

**Patient
Information**

CT (Computed Tomography) guided lung/pleural biopsy

If you do not believe you should have been referred for this procedure please contact the CT department immediately.

Introduction

This leaflet gives you information about having a Computed Tomography (CT) guided lung/pleural biopsy. It explains how the procedure is carried out and some of the possible complications.

Why do I need a biopsy?

Previous imaging you have had has shown an abnormal area in your chest. It is not possible to say exactly what the abnormality is and the best way to find out is to take a small piece of tissue (biopsy) and examine it under a microscope.

Where will the biopsy be done and who will carry it out?

The biopsy will be done in a CT scanner in the Radiology Department.



Figure 1: CT scanner

Reference No.

GHPI1154_05_25

Department

Radiology

Review due

May 2028

Patient Information

A radiologist (a doctor who specialises in reading diagnostic images such as X-rays and CT scans) will carry out the biopsy. They will be assisted by a radiology nurse and a radiographer who will take the images.

How do I prepare for the biopsy?

Before your biopsy a pre-assessment conversation is required for you to discuss the procedure and any preparation that may be needed. This may take over the phone or you may be sent an appointment to attend a clinic in the hospital. Please have a list of all your medications available. You will need a blood test before your biopsy to check that you do not have an increased risk of bleeding following the biopsy. The pre-assessment nurse will discuss this with you.

On the day of your procedure, you may eat a light breakfast. You may drink and take medications (other than blood-thinners) as normal.

Some blood-thinning medications may need to be stopped before the biopsy (we will let you know if this is the case for you) but please **do not stop taking blood pressure medication**.

Report to the area stated on your appointment letter (this may be the Radiology/Imaging department or a Ward), where you will be asked to change into a hospital gown.

Although most people go home on the same day there is a possibility that you may need to stay in hospital overnight, so please bring an overnight bag with you.

You will not be able to drive after the procedure and will need to arrange transport home.

Can I bring a relative/friend?

Yes, but for reasons of safety they cannot join you in the CT scanning room except in special circumstances.

**Patient
Information****Giving your consent (permission)**

We want to involve you in the decision about your care and treatment. The radiologist will explain the procedure and risks to you and give you the opportunity to ask questions. If you decide to go ahead you will be asked to sign a consent form. This states that you agree to the procedure and understand what it involves. If you decide you do not want this procedure you can change your mind at any time, even after signing the consent form.

The Radiology Department plays an important role in the training of future healthcare professionals. The part patients play in this is vital in ensuring we produce the right quality of healthcare professionals for the future. If at any time you would prefer not to have students present, please inform the team looking after you. This will not impact on your care in any way.

What happens during the procedure?

You will be taken into the scanning room and made comfortable on the bed. You may be asked to lie on your back, side or front and this will depend on where the biopsy is to be taken. It is very important that you are as comfortable as possible before the radiologist starts because you will need to lie as still as possible during the procedure.

A scan will be taken of the relevant area to locate the exact position for the insertion of the biopsy needle. The skin over the area will be cleaned with antiseptic and then numbed using a local anaesthetic before the biopsy needle is inserted and the tissue sample taken. You may be asked to hold your breath during the procedure so it is important that you take the same 'depth' of breath each time.

After the biopsy, the area will be cleaned and a dressing put over the wound site.

Will the procedure be uncomfortable?

The biopsy is performed under local anaesthetic which will sting and you may feel some pressure as the doctor pushes on the needle. Most people do not feel much pain during the biopsy.

**Patient
Information**

What are the risks involved?

A biopsy is a safe procedure but complications can sometimes arise.

- The main risk is of causing an air leak (pneumothorax) into the space around the lung. A small air leak is common and usually does not cause any problems and gets better on its own. Large air leaks are much less common. If this happens then the air will need to be drained through a tube inserted through the skin and you may need to stay in hospital overnight
- Some patients cough up blood. This most often settles down by itself without us needing to do anything.
- Extremely rarely a lung biopsy may cause severe bleeding or life-threatening haemorrhage which may require admission into hospital.
- You may notice a small amount of bruising around the wound site due to bleeding into the skin
- If the sample taken does not provide a diagnosis the procedure may need to be repeated at a later date.

CT scanning does involve X-rays and has the usual risks associated with ionising radiation. The amount of radiation is equal to the natural radiation we all receive from the atmosphere over a period of about 3 years.

How long will the procedure take?

The procedure usually takes around 30 minutes but varies depending on each individual. However, following the biopsy you will need to remain in the department for 2 hours.

A chest X-ray is usually performed before you are able to go home. You may have to wait longer and have a repeat chest X-ray if you develop a pneumothorax or feel unwell.

What happens after the procedure?

