

Image Guided Needle Biopsy of the Chest

Respiratory

The prevention of infection is a major priority in all healthcare and everyone has a part to play.

- Please decontaminate your hands frequently for 20 seconds using soap and water or alcohol gel if available
- If you have symptoms of diarrhoea and/or vomiting, cough or other respiratory symptoms, a temperature or any loss of taste or smell please do not visit the hospital or any other care facility and seek advice from 111
- Keep the environment clean and tidy
- Let's work together to keep infections out of our hospitals and care homes.

Introduction

Your Doctor has referred you for a needle biopsy of the chest. This leaflet gives you information about what the procedure involves, what you need to do on the day, possible complications and what happens afterwards.

You should ensure that you have had sufficient explanation, and are willing to proceed, before you sign the consent form. Even after you have signed the consent form you are free to change your mind at any time.

What is a needle biopsy and why is it necessary?

Other tests you have had, such as X-rays or scans, have shown that there is an abnormal area of shadowing in your chest. From these initial tests however, it has not been possible to say exactly what the abnormality is. The simplest way of finding out is by removing a tiny sample and sending it to the laboratory for further examination under a microscope. This is done using a special biopsy needle passed through the skin under local anaesthetic, using either CT or ultrasound as a guide.

Consent

We must seek your consent for any procedure or treatment beforehand. Your doctor will explain the risks, benefits and alternatives where relevant before they ask for your consent. If you are unsure about any aspect of the procedure or treatment proposed please do not hesitate to ask for more information.

This information is not meant to replace discussion between you and your Doctor. The choice about which investigations are best for you should be made together with your Doctor. This will be based on the risks and benefits of the investigations and your own wishes and circumstances.

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What are the benefits?

The benefit of having the biopsy is to help to make a diagnosis.

What are the risks or complications?

There are several possible complications. These are explained in more detail below:-

- It is quite common for a little air to escape from the lung into the space between the lung and rib cage during, or soon after the biopsy. This may cause the lung to partially collapse, like a balloon going down. The medical term for this is a 'pneumothorax'. It occurs in up to 1 in 5 procedures. It is usually small, settles without treatment, and does not cause any problems. Less commonly, in about 1 in 30 procedures, much more air leaks out and causes the lung to collapse a lot. You may get breathless or notice some chest pain if this occurs. We would need to treat this either by sucking the air out again with a needle (this is called aspiration) or by putting a tube in to let the air out (the tube is called a chest drain). If this were to happen you would most probably have to stay in hospital for a day or two.
- It is also quite common to cough up a few streaks of blood at the time or for a day or two after the procedure. The medical term for this is 'haemoptysis'. This occurs in about 1 in 20 cases and is nothing to worry about. Rarely, in less than 1 in 100 cases, a larger amount of bleeding can occur in which case you may need to be kept in hospital for more active treatment such as physiotherapy to clear your chest and/or a blood transfusion.
- Very rarely bubbles of air may be sucked from the lung into veins along the needle track. These air bubbles can then get into the main blood stream. This is a potentially very serious problem because, although they are small, the bubbles of air can block important blood vessels and this can lead to a stroke, heart attack or even death. This occurs in less than 1 in 1000 cases. The medical term for this complication is 'air embolism'.
- There is a very low risk of developing an infection in the lung or overlying tissues at the site of the biopsy.

Despite these possible complications image guided biopsy is normally safe and uneventful. Serious complications are uncommon. Death as a direct result of this procedure is rare (less than 1 in 650 cases in a national survey from 2002).

If your Doctor has told you that only the lining of the lung is being sampled (a pleural biopsy), the risk of air leak, coughing blood and air embolism (as detailed above) is much lower.

What is the success rate of this type of biopsy?

Overall 85-90% of biopsies are successful. Occasionally, however, it is not possible to get the biopsy needle into the correct position to obtain a sample at all. Sometimes, if complications occur early in the procedure, it may have to be abandoned. Sometimes, despite getting a sample, the piece of tissue obtained is not adequate to make a definite diagnosis.

Are there any alternatives to a needle biopsy and what would happen if I decided not to have this test?

A biopsy sample can sometimes be obtained by surgical means but this would involve a bigger procedure and a general anaesthetic.

You could choose not to have a biopsy at all. In that case we would probably recommend a repeat scan after 3 months or so to see whether the abnormality in your chest was getting bigger. The risk with this 'wait and see' approach is that if the abnormality did get bigger and turned out to be something serious like a growth in the lung, valuable time may have been lost in terms of starting your treatment.

What happens on the day of the biopsy?

This test is normally done in the X-ray department as a day case. You should come to level two, main X-ray department, New Cross Hospital on the day of your appointment.

What should I do before the procedure?

You may drink normally and have a light breakfast on the day of the biopsy. If you are on any tablets or medicines, take them as normal. The only exception is if you are taking blood thinning tablets. It could be dangerous to undertake this type of biopsy

in someone taking blood thinning tablets. The only exception is if you are taking anti coagulant tablets (such as Warfarin, Rivaroxaban, Apixaban or Edoxaban, or antiplatelet drugs (such as Clopidogrel, Ticagrelor, or Prasugrel). You will need to discuss this with the doctor who has spoken to you regards the biopsy about stopping these tablets before the procedure.

