

# Endobronchial Ultrasound (EBUS)

## Your Appointment

Date: \_\_\_\_\_

Time: \_\_\_\_\_ a.m./p.m.

Please report to \_\_\_\_\_ at your appointed time.

## What is EBUS and why is it done?

Endobronchial ultrasound, or EBUS, is a minimally invasive procedure that allows your doctor to:

- see areas of your chest that are difficult to examine, such as the lymph nodes in between your lungs (mediastinum)
- remove tissue samples for biopsy, if needed

EBUS combines bronchoscopy, a technique used to look into airways, with ultrasound, which uses sound waves to create pictures of the tissues.

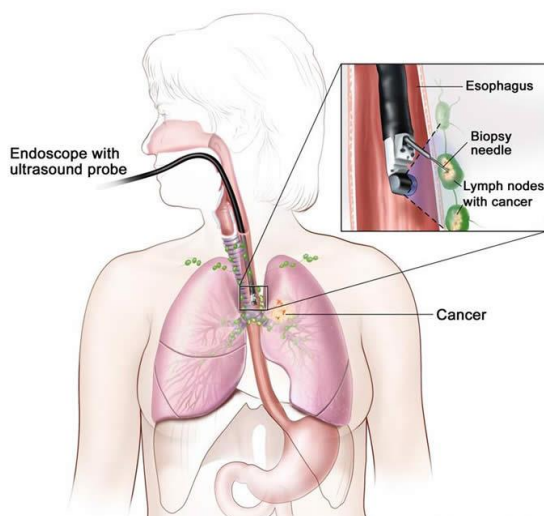
In the past, the only way to see these areas was by performing open surgery. Open surgery carries more risks and requires a longer recovery time. With EBUS, there are no incisions, and it's usually done as an outpatient procedure.

EBUS is used to:

- help diagnose and “stage” lung cancer (to see if it has spread)
- take samples of tissue from the lymph nodes of people who have lymphoma (cancer of the lymphatic system) or a non-cancerous condition like sarcoidosis and bacterial or mold infections.

Sarcoidosis is an inflammatory condition that often affects the lungs and lymph nodes.

Doctors use a flexible tube with a camera and light called a bronchoscope to see into the airways of the lungs. In EBUS, the bronchoscope has a tiny ultrasound probe on the end.



During EBUS, the probe sends ultrasound waves into your chest, where they bounce off of structures and create echoes. (You will not feel the sound waves.) The strength of the echoes depends on the density of each structure. The echoes are picked up by the probe and sent to the ultrasound machine. The ultrasound machine creates images from the echoes and displays them on a TV screen that the doctor can see.

EBUS also lets your doctor look at structures on the outside of your airways. Then a needle is used at the end of the bronchoscope to take any tissue samples that are needed, while avoiding other structures such as blood vessels. This makes EBUS a safe and useful way of getting samples from tissue just outside the airways.

## How do I prepare for the procedure?

- ✓ **Medications:** You will receive a call from the Anesthesia & Perioperative Center (APEC) before your procedure. They will review what medications you will need to stop before the procedure, if any, and when to stop them. Some medications and supplements may interfere with normal blood clotting and may increase the risk of bleeding during the procedure.
- ✓ The morning of your EBUS, take only the medications approved by your doctor. Take it with a very small sip of water.
- ✓ **Eating & Drinking**
  - **If you are having general anesthesia: Do not eat or drink anything after midnight the night before the procedure** - including gum, water, or coffee.
  - **If you are having sedation: Stop eating and drinking everything except water 8 hours before your procedure. Stop drinking water 2 hours before the procedure.**
- ✓ **Ride Home:** Be sure that you have arranged a ride home from the hospital. You will not be able to drive for 24 hours after your procedure.
- ✓ **Important! Do not smoke before or after the procedure.**

## **What happens during the procedure?**

- Before your procedure, an IV (intravenous) line is placed in a vein in your arm. EKG leads are attached to your chest to monitor your heart rate.
- You will get some medication through the IV to help you relax and make you feel drowsy. (Some people are given general anesthesia, which will put you to sleep.)
- Your doctor will spray some medicine into the back of your mouth to numb your throat. Then, the thin, flexible bronchoscope is put into your mouth.
- The bronchoscope is gently moved down the back of the throat into the airway. You will still be able to breathe because the scope is narrow enough to let air pass by.
- Pictures of the area are taken with the ultrasound probe attached to the bronchoscope. Your doctor will use these pictures as a guide to take tissue samples. The samples are taken using a needle that is passed down the scope.
- When the procedure is finished, you will go to the recovery area. Nurses will monitor you until you are fully awake. This usually takes 1-2 hours.
- You may be given oxygen through small tubes that rests just below your nose, or by a face mask.
- A chest x-ray may be taken.
- You will be given instructions about when you can begin eating and drinking after the procedure.

## **How long will the procedure take?**

The procedure may last between 30 and 60 minutes. You should plan on spending up to 4 hours for your whole appointment, however. This includes preparation, time for the sedative to work, the EBUS itself, and recovery.

## **After the exam**

- You may have a sore throat for a day or two. Throat lozenges or ice chips may help ease the soreness.
- You may also cough up a little blood for a couple of days following the test.
- You may feel sleepy for several hours because of the anesthesia.
- Do not drive, operate dangerous machinery, or drink alcohol for 24 hours after your procedure.

## **Are there any risks?**

Very rarely, an EBUS can cause damage to the lung. This can sometimes allow air to enter the mediastinum or even more infrequently 'collapse' a lung. Call your doctor or go to the emergency room if you develop severe chest pain and/or shortness of breath.

It is also possible, although uncommon, for the procedure to cause an infection in the lung. Call your doctor if you develop a high fever.

## When should I call the doctor?

Call your doctor if you have:

- **fever of 100.4°F (38°C)** or higher and/or shaking chills
- soreness in your chest after the procedure
- cough up blood more than 3 days after the procedure

Thoracic Center: **716-845-3167**

Roswell Park's Main Number: **716-845-2300**

**Urgent Symptoms:** If you are having urgent, but not life-threatening, symptoms, call the Thoracic Center. Your call will be answered by Roswell Park's nurse triage line or our Central Access Call Center if the Thoracic Center is closed. If it is determined you need to be seen, we may ask you to come to the Assessment and Treatment Center (ATC) at Roswell, which is open 24/7. You need a referral to the ATC, it is not a walk-in clinic.

**Emergencies:** Call 911 or go to your nearest hospital emergency department if you have acute (sudden or severe) chest pain, difficulty breathing, or shortness of breath. If you go to the ER or are admitted to the hospital, please call the Thoracic Center and let us know.

## Questions?

If you have any questions or concerns about your treatments, side effects, appointments, or prescription refills, please contact the Thoracic Center at **716-845-3167**. The center is open Monday - Friday, 8:00 a.m. to 5:00 p.m.

After hours, please call Roswell Park's main number **716-845-2300** and our Call Center staff will assist you.