful to everyone. To children - it brings on the continual winter sniffles. To people with chronic lung problems, it can cause serious and lengthy respiratory infections...something to avoid if at all possible.

## Other good living tips for wintertime:

**AVOID DRAFTS** Wear a sweater to keep comfortably warm.

**WHEN OUTSIDE** Breathe through your nose - it will help warm the inspired air. On cold days, wrap a scarf around your face - it will help warm the cold, raw air before it reaches your nose. Also, when you first step out, stop and breathe a few short breaths before proceeding - this can save you a few coughing spells.

**IF OTHERS HAVE COLDS** Avoid them. Keep them away from you, out of your rooms...their germs are airborne. If they have to be near you, let them wear a surgical face.

**BLOW YOUR NOSE** This may seem like an unnecessary statement to make. But not so; your nose works overtime in the winter - in trapping out dust and germs.

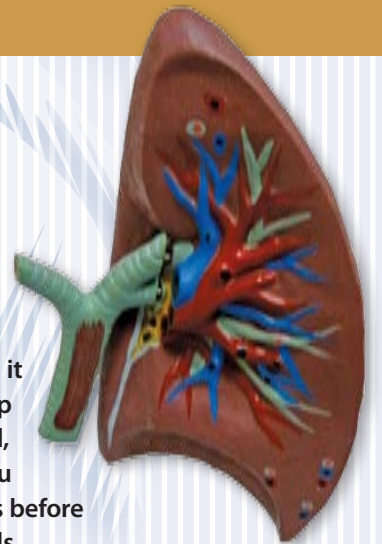
**EXERCISE** Many people think that when the weather gets bad, exercise such as walking is not practical. Daily exercise is extremely important all year-round so when the weather is bad, walk around the house and climb stairs. Breathing exercises are also important in strengthening the respiratory muscles. If you do not have information on these exercises, ask your doctor.

**DUST-FREE AIR** With the dryness of winter comes a great amount of dust. There are several things you can do to minimize this problem area.

**DIET AND WEIGHT CONTROL** You should try to stay at or a little below your ideal weight. Since eating and digesting food can be exhausting, it is better to eat 5 or 6 small meals than 3 regular meals.

**FLU SHOTS** In order to minimize the chance of getting flu, many respiratory patients get an influenza vaccination in the fall...before the flu season begins

**STAY AWAY FROM SMOKERS** Ask your friends not to smoke or at least smoke away from you...preferably in another room.



## DID YOU KNOW FACTS ?

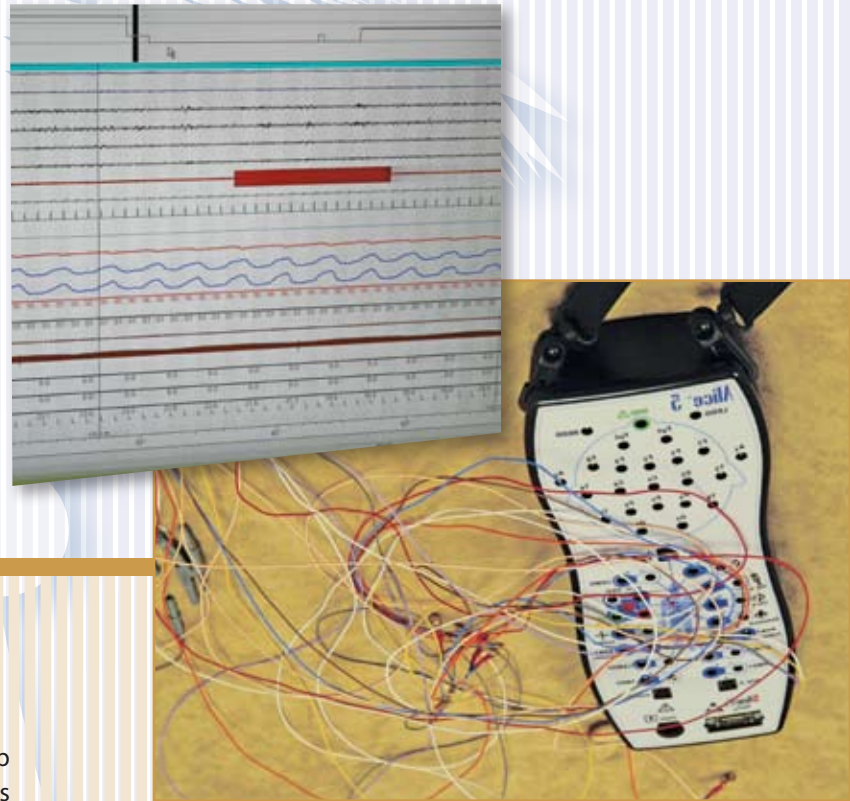
Lung cancer is one of the most common cancers. One in about every eight people in the United States (about 13%) who learn they have cancer this year will have lung cancer. Most people who have lung cancer are older, in their 50s, 60s, or 70s. But younger people can also have lung cancer.