The test takes place in the morning. It is done using local anaesthetic. You will not need a general anaesthetic or sedation. There are day case beds in the X-ray department. There will be a Nurse to look after you during this time and check your pulse and blood pressure. We may do a chest X-ray to make sure no problems have arisen, if everything is OK, you will be able to go home. Occasionally for various reasons you may be admitted for your biopsy, the team looking after you will explain why this is necessary.

We advise that you do not drive yourself home after the test. You should be able to drive again the next day if you feel well.

Occasionally if there has been a complication from the biopsy you may need to be transferred to one of the medical wards and stay in hospital overnight. You should therefore come prepared for this and bring an overnight bag. If you become unwell after you have returned home and think that you may have a complication from the biopsy, you should return to New Cross Hospital and attend the Emergency Department or dial 999 if it is an emergency.

What actually happens during the biopsy?

You lie on the scanning table. A preliminary scan is usually done to re-check the position of the abnormal area in your chest.

The Doctor and a Nurse are in the scan room with you during the procedure. A small area of your skin is cleaned with antiseptic and then local anaesthetic is injected to make everything go numb. It will sting for a few seconds when this is put in, but after that you should not feel anything.

Using pictures from the scanner as a guide, the Doctor then passes the biopsy needle through the skin into the abnormal area in the chest and the sample is taken. It usually takes about 30 minutes to do this type of biopsy, but individual cases vary depending on the degree of difficulty.

What can I expect after the procedure?

You may have mild discomfort afterwards when the anaesthetic wears off. If this happens you can take a pain-killer such as Paracetamol (two 500mg tablets up to four times a day).

It is essential you do not drive home after the test and you have someone to stay with you overnight and have direct access to a telephone.

When can I go back to work?

You should be able to go back to work the day after the chest biopsy unless advised otherwise. We would advise that following the procedure you do not take a flight for at least 6 weeks. If you have any concerns please discuss with the doctor doing the procedure.

When will the results be ready?

Results are not available immediately as it takes several days for the laboratory to prepare and examine the biopsy sample. Your consultant will arrange a follow up appointment to discuss the results with you.

If you have not heard anything from the hospital within 14 days of the biopsy you should telephone your Consultant's secretary at New Cross Hospital to enquire about your follow up.

Where can I get more information?

If you have any additional questions about the biopsy before you actually come to have it done you are welcome to contact the X-ray department by telephone (Tel:- 01902 307999 and ask for the X-ray secretaries, who will try to find the appropriate person for you to talk to).

The Consultant Radiologist, the specialist who will be doing the biopsy, will talk through the procedure with you when you come to have it done, so you can ask any last minute questions then.

The Royal College of Radiologists has a patient information sheet about biopsies on-line at www.rcr.ac.uk - see the leaflet titled "Information for patients undergoing percutaneous biopsy".

The British Thoracic Society produced guidelines for chest biopsies in 2003. This is a document written for Doctors in the journal Thorax (2003); volume 58: pages 920-936. It is a technical article and is not easy reading but if you want detailed background information about the procedure or possible complications, it is available on-line at www.thorax.bmj.com

English

If you need information in another way like easy read or a different language please let us know.

If you need an interpreter or assistance please let us know.

Lithuanian

Jeigu norėtumėte, kad informacija jums būtų pateikta kitu būdu, pavyzdžiui, supaprastinta forma ar kita kalba, prašome mums apie tai pranešti.

Jeigu jums reikia vertėjo ar kitos pagalbos, prašome mums apie tai pranešti.

Polish

Jeżeli chcieliby Państwo otrzymać te informacje w innej postaci, na przykład w wersji łatwej do czytania lub w innym języku, prosimy powiedzieć nam o tym.

Prosimy poinformować nas również, jeżeli potrzebowaliby Państwo usługi tłumaczenia ustnego lub innej pomocy.

Punjabi

ਜੇ ਤੁਹਾਨੂੰ ਇਹ ਜਾਣਕਾਰੀ ਕਿਸੇ ਹੋਰ ਰੂਪ ਵਿਚ, ਜਿਵੇਂ ਪੜ੍ਹਨ ਵਿਚ ਆਸਾਨ ਰੂਪ ਜਾਂ ਕਿਸੇ ਦੂਜੀ ਭਾਸ਼ਾ ਵਿਚ, ਚਾਹੀਦੀ ਹੈ ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਸਾਨੂੰ ਦੱਸੋ।

ਜੇ ਤੁਹਾਨੂੰ ਦੁਭਾਸ਼ੀਏ ਦੀ ਜਾਂ ਸਹਾਇਤਾ ਦੀ ਲੋੜ ਹੈ ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਸਾਨੂੰ ਦੱਸੋ।

Romanian

Dacă aveți nevoie de informații în alt format, ca de exemplu caractere ușor de citit sau altă limbă, vă rugăm să ne informați.

Dacă aveți nevoie de un interpret sau de asistență, vă rugăm să ne informați.

Traditional Chinese

如果您需要以其他方式了解信息，如易读或其他语种，请告诉我们。

如果您需要口译人员或帮助，请告诉我们。