

Information for Patients and Carers

Percutaneous Lung Biopsy

Decorative graphic at the bottom of the page consisting of three horizontal, wavy bands of blue. The top band is a light blue, the middle is a medium blue, and the bottom is a dark blue.

What is a percutaneous lung biopsy?

A percutaneous lung biopsy is a procedure used to obtain a small sample of tissue from the lung using a special needle passed through the skin. The sample is examined under a microscope to help determine the cause of an abnormality seen on imaging and to guide the most appropriate treatment. The procedure is usually performed using CT or ultrasound guidance. The radiologist will review your case and decide whether it is more appropriate to use CT or ultrasound.

Please advise us before you attend if;

- You are, or think you may be, pregnant
- If you are breast or chest feeding
- If you weigh over 30 stones/190 kg
- If you have problems standing or need a hoist to transfer
- If you require an interpreter, please advise us as soon as you receive your appointment letter and we will arrange an interpreter for you

Why do I need a biopsy?

Scans such as CT or ultrasound may identify an abnormal area within the lung, but these tests alone may not explain the cause. Biopsy is used to find out the cause of an abnormality and helps the doctors looking after you decide on the best treatment.

Shared decision making and consent

Your case has been discussed at a multidisciplinary team (MDT) meeting which includes all the different specialists involved in your care. The MDT has reviewed your case in detail and recommended that lung biopsy should be considered. The decision whether to proceed remains yours. This leaflet is intended to help you understand the benefits and risks so that you can make an informed choice. You will have the opportunity to discuss any concerns before giving consent.

What are the benefits?

The main benefit is obtaining a diagnosis that helps guide the most appropriate treatment. In some cases, biopsy may show that surgery or other invasive treatment is unnecessary.

What are the risks?

Most biopsies are performed safely, but occasionally complications can occur. These will be discussed with you in more detail at the time of the biopsy.

Some patients may experience mild discomfort or bruising at the biopsy site although this usually settles quickly.

Occasionally the sample obtained is insufficient or does not provide a definite diagnosis. If this happens, a repeat biopsy or alternative investigation may be required.

If the biopsy is performed under CT guidance, there are some small risks involved with the radiation received during the procedure. Only the minimum amount of radiation is used to produce the images required. We use the smallest dose possible, in line with national regulations. This allows us to make an accurate diagnosis to help plan your care. Your clinician has determined that the benefits of having a biopsy performed with CT scan far outweigh the risks of the radiation dose you will receive.

Complications

Pneumothorax

This is when air leaks around the lung and occurs in approximately 15–20% of biopsies. Most are small and resolve without treatment. Around 3% of patients may require a chest drain and a short hospital stay.

Coughing blood

Bleeding into the lung during the biopsy can occur and causes coughing up of small streaks of blood. This is relatively common, however, usually settles quickly and without treatment.

Infection at the site of biopsy including lung and pleura

This is uncommon but if it occurs, occasionally may require antibiotic treatment.

Needle tract seeding

An extremely rare complication where tumour cells spread along the path of the biopsy needle.

Serious complications are extremely rare:

Significant internal bleeding

Requiring further treatment or surgery.

Air embolism

A very rare complication where air enters the bloodstream and may potentially cause serious problems such as stroke or heart attack.

Serious life-threatening complications

There is a very remote possibility of death.

How should I prepare?

Most lung biopsies are performed as day-case procedures. Blood tests may be required beforehand. If you take blood-thinning medications such as apixaban, rivaroxaban, warfarin, clopidogrel or similar medicines, please inform your healthcare team. You will be given individual instructions regarding whether these medications need to be stopped before the procedure.

You may be asked not to eat for four hours before the procedure, although you may continue to drink clear fluids unless advised otherwise.

What happens during the procedure?

The procedure usually takes less than one hour. You will normally remain awake throughout. Local anaesthetic will be injected into the skin to numb the area. Using CT or ultrasound images for guidance, the radiologist will insert a biopsy needle through the chest wall into the target area of the lung and obtain tissue samples.

What happens after the procedure?

After the biopsy, you will be monitored in a recovery area. Your oxygen levels and general condition will be observed, and a chest X-ray is usually performed approximately two hours after the procedure to check for pneumothorax.

If there are no complications requiring treatment, you will normally be discharged home after several hours.

You should not drive yourself home. Please arrange for someone to take you home and stay with you overnight where possible.

Avoid strenuous exercise or heavy lifting for 24–48 hours after the procedure.

When should I seek medical help?

Seek urgent medical attention if you develop:

- Sudden severe chest pain
- Significant shortness of breath
- Coughing up more than an egg-cup full of blood
- A persistent high temperature or signs of infection

Results

Biopsy results are often available within 5–7 working days, although additional specialist or molecular testing may take longer. Your results will be provided by the specialist team who referred you for the biopsy.

Air travel

If no pneumothorax develops following the biopsy, many patients can fly after approximately seven days. If a pneumothorax occurs, longer restrictions may apply. Please discuss any planned air travel with your doctor before making travel arrangements.

Contact details

Should you require further advice or information please contact your referring team or you can contact us in Interventional Radiology Day Unit (IRDU) between 8.00am and 4.00pm, Monday to Friday, on **01772 522343**.

Sources of further information

www.lancsteachinghospitals.nhs.uk

www.nhs.uk

www.patient.co.uk

www.accessable.co.uk

<https://www.gov.uk/government/publications/ionising-radiation-from-medical-imaging-examinations-safety-advice/exposure-to-ionising-radiation-from-medical-imaging-safety-advice>

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If you want to stop smoking, you can also contact Smokefree Lancashire on Freephone **08081962638**

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This information can be made available in large print, audio, Braille and in other languages.

Our patient information group review our leaflets regularly, if you feel you would like to feedback on this information or to join our reading group please contact us on email address:

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Department: Interventional Radiology

Division: Diagnostics and Clinical Support

Production date: June 2026

Review date: June 2029

JR 1485 v1