Providing prompt diagnosis with appropriate treatment and close follow-up care...



## Sleep and Rest There is a Difference

Sleep is not a luxury but is truly a necessity of life. All of us have compromised on our sleep at some point in our lives. This is usually due to hectic schedules, school, work or other types of stress. However, we soon realize that sleep is the one thing we cannot do without.



## A Sleep Study...

**Polysomnography** is a sleep study. It measures your sleep cycles and stages by monitoring and recording brain waves (EEG), electrical activity of muscles, eye movement, breathing rate, blood oxygen saturation, and heart rhythm. During your sleep study small electrodes are placed on various parts of the body. A specially trained health care provider will directly observe you while you sleep.

There are two states of sleep: non-rapid eye movement (NREM) sleep and rapid eye movement (REM) sleep.

**NREM sleep has four stages distinguishable by EEG waves. Stage One & Stage Two** - These two stages are considered transitional. These are the stages of sleep you

usually go into upon falling asleep. These are very light stages of sleep (kind of like cat napping).

**Stages Three and Four**, These stages are designed to restore the body's energy. It is where the growth hormone is released, the immune system is re-charged and our metabolism is kick started.

**REM sleep is associated with dreaming. Your body muscles (except your eyes and lungs) do not move during this stage of sleep.** REM sleep include not only rapid eye movements, but also low muscle tone and a rapid, low voltage EEG. REM sleep in adult humans typically occupies 20-25% of total sleep, about 90-120 minutes of a night's sleep. During a normal night of sleep, humans usually experience about 4 or 5 periods of REM sleep; they are quite short at the beginning of the night and longer toward the end. Many animals and some people tend to wake, or experience a period of very light sleep, for a short time immediately after a bout of REM.

## Sleep Disorders

The physicians at the Lung Associates Sleep Center are Board Certified by The American Board of Sleep Medicine and the center is accredited by The American Academy of Sleep Medicine. The physicians, along with qualified technicians are committed to properly diagnosing and treating complications associated with sleep disorders. Presently there are over 80 different sleep disorders that have been documented that lead to a lowered quality of life and personal health. While most are rare, a handful seems to show up quite frequently. The most prominent sleep disorders are:

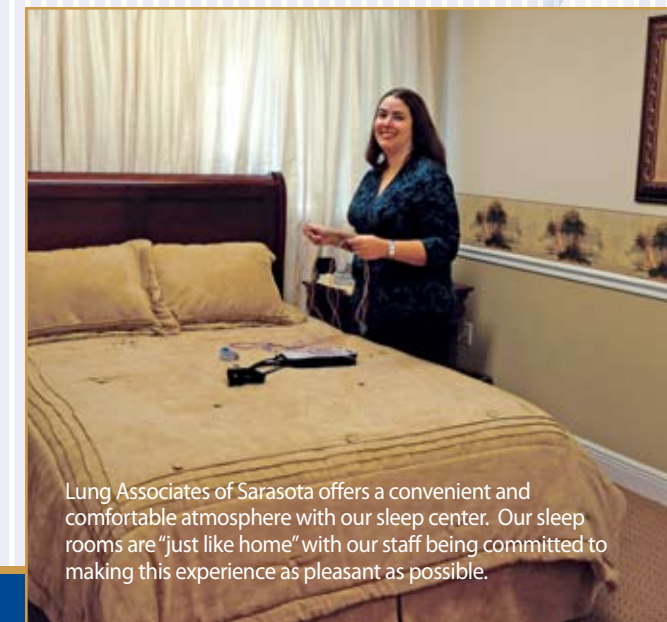
### SNORING

Snoring is usually caused by tissues in the throat vibrating during inhalation. This vibration is the noise we refer to when a person snores and is usually affects one's bed partner more than the patient himself/herself. It is extremely common and can effect up to 40% of adults.

**Your likelihood of snoring may also increase with the following present factors:**

- Male gender
- Age
- Alcohol
- Obesity
- Multiple medications including pain killers, muscle relaxants and sleeping pills

If the tissues or tongue occlude a persons airway and cause a limitation of airflow or cessation of airflow we consider this Obstructive Sleep Apnea. This common disorder causes fragmented, non-restorative Sleep, which can lead to multiple symptoms including fatigue, restless sleep, multiple awakenings, and concentrated difficulties. This disorder is discussed in more detail at right.



Lung Associates of Sarasota offers a convenient and comfortable atmosphere with our sleep center. Our sleep rooms are "just like home" with our staff being committed to making this experience as pleasant as possible.

## DID YOU KNOW FACTS ?

Unfortunately, many older adults often get less sleep than they need. One reason is that they often have more trouble falling asleep. A study of adults over 65 found that 13 percent of men and 36 percent of women take more than 30 minutes to fall asleep.

### OBSTRUCTIVE SLEEP APNEA (OSA)

Obstructive sleep apnea, or OSA, is a sleep related breathing disorder that causes your body to stop breathing during sleep.. This is a very common sleep disorder. It is characterized by periods of time greater than 10seconds when a person quits breathing during sleep. It happens because the muscles inside the throat relax as you sleep. Gravity then causes the tongue to fall back and block the airway. Blockage of the airway can happen a few times a night or several hundred times per night. OSA can occur in men and women of any age, but it is most common in obese, middle-aged men. There is a strong relationship between weight and OSA. Your neck gets thicker as you gain weight. This increases the level of fat in the back of the throat, narrowing the airway. With more fat in the throat, your airway is more likely to be blocked. There are two distinct types of apneas; one is obstructive in nature while the other is called central.

**Central Apneas** are caused by the brain stem. Rather than the airway being blocked, the brain tells the body not to breath. The chest and abdomen are still until the lack of oxygen triggers the impulse to breathe again. This is usually seen in people with a history of stroke (or other neurological problem), cardiac problems, closed head or brain stem injuries.



### How is it treated?

1. Continuous positive airway pressure (CPAP) is the treatment most often used to treat OSA. It is delivered through a mask worn over the nose or face. The air gently blows into the back of the throat. This keeps the airway open so you are able to keep breathing as you sleep. The amount of air pressure needed is different for each

- person. A CPAP study will show what level is right for you.
2. Weight loss can be very important as this decreases the amount of obstruction in the throat. Often a significant amount of weight loss is enough to stop the symptoms.
  3. Positional therapy may work for patients with mild OSA. Staying off of our back while sleeping and raising the head of the bed may reduce symptoms.
  4. For some patients an oral appliance or surgery can be used to treat OSA.
  5. Surgery is another option that may help an OSA patient. The size of the upper airway is increased to prevent collapse of the airway and make breathing easier.

## DID YOU KNOW FACTS ?

Sleep needs change over a person's lifetime. Children and adolescents need more sleep than adults. Interestingly, older adults need about the same amount of sleep as younger adults – seven to nine hours of sleep per night.



# Movement Disorders

Two movement disorders that can make it harder to sleep include restless legs syndrome, or RLS, and periodic limb movement disorder, or PLMD. Often, both conditions occur in the same person.

