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RESPIRATORY CARE

# **Endobronchial Ultrasound (EBUS)**

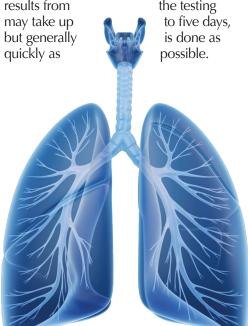
The lungs are vital organs in the complex respiratory system that oxygenate blood for transportation throughout the body. Lung disease is any issue in the lungs that prevents proper function, such as asthma, chronic obstructive pulmonary disease (COPD), emphysema, chronic bronchitis, pulmonary fibrosis, and lung cancer. Lung diseases are some of the most common medical conditions in the world and affect millions of people in the United States.

Symptoms for lung disease can be subtle. Early signs include fatigue, shortness of breath, or pain when inhaling or exhaling. If a patient is exhibiting any of these symptoms, a physician may recommend a bronchial procedure to determine the cause. A bronchial procedure may be necessary for a patient with a persistent cough, infection, or a chest X-ray or other test that requires further evaluation. An endobronchial ultrasound (EBUS) is a minimally-invasive procedure that is used to diagnose different types of lung conditions, including inflammation, infections, and cancer.

The EBUS procedure is performed by a pulmonologist and uses a flexible tube that is inserted through the mouth and into the windpipe and lungs. The scope is equipped with a video camera and ultrasound probe that creates local images of the lungs and nearby lymph nodes in real time that allow the physician to view and evaluate areas that are difficult to reach or need a closer look.

The images then allow the physician to perform a transbronchial needle aspiration (TBNA) to obtain fluid or tissue samples from the lungs and surrounding lymph nodes. The accuracy and speed of the EBUS enables a pathologist to process and examine the biopsy samples immediately, if needed. These samples can be used for diagnosing and staging cancer, detecting infections, and identifying inflammatory diseases.

EBUS is an outpatient procedure that uses moderate sedation or general anesthesia and takes approximately 45 minutes. Patients who have the EBUS procedure are usually released to return home the same day as the procedure. The patient may experience a sore throat or hoarseness after the procedure, which will go away after a few days. Receiving results from the testing may take up but generally to five days, is done as



EBUS is extremely safe; however, complications such as bleeding from the biopsy, low oxygen levels during the procedure, infection after the procedure, and collapsed lung are possible but not likely. The physician will weigh the benefits and risks of each patient to determine whether the EBUS is an appropriate diagnostic tool.

There are preventive measures people can take to keep their lungs healthy and reduce the risk of lung disease. Not smoking or quitting smoking is the most important step individuals can take to protect their lungs. Cigarette smoke can narrow air passages and make breathing more difficult, and smoking destroys lung tissue over time and may lead to cancer. It is also important to avoid exposure to indoor pollutants, such as radon, chemicals in the home or workplace, and secondhand smoke. Minimize exposure to outdoor pollution by checking daily pollution forecasts and avoiding outdoor activities when pollution levels are high.

Colds and other respiratory infections have the potential to become serious. Prevent infection by washing hands frequently with soap and water or an alcohol-based hand sanitizer. Avoiding large crowds during cold and flu season is also helpful, as well as obtaining vaccinations for influenza, pneumonia, and COVID-19. Regular exercise can strengthen lung function, and routine visits with a physician offers the opportunity to address concerns about lung health.



## Patient Story – Mary Bernowski

Mary Bernowski's husband, Robert, spent 22 years in the Air Force. In that time, the couple moved to numerous locations including the Philippines, Alaska, Michigan, and Wisconsin, and raised five children – four boys and one girl. In 1978, when Robert retired, they moved to Licking County to be close to family. Mary was raised in Flushing, Ohio, about 70 miles from Newark. She spent over 20 years at JC Penney in the Accounting office retiring as the Associate Office Head.

The family has grown and now includes 15 grandchildren and 22 great-grandchildren. Two of her sons live in Central Ohio. One son now lives in Texas, another in Georgia, and her daughter lives in Arizona. Her children and grandchildren all visit her regularly. "I am very blessed knowing they are there for me," Mary said.

Since moving to Newark, Mary has relied on Licking Memorial Health Systems (LMHS) for her medical needs. She often visits her primary care physician, Nishi V. Naik, M.D., of Licking Memorial Internal Medicine, and the Licking Memorial Medication Clinic to monitor her anti-coagulation medications. Several years ago, Mary was diagnosed with chronic obstructive pulmonary disease (COPD) and referred to pulmonologist Emilia N.U. Anigbo, M.D.

