



**University
Hospitals Sussex**
NHS Foundation Trust

Having an Endobronchial Ultrasound (EBUS)

Department of Respiratory Medicine

Patient Information

This leaflet will help you and your family to understand more about EBUS. Please read it and ask any questions you may have. The specialist will ask you to confirm that you have read it and explain the procedure to you personally, before asking you to sign a consent form. This will either be done in the clinic or in the endoscopy department immediately before the test.

The leaflet is divided into sections:

- What is an EBUS?
- Why do I need an EBUS?
- Is there an anaesthetic?
- How is it carried out?
- Are there any risks?
- What happens afterwards?
- When will I know the results?
- What should I do on the day of the EBUS?
- Who can I contact if I have a question?

And finally, the date and time of your test, together with directions on where to go, will be written for you on the leaflet.

What is an EBUS?

EBUS (Endobronchial Ultrasound) is a test which allows sampling of lymph nodes within the chest. Samples of the lymph nodes can be taken from inside the lungs and sent to the laboratory to check for any abnormalities.

Why do I need an EBUS?

An EBUS is usually suggested if there are abnormal appearing lymph nodes identified on radiological scans. Sampling these lymph nodes may help your doctor determine the most appropriate route of treatment.

Is there an anaesthetic?

You do not need a general anaesthetic. A sedative injection is usually given before the procedure starts. Local anaesthetic is sprayed into your throat and the scope is inserted via your mouth and more is given directly into the bronchial tubes through the bronchoscope as the examination progresses. No pain is felt from the inside of the lungs even if tissue samples are taken and the local anaesthetic is to help reduce any coughing.

How is it carried out?

You will be asked to lie on a couch, usually semi-upright, and the bronchoscopist (who is one of the doctors) will stand behind your head. After any sedative injection and the local anaesthetic have taken effect, the bronchoscope will be passed gently into your mouth, and back into your throat. The throat will be examined, more local anaesthetic applied and, after a pause to allow this to work, the bronchoscope will be passed down the windpipe and into the bronchial tubes. You will feel some discomfort as the bronchoscope is passed through your throat, which will pass, and after that the only uncomfortable feeling may be coughing. The bronchoscope is small in relation to the windpipe and bronchial tubes and there is plenty of room to breathe, but you will not be able to talk. The images from the bronchoscope are transmitted to a TV screen which the bronchoscopist watches.

Samples are taken by inserting a needle through the bronchial tube being examined and collecting the sample. A small ultrasound probe on the end of the tube helps us to locate the correct area to sample. The specimen collected contains cells from the lymph nodes which are then analysed in the laboratory for signs of infection or cancer.

The procedure takes about 45 minutes to 1 hour.

Are there any risks?

EBUS is very safe, but there are sometimes side effects and, rarely, complications which you need to be aware of in order to decide whether or not to agree to have this procedure.

Side effects

During the examination, coughing is common, though local anaesthetic is used to reduce this as much as possible. After the test, it is likely that you will have a sore throat for a day or two or some soreness of the nose. You might also have a hoarse voice for a short time.

It is quite common to cough up small amounts of blood for a few hours after EBUS.

Complications

Major complications are uncommon, affecting 1–5 patients per 1000 bronchoscopies. These include significant bleeding or collapse of the lung following a biopsy, infection in the lung or an allergic reaction to local anaesthetic or sedative. An irregular or rapid heart rhythm may occur in patients with underlying heart disease. Breathing difficulties can occur during EBUS in patients who have bad asthma or COPD (chronic obstructive pulmonary disease, such as emphysema) and the effect of sedation may reduce breathing further and cause low oxygen levels in the blood. Very rarely this is severe enough to require an anaesthetist to insert a breathing tube through the mouth into the windpipe and transfer to an intensive care unit. Even more rarely, cardiac arrest and death can occur. Such devastating complications are extremely uncommon, reportedly once per 10,000 bronchoscopies, but the risk is greater if there is already serious lung or heart disease present and is taken into account in weighing up the pros and cons of having the test when discussing it with you.

Your safety

To reduce the risk of complications, your lung function (breathing capacity) and oxygen levels may be checked in the clinic. Blood

tests will be done to check blood clotting to reduce the risk of unexpected haemorrhage. It is important that you have told the healthcare team of any breathing or heart problem you have, of any allergies that you know of, and what medicines you are taking. If you are taking a drug called clopidogrel (Plavix®) to thin the blood then you will need to stop this 7 days before the test can be carried out.

If you are on any other blood thinners such as warfarin you will also be required to stop this 7 days before the procedure. During the procedure your oxygen level will be continuously checked via a clip-probe on your finger, and you will be given extra oxygen through a mask or nasal tube. Your heart will be monitored and your blood pressure taken at regular intervals.