Restless legs syndrome is a common condition in older adults and affects more than 20 percent of people 80 years and older. People with RLS experience uncomfortable feelings in their legs such as tingling, crawling, or pins and needles. This often makes it hard for them to fall asleep or stay asleep, and causes them to be sleepy during the day. Although scientists do not fully understand what causes restless legs syndrome, it has been linked to a variety of conditions. Some of these conditions include iron deficiency, kidney failure and dialysis, pregnancy, and nerve abnormalities.

Periodic limb movement disorder, or PLMD, is a condition that causes people to jerk and kick their legs every 20 to 40 seconds during sleep. PLMD often disrupts sleep – not only for the patient but the bed partner as well. One study found that roughly 40 percent of older adults have at least a mild form of PLMD.

## NARCOLEPSY

Narcolepsy is associated with excessive daytime sleepiness and the events of dream sleep. Typically a short duration of sleep occurs, (usually 10-20 minutes), during waking hours where sleep normally does not occur. Falling asleep unexpectedly is also common. Narcolepsy usually starts between the ages of 12 and 20 and can last for your entire life. It does not get better without treatment. Medications can be used to treat narcolepsy and help you have a more normal pattern of asleep and awake cycles.

The following are characteristics that can be associated with narcolepsy:

- Cataplexy** - Sudden onset of muscle weakness provoked by emotion while remaining conscious.
- Sleep Paralysis** - The inability to move or speak, (feeling paralyzed), upon falling asleep or when waking up.
- Hypnagogic Hallucinations** - Vivid dreamlike experiences which occur while falling asleep often with fear or dread.

## INSOMNIA

Insomnia is the inability to initiate or maintain sleep. This term is used in quite loosely as there are many conditions that can mimic this disorder. Most of the population will experience insomnia sometime in their life. This is usually due to stress, hectic schedules, medications, or poor sleep hygiene. Patients need to be evaluated to determine the underlying cause before any diagnosis can be properly made.

### There are three basic kinds of insomnia:

1. Difficulty falling asleep
2. Difficulty staying asleep
3. Waking up too early

If you have insomnia, then you are not alone. It is a common sleep disorder. About 30% of adults have symptoms of insomnia. Less than 10% of adults are likely to have chronic insomnia. It is more common among elderly people and women. Some medical conditions cause insomnia, or it may be a side effect of a medication.

### Do you have at least one of the following problems?

- Low energy
- Lack of motivation
- Attention, concentration or memory problems
- Poor performance at school or work
- Extreme mood changes
- Daytime sleepiness
- Trouble making errors at work or while driving
- Tension, headaches or stomach aches
- Frustration or worry about your sleep



## PARASOMNIAS

Parasomnias are a disturbance of the sleep wake cycle. They are broken down into four categories:

### Arousal

- Sleepwalking
- Sleep Terrors (awaking with a scream or cry)
- Confusional (waking up confused and disoriented)

### Sleep-Wake Transitions

- Sleep Starts (body jerks upon falling asleep)
- Sleep Talking
- Leg Cramps during sleep

### REM Associated

- Nightmares
- REM Behavior Disorder (acting out dreams)
- Sleep Paralysis (see definition under narcolepsy)

### Other

- Bruxism (teeth grinding)
- Enuresis (bed wetting)
- Primary Snoring



## DID YOU KNOW FACTS ?

There are many possible explanations for these changes. Older adults may produce and secrete less melatonin, the hormone that promotes sleep. They may also be more sensitive to -- and may awaken because of -- changes in their environment, such as noise.

## Nightmare Disorder

Nightmare disorder is a parasomnia. Nightmares are disturbing, visual dream sequences that occur in your mind and wake you up from your sleep.

Nightmare disorder develops when you have nightmares on a frequent basis. This can cause someone to fear going to sleep. You may worry each night that you will have another nightmare. The nightmares also keep you from sleeping well. They cause you to feel anxious and scared when you wake up. This makes it hard for you to relax and go back to sleep again. This loss of sleep can cause you to have even more intense nightmares.

