Wrightington, Wigan and Leigh Teaching Hospitals
NHS Foundation Trust

CT Guided Lung Biopsy

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Computed Tomography (CT) Guided Lung Biopsy

Patient Information

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What is a CT guided lung biopsy?

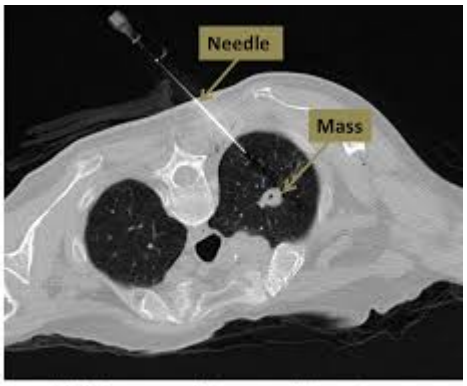
A lung biopsy involves removing small pieces of abnormal lung tissue using a needle. The procedure is performed by a Radiologist (a doctor who specialises in X-ray and scans).

Your doctor has recommended a lung biopsy; however, it is your decision whether you go ahead with the procedure or not. This leaflet will give you information about the benefits and risks to help you make an informed decision. If you have any questions that this information does not answer, ask your doctor or healthcare team.

For health and safety reasons, please contact the CT Department if your weight is equal to or more than 222 Kg (35 stone), as the CT scanner has a weight limit.

What are the benefits of a lung biopsy?

Your doctor (a lung specialist) is concerned about a shadow in your lung which has shown up on an X-ray or a scan (see figure 1). A lung biopsy is a good way of finding out what the problem (nature of the shadow) is.



CT guided placement of biopsy needle into a lung mass.

Figure 1

Are there any alternatives to a lung biopsy?

There are no alternatives to help your doctor find out what is causing the shadow.

CT guided biopsy is the most feasible and the less invasive procedure to obtain a lung biopsy.

What will happen if I decide not to have a lung biopsy?

Your doctor may not be able to confirm what the problem is. If you decide not to have a lung biopsy, you should discuss this carefully with your doctor.

What does the procedure involve?

Before the procedure

If you are female of childbearing age, the healthcare team may ask you to have a pregnancy test. The test is usually performed using a sample of your urine. They need to know if you are pregnant because X-rays are harmful to unborn babies. Sometimes the test does not show early stage pregnancy, so let the healthcare team know if you could be pregnant.

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

Do not eat in the 4 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. You may drink water up to 2 hours before the procedure.

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

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

In the scan room

If appropriate and only under exceptional circumstances, the Radiologist may offer you a sedation to help you relax. If you decide to have sedation, they will give it to you through a small needle in your arm or the back of your hand.

The healthcare team will monitor your oxygen levels and heart rate using a finger or toe clip. If needed, oxygen can be given via a face mask or nasal cannula.

A lung biopsy usually takes less than 45 minutes. It involves inserting a needle through your chest wall and into your lung. The radiologist may use an X-ray, CT, or ultrasound scan to help them decide exactly where to take the samples from. They will inject local anaesthetic into the area where the needle will be inserted. This may sting for a moment, but it will make the area numb, allowing the Radiologist to perform the procedure with much less discomfort for you. The Radiologist will insert the needle between your ribs into where the shadow is (see figure 2).

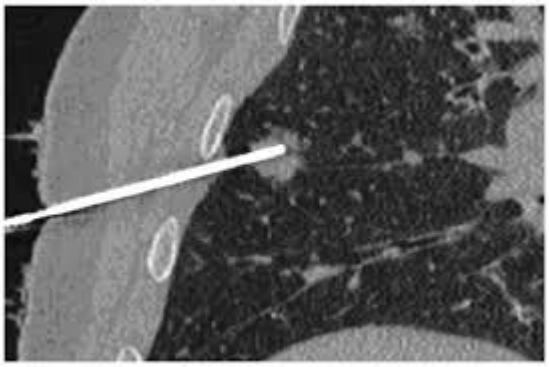


Figure 2

The needle in the abnormal area of lung

The Radiologist will use the needle to take small samples of lung tissue. The Radiologist may need to insert the needle more than once, depending on how many shadows there are. The samples will be examined under a microscope to find out the cause of your problem (nature of the shadow).

What complications can happen?

The healthcare team will try to make the procedure as safe as possible, but complications can happen. Some of these can be serious and can even cause death (risk 1/1000). The possible complications of a lung biopsy are listed below. Any numbers related to risk are from studies of people who have had this procedure. Your doctor may be able to tell you if the risk is higher or lower for you.

- Pain: the local anaesthetic and pain killers should help to keep you comfortable. If you have any pain during the procedure, let the Radiologist know

- Pneumothorax: where air escapes into the space around your lung (risk 1/5). A pneumothorax is usually small and does not cause any problems. If a lot of air escapes this can cause a large pneumothorax (risk less than 3/100). The air will need to be sucked out using a needle (aspiration) or released by inserting a tube into your chest (chest drain). You will need to stay in hospital for 1-2 days if this happens. If you suddenly become short of breath or have severe chest pain whilst

at home, call an ambulance

- Allergic reaction: to the equipment, materials, or medication. The healthcare team is trained to detect and treat any reaction that may happen. Let your doctor know if you have any allergies or you have reacted to any medication or tests in the past

- Bleeding from the biopsy site: any bleeding is usually little. It is normal to cough up some streaks of blood for 1-2 days

You should discuss these complications with your doctor if there is anything you do not understand.

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 around 1 hour). You should be able to go home after a few hours.

If you are given a sedative, a responsible adult should take you home in a car or taxi and stay with you for 24 hours. Be near a telephone in case of emergency. Do not drive, operate machinery, or do any potentially dangerous activities (this includes cooking) for at least 24 hours and until you have fully recovered feeling movement and coordination. You should not sign any legal documents or drink any 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, the healthcare team will 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 hospital doctor know straight away. Most people do not have any problems. You should be able to return to normal activities the next day. You may need to take simple pain killers such as

paracetamol to help relieve any discomfort.

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 breath. If you intend to fly in less than one month, you should discuss this with your doctor.

Lifestyle changes

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

Try to maintain a healthy weight. You have a high risk of developing complications if you are overweight. Regular exercise should improve your long term health. Before you start exercising, ask your healthcare team or General Practitioner (GP) for advice.

Summary

A lung biopsy is usually a safe and effective way of finding out about the shadow in your lung. However, complications can happen. You need to know about them to help you make an informed decision about the procedure. Knowing about them will also help to detect and treat any possible complications early.

Keep this information leaflet. Use it to help you if you need to talk to a healthcare professional.



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