COPD refers to a group of progressive lung diseases that cause airflow blockage and breathing-related problems including emphysema and chronic bronchitis. Symptoms include coughing, difficulty breathing, shortness of breath, and chest tightness, and often develop slowly but worsen over time. COPD can prevent the ability to complete routine activities. A pulmonologist specializes in the respiratory system, from the windpipe to the lungs, and often employs lung therapies for patients diagnosed with COPD.

Mary has been working with Dr. Anigbo to control the symptoms of COPD. She suffers from emphysema and chronic bronchitis, which requires the use of several different inhalers and full-time oxygen. "I am so grateful for Dr. Anigbo. I was barely able to manage my condition, but with the tools she has given me, I am able to quickly pull through a breathing episode. It's wonderful," Mary said.

"I have been to many physicians. Oftentimes, when you have a number of medical issues, the healthcare provider only focuses on treating the illness associated with their specialty. But a remedy for one disease may exacerbate another medical problem," Mary shared. "While Dr. Anigbo's specialty is focused on the lungs, she does more than treat lung disease. She sees me as a whole person and treats me. She is careful to consider the other medications and treatments I am undergoing to ensure the best overall results. Her empathy and knowledge assists in making me comfortable and at ease."

After a car accident, Mary had to be taken to a Columbus hospital for trauma to her chest. She suffered a punctured lung when her chest slammed into the steering wheel. A punctured lung occurs when air collects in the space between the two layers of the tissue lining causing pressure and preventing the lungs from expanding. Upon her release, Mary visited again with Dr. Anigbo for treatment.

"Dr. Anigbo worked with me to rehabilitate my lungs and get me back on course," Mary said. "It has not been easy, but she is so kind and pleasant to me. I cannot say enough about the good work she does."

Mary does her best to remain active. She experiences good days and bad, but keeps a positive attitude and sense of humor. "As I age, I just keep adding physicians and specialists to my list," Mary commented. "When I have an appointment at Licking Memorial Hospital (LMH), I enjoy visiting the Main Street Café and Main Street Coffee. I tell all my friends, the Café has the best cheeseburger in town."

Right now, Mary is working to construct her family's history to share with her growing family. "We just keep expanding," she joked. "We could create a whole country ourselves." In addition to tracing the family's ancestry lines, she is also working to digitize photos and other memories.



### Respiratory Care - How do we compare?

At Licking Memorial Health Systems (LMHS), we take pride in the care we provide. To monitor the quality of that care, we track specific quality measures and compare to benchmark measures. Then, we publish the information so you can draw your own conclusions regarding your healthcare choices.

Tobacco use has been linked to many serious and life-threatening conditions, such as cancer, heart disease, cardiopulmonary disease and diabetes. An estimated 24 percent of Licking County adults smoke. LMHS offers free Quit For Your Health tobacco cessation education, counseling, and nicotine-replacement products. A similar program, Quit for You, Quit for Your Baby, adds incentives to help pregnant women stop using tobacco products. In 2021, 1,499 patients visited one of LMHS tobacco cessation programs.

	LMH 2019	LMH 2020	LMH 2021	LMH Goal <sup>(1)</sup>
Six-month success rate for pa who completed Quit for Yo		73%	80%	70%

Chronic obstructive pulmonary disease (COPD) is a serious, progressive lung condition that includes two life-threatening diagnoses – chronic bronchitis and emphysema. According to the American Lung Association, COPD is the third leading cause of death in the U.S. There is no cure for COPD, and patients will progress to more serious respiratory compromise over time; however, with careful management, patients can enjoy longer and healthier lives. An admission to the hospital for a COPD patient typically means that their chronic respiratory issues have exacerbated to an immediate, acute condition requiring hospitalization. To monitor the quality of a COPD patient's care, the Centers for Medicare/Medicaid Services tracks the death rate nationally for patients who die from COPD within 30 days of hospital admission.

	LMH 2019	LMH 2020	LMH 2021	National <sup>(2)</sup>
Mortality rate of COPD patients within				
30 days of hospital admission	8.5%	9.7%	7.3%	8.1%

Protecting patients from hospital-acquired infections is a primary patient safety goal. LMH has many ongoing programs and safety mechanisms in place to help prevent patient infections. In accordance with the Centers for Disease Control and Prevention (CDC) recommendations, LMH monitors patients who are at high risk for infections, including those using invasive devices, such as ventilators (breathing machines). The following data reflect the number of respiratory infections associated with ventilator use, per every 1,000 patient days.