These sleep problems can make you very sleepy during the day.

Nightmare disorder can be confused with sleep terrors or REM sleep behavior disorder (RBD). A person having a sleep terror often screams, kicks, thrashes and even bolts out of bed. He can be very hard to wake up. When he does, he is very confused. He only recalls fragments of a dream. Sleep terrors tend to occur in the first third of the night. RBD involves a person acting out his dream. It can even result in physical injury. It is most common in middle-aged men.

### HOW DO I KNOW IF I HAVE IT?

1. Do you often wake up from sleep due to a disturbing dream?
2. Do these dreams evoke emotions of fear, anger, sadness or disgust?
3. Are you alert and able to think clearly as soon as you are awake?
4. Do you clearly recall details of the dream?
5. Do these dreams often occur during the latter portion of your sleep period (near morning)?
6. Do you have trouble going back to sleep after these dreams?

## DID YOU KNOW FACTS ?

Insomnia is the most common sleep complaint at any age. It affects almost half of adults 60 and older.

## DID YOU KNOW FACTS ?

The sleep center is accredited by The American Academy of Sleep Medicine. The physicians are board certified by The American Board of Sleep Medicine.



## Sleepwalking

Sleepwalking is also called "somnambulism" which is another parasomnia. Sleepwalking occurs when you get up from bed and walk around even though you are still asleep. It can also involve a series of other complex actions. Before walking, you might sit up in bed and look around in a confused manner. At other times, individuals may bolt from the bed and walk or run away. They may be frantic to escape from a threat that they dreamed or imagined.

You might talk or shout as you are walking. Your eyes are usually open and

have a confused, "glassy" look to them. You might begin doing routine daily actions that are not normally done at night.

More often, it involves actions that are crude, strange, or in the wrong place. This might include urinating in a trash can, moving furniture around, or climbing out of a window. It can also result in hostile and violent behavior.

It can be very hard to wake a sleepwalker up. When you do wake up, you can be very confused. This is because you normally have no memory of the event. Adults sometimes recall bits and pieces of what

took place. Less often, they will have a very clear memory of all that happened.

Sleepwalking most often occurs in the first third of a night's sleep or during other long sleep periods. This is during the slow-wave cycle of sleep.

Sleepwalking is more common in children and affects both boys and girls. Rarely, sleepwalking may begin at any time in the adult life, even when someone is in their seventies. Up to 4% of adults sleepwalk. In adults, men are much more likely to display aggressive behavior when they sleepwalk.

## A Home Health Care Provider...

### What is home health?

Home health is a physician-ordered service designed to enable patients to maximize their ability to function safely at home by teaching patients and their caregivers how to provide effective, appropriate care. Symptom and disease management, medication management, mobility, home safety issues and a wide range of education are among the many needs covered. Our services are available 7 days a week, 365 days a year, depending on your needs.



- Skilled Nursing
- Psychiatric Nursing
- IV Therapy
- Wound Care
- Physical Therapy
- Occupational Therapy
- Speech Language Pathology
- Medical Social Work
- Home Health Aides
- Patient Education

### The qualifications for Medicare home health care are:

- A patient must be under the care of a physician who has ordered treatment or services we provide
- A patient has had a recent illness, injury or change in a condition which requires skilled care
- A patient is homebound. A patient shall be considered homebound if they have a condition, due to illness or injury, that restricts their ability to leave home without the assistance of another person or the aid of a device (i.e. walker, cane, wheelchair) or if they have a condition that is medically contraindicated for leaving home.



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## Circadian Rhythm Sleep Disorders

Your body has an internal clock that tells it when it is time to be asleep and when it is time to be awake. This clock is located in the brain just above an area where the nerves travel to the eyes. This area is called the SCN. Your clock controls the "circadian rhythms" in your body. These rhythms include body temperature, alertness and the daily cycle of many hormones. The word "circadian" means to occur in a cycle of about 24 hours. Circadian rhythms make you feel sleepy or alert at regular times every day. Some people have a circadian rhythm sleep disorder. This causes their natural sleep time to overlap with regular awake activities such as work or school.