After the biopsy you will be looked after in the recovery area by a radiology nurse who will monitor your blood pressure, pulse, temperature and oxygen levels at regular intervals. They will advise you when you are able to get up and move around.

Patient Information

You must have an adult to take you home and stay with you for 24 hours following the biopsy. You should avoid heavy lifting, exercise or straining for 24 hours. If you have any pain, you may take a mild pain relief such as paracetamol. You should not drive for 24 hours following the procedure.

You should not travel by air for 1 week after a lung biopsy.

Are there any side effects?

Not usually. You should spend the remainder of the day resting.

If, after you leave the hospital, you experience severe chest pain, shortness of breath or cough up large volumes of blood you should go to the Emergency Department immediately.

Do I have to have a biopsy or is there an alternative?

You do not have to have a biopsy. It is possible just to monitor the abnormality with scans but this risks the abnormality growing or spreading and may delay treatment which may lead to worse outcomes.

Often there is no other more safely accessible tissue to target which limits alternative options.

Overall, the risks of leaving the abnormality un-diagnosed and un-treated is felt to far outweigh the smaller risks of a procedural complication.

Can I eat and drink afterwards?

Yes, do so normally.

When will I get the results?

The biopsy samples will be sent to the lab on the day of your visit and over the next several days, will be processed and analysed. The results will be sent to your referring doctor.

Patient Information

Should I still take my regular medication?

Yes, but you will need to stop any blood thinning tablets. These include; aspirin, clopidogrel, warfarin, DOACs (apixaban, rivaroxaban, dabigatran, fondaparinux). If you take any of these you will be asked to stop them before your biopsy. How long in advance will depend on the type of blood-thinner.

It is very important to keep taking your blood-pressure medications as normal. If your blood pressure is too high on the day of biopsy, we may not be able to proceed, so please **do not stop taking your blood pressure medication.**

Checklist

If you are taking 'blood thinning' medication, telephone our nurses to know when to stop and restart them.

Do not drive for the rest of the day. You should arrange for someone to pick you up after the procedure. Alternatively, you can arrange for a taxi to take you home but you must avoid public transport.

Additional resources

Hopefully this booklet has answered any questions you may have but please remember, this is only the starting point for discussion about your treatment. Make sure you are satisfied that you have received enough information about the procedure in advance.

The QR code on the next page will direct you to YouTube where there are 2 patient information videos to help you understand more.

- Understanding your CT-Guided Lung Biopsy
- CT- Guided Lung Biopsy Patient Experience

Patient Information

Use your smartphone camera to scan the QR code or type the web address into your internet browser:



<https://youtube.com/playlist?list=PLJf-xjJrsbc32sGq0lylwZehVlfA93U54&si=fFYfZ7uCjrevb0Sy>

Cancelling your appointment

If you are unable to attend your appointment, we would be grateful if you could contact us as soon as possible. We can then offer your appointment to another patient and arrange another date and time for you.

If you have had diarrhoea and vomiting (D & V), please cancel your appointment unless you have been free of symptoms for 48 hours.

Contact information

CT Appointments Office

Tel: 0300 4220 3104

Monday to Friday, 9:00am to 4:30pm

If you do not believe you should have been referred for this procedure, please contact the CT department immediately.

Alternatively, you can contact your consultant's secretary or one of the Lung Cancer Nurse Specialists.

Lung Cancer Nurse Specialist

Tel: 0300 422 2379 or

Tel: 0300 422 5967

Patient Information

We are pleased that we can offer state of the art technology for diagnosis. However, radiology equipment needs constant updating and there is a charitable fund for this. If you would like to make a donation, please send a cheque to the appropriate address below. Cheques are payable to GHNHSFT.

Please send your donation to:
 Business Manager
 Department of Radiology (Imaging 1)
 Gloucestershire Royal Hospital
 London Road
 Gloucester
 GL1 1NN

Content reviewed: May 2025

Making a choice

Shared Decision Making

If you are asked to make a choice, you may have lots of questions that you want to ask. You may also want to talk over your options with your family or friends. It can help to write a list of the questions you want answered and take it to your appointment.



Ask 3 Questions

To begin with, try to make sure you get the answers to three key questions if you are asked to make a choice about your healthcare.

1. What are my options?
2. What are the pros and cons of each option for me?
3. How do I get support to help me make a decision that is right for me?

These resources have been adapted with kind permission from the MAGIC Programme, supported by the Health Foundation

* Ask 3 Questions is based on Shepherd HL, et al. Three questions that patients can ask to improve the quality of information physicians give about treatment options: A cross-over trial. Patient Education and Counselling, 2011;84: 379-85



<https://aqua.nhs.uk/resources/shared-decision-making-case-studies/>