

Endobronchial ultrasound (EBUS)

Information for patients, relatives and carers

Introduction

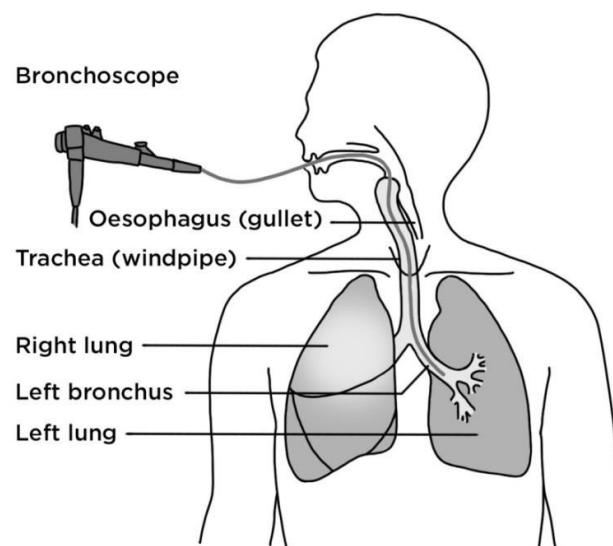
This leaflet has been provided to help answer some of the questions that you, or those who care for you, may have about endobronchial ultrasound (EBUS). Please feel free to ask our team any questions you have about the information below.

What is EBUS?

EBUS is a procedure, used to help diagnose some conditions of the lungs and airways (the tubes that carry air to the lungs) by taking tissue samples from the neighbouring lymph glands.

What does it involve?

EBUS involves using a thin, flexible tube called a bronchoscope, which is about as thick as a pencil. This is passed via the mouth to the back of the throat, into the windpipe and then further on into the airways (see diagram). It is attached to an ultrasound probe that allows the doctor to see the lungs and lymph glands which sit next to the airways.



The ultrasound probe produces sound waves that are converted into pictures by a computer. The doctor can then use a very fine needle to take the tissue sample from the right place. This technique is called transbronchial needle aspiration (TBNA) and is painless. The sample may be analysed immediately, but it is always sent to the lab for more tests to help reach a diagnosis.

What is EBUS used for?

EBUS may be used to provide tissue samples for:

- detecting infections
- identifying inflammatory diseases that affect the lungs
- diagnosing and staging lung cancer

The results of the EBUS will help your doctor confirm your diagnosis and decide on the best treatment for you.

What are the risks involved in having the test?

Serious or life-threatening complications during the procedure are **very** rare. However, you may experience some of the following side effects:

- You may cough and feel slightly breathless during the test
- You may have a sore throat and hoarse voice for a few days afterwards
- Sometimes the airways bleed. This is usually in small amounts and occurs more commonly when samples of tissue or cells are taken. It is not unusual to cough up small amounts of blood for 12 to 24 hours after the test. However, if the bleeding has not stopped after this time you should contact one of the chest doctors (contact details are at the end of this leaflet).
Outside of working hours (09.00-17.00), you should go to your local A&E department. The risk of serious bleeding is approximately 1 in 400 people
- There is a very, very small risk of the lung collapsing. A collapsed lung occurs when air escapes from the lung and fills up the space outside of the lung, inside the chest, due to a small puncture in the lung. Your doctor will explain this to you in more detail when asking you for your consent for the procedure. If the collapse is minor, nothing will need to be done but you may have to stay in hospital for 24 hours for monitoring. If the lung has to be re-expanded because you are breathless, a tube will be placed into the space between the lung and the chest wall to allow the air to escape. You will then need to stay in hospital for a few days while the lung heals
- There is a small risk of developing a chest infection, which occurs in fewer than 5 in 100 people. However, it will respond quickly to antibiotic tablets so if you feel unwell following the test you should consult your GP
- If you have asthma or bronchitis, you may experience wheezing and coughing during or after the procedure. If this happens, you may be given a nebuliser and/or a course of prednisolone (corticosteroids) after the EBUS
- EBUS risk of death is rare occurring in around 1 in 5,000 cases. Almost always, however, the patients who have died from EBUS have been very ill in hospital beforehand.

How do I prepare for my appointment?

You will need a blood test to check that you are not at risk of bleeding. This will usually be done when you see the doctor who suggests you have this test, but it may also be arranged separately.

Please do not have anything to eat or drink (not even chewing gum, sweets or water) for six hours before your appointment. It is best not to smoke prior to the procedure.

If you normally take any medication, check with your doctor or nurse when you should take them on the day of the test. Please bring a list of your medications to the appointment.

Please also tell your chest doctor or nurse if you are on insulin or tablets for diabetes, or on blood-thinning medication such as warfarin, aspirin or clopidogrel, as special arrangements will need to be made. Due to the fact that you will be fasting we **usually** advise people not to take their diabetic medications on the morning of the procedure.