What happens afterwards?

After the EBUS you will be taken back to the recovery area a few yards away from the EBUS room. For 1-2 hours the nurses will check your pulse, blood pressure and breathing at intervals. During this time you will not be able to eat or drink due to the numbness in your throat.

We do not routinely discuss the results of the examination with you before you go home. This is because any sedative injection often makes it hard to remember things for a few hours, but also because often we won't yet know the answers until the lab results are back. If there is important information to tell you, and you are with someone, then we are happy to tell you what we have found.

You will normally be allowed home after 2 hours. You must not drive yourself, and should not drive or operate machinery for 24 hours. You should have someone at home with you until the following day, and should take it easy for 24 hours. You should not drink alcohol.

When will I know the results?

You should be given an outpatient appointment within 2-3 weeks of the EBUS to discuss the results with your Respiratory Consultant at your local hospital where you were originally seen.

What should I do on the day of the EBUS?

Eating and drinking – You should not eat anything at all for at least 6 hours before the test. You can drink water only (no tea, coffee, or other liquids) for up to 2 hours before. For the final 2 hours before the test you should not eat or drink anything at all.

Medication – You should take your usual medications on the morning of the test, with any necessary sips of water, except:

- if you are taking tablets for diabetes, do not take them on the day of the test. If you are taking insulin, the doctor will advise you beforehand, but usually any short-acting insulin is omitted in the 6 hours before the test, while long-acting basal insulin doses are reduced by 2/3 on the day.
- **Blood thinners:** Please let us know if you are taking any of the medications below because your individual health needs may vary but below is a summary of usual practice:
 - Warfarin:** usually stopped 5 full days before the procedure. You will need an INR blood test 1-2 days before the procedure to ensure you INR is below 1.5. 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:** Usually stopped 7 full days before 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.

Travel – Please arrange for someone to bring you and take you home. The hospital can only provide transport if it is impossible for you to make any suitable arrangements.

Attending for the EBUS – Attend at the time you have been given in the clinic, written below.

- At the **Royal Sussex County Hospital (RSCH)**, bronchoscopies are done in the **Endoscopy Unit** which is on **Level 9A** of the **Millenium Wing**.

The nurses will show you to a bed and check your details. You will be asked to change into a hospital gown, and your pulse, blood pressure and oxygen levels will be recorded. A small plastic cannula will be placed in one of your arm veins, to be used for any sedative injection later. The doctor who is going to carry out the EBUS will talk to you about the test, make sure you understand what will happen and that you have read this leaflet, and then ask you to sign a consent form.

Any questions related to your condition may not be answerable by the person carrying out the procedure, if you have been referred from another hospital. If you have any concerns related to your condition then please contact your respiratory physician or clinical nurse specialist directly. Results of this procedure will be forwarded to your consultant as soon as they become available. Any queries relating to your results should be directed to your local consultant or clinical nurse specialist. We will not be able to give you these results directly.

Who can I contact if I have a question?

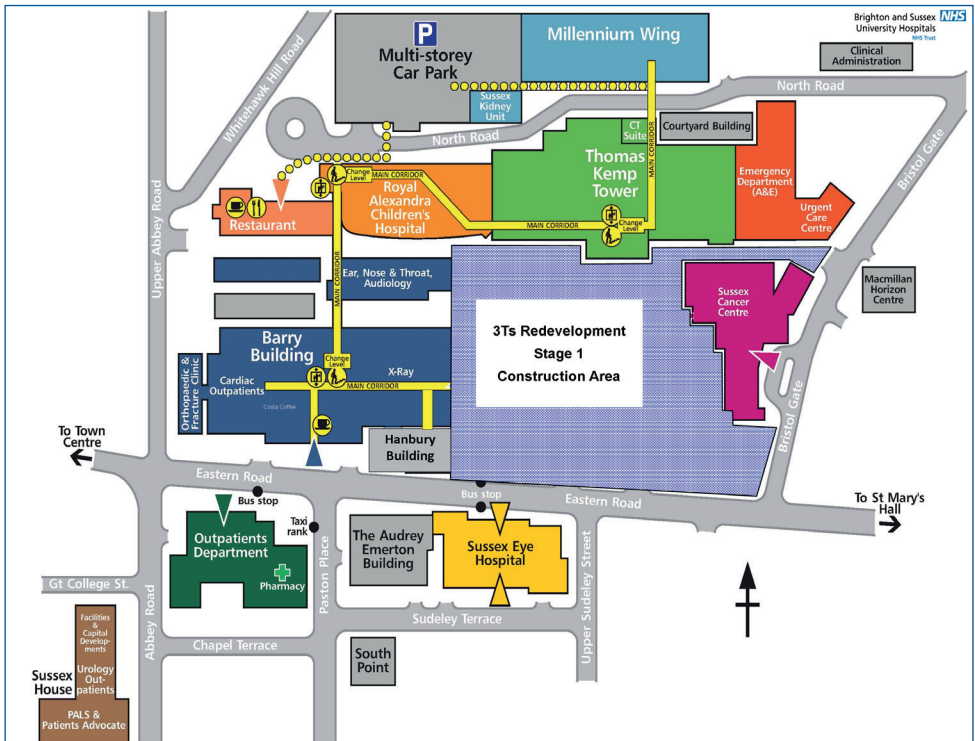
If you have a question about the EBUS, contact one of the respiratory administrators on: **01273 696955 Ext.67825**
In the very unlikely event that you have a problem after going home from the test you will need to contact the respiratory administrators (details above) if within normal working hours, or the medical registrar on call if out-of-hours, at: RSCH **01273 696955**

