

Endobronchial ultrasound

Your doctor has requested that you have an investigation known as an endobronchial ultrasound or EBUS. This leaflet explains what this entails and what to expect.

What is an endobronchial ultrasound?

This is an examination looking into your lungs using a slim tube with a camera called a bronchoscope and ultrasound machine. It will allow the doctor to visualise and sample lymph nodes next to your trachea (windpipe) and main airways. A doctor trained in the procedure will carry out the investigation.

Date of EBUS: _____ **Time:** _____

Key points: things to remember before your procedure

- Read this leaflet carefully.
- Watch the short film on EBUS at the RBH <https://youtu.be/4oIKq3g5n5Q>.
- Note the appointment time in your diary, or on your phone, and please **arrive 30 minutes before the stated time**.
- If you would like this information translated into another language or large print format, or you need an interpreter for the procedure, please let us know.
- **Do not eat or drink for at least 6 hours before your test.** You can have sips of water/clear fluids up to 2 hours before the procedure.
- Bring your medications with you in their original packets.
- If you are taking Clopidogrel, Warfarin or anticoagulants, please read the advice in this leaflet.
- Make arrangements for your transport home **you will need an escort** and have a responsible adult with you for 24 hours after the procedure.
- For any queries prior to your procedure please contact the clinical admin team (CAT 11) on 0118 322 6676 or email rbb-tr.cat11@nhs.net.

Why do I need an EBUS?

The camera allows the doctor to look inside the lungs while the ultrasound emits sound waves that allow the doctor to picture structures outside of the airway or windpipe, most commonly lymph glands. Whilst watching the lymph nodes via the ultrasound the doctor is able to sample the nodes using a fine needle that passes through the airway wall into the lymph node (called a fine needle aspiration or FNA). There are many reasons why your doctor might want to visualise and sample the lymph nodes including:

- To see if the lymph nodes have any cancerous cells within them.
- To see if the lymph nodes show signs of infection, such as TB.
- To determine whether the lymph nodes show signs of inflammation (e.g. as in diseases such as sarcoidosis).

Photographs and video recordings may be kept for your medical records and documentation purposes.

Preparation for the procedure

- a. **Eating and drinking:** For this procedure, we will use sedation and local anaesthetic, including to the back of your throat, which may affect your swallowing. Therefore, **do not have anything to eat for at least 6 hours before your EBUS.**
- If your appointment is in the **morning**, do not have anything to eat or drink **after midnight** the night before.
 - If your appointment is in the **afternoon**, do not have anything to eat or drink **after 8am** on the day of the procedure.

You can have small amounts of clear fluids up to 2 hours before the procedure. **Clear fluids are water, clear soup (or soup that has been strained to remove any solids), black tea, black coffee, sugary drinks such as Lucozade, lemonade or cola.**

- b. **Medication:** Your routine medication should be taken with a sip of water.
- c. **Diabetes:** If you have diabetes, please follow the advice at the end of the booklet.
- d. **Anticoagulation:** The nurse in clinic should have given you specific advice about your anticoagulation medication. If you are taking Clopidogrel, Ticagrel or Prasugrel, you should stop these 7 days before the procedure.
If you are using Tinzaparin injections, do not take these the day before the procedure.
If you are on Warfarin, you will either:
- Have stopped this a sufficient time prior to the procedure and have had an INR blood test to ensure your bleeding time is normal.
 - Have stopped your Warfarin and been converted onto Tinzaparin injections. You will be required to have an INR blood test taken prior to the procedure to ensure that your bleeding time is normal AND you must NOT have your Tinzaparin injection the day before the procedure.
 - If you are taking Dabigatran, Edioxiban, Rivaroxaban or Apixiban, you must not take these for 48 hours before the procedure.

- e. **Arrival and departure:** You will be told what time to arrive at the Endoscopy Department. Please note there is no access to the Endoscopy Unit through the main hospital. The entrance is off Craven Road, past the main entrance and the maternity block. There is a map at the end of this leaflet.

There is a limited free drop off / collection parking and two disabled spaces outside the Endoscopy Unit. Public parking can be found in the main multi-storey car park on levels 0, 1, 2 and 3. Payment is 'on exit' with pay point machines on those levels.

