University Hospitals of Leicester
NHS Trust

Having robotic assisted navigational bronchoscopy to examine your lungs

Respiratory Medicine &
Thoracic Surgery
Information for Patients

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What is robotic assisted navigational bronchoscopy?

Robotic assisted navigational bronchoscopy is a minimally invasive approach for getting to difficult to reach areas of the left or right lung. It is also known as RAENB or Robotic Assisted Electromagnetic Navigation Bronchoscopy.

We use the CT scan of your chest as a blueprint, a specialised LungGPS™ technology, like the car GPS. It creates a roadmap of your lungs. That roadmap guides your specialist doctor through the airways of your lungs to the area which has the lung abnormality (often a nodule).

Abnormalities in the lung can be either non-cancerous (benign) or cancerous (malignant).

At robotic assisted navigational bronchoscopy, we can get a sample of the abnormality for testing, and sometimes also treat the problem directly. We are also able to mark it so it can be cut out (resected) at surgery, on the same day or at a later date, if needed.

Why will I need to have a robotic assisted navigational bronchoscopy?

You may need this because we have found something abnormal on a CT scan, such as identifying a spot on the lung.

Robotic assisted navigational bronchoscopy lets your doctor take tissue samples from very small lung nodules. It is much safer way than other methods.

It could also possibly find lung cancer earlier or avoid the need for surgery if it is found to be non-cancerous. It also lets us cut out small lumps using keyhole surgery more accurately. This means there are smaller cuts and often a quicker recovery.

What usually happens during robotic assisted navigational bronchoscopy ?

Robotic assisted navigational bronchoscopy uses brand-new technology. It is done in only a few thoracic centres in the UK by specially trained teams.

- We do it under general anaesthesia. You will be asleep during the procedure.
- It takes between 30 to 60 minutes for the procedure to be completed.
- The specialist doctor will insert a tube with a light (bronchoscope) through your mouth into your lungs.
- Once the tube is in place, your doctor will insert special tools to look at your lung and take samples (biopsies).
- In some cases, the doctor may need to put very small markers, (no bigger than a grain of rice each) made from gold or other metals, near the lung lump. These markers will help guide your medical team when doing follow-up treatment, for example, if you need surgery. The markers can be seen on chest X-ray. They can be used as a tracking device. You will not feel them, they are not magnetic, and they do not have to be removed at a later stage.
- The specialist doctor might also sometimes need to take a sample from the lymph glands in the centre of your chest during the same procedure (EBUS-TBNA).

How does this procedure differ from other biopsy procedures?

During a traditional bronchoscopy, a thin (about the width of a pencil) flexible tube with a light on the end called a bronchoscope is passed through your nose or mouth, down the back of your throat to reach your airways.

During traditional bronchoscopy, however, your doctor can only reach the central areas of the lung and airways. With robotic assisted navigational bronchoscopy , your specialist doctor can reach nodules even in the most distant areas of the lung.

Other biopsy options include more invasive techniques such as needle biopsy or surgery, but these carry a higher risk of complications and may not be suitable.

What is the step-by-step guide to robotic assisted navigational bronchoscopy ?

1. Your CT scan will be changed into a 3D roadmap of your lungs. It is loaded onto a computer. Your specialist will then use this roadmap to guide a bronchoscope to the lung lesion.
2. Your specialist will know the where the bronchoscope is in real time with the help of tracking sensors on your chest and a location board under your back.
3. Without making a cut (incision), your specialist will be able to take tissue samples of the abnormality for testing/ They can treat it directly or place small markers nearby to guide future treatment if needed.

4. After the procedure is completed, you may have a chest X-ray which the specialist will review.

If you have any new unusual symptoms after being discharged home, please ring your specialist nurse, on the number provided during your consultation. They will be able to guide you appropriately.

What are the risks?

Before signing your consent form, you will meet your specialist to discuss the risks and complications of this procedure.

Robotic assisted navigational bronchoscopy is linked with a low risk of complications.

The most common is collapsed lung (pneumothorax). This occurs in less than 3% of the cases. If this happens, your specialist will treat it quickly, often by inserting a special chest drain (flexible tube).

What can I expect after the procedure?

We will send the tissue samples taken during the procedure to the laboratory for testing and testing under the microscope with special stains (histopathological) analysis.

You will have a follow–up a few weeks later when your specialist will contact you with the results. They will talk to you about the next steps.

You will be discharged home a few hours after the procedure or on the next day.

You will need somebody to collect you from the hospital. Please arrange this ahead of time with family or friends.

After the anaesthesia, you may feel sick (nausea), have a hoarse voice or throat discomfort. Please avoid drinking beverages that are too hot. Take over-the-counter painkillers, such as paracetamol, if needed.

You may have a small cough and your mucus may be stained with tiny spots of blood.

All these symptoms should resolve within a few days. If they persist, or if you develop a temperature or shortness of breath, please call the specialist nurses.

You may return to work within a few days, depending on how you feel and the type of job you do. The specialist will advise you further during your pre-assessment.

Patients who have robotic assisted navigational bronchoscopy as part of marking and leading to surgery may often have a 2 to 5 days hospital stay and may have a chest tube for the first 1 or 2 days.

Your surgical team will talk to you about your recovery after the surgery and the standard risks linked to the surgery.

Contact details

The lung cancer specialist nurses call 0116 250 2595

The Thoracic Surgery Nurse Specialists call 0116 258 2552

اگر آپ کو یہ معلومات کسی اور زبان میں درکار ہیں، تو براہِ کرم مندرجہ ذیل نمبر پر ٹیلی فون کریں۔
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