Further information and support:

The British Lung Foundation,
www.blf.org.uk Helpline **03000 030 555**

The EBUS takes place on:

Endoscopy Unit, Level 9, Millennium Building
Royal Sussex County Hospital, Eastern Road, Brighton BN2 5BE



My EBUS

Date: _____

Time: _____

Place: _____

Notes and questions

Patient agreement to investigation or treatment

Patient details (or preprinted label)

Male Female

Surname _____

Special requirements
(eg other language/communication method)

First names _____

Date of birth _____

Responsible health professional _____

NHS number _____

Name of proposed procedure or course of treatment (Please tick)

Emergency Elective

Flexible Bronchoscopy Endobronchial Ultrasound

(Examination of the insides of the airways, trachea and bronchi in the lungs, with biopsies, brushings and washings as appropriate)

Statement of health professional (to be filled in by health professional with appropriate knowledge of proposed procedure, as specified in consent policy)

I have explained the procedure to the patient. In particular, I have explained:

The intended benefits

To assist in the diagnosis and possible treatment of various conditions affecting the lungs or airways.

Common risks – Sore nose and throat, coughing blood.

More serious but rare risks – infection, breathing difficulty, respiratory depression.

I have also discussed what the procedure is likely to involve, the benefits and risks of any available alternative treatments (including no treatment) and any particular concerns of this patient.

The booklet 'Having a Bronchoscopy / EBUS' has been provided

This procedure will involve: Local anaesthesia Sedation

Signed _____ Date _____

Name (PRINT) _____ Job title _____

Contact

Statement of interpreter (where appropriate)

I have interpreted the information above to the patient to the best of my ability and in a way in which I believe they can understand.

Signed _____

Name (PRINT) _____ Date _____

Statement of patient

Please read this form carefully. If your treatment has been planned in advance, you should already have your own copy of the booklet 'Having a Bronchoscopy' which describes the benefits and risks of the proposed treatment. If not, you will be offered a copy now. If you have any further questions, do ask – we are here to help you. You have the right to change your mind at any time, including after you have signed this form.

I agree to the procedure described on this form.

I understand that you cannot give me a guarantee that a particular person will perform the procedure. The person will, however, have appropriate experience.

I understand that any procedure in addition to those described on this form will only be carried out if it is necessary to save my life or to prevent serious harm to my health.

I understand that any tissue/body parts removed during the procedure will be used for diagnosis and then disposed of appropriately and/or used for education/research purposes.

I understand that data regarding my treatment may be provided to the Department of Health for Audit purposes, and if necessary that appropriately appointed personnel may review my medical notes to validate this data.

Patient's signature _____ Name (PRINT) _____ Date _____

A witness should sign below if the patient is unable to sign but has indicated his or her consent.

Signed _____ Date _____

Name (PRINT) _____ Relationship/Job title _____

Confirmation of consent (to be completed by a health professional when the patient is admitted for the procedure, if the patient has signed the form in advance).

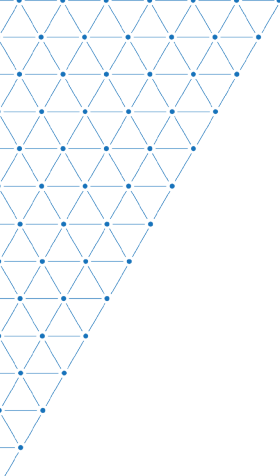
On behalf of the team treating the patient, I have confirmed with the patient that s/he has no further questions and wishes the procedure to go ahead.

Signed _____ Date _____

Name (PRINT) _____ Job title _____

Important notes; (tick if applicable)

- See also advance decision (e.g. Jehovah's Witness form)
- Patient has withdrawn consent (ask patient to sign/date here)



This leaflet is intended for patients receiving care in Brighton & Hove or Haywards Heath

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The information in this leaflet is for guidance purposes only and is in no way intended to replace professional clinical advice by a qualified practitioner.

