

What is a Flexible Bronchoscopy?

Information for Patients

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This patient information aims to explain what a bronchoscopy involves and tries to answer the questions you may have about the procedure.

Why do I need a bronchoscopy?

Your doctor has recommended a bronchoscopy to look at your breathing tubes to help find the cause of your symptoms.

What is a flexible bronchoscopy?

A bronchoscopy is a test which allows the doctor to look directly at the windpipe (trachea) and the breathing tubes (bronchi) which take the air into your lungs. A flexible bronchoscope is a long bendy tube, the width of a thin pencil, with a tiny camera and bright light on the end.

What happens on arrival to the unit?

You will be checked in at reception where the receptionist will check your name, date of birth, address and telephone numbers.

You will have a brief medical assessment by a nurse who will ask you questions regarding your medical condition and any past illnesses and medication. They will also ensure you understand the procedure and discuss any outstanding concerns or questions you may have. Your blood pressure and pulse will be recorded and your blood sugar checked if you are diabetic. You will be given a patient wristband so that staff can safely identify you throughout your stay in the Endoscopy Unit. Also, a red wristband if you have any allergies.

The nurse will check you have completed your consent form or will show you how to complete it if you still wish to have the procedure.

No medical treatment can be given without your consent.

You will be taken through to recovery to await your procedure. A nurse will put a cannula into your arm or hand. You will not need to get changed.

What happens during the test? Will I be awake for the procedure?

The bronchoscopy will be done in the endoscopy department, where you will be made comfortable on a couch and given the opportunity to ask questions.

The nurse in the room will complete some safety checks and attach you to the observation machine. A small probe will be attached to your finger to measure the level of oxygen in your blood and to measure your pulse rate. Your blood pressure will also be taken.

To make the procedure as pleasant as possible for you, the doctor will then use a local anaesthetic spray to numb the nose, mouth and back of your throat. If you are having sedation, you will be given an injection of a sedative drug into a vein in your arm/hand, just before the test. This should make you feel quite sleepy and relaxed.

A soft plastic tube giving you oxygen may be placed in one nostril.

Once you are relaxed and the area is numb, the doctor will start the test, using more local anaesthetic liquid when necessary.

The tube is usually passed, either through your nostril or your mouth, down your windpipe and into your breathing tubes. This allows the doctor to get a good look at your breathing tubes to check whether any disease is present.

You can breathe normally during the procedure as there is plenty of room around the scope for air to enter your lungs.

During the examination coughing is common; the local anaesthesia will help this as much as possible.

If you feel nervous or anxious close your eyes and concentrate on your breathing or take your mind to a favourite place.

Small amounts of tissue may be taken to be looked at under a microscope.

These may be:

- Biopsies - taken using tiny forceps threaded through the bronchoscope
- Brushings - a tiny brush is rubbed against the wall of your breathing tubes
- Washings - where some normal saline is run into the lungs and then sucked back.

How long will it take?

About 20 to 30 minutes.

What do I need to do before the procedure?

You will either be sent or given a blood form to have done before the procedure.

You can have this done after your clinic visit; the form will indicate you can have blood taken on the same day as your appointment.

If you need to come to have a blood test at any of the main hospitals, you will need to go to the ULHT website, where information is available to book online or telephone for an appointment. Walk in sessions are not available anymore.

It is important that you do not eat for 4 hours or drink for 2 hours before the test.

Medications

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, please see list at end of document.

Anticoagulants

Warfarin: Usually stopped 5 full days before the procedure. You will need an 'INR' blood test 1 to 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.

Blood thinners /Anti-platelet agents

Sometimes these medications need to be stopped and if this is the case the person who referred you for the test should have given you clear instructions. If you are

unsure, please contact your consultant's secretary. For your safety, if the correct instructions are not followed, it may not be possible to do the bronchoscopy and you may have to return on another day.

- Aspirin: you can continue taking this medication
- Dabigatran, Rivaroxaban, Apixaban, Edoxaban. You will be advised to stop taking this medication for 48 hours before the procedure
- Clopidogrel (Plavix), Dipyridamole: Prasugrel, Ticagrelor: you will be advised to stop for 7 full days before the procedure
- Enoxaparin (injections): usually stopped for 24 hours before the procedure
- Prophylactic enoxaparin need not be stopped.

How will I feel afterwards?

- After the test, you will be asked to rest and be observed for an hour or two in recovery
- Because your throat will be numb, you should not eat or drink for the first two hours following the test.

Sedation can affect your memory and judgement for up to 24 hours. You will need someone to accompany you home and be at home with you for the next 24 hours. Sedation may make you unsteady on your feet. Please be careful on stairs.

It is important that you should not for the next 24 hours:

- Drive or ride a motorbike (you are not covered by your insurance)
- Operate any machinery including kitchen appliances
- Go to work (as you are not covered by health and safety)
- Sign any important legal documents. You should avoid posting on social media/public forums too
- Have a bath without someone there to help you
- Look after children on your own
- Take alcohol, sleeping tablets or recreational drugs.

What are the side effects?

After the test you may have a slight nosebleed, or your phlegm may be streaked with blood. This is normal and should settle down within 24 hours. You may also notice a hoarse voice, sore throat or flu-like symptoms which should also settle down in a day or two. If you cough up larger quantities of blood (e.g. an egg-cup full) or become suddenly short of breath, you should go to your local A&E department with a copy of your report, as you may need a chest x-ray.

