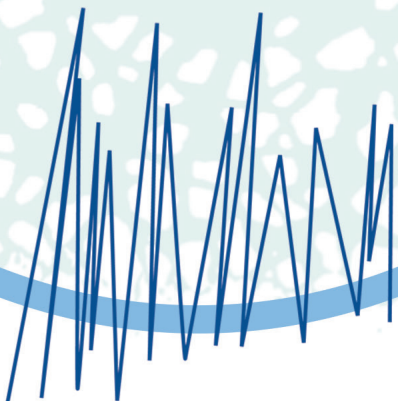
Royal Papworth Hospital
NHS Foundation Trust

Local anaesthetic thoracoscopy

A patient's guide



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What is a local anaesthetic thoracoscopy?

A local anaesthetic thoracoscopy (also known as a medical thoracoscopy) is a way of examining the inside of your chest with a special camera called a thoracoscope. This allows the doctors to learn more about your illness and the cause of the fluid or air in the chest.

The doctor can also take small samples (called biopsies) from the inside of the chest and drain any fluid that has collected there. Sometimes a simple procedure called talc pleurodesis can be done to stop the collection of fluid or air in the future.

Why are the samples taken?

Most local anaesthetic thoracoscopies are performed to find out why fluid has collected in the chest. The procedure usually involves taking some samples from the pleura (the membrane lining the chest wall) using the thoracoscope.

These samples are then looked at in a laboratory to help find out the cause of your problem and the best way of treating it. Some of the fluid in the chest may also be sent to the laboratory for analysis.

What are the benefits of a local anaesthetic thoracoscopy?

A local anaesthetic thoracoscopy is the best way to find out more about your illness and / or to control your chest symptoms. This decision is taken carefully and with your best interests in mind.

It is of course up to you to decide whether to have the procedure - and you will be asked for your written consent before going ahead. If there is anything you are unclear about, or have any questions about the procedure, please speak to your doctor or nurse.

Will it be painful?

You may experience some discomfort but you will be offered painkillers to help relieve this. Patients may be offered a sedative during the procedure. These sedatives are not a general anaesthetic and although most patients have no memory of the procedure, some people do remember part or all of it. A local anaesthetic is injected into the chest wall so that you should not feel the thoracoscope being inserted.

What are the risks of a local anaesthetic thoracoscopy?

Local anaesthetic thoracoscopy is generally a very safe procedure. Any medical procedure carries a very small risk to life, but for local anaesthetic thoracoscopy this is very low indeed.

In a large series of patients, many of whom had a limited life expectancy, the risk of death was 1 in 300.

Pain

All patients experience some pain but this is not usually severe. The local anaesthetic stings briefly and the chest tube positioned at the end of the procedure can be mildly painful. You will be offered painkillers to control this.

In some patients, sterile medical talc is puffed into the chest to help control abnormal collections of fluid or air.

The talc causes the surface of the lung to stick to the inside of the ribcage, leaving no room for fluid or air to reaccumulate. This procedure is called talc pleurodesis. If this is needed in your case, your doctor will discuss it with you when you sign the consent form.

This talc can cause some chest discomfort over the twenty four hours after the procedure. If this happens it can also be treated with painkillers.

After discharge, the chest will often remain sore for some time and you will be given painkillers to control this. For a few patients, occasional sharp 'scar pains' can affect the chest for some months afterwards. These are usually very brief.

Major complications:

These are uncommon, affecting about 1 in 56 (1.8%) of patients overall, and include infection, bleeding, and persisting leakage of air from the lung. In each case they can be treated as required to bring them under control.

Minor complications:

These include minor bleeding, air under the skin, temporarily low blood pressure during the procedure and infection around the site of the operation. They can occur in up to 1 in 14 patients. They are all treatable.

Before you come to hospital

Prior to coming into hospital, or on the day of the procedure, blood samples will be taken to check that you are not anaemic, and that your liver and kidneys work normally. Another sample of blood may be taken to check the blood group in the rare event of you needing a blood transfusion.

A tracing of your heart (ECG) may also be performed. This is a painless procedure. An ultrasound scan of your chest may be done. This is a painless procedure in which a probe covered with jelly is placed on the skin of the chest and the doctor is able to look through the rib cage at any fluid in the chest, as well as at the lung. This is to help the doctor locate the fluid and other structures in your chest. This may be repeated at the time of the local anaesthetic thoracoscopy.

Medications

Some routine medications may need to be adjusted or stopped before you can have a local anaesthetic thoracoscopy, especially ones which affect the clotting of the blood. Please discuss this with your doctor or nurse.

