

# Having a bronchoscopy with ultrasound (EBUS) to examine your lungs

Respiratory Medicine

Information for Patients

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## Introduction

You have been advised to have an EBUS (bronchoscopy with endobronchial ultrasound) to look at the cause of your symptoms and scan findings. This booklet will explain what an EBUS is. It will help you to prepare for the test. **Please read this leaflet.** You must bring it with you on the day of your test.

If you have any concerns before your appointment call our number on page 8.

## What is an endobronchial ultrasound (EBUS)?

We use EBUS to take tissue samples from enlarged glands (lymph nodes) in the center of the chest. We put a special flexible tube (EBUSscope) down your throat. This tube has a small ultrasound and a camera at the end of it. This lets the doctor look into your windpipe (trachea), breathing tubes (bronchi). It lets them look at any lymph nodes in the centre of your chest. The ultrasound probe makes sound waves that are turned into pictures by a computer. We pass a needle with the scope. We collect samples (biopsies) from the lung or enlarged glands.

## Why do I need this procedure?

We use EBUS to look for:

- Inflammatory diseases that affect the lungs, like sarcoidosis
- Possible cancer
- Infections like tuberculosis (TB)

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or call 111 for non-emergency medical advice**

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To give feedback about this information sheet, contact [uhl-tr.informationforpatientsmailbox@nhs.net](mailto:uhl-tr.informationforpatientsmailbox@nhs.net)

## What are the risks?

EBUS is often safe to do. Serious complications are rare. Risks can be:

- You may have sore nose, sore throat, hoarse voice or cough after the procedure.
- You may have a high temperature for 24 to 48 hours (1 to 2 days) afterwards. You can take paracetamol to help with this.
- Rarely. Some patients may get a chest infection with a cough, breathlessness, phlegm and fever. If you have any of these problems please call the endoscopy number on page 8. You can go to the clinical decisions unit in Glenfield Hospital or see your GP.
- You may bleed during and after the EBUS. This is often minor. It may cause you to have small amounts of blood coming from the nose or in your phlegm for a few days. It is uncommon to have a lot of bleeding that needs a blood transfusion or admission to hospital for more treatment.
- There is a small risk of a small puncture being made in the lung. This leads to an air leak around the lung (pneumothorax). If an air leak does happen, you may need to come to hospital for observation. We may need to remove the air using a small plastic tube (chest drain). This can happen in fewer than 1 in 100 cases.

## How do I prepare for EBUS?

If your test is in the **morning**, **do not eat or drink after 2am.**

If your test is in the **afternoon**, **do not eat or drink after 8am.**

- You can have water up to 2 hours before the test.
- You must tell your hospital doctor or call the endoscopy number if you take any medicines which thin the blood. You will need to **stop taking** them for a few days before the procedure. Your doctor will be able to advise you about it. These include:
 

• Clopidrogel	• Rivaroxaban
• Ticagrelor	• Apixaban
• Enoxaparin	• Dabigatran
• Dalteparin	• Edoxaban
• Warfarin	
- You do not need to stop taking aspirin. Please ask if you are unsure.
- Take your usual medicines with a small sip of water unless you are told not to.
- There is no need to bring nightwear. You can wear clothing that is comfortable and not too tight fitting.
- **We will normally give you a sedative medicine.** You may feel sleepy from the medication afterwards. It is not safe to travel or drive home alone. **You must have an adult that can take you home and stay with you for 12 hours after the test.**

Please read the next sections if you have diabetes. This is if you take insulin, injections or diabetic tablet medicine.

## **Preparing for an EBUS with diabetes**

Do not eat or drink for 6 hours before the test. This section will help you manage your diabetes before the test. This is so you do not get 'hypo' (low blood glucose) on the day of your test.

The symptoms low blood glucose are feeling shaky, dizzy, sweaty or weak. If you have any of these symptoms and/or your blood sugar drops below 4mmol/L while waiting for your test, you can have a sugary drink. This can be Lucozade, orange juice, or 4 teaspoons of sugar dissolved in 250ml of water. Please let the endoscopy team know if you have had to do this when you arrive for your test.

## If you take diabetes tablets or non-insulin injections

If you are on diabetes tablets or non-insulin injections, please follow:

Medication	Day before procedure	Day of procedure	Day after procedure
Acarbose	Take as usual	Do not take	Take as usual
Metformin	Take as usual	Do not take	Take as usual
Repaglinide Nataglinide	Take normal dose	Do not take morning or lunchtime dose	Take as usual
Gliclazide Gleбенclimide Glipizide Glimepride Gliquidone	Take usual dose in the morning  Take half usual dose in the evening	Do not take morning  Take as usual in the evening	Take as usual
Pioglitazone	Take as usual	Take as usual	Take as usual
Dapagliflozin Canagliflozin Empagliflozin	Stop 3 days before procedure	Do not take dose	Take as usual
Sitagliptin Saxagliptin Vildagliptin Alogliptin	Take as usual	Do not take in the morning  Take as normal in the evening.	Take as usual
GLP-1 injections and tablets			
Trulicity Exenatide (Byetta) Liraglutide Rybelsus Lixisenatide Semaglutide (Ozempic) Mounjaro	Take usual dose	Take usual dose	Take usual dose

Once you are eating and drinking after the test, you can restart your tablets/injections as normal. If you are unsure or have any questions, please contact your usual diabetes care provider.

