

Patient information leaflet
Bronchoscopy including
endobronchial ultrasound
(EBUS)



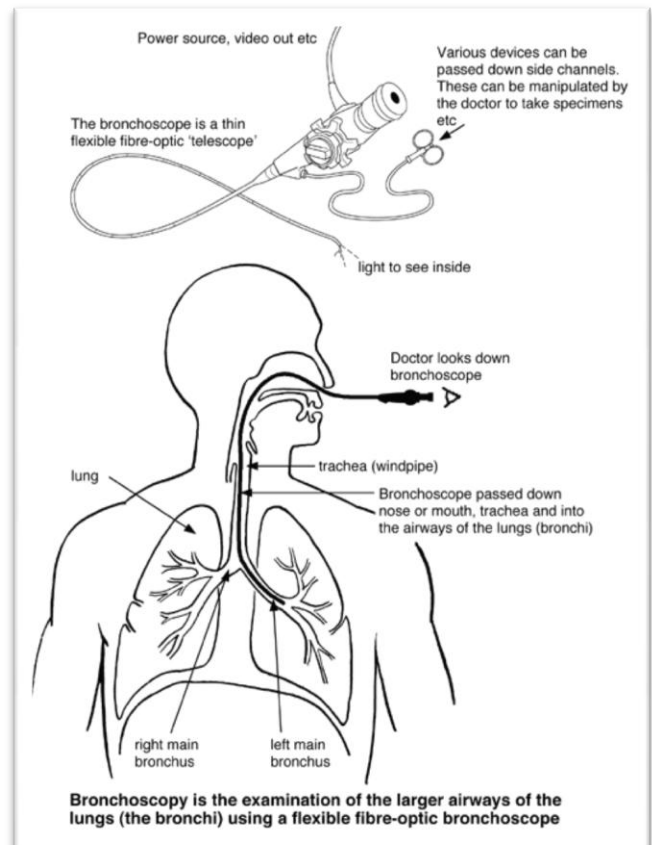
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Your doctor has suggested you have a bronchoscopy, what is it?

A bronchoscopy is an examination of the breathing passages/tubes (airways) of your lungs. The bronchoscopy is done with a thin tube-like instrument with a mini camera at its tip, called a bronchoscope. The bronchoscope enables your doctor to see inside the breathing passages of your lungs and if needed take samples of mucus (phlegm) or tissue from inside your lungs.

With EBUS, 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.



Why do I need this test?

Some of the common reasons why bronchoscopies are done include:

- **Infection:** Specific samples from your lungs can help your doctor to find the causes of infections and give you appropriate treatment. Your doctor can also use the bronchoscope to clear some of the mucus from your breathing passages.
- **Bleeding:** Your doctor can look inside your airways to determine where the blood is coming from that you are coughing up.
- **An abnormal CT scan:** There may be abnormalities in the airways, lung or centre of the chest (mediastinum), for which a bronchoscopy allows us to take small samples to find the cause.

Is there an alternative test that I can have instead of the bronchoscopy?

Other tests such as x-rays may give some information about the lungs, but only a bronchoscope can allow the doctor to see inside the airways and take samples.

What happens during the procedure?

This test may be done under sedation. If so, a combination of two sedatives is given, one of these also helps reduce coughing. To administer these medications a needle will be inserted into your hand/arm. Some patients go off to sleep more or less completely, others simply find that they feel comfortable and relaxed. Following sedation you may not remember anything about the test.

Some anaesthetic gel may be applied into your nose and 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 anaesthetic 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.

The doctor will then pass the bronchoscope through your nose or mouth and spray more local anaesthetic, if required, on your throat and voice box through a small channel in the bronchoscope. This may cause you to cough. When your throat is numb, the doctor will pass the bronchoscope into the airways and inspect these passages (this can cause a tickling sensation and you may cough a little). Do not worry if this happens - more local anaesthetic may be put into the airways to prevent further coughing.

Samples can then be taken during the bronchoscopy to provide further information. These may include:

- **Biopsies:** The painless removal of a small piece of tissue using tiny forceps passed through the bronchoscope.
- **Brushings:** A tiny brush passed into the airways to collect samples of tissue.
- **Washings:** Fluid is run into the lungs and sucked back into a collection pot.
- **Transbronchial lung biopsies:** A sample of lung tissue taken from deep within the lungs.
- **Fine needle aspiration:** EBUS is used to guide the passage of a tiny needle through the airway wall into tissues beyond.

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 20-40 minutes depending on how many samples are taken. The doctor and nursing team will support and reassure you throughout.

Are there any after effects?

It is common for patients to have a minor sore throat which settles down quickly. You may cough up a little blood after the examination and this should not alarm you. You may also feel a bit feverish after the procedure. This does not mean you have an infection, and should respond to paracetamol. All these symptoms usually settle within 24 hours. If they are severe or prolonged you should seek medical attention.

Can anything go wrong?

Bronchoscopy is a safe procedure with little risk and complications are relatively rare. Minor complications can occur up to one in 100 procedures and can include:

- Reduced depth of breathing due to sedation
- Spasm of the vocal cords due to the local anaesthetic
- Feeling faint or nauseated
- Wheezing and breathlessness
- Air leakage outside the lung (pneumothorax) which can be left to settle or sometimes requires tube drainage

Major complications can occur up to one in 800 bronchoscopies and can include:

- More severe breathing difficulties
- Unusual heart rhythms (arrhythmias)
- Chest infection (pneumonia)
- Fluid on the lung (oedema)
- Significant bleeding

If you have a transbronchial lung biopsy there is a one in 25 risk of pneumothorax (deflation of the lung) which may be left to settle or require tube drainage. If you require this particular test (most patients do not) you will be warned in advance of this risk, and you will be have an X-ray after the test to check that the lung is fully inflated

The risk of death is extremely low (from 0 to 1 in 5000 cases).

Your feedback is encouraged.

We are keen to make bronchoscopy as straight forward and as comfortable as we possibly can. Please feel free to make any suggestions for improvements to your doctors or nurses.