Eating and drinking

You may be asked not to eat or drink anything apart from water for a period of time before your procedure. This is to prevent any sickness during or after the procedure. Your nurse or doctor will advise you about this.

What to bring with you

- Any medicines that you are taking.
- Any belongings you may need for a short stay in hospital.

What will happen on the day of the local anaesthetic thoracoscopy?

You will be given an appointment time by your hospital.

You will be admitted to a ward and asked some questions about yourself, your general health and the medicines that you are taking. Your blood pressure, pulse, temperature and breathing rate will be checked. A needle will be inserted into a vein in the back of your hand - which will allow medication to be given before and during the procedure.

You will then be taken to the procedure room and asked to lie down on the bed. To ensure that

you have enough oxygen during the procedure, a small oxygen tube will be placed next to your nose and a probe attached to your finger.

Usually an ultrasound scan of your chest will be performed to show the doctor the best place to insert the thoracoscope.

You will be given a sedative injection and will begin to feel sleepy. Once this has taken effect the doctor will inject local anaesthetic into the chest wall. This is where a small cut will be made to enable the thoracoscope to be inserted. The anaesthetic stings a little at first but then numbs the area so you should not feel anything during the examination.

One, or sometimes two, small cuts are then made in the side of your chest. Any fluid that is present is drained away. The thoracoscope is then passed into the chest, allowing the doctor to see inside. Some specimens are usually taken from the lining of the lung and ribcage.

If required, talc is puffed into the chest cavity at the end of the procedure. At the end of the procedure a tube will be inserted through the cut to allow any remaining fluid or air to be drained from the chest. This tube is stitched into place.
The procedure normally takes 30-40 minutes.

After the procedure

You may feel some discomfort from the chest tube, but your nurse will offer you painkillers to help with this. You will be taken back to the ward. You will see that the tube coming out of your chest is attached to a bottle with water or fluid in it.

When it is appropriate, the nurse will attach the bottle to some gentle suction to help the drainage. You may feel a little bit more discomfort from this but you can have more painkillers if you need them. You may be given some fluids by a tube into one of your veins (a drip) until you feel like eating and drinking.

The nurse will regularly record your temperature, pulse, blood pressure and breathing and also check your oxygen levels, the site of your chest tube and the amount of fluid in the bottle. Please tell the nurse if you feel any increased shortness of breath. Some patients are able to go home on the day of the procedure. If this is so in your case, then the chest tube will be removed before you go home.

Some people have a semi-permanent drainage tube inserted called an tunnelled indwelling pleural catheter (TIPC). The doctors and nurses will inform you about this if it is required.

The first day after the procedure

The chest drainage will usually be continued for between a few hours and one to four days. Your doctors and nurses will be able to estimate how long this will be for you.

You may be given heparin injections to help prevent blood clots forming while the chest tube is in position.

The day after the thoracoscopy procedure, a chest X-ray is carried out to check that all the fluid and air that may have collected in your chest during the procedure has drained away and to help assess the success of the procedure.

Looking after your chest tube

Your doctors and nurses will look after your chest tube. However, there are a few simple rules that you can follow to minimise any problems, particularly the chest tube being pulled out.

- Sometimes your chest drain may be attached to suction to help drain any remaining fluid in the chest. If this is the case you will need to stay close to your bed as the suction tube will limit your movement.
- Keep the drainage bottle on the floor.
- Do not swing the bottle by the tube.
- Make sure you keep the bottle below the level of your waist.
- Take care not to knock the bottle over.
- If your chest is painful, please tell your nurse.
- If you feel your tube may have moved or may be coming out, please tell your nurse.

Removal of your chest tube

This is a simple procedure. It is mildly painful, but you will be offered painkillers to control any pain as much as possible.

The nurse removing the chest tube will encourage you to take a couple of deep breaths. They will then ask you to hold your breath, and while you are doing this, will gently pull the tube out. There will already be a stitch in place and a nurse will pull this to close the wound. A dry dressing will be placed over the wound.

A chest X-ray is often (but not always) taken. You should try to keep your dressing dry for the next five days. The stitch is usually removed by your GP or a nurse after seven days.

When you go home

You will be advised who to contact should you have any problems once you have gone home.

Follow-up in outpatients

You will be given an appointment to come back to the outpatient clinic for the results of any biopsies that have been taken.

Clinical trials

At some stage of your treatment you may be asked to consider taking part in a clinical trial. There is no obligation to do so, however, both written and verbal information will be provided should you wish to participate. If you are interested in any clinical trials that may be available, please ask the medical team caring for you.

Feedback

Every effort is made to make local anaesthetic thoracoscopy as straightforward and as comfortable as possible. Please feel free to make any suggestions for improvements to the service to your doctors or nurses.

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