You will receive intravenous sedation and painkillers. This means that **you will not be able to drive home and you must arrange for a family member or friend to take you home.**

Please note there might be other patients in the unit who arrive after you but are taken in for their test before you. This is for medical reasons or because they are seeing a different doctor

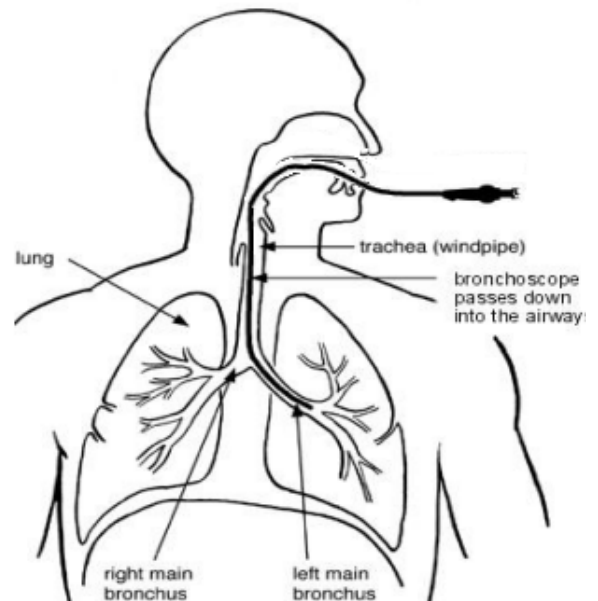
What happens when I arrive?

On arrival, please report to the main desk where the receptionist will check your personal details. You will be greeted by a nurse and escorted to the assessment area. Your blood pressure, oxygen levels and heart rate will be recorded, and if you are diabetic, your blood glucose level will also be recorded.

The doctor will then meet you before the procedure, take you through and ask you to sign the consent form.

The endoscopic bronchoscopy ultrasound (EBUS) procedure

You will be escorted into the procedure room, where the doctor and the nurses will introduce themselves and you will have the opportunity to ask any further questions. If you have any dentures, you will need to remove them at this point. Any remaining teeth will be protected by a small plastic mouth-guard that will be inserted immediately prior to the procedure. You will be attached to monitors that will check your blood pressure, and monitor your heart rate and oxygen levels (saturations). Local anaesthetic throat spray will then be administered while you are sitting up. You will then be laid down after the sedation and analgesia (pain relief) is administered and your eyes may be covered with eye patches or plastic goggles. Further local anaesthetic will be delivered to your vocal cords (voice box) and airways (windpipe). This can induce coughing initially until the anaesthetic takes effect (usually within a minute).



The procedure takes approximately 45 minutes, after which you will be returned to the recovery area, where you will continue to be monitored. It is common to cough at times during the procedure so female patients who are risk of stress incontinence may wish to wear a pad for their comfort and protection.

After the procedure

You will be allowed to rest as long as is needed after the procedure. Once you have recovered from the effects of the local anaesthetic and sedation you will be allowed to go home with a friend or relative.

Even having had sedation, you may feel fully alert after the procedure. However, the drug remains in your body for up to 24 hours and you can intermittently feel drowsy with occasional lapses of memory. If you live alone, you should arrange for someone to stay with you or, if not, arrange to stay with your family or a friend for at least 24 hours.

Risks of the procedure

EBUS is classified as an invasive procedure and has associated complications. These are very rare, but we wish to draw your attention to some of them. They will also be discussed at the time of consent, prior to the procedure.

- Sedation can occasionally cause **problems with breathing, heart rate and blood pressure**. If problems occur, they usually only last a short time. You will be carefully monitored by an endoscopy nurse to ensure the problems are identified and rapidly treated. Older patients or those who are found to have low oxygen levels (saturations) may be limited to smaller doses of sedation. A second analgesic drug is given to reduce coughing, although **coughing is common during this procedure**.
- The endoscopic procedure itself can be associated with specific complications, including **bleeding and infection**. It is common to cough up some blood in the sputum for 24 – 48 hours, and this usually settles. Some patients feel as if they have a viral illness or “flu” in the 48 hours after the procedure. Regular Paracetamol for this period commonly settles these symptoms. Because the tube enters the lung through the voice box (vocal cords), some people can have a **sore throat or hoarse voice** for 24-48 hours after the procedure.

General points to remember

- If you are unable to keep your appointment please notify the endoscopy department (0118 322 7459) or Clinical Admin Team 11 (0118 322 6676; rbb-tr.cat11@nhs.net) as soon as possible.
- It is our aim for you to be seen and investigated as soon as possible after your arrival. However, the unit is very busy and on some occasions, previous procedures can take longer than expected leading to delays. If emergencies occur then these patients will be given priority over less urgent cases.
- After the procedure, please contact your GP immediately, informing them that you have had an EBUS if you have any problems with:
 - prolonged episodes of coughing up blood (more than 72 hours, unless you were coughing up blood prior to the procedure);
 - worsening chest pain;
 - worsening shortness of breath;
 - or continuing symptoms of fevers (more than 72 hours);If you are unable to contact your GP then contact the Endoscopy Department during office hours (0118 322 7459) or Clinical Admin Team 11. Out of hours, ring the NHS 111 helpline or your GP's out of hours' service.