	LMH 2019	LMH 2020	LMH 2021	LMH Goal
Pneumonia infection rate of Intensive Care Unit patients on ventilators				
per 1,000 ventilator days	0.0	0.0	0.0	0.0

Some pneumonia patients who are hospitalized require treatment with a ventilator to assist their breathing. Although the ventilator can be life-saving, it carries the risk of serious complications, such as infections, stomach ulcers, blood clots and extended dependency on the ventilator. To help prevent complications, LMH staff members follow a best-practices protocol for patients on ventilators. Known as the "ventilator bundle," these five steps are carefully documented to ensure each patient receives the best possible care.

	LMH 2019	LMH 2020	LMH 2021	LMH Goal
Head of bed elevated to 30 degrees	99.9%	100%	100%	greater than 90%
Oral care	98.6%	100%	99.8%	greater than 90%
Daily test to reduce sedation	99.6%	99.8%	99.1%	greater than 90%
Stomach ulcer prevention	99.9%	100%	99.6%	greater than 90%
Blood clot prevention	99.6%	100%	99.1%	greater than 90%

LMHS is committed to providing and encouraging free, easily accessible vaccines to all employees. In order to provide the safest care to our community, LMHS recognizes the importance of keeping the staff healthy.

LNALIC consistence on a selection of the	LMHS 2019	LMHS 2020	LMHS 2021	LMH Goal	National <sup>(2)</sup>
LMHS employees receiving the influenza vaccine	95%	95%	90%	greater than 90%	90%

Licking Memorial Health Professionals (LMHP) office patients who are at high risk for these illnesses also are screened and vaccinated as appropriate. LMHP physicians strongly encourage patients over the age of 65 years to receive a one-time dose of pneumonia vaccine and an annual influenza vaccine during each "flu season," which runs from October to March.

Physician office patients over 65 years	LMHP 2019	LMHP 2020	LMHP 2021	National <sup>(3)</sup>	
receiving the pneumonia vaccine	78%	80%	76%	73%	
Physician office patients over 65 years	LMHP 2018-2019	LMHP 2019-2020	LMHP 2020-2021	National <sup>(3)</sup>	
receiving the influenza vaccine	78%	75%	71%	64%	

#### **Data Footnotes:**

- (1) Tobacco-free status is self-reported by patients in a six-month follow-up after completing the Quit for Your Health program.
- (2) HospitalCompare.hhs.gov national benchmarks
- (3) Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, [2016].
- (4) National Committee for Quality Assurance, "The State of Health Care Quality 2013."

### **Pulmonary** Rehabilitation

A person who suffers from a chronic lung disease, such as chronic obstructive pulmonary disease (COPD) or pulmonary fibrosis, may benefit from pulmonary rehabilitation to improve lung function, reduce symptom severity, and improve their quality of life. Pulmonary rehabilitation is the use of exercise, education, and behavioral intervention to aid in strengthening the lungs, help the patient become more active, and decrease the need for hospital visits.

Pulmonary rehabilitation is recommended for patients with lung disease who experience shortness of breath frequently and are unable to perform daily activities. The program is conducted in an outpatient setting for 8 to 12 weeks, and techniques learned may be continued by the patient at home. A multidisciplinary team consisting of a respiratory therapist, exercise physiologist, physician, psychologist, pharmacist, and dietitian will design a plan tailored to each patient's needs and abilities. The pulmonary rehabilitation program can instruct patients on how to:

- Control symptoms
- Manage respiratory medications to treat lung conditions
- Make healthy food choices to manage weight and diet
- Perform various exercises to improve lung function and increase physical abilities
- Cope mentally and emotionally with a chronic lung condition

Licking Memorial Hospital (LMH) offers pulmonary rehabilitation twice per week for patients with chronic lung disease. Individuals who want to learn more about the program may contact Licking Memorial Pulmonology at (220) 564-1805.



Please take a few minutes to read this month's report on **Respiratory Care.** You will soon discover why Licking Memorial Health Systems is measurably different ... for your health!

The Quality Report Card is a publication of the LMHS Public Relations Department. Please contact the Public Relations Department at (220) 564-1572 to receive future mailings.

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