University Hospitals of North Midlands NHS Trust

CT08Imaging-Assisted Pleural Biopsy and Drainage

Expires end of June 2022

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The Patient Advice and Liaison Service (PALS) would be pleased to hear any comments or suggestions you may have about our services.
They can offer non-clinical confidential advice and support if you have any concerns.
PALS can be contacted on 01782 676450, 01782 676455 or email patient.advice@uhns.nhs.uk.

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What is a pleural biopsy and drainage?

A pleural biopsy involves removing small pieces of tissue from the two-layered membrane (pleura) that lines the outside of your lung and the inside of your ribcage. Your doctor may also remove a sample of fluid from the space between the layers (pleural space). If a lot of fluid has collected, your doctor will drain the fluid.

Your doctor has suggested a pleural biopsy and drainage. However, it is your decision to go ahead with the procedure or not. This document will give you information about the benefits and risks to help you to make an informed decision.

If you have any questions that this document does not answer, it is important that you ask your surgeon or the healthcare team. Once all your questions have been answered and you feel ready to go ahead with the procedure, you will be asked to sign the informed consent form. This is the final step in the decision-making process. However, you can still change your mind at any point.

What are the benefits of a pleural biopsy and drainage?

Your doctor is concerned that you may have a problem in your pleura or pleural space that is causing fluid to collect.

The tissue and any fluid that your doctor removes will be examined under a microscope. The results of the examination may help to explain why there is a problem and to decide on any further treatment.

When fluid collects in your pleural space it can make it difficult for you to breathe. Draining the fluid may help you to breathe more easily.

Are there any alternatives to a pleural biopsy and drainage?

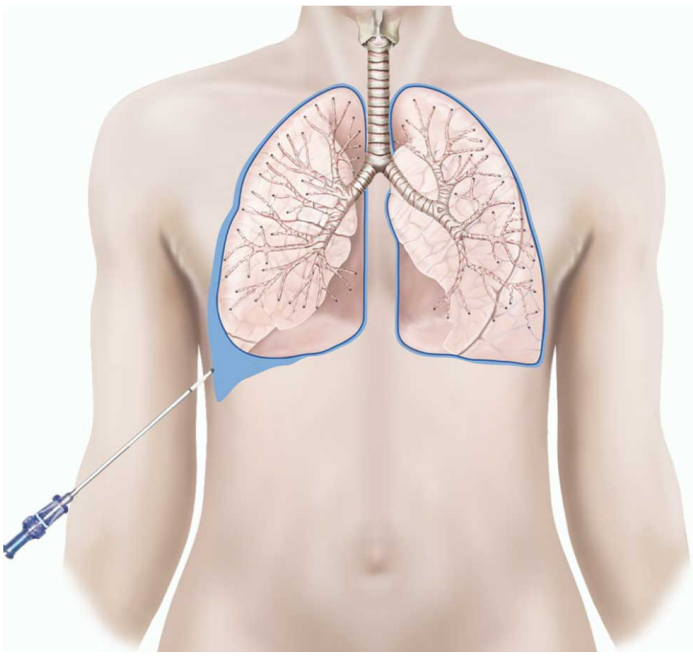
An x-ray or scan can show that you have a problem with your pleura. However, a biopsy helps to find out exactly what is causing the problem and may help your doctor to decide if you need further tests.

Your doctor has recommended a pleural biopsy as the best treatment for you.

What will happen if I decide not to have a pleural biopsy and drainage?

Your doctor may not be able to confirm what the problem is. If you have fluid in your pleural space, you may continue to have difficulty breathing.

If you decide not to have a pleural biopsy and drainage, you should discuss this carefully with your doctor.



A pleural biopsy

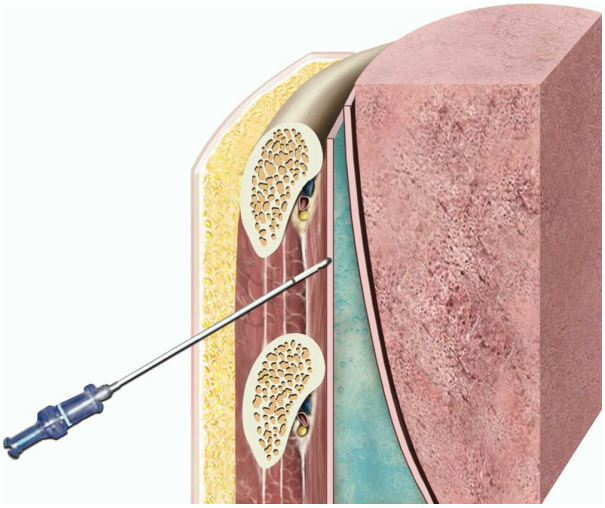
What does the procedure involve?

Before the procedure

If you are female, the healthcare team may ask you to have a pregnancy test as some procedures involve x-rays or medications that can be harmful to unborn babies. Sometimes the test does not show an early-stage pregnancy so let the healthcare team know if you could be pregnant.

If you take warfarin, clopidogrel or other blood-thinning medication, let your doctor know at least 7 days before the procedure.

Do not eat or drink in the 2 hours before the procedure. If you have diabetes, let the healthcare team know as soon as possible. You will need special advice depending on the treatment you receive for your diabetes.