Advice for people with diabetes undergoing an EBUS

Before your procedure: You will be asked not to have anything to eat or drink for at least 6 hours before the test. However, you are allowed small amounts of clear fluids up to 2 hours before the test. **Clear fluids are water, clear soup (or soup that has been strained to remove any solids), black tea, black coffee, sugary drinks such as Lucozade, lemonade or cola.**

If your diabetes is treated with tablets only:

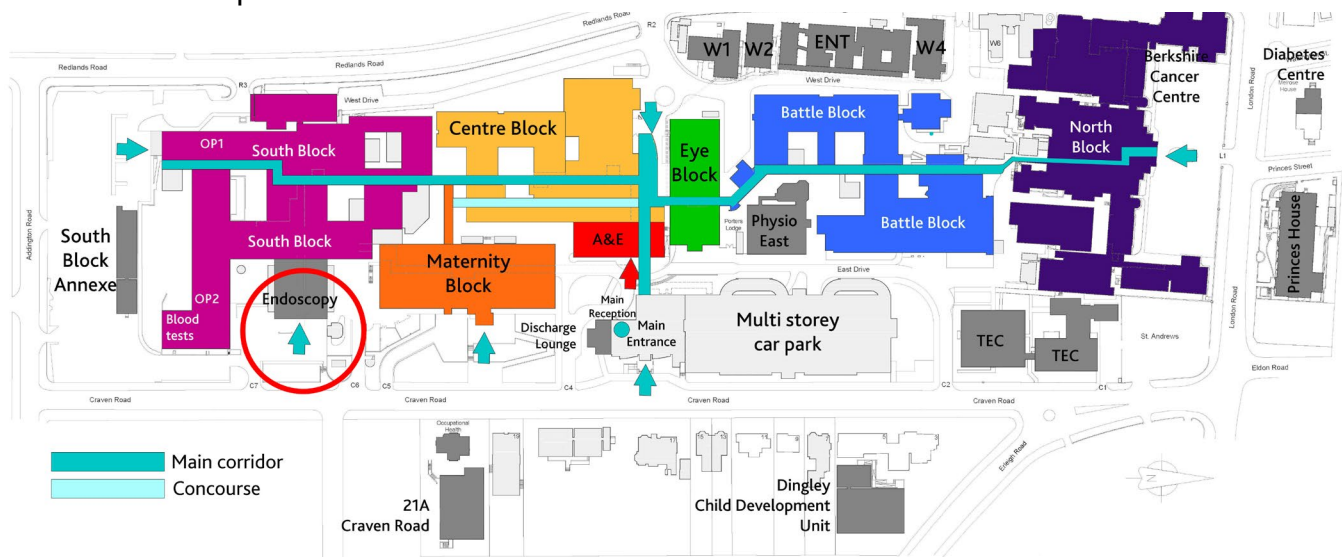
- Do not take your tablets on the day of the test.
- Take your next dose of tablets when they are due once you are allowed to eat again.

If your diabetes is treated with insulin:

- Whichever type of insulin you take, on the day before the test take three-quarters ($\frac{3}{4}$) of your last normal insulin dose of insulin. For example, if your last dose is normally 16 units, then take 12 units the evening or night before (round off to an even number if your last dose is an odd number).
- On the day of the test take half ($\frac{1}{2}$) your normal dose of insulin, e.g. if your normal dose is 18 units then take 9 units.
- If you are on fast-acting or soluble insulin, such as Actrapid, Humulin S, Novorapid, Humalog or Hypurin Neutral, do not take that insulin until after the test, when you are eating again.

More information

- There is a patient information film on YouTube that will explain what happens when you arrive for your EBUS at the RBH. <https://youtu.be/4oIKq3g5n5Q>. Copies are also available from the Respiratory Clinic.
- Getting to the Royal Berkshire Hospital: www.royalberkshire.nhs.uk/how-to-find-us/royal-berkshire-hospital.htm



To find out more about our Trust visit www.royalberkshire.nhs.uk

Please ask if you need this information in another language or format.

Dr. Faisal Kamal, Consultant Physician, Department of Respiratory Medicine
Reviewed: March 2023
Next review due: April 2025