



North Bristol
NHS Trust

Service: **Respiratory**

Endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA)



What is an EBUS?

An EBUS is a procedure that allows the doctor to look into your lungs (similar to a bronchoscopy) but then to take samples of the glands in the centre of your chest (mediastinum) using the aid of an ultrasound scan. These glands lie outside the normal breathing tubes (bronchi). A flexible tube (bronchoscope), which is about the size of a man's little finger, is passed into your lungs via your mouth (you will have a mouthguard and some protective glasses on) with you lying as flat as possible.

A small camera at the end of the bronchoscope enables the doctor to look directly into your windpipe (trachea) and breathing tubes (bronchi). A small ultrasound probe on the end of the camera allows the doctor to see the glands in the centre of the chest (mediastinum) and take samples under direct vision. Occasionally, it is useful to look down your gullet (oesophagus) at the same time with the same camera (the anesthetic in your throat allows this), as sometimes the glands can be sampled from the gullet which often causes less coughing and is more comfortable for patient with breathing difficulties (if this is a possibility, it would be discussed with you beforehand by the doctor).

Why am I having this test?

Most commonly, it is done to take samples from the central lymph glands in the centre of your chest (mediastinum) which may be enlarged for a variety of reasons. In 9 out of 10 cases, we would expect this test to give a helpful answer to the problem. Very occasionally, another test may be needed.

What should I do before the test?

- Because you will be having sedation, it is vital that you arrange transport to and from the hospital and have someone at home with you afterwards.
- You should not eat for 4 hours before the test, but you may have clear drinks for up to 2 hours beforehand.
- Take your usual medication(s) with a small sip of water.
- There is no need to bring nightwear (unless you have been told otherwise) – just wear something comfortable.
- You will be asked to remove all jewellery (except wedding bands), so it would be wise to leave valuables at home.

Consenting to this procedure.

A doctor will explain the procedure, during which time you can ask any questions before you sign a consent form.

You should tell your doctor if:

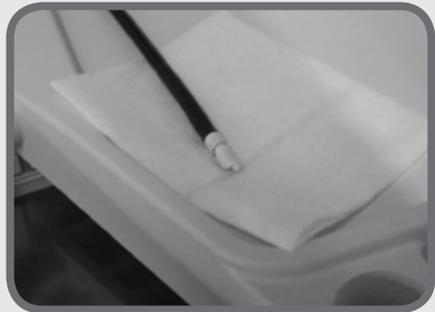
- You are taking any medicines which ‘thin the blood’ such as **Aspirin, Warfarin** or **Clopidogrel**, or if you have a prosthetic/mechanical heart valve and are taking Warfarin, in which case your hospital doctor will discuss this with you and provide further advice (normally these medications need to be stopped for a week prior to the test).
- You have any allergies.
- You have had a heart attack in the last 6 weeks – the test may be done at a later date.
- You suffer from asthma – you will be given inhaled medicine to ‘open up’ the airways first.
- You have chronic obstructive pulmonary disease (COPD) – a breathing and/or a blood test may be necessary beforehand.
- You have a history of endocarditis (infection of the heart valves), rheumatic fever, or have had your spleen removed – you may be given antibiotics beforehand.

What will happen when I arrive at hospital?

- A member of the nursing team will explain to you what will happen during your visit and information about you will be recorded in an admission document.
- You will be given an identity band to wear on your wrist.
- Any dentures should be removed (you will be given a container in the treatment room and your dentures will be carefully looked after during the procedure). The nurse should be informed of any loose teeth, caps or crowns.

What happens during the procedure?

- This test needs to be done under sedation (unlike normal bronchoscopy).
- A combination of two sedatives are given and one of these also helps reduce coughing. A needle will be inserted into your hand/arm to enable drugs (sedation) to be given. Some patients go off to sleep more or less completely, others simply find that they feel comfortable and relaxed. Following sedation patients may not remember anything about the test.
- Some anaesthetic spray will be gently put in the back of your throat – there may be a taste similar to bitter bananas. There will be a different sensation to breathing and swallowing as the throat becomes temporarily “frozen” (very much like the tooth at the dentist when an anesthetic is injected) but you will be able to breathe and swallow normally (it may just feel a little different). If you have secretions in your mouth or throat, it is easiest just to swallow them down normally. It is also fine to cough, which will subside later during the procedure.



During the procedure you may feel some slight discomfort as the bronchoscope is passed through your mouth. This may make you cough, but as the anaesthetic takes effect your throat will relax and you will be able to breathe normally. Further anaesthetic is put down at the level of the voice box which may make you cough to start with but will then quickly settle down. The doctor and nursing team will support and reassure you throughout.



You may be given oxygen via a small foam padded tube placed just inside your nostril during, and for a short time after, the procedure.

Your oxygen levels and pulse will be monitored continuously by a probe attached to your finger and sometimes a heart monitor (ECG) might be used.

The whole procedure takes about 20-30 minutes depending on how many samples are taken (whether the gullet is also examined and occasionally a normal bronchoscopy is also performed).

What happens after the test?

- You will be allowed to rest, where a nurse is always present, until the sleepiness has worn off.
- If a lung biopsy was performed you may have a chest X-ray.
- You may continue to receive oxygen for a short while.
- As your throat has been anaesthetised you may feel that you cannot swallow properly. This feeling will wear off within approximately 60-90 minutes, after which time you will be allowed a drink. You may find that your throat feels sore for a day or so.

Are there any after effects?

It is common for patients to have a minor sore throat which settles down quickly, cough up a little blood after the examination and this should not alarm you. However, if you cough up very large amounts, feel unwell, or develop a fever, please contact the Endoscopy Unit (between 09:00 -17:00 hrs) or your Accident and Emergency Department if out of hours.

Extremely rarely, infection can occur following EBUS but this is usually easily treatable with antibiotics.

Following EBUS there is a very small risk of air or blood leaking into the centre of the chest. These conditions are characterised by chest pain and shortness of breath. In this instance you should report to an Accident and Emergency Department or call 999.

Going home

- As you have had some sedation you must be accompanied if you are going home. Somebody should stay with you overnight.
- Do not drive; operate dangerous machinery, drink alcohol, or sign legally binding documents for 24 hours afterwards.

How will I know the results of the test?

You will receive a follow up appointment in approximately two weeks' time, when the results will be discussed with you.

Please contact your hospital doctor's secretary if you do not receive a follow up appointment.

Your feedback is encouraged

We are keen to make EBUS as straightforward and comfortable as we can. Please feel free to make any suggestions for improvements to your doctors or nurses. We also may provide you with a short patient survey after the procedure which we would be grateful if could complete and return back to your nurse with any suggestions.

References

Medford AR et al. Endobronchial ultrasound guided transbronchial needle aspiration. Postgraduate Medical Journal 2010;86(1012):106-15. <https://bit.ly/2MMAZ9K>

Patient UK information leaflets on EBUS: <https://bit.ly/2RrkMr2>

NHS Constitution. Information on your rights and responsibilities.
Available at www.nhs.uk/aboutnhs/constitution

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If you or the individual you are caring for need support reading this leaflet please ask a member of staff for advice.

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