What are the complications?

- Minor complications occur in 1 in 500 bronchoscopies and include:
 - Reduced respiration due to the sedating drugs
 - Spasm of the vocal cords from the local anaesthetic
 - Feeling faint or nauseated
- Major complications occur in 1 in 800 bronchoscopies and include:
 - Stopping breathing
 - Unusual heart rhythms (arrhythmias)
 - Chest infection (pneumonia)
 - Fluid on the lung (pulmonary oedema)
 - Significant bleeding
- Collapsed lung (Pneumothorax). In rare cases, an airway may be injured during bronchoscopy. If the lung is punctured, air can collect in the space around the lung, which can cause the lung to collapse. Usually this problem is easily treated, but it may require admission to the hospital.
- The risk of dying during the procedure is the same risk as being a passenger in a car for 40,000 miles.

What are the alternatives?

The other way to investigate the breathing tubes is to use a rigid tube which is wider than the bronchoscope. It is passed through the mouth, usually after you have had a general anaesthetic. Such a test is done by Chest and Thoracic surgeons at Nottingham.

How long do I have to stay in hospital?

Most people can go home the same day. In exceptional circumstances you may be admitted for overnight observation.

When will I get the results?

You will get a report on the day stating everything that has been done and seen. The doctor will aim to talk to you post examination.

The results of biopsies and the washings from the lungs on average are available within a week; it can be longer especially around bank holidays.

A follow up outpatient appointment will be arranged following the procedure for you to discuss the results with the doctor, or your specialised respiratory nurse will ring you.

If you have any further questions, you can contact the hospital where the investigation took place on the telephone numbers listed below:

Respiratory Medicine

Pilgrim Hospital, Boston 01205 446559

Lincoln County Hospital 01522 573849

	If your procedure is in the morning	If your procedure is in the afternoon
Once daily insulin ONLY (type 2 diabetes) Glargine (Lantus) Levemir (Detemir) Insulatard Humulin I Insuman basal	Continue your usual dose* *See below	Continue your usual dose* *see below
Twice daily mixed insulin Novomix 30 Humalog Mix 25 or 50 Humulin M3 Insuman Comb 15, 25 or 50	Halve your usual morning dose. Resume your normal insulin regimen with your next meal.	Halve the usual morning dose. Resume your normal insulin regimen with your next meal.
Twice daily - separate injections of short-acting (e.g. animal neutral, Actrapid, Humulin S, Insuman rapid, Novorapid, Humalog, Apidra) and intermediate-acting (e.g. animal isophane, Insulatard, Humulin I, Insuman Basal)	Calculate the total dose of both morning insulins and give half as intermediate-acting only in the morning. Leave the evening meal dose unchanged.	Calculate the total dose of both morning insulins and give half as intermediate acting only in the morning. Leave the evening meal dose unchanged.
Three times daily mixed insulin Novomix 30 Humalog Mix 25 or 50 Humulin M3 Insuman Comb 15, 25 or 50	Halve your usual morning dose. If you miss lunch do not take your lunchtime dose. Resume your normal insulin regimen with your next meal.	Halve your usual morning dose. Omit lunchtime dose. Resume your normal insulin regimen with your next meal.

<p>Basal bolus regimens: Combination of once or twice daily background (basal) long-acting insulin with short-acting insulin at mealtimes (see page 1 for insulin types)</p>	<p>Basal (long acting): Continue your normal dose*</p> <p>Short-acting: Omit your morning dose. Resume with your normal insulin regimen with your next meal</p> <p>*see below</p>	<p>Basal (long acting): Continue your normal dose*</p> <p>Short acting: Continue your normal morning insulin regimen. Omit lunchtime short-acting dose.</p>
<p>Exenatide (Byetta)</p>	<p>Omit morning dose</p>	<p>Omit morning dose</p>
<p>Liraglutide (Victoza) Lixisenatide (Lyxumia)</p>	<p>Delay until after procedure</p>	<p>Delay until after procedure</p>
<p>Bydureon</p>	<p>Delay by one day if due</p>	<p>Delay by one day if due</p>

Sources of information used in the production of this patient information

BTS Quality Standards for Flexible Bronchoscopy in Adults should be read alongside the BTS Diagnostic Flexible Bronchoscopy in Adults guideline (www.brit-thoracic.org.uk) Copyright © 2014 British Thoracic Society.. British Thoracic Society Reports, Vol 6, No 5, 2014 ISSN 2040-2023

British Thoracic Society Guidelines for Diagnostic Flexible Bronchoscopy in adults Thorax 2013;68;i1-i44.

Sedation explained Information for patients 2021 <https://www.rcoa.ac.uk/patients>

Management of anticoagulant and antiplatelet therapy in patients undergoing interventional pulmonary procedures. *Pathak et al.* Eur Respir Rev 2017

Guidance for Diabetic Persons having an OGD or Bronchoscopy. Royal United Hospital Bath NHS Trust

United Lincolnshire Hospitals NHS Trust has worked with AccessAble to create detailed Access Guides to facilities, wards and departments at our sites.

www.accessable.co.uk/united-lincolnshire-hospitals-nhs-trust

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