## If you take insulin

This section which will explain how to manage your insulin

### Morning appointments

Name of insulin	Day before the test	On day of test	Day after test
<b>Biphasic mixed insulins/2 times a day</b>			
Novomix 30 Humulinm3 Humalog mix 25 Humalog mix 50 Insuman comb 25	Reduce evening dose by a half	a) Take half of your usual morning dose  b) take your usual dose in the evening	Take usual dose of insulin
<b>Basal/bolus insulin programme</b>			
<b>Bolus insulins</b> Actrapid Humulin S Insuman Rapid Novorapid Fiasp Humalog Apidra Lymjev	Normal dose of insulin before evening meal	a) Do not take your morning dose of insulin  b) take usual dose of lunchtime dose of eating and drinking  c) Take usual evening dose if eating and drinking	Take usual dose of insulin
<b>If insulin is taken in the morning</b>			
<b>Basal insulins</b> Lantus Levemir Insulatard Humulinl Insuman basal	Take usual dose of insulin	a) Take only half of your dose of insulin if taken insulin in the morning.	Take usual dose of insulin
Abasaglar Toujeo Tresiba Semglee			
	Reduce your insulin by a half	Take usual dose of insulin	Take usual dose of insulin

## Afternoon appointment

Name of insulin	Day before the test	On day of the test	Day after test
<b>Biphasic mixed insulins/2 times a day</b>			
Novomix 30 Humulinm3 Humalog mix 25 Humalog mix 50 Insuman comb 25 Insuman comb 50	Reduce evening dose by a half	a) Take half your usual morning dose  b) Take your usual dose in the evening	Take usual dose of insulin
<b>Basal/bolus insulin regime</b>			
<b>Bolus insulins</b> Actrapid Humulin S Insuman Rapid Novorapid Fiasp Humalog Apidra Lymjev	Normal dose of insulin before evening meal	a) Take usual dose of insulin in the morning. b) Do not take lunchtime dose of insulin c) Take usual evening dose of insulin if eating and drinking	Take usual dose of insulin
<b>If insulin is taken in the morning</b>			
<b>Basal insulins</b> Lantus Levemir Insulatard Humulinl	Take usual dose of insulin	a) Reduce your insulin by a 1/3 (third) if taken in the morning	Take usual dose of insulin
<b>If taken in the evening</b>			
Insuman basal Abasaglar Toujeo Tresiba Semglee	Reduce your insulin by a half	Take usual dose of insulin	Take usual dose of insulin

Once you are eating and drinking after the test, you can take your next dose of insulin as usual. If you are on any diabetes medications which have not been mentioned in the booklet or you are not sure what to do, then please contact your usual diabetes care provider for more advice.

## What happens during EBUS?

Please go to the reception area of ward 25 (endoscopy unit). This is on the first floor of Glenfield Hospital.

- A nurse will ask you some questions about your medicines, allergies and any medical conditions you may have.
- A doctor will explain what will happen. You can ask any questions before you sign a digital consent form.
- We will put a small plastic tube (cannula) into a vein in your hand or arm. This is to give you the sedative medicine. This is to make you feel sleepy and relaxed. We strongly recommend you to get it.
- We will do bronchoscopy under local anaesthetic. You will be lying down in most cases.
- We will do EBUS under local anaesthetic. We will use a numbing spray at the back of your throat. This can make you cough. It can have a bitter taste. The back of the tongue and throat will feel numb afterwards.
- Nurses will attach a blood pressure cuff and a clip to your finger to measure your oxygen levels. You will get extra oxygen through a small plastic tube fitted under your nose. We will put a small plastic mouthpiece into your mouth in between your teeth. If you have glasses and dentures we will need to remove them for the test.
- Once you have had the sedative medicine, the bronchoscope will be passed through your mouth into the airways.
- We will give you more local anaesthetic through the tube to numb the airways. We may also give you more sedation as the procedure continues. The doctor will examine the airways and take samples from the enlarged glands or lung as needed.
- An EBUS will normally last for 60 minutes.

## What happens after EBUS?

The nurses will look after you in the recovery area for 2 hours. Your blood pressure and oxygen levels will be checked. You may have a chest X-ray. You may get oxygen for a short while. As your throat has been numbed, you may feel that you cannot swallow properly. This normally wears off after 2 hours.

If you are well after 2 hours you can go home. You can eat and drink 3 hours after the procedure has finished.

### For 24 hours after the procedure:

- **Do not drive**
- **Do not operate dangerous machinery**
- **Do not drink alcohol**
- **Do not sign legally binding documents**



## When will I get the results?

It can take up to 7 days to get the results. The results will be sent to the doctor who referred you for the procedure. You will get an appointment to see a doctor to talk about the results. Please contact your hospital doctor's secretary or your GP if you do not have a follow up appointment.

## Feedback

We want to make your EBUS as straightforward and comfortable as possible. Please let us know if you have any suggestions on how we can improve your experience. Please do not hesitate to contact us if you have any queries or concerns.

## Contact details

- **Endoscopy unit:** Monday to Friday, 9am to 5pm call: **0116 258 3130**
- **Bronchoscopy appointments:** Monday to Thursday, 8.30am to 2pm call: **0116 258 7777** (extension 2259).

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