Blood-thinning medication instructions:

Warfarin:	Usually stopped 5 full days before the procedure. You will need an 'INR' blood test 1-2 days before the procedure to ensure your 'INR' is below 1.5. Please let us know if you are on warfarin and why, as in some situations, we may give you an alternative shorter-acting agent to take instead, in the lead-up to your procedure
Aspirin:	Do not take on the morning of the procedure
Clopidogrel:	Usually stopped 7 full days before the procedure
Dipyridamole:	Do not take on the morning of the procedure
Ticagrelor:	Usually stopped 7 full days before the procedure
Rivaroxaban:	Usually stopped 2 full days before the procedure
Apixaban:	Usually stopped 2 full days before the procedure
Dabigatran:	Usually stopped 2 full days before the procedure
Dalteparin (injections):	Usually stopped 1 full day before the procedure
Enoxaparin (injections):	Usually stopped 1 full day before the procedure

Please do not wear nail varnish, as this interferes with a finger probe that we use to measure your oxygen levels.

You need to arrange for someone to escort you home after your procedure, as it will not be safe for you to drive or travel alone on public transport. Please make sure that these arrangements have been made before you come for your appointment.

If your doctor does not think you are well enough to return home after the test, they may ask you to remain in hospital overnight for observation. Please allow for this possibility.

What happens during the procedure itself?

The doctor will spray the back of your throat with a local anaesthetic to make it numb. It is also not uncommon for one of the doctors to give a small injection of local anaesthetic into an area just underneath the chin, into the windpipe. This will make it easier to pass the bronchoscope into your windpipe. You will also be offered a sedative to help relax you during the procedure and also pain relief medication; these medications will be given via a cannula (a small tube that is inserted into a vein in your hand or arm). **It is not a general anaesthetic** and so you will remain awake, but you will feel relaxed and sleepy.

The bronchoscope will then be passed gently into your airways. A fine needle is then passed down the bronchoscope into the gland/tissue and a sample is taken. This is painless. More than one sample will be needed during the procedure. The procedure will normally take 30-60 minutes.

Bolton NHS Foundation Trust supports the training of respiratory registrars. Your consent or procedure may be undertaken by these trainees who are supported and supervised by qualified trainers within the endoscopy department.

What happens at the end of the test?

At the end of the examination, the doctor will remove the bronchoscope, which should cause little discomfort to you. Your throat will still feel numb from the local anaesthetic and for approximately an hour after the test. During this time, you **will not** be allowed to eat or drink, however you will be offered light refreshments approximately 1 ½- 2 hours after the completion of the EBUS procedure, once the local anaesthetic has worn off in your throat.

You should be able to go home later the same day and resume normal activities 24 hours after the EBUS procedure. However, if your lungs have collapsed, your doctor may ask you to stay in hospital overnight for observation.

What happens when I get home?

After your procedure, you may experience some of the side effects below. These may last up to two days and include:

- A sore throat, although this should only be slight
- Coughing up some flecks of blood or noticing blood when blowing your nose

It is unlikely that you will have any serious complications.

If any of these symptoms last for more than 48 hours and/or you are worried, contact the hospital where you were treated (see contact details at the end of this leaflet). Outside of working hours or if you are very unwell go to your nearest A&E department.

If you have had sedation during your procedure you must **not**, for the next 24 hours:

- Drive a car or ride a bicycle/motorbike
- Operate any machinery (this includes kitchen appliances)
- Drink alcohol
- Sign any legal or important documents
- Take any sleeping tablets, cough medicine or cold remedies

This is because the sedative makes you drowsy (for up to 24 hours) and reacts with alcohol and some medications.

You may eat and drink as normal two hours after your appointment.

If you get any chest pain, have worsening breathlessness or start coughing up large amounts of blood, please go to your nearest A&E department immediately.

You should have an appointment booked with your chest doctor to get the results of your EBUS test. Results usually take 7 to 14 days to become available.

Where do I go for my appointment?

Your EBUS appointment will take place at: Endoscopy Unit, Second Floor, F Block



Who do I contact for more help or information?

Please do not hesitate to contact us if you have any queries or concerns.

Please contact the hospital between 09.00 and 17.00, Monday to Friday (except bank holidays).

Phone Endoscopy Reception: 01204 390 648

How do I make a comment about my visit?

We aim to provide the best possible service and staff will be happy to answer any of the questions you may have. If you have any **suggestions** or **comments** about your visit, please either speak to a member of staff or contact the patient advice and liaison service (**PALS**) on **01204 390 193**. You can also email PALS at **pals@boltonft.nhs.uk**. The PALS team will listen to your concerns, suggestions or queries and is often able to help solve problems on your behalf.

Alternative formats

This leaflet can be provided on request in large print, as a sound recording, in Braille, or in alternative languages.