



Pleural or chest wall biopsy

This leaflet is for patients who are to undergo a pleural or chest wall biopsy. It explains why it is needed and outlines what to expect during and after the biopsy.

What is a pleural or chest wall biopsy?

A biopsy is a procedure to collect samples of tissue for analysis by a pathologist (medical professional who studies tissues, fluids and organs to help diagnose illnesses) or other specialist. The pleura is a thin membrane that covers the outside of the lung, and also lines the inside of your chest wall. Your chest wall is the area that surrounds your lungs, and is made up of skin, muscle, fat and bones.

Why do I need a pleural or chest wall biopsy?

Your doctor will have explained that your chest CT scan shows an abnormal area. This area may be thickening of the pleura or an abnormal area within the chest wall. A biopsy allows the tissue from this abnormal area to be analysed to help give a diagnosis.

There are a number of causes of thickening of the pleura, including:

- Infection, including bacterial infection and TB (tuberculosis)
- Cancer
- Inflammatory processes (such as rheumatoid arthritis)

How will the pleural or chest wall biopsy be performed?

The procedure is carried out in the pleural procedure room. You will lie on your side or front, while the doctor identifies where on your chest to perform the biopsy. Your skin will be cleaned and then numbed with a local anaesthetic injection. The biopsy needle is then passed through the skin into the area of abnormal tissue. Ultrasound pictures are used to guide the needle into the right place. Usually around four samples will be taken to ensure enough tissue is obtained for a diagnosis.

How long will it take?

The preparations for performing the biopsy can take a while but the biopsy itself usually takes around 15 minutes. However, every patient's situation is different, and it is not always easy to predict how complex or straightforward the procedure will be. Your appointment should last around one hour in total.

What are the risks of the procedure?

- **Pain:** The local anaesthetic used should mean the procedure is not painful; however, you may feel a sting as the local anaesthetic is being injected.
- **Infection:** Any procedure that breaks the skin carries the risk of introducing infection. Therefore the procedure is carried out under sterile conditions with the doctor wearing a sterile gown and gloves, cleaning of your skin beforehand and a sterile drape used so only the biopsy site is exposed.
- **Bleeding:** Very rarely during the biopsy, the needle can damage a blood vessel and cause significant bleeding. To minimise this risk, the doctor will ensure you have appropriate blood tests before the procedure and you will be asked to stop any blood thinning medication you take.
- **Pneumothorax:** The lung lies under the pleura and one rare complication is a puncture of the lung, leading to air leaking from it. This is generally not a problem, but rarely, it can cause the lung to partially collapse. For this reason, if there is any concern during the procedure that the lung has been damaged, a chest X-ray will be organised, and you may then have to stay for 1-2 hours longer for a repeat chest X-ray.
- **Failure to obtain a diagnosis:** Unfortunately, not all biopsies are successful. This may be because although abnormal tissue has been obtained, it may not be enough for the pathologist to make a definite diagnosis. In this case, the procedure may need to be repeated, or another site for biopsy chosen.

How do I prepare for the procedure?

The procedure is done under local anaesthetic, so you can eat and drink as normal prior to the biopsy. You can take your normal medication prior to the procedure other than blood thinners or anti-platelet medications (see below).

You will need to have blood test prior to the procedure. We can arrange these in the days leading up to your procedure.

Blood thinners

If you are on blood thinning / anti-platelet medication, please follow these instructions:

- **Aspirin:** You should omit (leave out) aspirin the morning of the procedure.
- **Clopidogrel:** You should stop taking this 7 days before the procedure.
- **Prasugrel:** You should stop taking this 7 days before the procedure.
- **Ticagrelor:** You should stop taking this 7 days before the procedure.
- **Apixaban:** You must not take this for 48 hours before the procedure.
- **Edoxaban:** You must not take this for 48 hours before the procedure.
- **Rivaroxaban:** You must not take this for 48 hours before the procedure.
- **Dabigatran:** You must not take this for 48 hours before the procedure.
- **Warfarin:** You will either be advised to stop 5 days prior with an INR blood test the day before the procedure OR if you are converted from Warfarin to Low Molecular Weight Heparin (LMWH), e.g. Enoxaparin injections, you will have an INR test the day before AND you must not take the LMWH injections the day before the procedure if you take it in the evening, or the day of the procedure if you take it in the morning.

If you are taking a blood thinner / anti-platelet medication not on the list above, please contact the pleural service so we can advise you on what to do. After the procedure the doctor will advise you when to restart your medication.

What happens after the biopsy?

We will check your observations after the biopsy, and if there are no concerns, you will be sent home. After the procedure, you might feel tenderness or soreness near the incision site – take Paracetamol, following the dosage instruction. We may apply a small plaster over the incision which can stay on for a day, although in most cases due to small size of the incision, it can come off on the same day.

The biopsy results will be discussed in our multi-disciplinary team (MDT) meeting and you will receive an appointment in Respiratory Clinic to discuss the results. This is usually on Thursday afternoon within a couple of weeks.

Contact information

Pleural service answerphone – 07799 072517 (Mon-Fri 9am-5pm, excluding bank holidays)

Pleural service email – rbft.pleuralservice-refs@nhs.net

The Department of Respiratory Medicine – 0118 322 8296

For **urgent** issues out of hours, contact NHS 111 for advice

To find out more about our Trust visit www.royalberkshire.nhs.uk

Please ask if you need this information in another language or format.

Dr Irfan Zaki, Consultant Physician, RBFT Department of Respiratory Medicine, January 2025.

Next review due: January 2027.