The goal for treating patients who have circadian rhythm problems is to combine a healthy sleep pattern with an internal clock that is set at the right time. This will allow them to enjoy the benefits of good sleep.

### 1. Delayed sleep phase disorder

This causes people to fall asleep much later at night than is normal. As a result, they also wake up later in the morning. This sleep pattern can interfere with their schedule of activities for the day. To correct delayed sleep phase, light therapy during early morning hours may be beneficial.



### 2. Advanced sleep phase disorder

This causes people to fall asleep much earlier at night than is normal. They also wake up earlier in the morning. To correct it, light therapy in the evening may be helpful.

### 3. Free-running or non-24-hour sleep-wake rhythm

People with this disorder fall asleep at a different time each day. For example, you may fall asleep at 10 p.m. one day, Midnight the next day, 2 a.m. the next, etc. This most often occurs in people who are blind. Light therapy may help blind people, even if they can't perceive visible light. Studies show that light treatment may be useful in the early morning hours.

### 4. Jet lag

Jet lag causes people to have problems with sleep when they have crossed many time zones on a flight. Light therapy in the morning may help when traveling east. For travel to the west, bright light in the evening may help reduce jet lag.

### 5. Shift Work

This sleep disorder occurs due to a work schedule, such as night shift, that takes place during the time when most people are sleeping. This schedule requires you to work when your body wants to sleep. Then you have to try to sleep when your body expects to be awake. Correcting it can be a hard problem to solve. Changing work schedules, days off, and social activities can alter your exposure to light from day to day. Frequent changes in your sleep times make it hard to re-set your internal



clock. In general, using light treatment in the evening should help someone who regularly works nights. In this case, you would also want to avoid daylight when you come off work and go to bed. Dark sunglasses or special goggles can help.

### 6. Seasonal affective disorder (SAD)

SAD is a mood disorder that can cause people to feel sad and lack energy during the dark months of winter. A similar and milder version is often called the "Winter Blues." In severe forms, sadness may be caused by depression. Light therapy is thought to be useful as one of the treatments for seasonal mood disorders and depression. Depression is also treated with medications. You should consult your doctor if you are having serious problems with sadness.



Respiro's is a full service respiratory care company that is dedicated to assisting physicians with earlier intervention and comprehensive management in treating lung disease and heart disease. One of our prime objectives is to provide the home respiratory care products and services to "Optimize the patient's quality of life"

## Important Questions to Ask

Discuss with your doctor what kinds of activities are best for you. By knowing what activities you can do, the doctor can decide whether a stationary or portable oxygen system is best for you.

### Some tips about services you may require:

- Select a supplier that gives you 24-hour service without additional charges.
- Make sure the supplier can provide clear, written instructions regarding your use of the equipment. Do they have trained representatives to instruct you and to demonstrate the equipment when it is delivered?
- Ask for a complete breakdown of costs and verification of what your Medicare or insurance will cover. Make sure the supplier takes Medicare "assignment" (accepts what Medicare pays for services). After you have paid your yearly deductible, Medicare will pay 80%. All oxygen suppliers in the region get paid the same amount for the same prescription.
- Does the supplier have a clinician on staff to assist you if needed? Do they have a follow-up program that the doctor can order?
- Find out if the supplier provided regular routine equipment maintenance. How often do they service their equipment? Do they provide you with information on how to keep it clean? Do they provide disposable tubing needed on a regular basis? Are there any additional charges for this tubing?