The needle in the pleura

The healthcare team will carry out a number of checks to make sure you have the procedure you came in for and on the correct side. You can help by confirming to your doctor and the healthcare team your name and the procedure you are having.

The healthcare team will ask you to sign the consent form once you have read this document and they have answered your questions.

In the treatment room

Your doctor may offer you a sedative to help you to relax. They will give it to you through a small needle in your arm or the back of your hand. You will be able to ask and answer questions but you will feel relaxed.

The healthcare team will monitor your oxygen levels and heart rate using a finger or toe clip. If you need oxygen, they will give it to you through a mask or small tube under your nostrils.

A pleural biopsy and drainage usually takes less than 20 minutes. It involves inserting a biopsy needle through your chest wall and into your pleura.

Your doctor will use an x-ray, CT or ultrasound scan to help decide exactly where to take the samples from.

Your doctor will inject local anaesthetic into the area where they will insert the needle. This stings for a moment but will make the area numb, allowing your doctor to perform the procedure without causing too much discomfort.

Your doctor will use the biopsy needle to take biopsies and remove samples of fluid.

If a lot of fluid has collected, your doctor may drain the fluid by inserting a small tube in your pleural space. They will usually remove the tube after about an hour and close the cut with a stitch. Your doctor may decide that the tube needs to stay in for longer and will discuss this with you. You may need to stay in hospital.

What complications can happen?

The healthcare team will try to reduce the risk of complications.

Any numbers which relate to risk are from studies of people who have had this operation. Your doctor may be able to tell you if the risk of a complication is higher or lower for you.

Some complications can be serious and can even cause death (risk: less than 1 in 1,000).

You should ask your doctor if there is anything you do not understand.

The possible complications of a pleural biopsy and drainage are listed below.

- Shortness of breath, chest tightness or worsening cough, which usually settles quickly.
- Allergic reaction to the equipment, materials or medication. The healthcare team is trained to detect and treat any reactions that might happen. Let your doctor know if you have any allergies or if you have reacted to any medication or tests in the past.
- Pneumothorax, where air escapes into the space around your lung. A pneumothorax is usually small and does not cause any problems. If a lot of air escapes, the air will need to be sucked out using a needle (aspiration) or let out by inserting a tube in your chest (chest drain). You will need to stay in hospital for 1 to 2 days. If you suddenly become short of breath or have severe chest pain while at home, call an ambulance.
- Bleeding from a biopsy site. Any bleeding usually stops on its own.
- Infection in your pleural space. Treatment may involve draining any infected fluid. You will need to stay in hospital. Let your doctor know if you get a high temperature or feel unwell.

Covid-19

Coming into hospital increases your risk of catching or passing on Covid-19 (coronavirus) as you will be around more people than usual. This risk increases further if the procedure involves your nose or throat. Practise social distancing, hand washing and wear a face covering when required.

Consequences of this procedure

- Pain. The local anaesthetic and painkillers should help to keep you comfortable. If you have any pain during the procedure, let your doctor know. If you still have pain when you are at home, take simple painkillers such as paracetamol.

How soon will I recover?

After the procedure you will be transferred to the recovery area where you can rest. Once you have recovered enough you will be given a drink (usually after less than 30 minutes).

You should be able to go home after a few hours.

If you had sedation:

- a responsible adult should take you home in a car or taxi and stay with you for at least 24 hours;
- you should be near a telephone in case of an emergency;
- do not drive, operate machinery or do any potentially dangerous activities (this includes cooking) for at least 24 hours and not until you have fully recovered feeling, movement and co-ordination; and
- do not sign legal documents or drink alcohol for at least 24 hours.

You should be able to return to work the next day unless you are told otherwise.

The healthcare team will discuss with you any treatment or follow-up you need. Results from the biopsy will not be available for a few days so the healthcare team may arrange for you to come back to the clinic for these results.

Once at home, if you have severe chest pain, continued vomiting, a high temperature lasting more than 12 hours, sudden shortness of breath or you cough up more than a tablespoon of blood, let your doctor know straight away.

You should usually not fly for a month. If you have a small pneumothorax, it may get larger during the flight, making it difficult for you to breathe. If you want to fly in less than 1 month, you should discuss this with your doctor.

Ask your healthcare team if you need to do a Covid-19 test when you get home.

Lifestyle changes

If you smoke, stopping smoking will improve your long-term health.

Try to maintain a healthy weight. You have a higher risk of developing complications if you are overweight.

Regular exercise should improve your long-term health. Before you start exercising, ask the healthcare team or your GP for advice.

Summary

A pleural biopsy and drainage is usually a safe and effective way of finding out why fluid is collecting in your pleural space, and treating your symptoms. However, complications can happen. You need to know about them to help you to make an informed decision about the procedure. Knowing about them will also help to detect and treat any problems early.

Keep this information document. Use it to help you if you need to talk to the healthcare team.

Some information, such as risk and complication statistics, is taken from global studies and/or databases. Please ask your surgeon or doctor for more information about the risks that are specific to you, and they may be able to tell you about any other suitable treatments options.

This document is intended for information purposes only and should not replace advice that your relevant healthcare team would give you.

Acknowledgements
Reviewer: Samuel Kemp (MBBS, MD, FRCP)
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