



**Northumbria Healthcare**  
NHS Foundation Trust

# CT guided lung biopsy

Issued by respiratory services



## **What is a CT guided biopsy of the lung?**

A (Computerised Tomography) guided biopsy of the lung is a biopsy test performed in the x-ray department. A CT scanner is used to check the position of the biopsy needle, making sure that the correct piece of tissue is taken. It is performed by a radiologist - a specialist in interpreting scans.

## **Why do I need a biopsy?**

Your consultant will have informed you that your scans have shown an abnormal area within one of your lungs. The scan does not tell us why the abnormality is there, to do this we need to take a small sample of tissue to examine under the microscope. The doctor performing the test takes a small piece of the abnormal tissue using a special type of needle.

## **Are there any alternatives to this procedure?**

This is one of the least invasive tests to gain a sample of tissue. There are a number of ways we can obtain a sample of tissue to look under the microscope such as a surgical biopsy under general anaesthetic however this comes with its own risks. A CT guided biopsy is one of the simplest and safest ways to get tissue.

## **What will happen on the day of the biopsy?**

You can have a light breakfast on the morning of your CT guided biopsy, but no food/drinks two hours before your allocated appointment time.

If you are taking any of the medications below, please inform your specialist nurse.

- Aspirin
- Clopidogrel
- Warfarin
- Heparin
- Tinzaparin
- Dabigatran
- Rivaroxiban
- Apixiban

Please also inform your specialist nurse if you are diabetic and taking metformin.

Take any other medications routinely.

Your specialist nurse will book you a bed on one of the medical wards. We ask that you report to the allocated ward prior to the appointment time. Usually we discharge patients the same day following the CT guided biopsy however we do advise you to bring an overnight bag with you in the event you have to stay in hospital for observation.

You will be collected from the ward and taken to the x-ray department. Once you arrive the staff will check your details and you will be taken into the CT scan room.

The doctor who will be performing the biopsy will talk to you about why it is being done, what will happen and what problems can occur following a biopsy. You will be given the chance to ask any questions you may have. You will be asked to sign a consent form to confirm you understand this information before the test begins.

You will be asked to lie on a couch which passes in and out of the CT scanner, and a wire marker will be placed over the area where the biopsy will be taken. You will move through the CT scanner as the first scans are taken. You may be given some verbal instructions, the radiographer operating the scanner will explain if you need to do anything else.

Once the doctor has decided where to put the needle, a pen mark will be made on your skin and it will be cleaned with a sterilising solution to kill any bacteria on the skin surface. Local anaesthetic will be injected into the skin and muscle underneath, by the doctor. This causes a brief stinging sensation and then makes the area numb. The doctor will then position the needle. This may involve briefly moving the couch in and out of the CT scanner to check the position of the needle. Once the doctor is happy that the needle is in the right place, the biopsy will be taken. You may hear or be aware of a clicking sound at this stage. The doctor will remove the needle and check the sample. Sometimes more than one piece of tissue will be taken and if so, the biopsy needle will be put back into position for the next sample. It is important to lie very still for this test.

The length of the procedure can be variable – it can take anywhere from 20 minutes to an hour depending on position of the tissue that is being sampled.

## **Are there any risks or side effects?**

As with any investigation there can be risks associated, the biopsy equipment can cause bleeding and damage to other structures in your body, the CT scanner is used to identify the position of the biopsy needle and minimise the risk of this happening. You will have an opportunity to discuss the risks of the specific procedure you are having with the radiologist before it is undertaken.

Sometimes a pneumothorax (collapsed lung) can occur. This happens when air leaks from the lung and becomes trapped between the lung and the chest wall. If the air leak is large, a small tube (called a chest drain) may be inserted into the chest wall to suck out the trapped air. If this occurs you will need to stay in hospital for a few days until this resolves. A small air leak will normally heal in a few days and may not require any other treatment.

Some patients may cough up a small amount of blood after the procedure. This is not usually a reason to get worried, however if you cough up large amounts you should seek advice from your consultant or specialist nurse.

X-ray examinations of pregnant women should be avoided in most circumstances. If you are, or may be pregnant you should notify a member of staff as soon as possible.

The CT scan produces radiation but as with most modern scanners the scanner is designed to get the radiation dose as low as possible.

## **After the biopsy**

You will be taken back to the ward to recover, the nurses will monitor your pulse, blood pressure, temperature and oxygen levels, and if these remain stable you will be allowed to go home later the same day following a repeat chest x-ray. If you develop an air leak afterwards the doctor will explain the treatment needed for this.

We advise that you do not drive home yourself and have someone that can stay with you overnight.

## How do I get my results?

The biopsy samples are sent to the laboratory where they are examined by a pathologist. The results of this can take up to a week but some more complex cases can take a little longer. Your consultant/specialist nurse will make arrangements for you to be seen to discuss the results.



## **Alternative Formats**

If you would like a copy of this information in large print, another language, audio tape or other format please call the Contact Centre on **03 44 811 8118**

## **Other sources of information**

### **NHS 111**

### **NHS Choices**

[www.nhs.uk/pages/homepage.aspx](http://www.nhs.uk/pages/homepage.aspx)

### **NICE (National Institute for Health and Clinical Excellence)**

[www.nice.org.uk](http://www.nice.org.uk)

### **Patient Advice and Liaison Service (PALS)**

Freephone: **0800 032 0202**

Text: 01670 511098

Email: [northoftynepals@nhct.nhs.uk](mailto:northoftynepals@nhct.nhs.uk)

### **Northumbria Healthcare NHS Foundation Trust**

General Enquiries **03 44 811 8111**

[www.northumbria.nhs.uk](http://www.northumbria.nhs.uk)

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