## How does Respiro2 make a difference

- Dedicated professional clinical staff of Respiratory Therapists and Delivery Technicians
- Reducing hospitalization
- Providing ongoing patient education
- Immediate Initiation of services
- Continual monitoring and respiratory evaluations
- Regular progress reports to your physician

## Quality Delivered

### PROVIDING

- Home Oxygen Systems – Concentrators, Light Weight Portables, Conservations Devices
- Respiratory Care Systems – Nebulizers and Respiratory Medications, Humidifiers, Sleep Therapy (CPAP and biPAP)
- Respiratory Evaluation and Screening – Pulse Oximetry, Nocturnal Oximetry

### Respiro, Inc.

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Tel: (941) 925-2273 • Fax: (941) 925-2218

## What Is The Vest® Airway Clearance System?

The Vest® Airway Clearance System is an easy-to-use medical device for children and adults who have excess airway mucus and difficulty clearing it effectively. Designed for in-home use, The Vest® Airway Clearance System is quiet, comfortable and portable; its features promotes user independence and simplify treatment routines.

### When do doctors prescribe Airway Clearance Therapy?

When a medical condition impairs the body's ability to perform airway clearance on its own, Airway Clearance Therapy is needed. Airway clearance is extremely important because mucus that accumulates in the lungs may lead to serious complications, which can damage healthy lung tissue and make breathing even more difficult

### Who can benefit from The Vest® Airway Clearance System?

The Vest® Airway Clearance System Therapy is beneficial when mucus clearance is impaired by illness or disability. More than 14,000 physicians have prescribed The Vest® Airway Clearance System for patients with airway clearance associated with more than 600 diseases and conditions including:

- Cystic fibrosis (CF)
- Bronchiectasis
- Neuromuscular/neurological disease, e.g., cerebral palsy and muscular dystrophy
- Chronic obstructive pulmonary disease (COPD)



### How does The Vest® Airway Clearance System Work?

The device uses a technology called High Frequency Chest Wall Oscillation (HFCWO). Equipment consists of an inflatable vest connected by Air Hoses to an Air Pulse Generator. During Therapy, the inflatable vest® inflates and deflates rapidly, applying gentle pressure to the chest wall. This works to loosen and thin mucus and to move it toward larger airways where it can be cleared by coughing and suctioning.

### What are some advantages of having therapy with The Vest® Airway Clearance System?

- Effeminacy: All lobes of the lung are treated simultaneously.
- Ease of use: Many users require no assistance; special positioning and complicated breathing techniques are not required.
- Improved quality of life: Better general health and stamina lesson both the burden and financial costs of chronic illness.



**Hill-Rom**

Enhancing Outcomes for Patients and Their Caregivers.™



Portable • Programmable • Patient-friendly • Patented Single Hose



Electromed, Inc. is the innovative leader in the development, manufacture and worldwide sales of its patented SmartVest® Airway Clearance System.

The patented system uses High Frequency Chest Wall Oscillation (HFCWO), a better tolerated alternative to Chest Physiotherapy (CPT), to deliver vigorous, yet comfortable airway clearance treatment for patients battling the consequences of retained secretions.

**High Frequency Chest Wall Oscillation**  
HFCWO creates a revolutionary "SQUEEZE and RELEASE" action around the chest and torso

**ELECTROMED, INC.**  
*Creating superior care through innovation®*  
Phone: 800-462-1045 or 952-758-9299  
Web: [www.SmartVest.com](http://www.SmartVest.com)  
Made in USA

The patented SmartVest® inflates and delivers air pulses to the body through a single hose powered by a programmable generator, providing the patient with greater maneuverability during treatment. The action of rapidly squeezing and releasing the chest creates air pulses, or airflows, within the lung airways, which simulate repetitive "mini-coughs."

Electromed, Inc., as the first to provide a portable, then programmable, and now multipositional operating system takes pride in claiming its place as the "Innovative Leader in Airway Clearance". It is growing rapidly, consistent with its commitment of "Providing Superior Care Through Innovation".



Accredited by The Joint Commission

# Discover the Power of PET/CT



## What is PET/CT?

PET/CT is the combination of two scanners, which allow a physician to examine the heart, brain, and other organs in the body, during one non-invasive diagnostic exam.

PET/CT images show the metabolic functioning of an organ or tissue, unlike x-ray, CT, or MRI, which show only one body structure. This translates into the benefit of early disease detection. Early detection is vital because accuracy and efficiency are essential to cardiac, oncology and other disease management. Due to the fact that metabolic changes occur in the body prior to anatomical change, PET/CT often reveals the illness much easier than conventional diagnostic procedures.

Overall, the PET/CT scan helps physicians better understand the extent and exact location of the disease – which helps them develop more accurate and effective treatment plans for their patients.



**Imaging for Life-Sarasota**  
3830 Bee Ridge Road, Ste 100 • Sarasota, FL 34233  
Phone: 941.921.0383 • Fax: 941.921.0394

**Imaging for Life-Bradenton**  
Pointe West Medical Park • 2301 60th Street Court  
W. Ste A • Bradenton, FL 34209  
Phone: 941.795.3780 • Fax: 941.795.3790

**Imaging for Life-Port Charlotte**  
Gulf Coast Professional Center  
4130 Tamiami Trail • Ste 101 • Port Charlotte, FL 33952  
Phone: 941.255.1700 • Fax: 941.255.1701

## Alliance is dedicated to helping clients maintain the greatest level of independence at home as possible.

Alliance has been providing oxygen and other respiratory therapy services and equipment to individuals and nursing care facilities in Sarasota and Manatee counties for over 10 years.

For patients in a home care environment, Alliance provides:

- Oxygen systems
- Sleep Apnea Equipment
- Nebulizers
- Respiratory Medications
- Other related products and services

## Why is home oxygen prescribed?

Your doctor may prescribe oxygen if your lungs are not getting enough oxygen to your blood (a condition called hypoxemia).

Breathing prescribed oxygen increases the amount of oxygen in the blood, usually reduces shortness of breath and other symptoms, and helps increase survival. Prescribed oxygen may also help protect your heart.

**The air you breathe every day contains 21% oxygen.  
The oxygen you will receive at home is close to 100% pure oxygen.**

Because it is a pure concentration of oxygen, home oxygen is considered to be a drug and must be prescribed by your doctor. Oxygen is not addictive and causes no side effects when used as prescribed. Your doctor will prescribe a specific amount of oxygen that is right for you. Some people may need to use supplemental oxygen 24 hours a day, while others may only need oxygen during exercise or sleep.

**Home oxygen can help promote your independence and make it easier and safer for you to complete daily living activities.**



(941) 926-8090

4562 Mcashton Street, #312 • Sarasota, FL 34233



Pulmonary Rehabilitation is a program of education and exercise that teaches you about your lungs, how to exercise and how to do activities with less shortness of breath, and how to "live" better with your lung condition.

- A medically supervised and individualized exercise program including flexibility exercises, aerobic exercises, strength training, and breathing exercises
- Individualized education sessions to assist the patient in understanding his/her disease and make appropriate changes in their lifestyle
- Symptom management training with activity
- Relaxation techniques training
- Various treatment modalities including bronchodilator administration and bronchial hygiene therapy, methods and techniques
- Psychosocial intervention including encouraging the involvement of family/support persons to maximize understanding of information and enhance patient compliance/ability to adopt appropriate lifestyle changes
- Facilitation of patient communication with physician to prevent and minimize respiratory infections and disease-related deterioration, resulting in decreased use of costly health care resources

941.485.7711 • 540 The Rialto • Venice, FL 34285

## Who Is A Candidate For Pulmonary Rehabilitation?

Any patient with symptomatic chronic lung disease is a candidate for a pulmonary rehab program but appropriate patients are:

- Those who recognize that they have symptoms due to lung disease, perceive some impairment or disability related to that disease, and are motivated to be active participants in their own care to improve their health status.
- Patients should generally be stabilized on standard medical therapy before beginning a program. The assessment and treatment plan can then be based on the patient's optimal baseline level of function
- They should not have other disabling or unstable conditions that would limit their ability to participate fully in rehab.
- The ideal patient for pulmonary rehab is one with moderate to moderately severe lung disease who is stable on standard medical therapy, not distracted or limited by other serious or unstable medical conditions, willing and able to learn about his/her disease, and is motivated to devote the time and effort necessary to benefit from a comprehensive care program.