



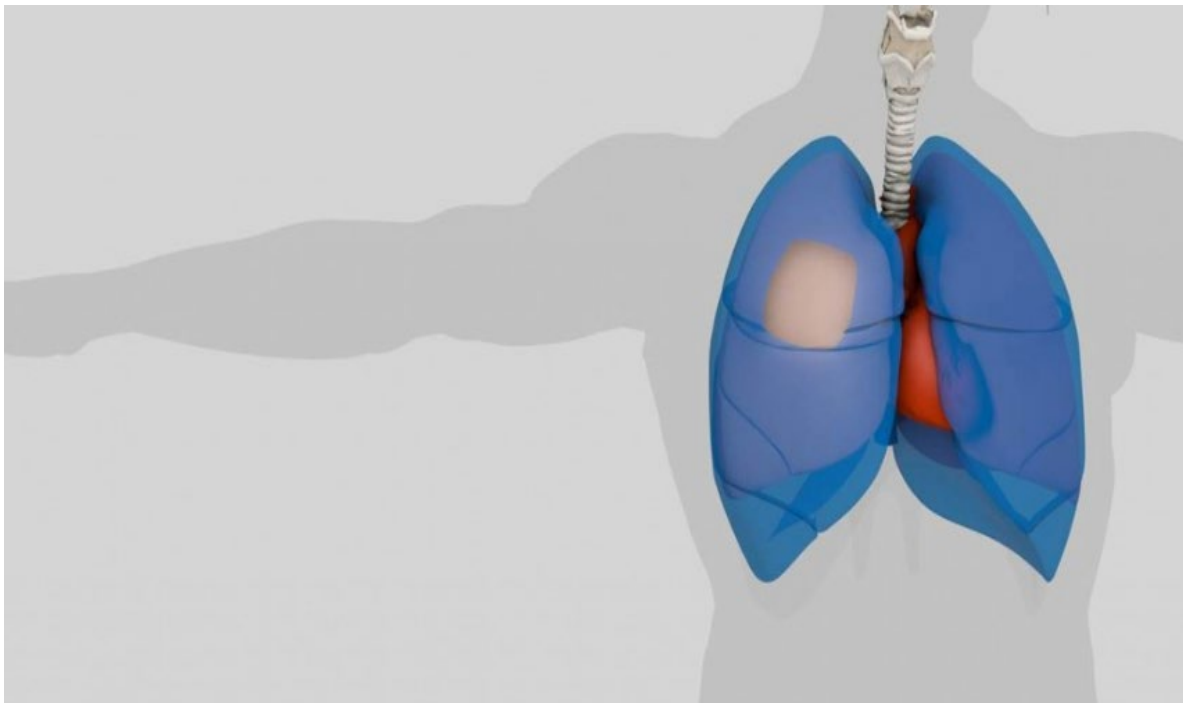
Pleural Effusion

Welcome to the Thoracic Surgery Department at the Queen Elizabeth Hospital Birmingham. The Thoracic Team are a surgical team who deal with problems involving the chest (e.g. lungs, airways, heart etc).

We hope that this information leaflet will help to answer any questions or queries you might have about your procedure. The information provided in this leaflet will be discussed with you in full before/during your admission.

What is a pleural effusion?

The pleura is the thin layer of tissue that lines the lungs. The term pleural effusion refers to fluid collecting in the space between the ribs and the lung. A small amount of fluid is normal, however in a pleural effusion, the space fills up excessively and the lung becomes like a balloon, pushed into a bucket of water. Thoracic surgeons help diagnose and treat people with a pleural effusion. A small amount of fluid is normal, shortly after thoracic surgery.



What causes a pleural effusion?

There are a number of causes of a pleural effusion. Some minor, others more serious. These include:

Information for Patients

Severe chest infection

Severe chest infections can cause infected fluid to build up around the lung; this is called an empyema. If the body fights off the infection, scar tissue and fluid may remain. Tuberculosis (TB) can also cause a pleural effusion.

Bleeding in the chest

If, for example, you have suffered a broken rib, blood may collect within the chest as a result. The body reacts to this and can form a collection of fluid, also known as haemothorax.

Cancer

Mesothelioma (meso) is a cancer that starts in the pleura. It is much more common in people who have worked with asbestos but can also occur in people who haven't. Lung cancer, or spread of cancer from elsewhere in the body, can cause a pleural effusion.

Many other causes are possible including heart problems, inflammation (such as arthritis), liver problems and kidney disease. These causes can often be diagnosed without surgery.

What surgery is performed for a pleural effusion?

Thoracic surgeons can help with diagnosing and treating symptoms caused by problems with the pleura. Sometimes thickening of the pleura occurs alongside pleural effusion. Thickened pleura and fluid in the pleural space compress the lung, which can make you feel very breathless, generally unwell, or have chest pain.

Surgery may be performed in order to drain the fluid, but also to get a diagnosis as to what is causing the fluid to collect. In most cases, the surgery will be performed under general anaesthetic, and you will be fully asleep. Sometimes, the surgery is carried out with local anaesthetic, meaning that you will be awake during the procedure, however this is much less common. In total, the surgery will take about 45 to 60 minutes.

Surgical pleural biopsy

During the surgery, fluid is drained from the chest, and samples are sent to the laboratory for testing. Biopsies can also be taken from the chest wall lining; this is called a pleural biopsy.

Usually, a pleural biopsy is taken using keyhole surgery, whilst you are fully asleep. Sometimes, however, it is impossible to get a biopsy using the keyhole method, and the incision will need to be made bigger in order to get a biopsy.

Surgical talc and drains at home.

During surgery, treatments can also be carried out to control fluid collection in the future. The two main ways of controlling fluid build-up include: using talc powder (pleurodesis) or inserting a thin tube (indwelling pleural catheter or IPC), that is kept in place when you go home. Keyhole surgery is normally performed for these two methods.

What is talc pleurodesis?

Talc pleurodesis is a procedure that involves spraying sterile medical talc powder inside the chest, to evenly coat the pleura. This causes inflammation and the pleura to become sticky, so that the lung can stick to the chest wall. This helps prevent fluid from building up again. This process will only work if the lung expands well after draining fluid, and the lung sticks to the chest wall lining.

We can use talc via a chest drain in certain cases. This means you would still need a chest drain, but this can be done with you awake. Sterile talc powder is mixed with sterile water and flushed up

Information for Patients

the chest drain, instead of being sprayed over the pleura.

Surgical talc has a higher success rate than talc via a drain. In addition, Talc via a drain may be more painful than talc via surgery.

What is an indwelling pleural catheter?

An indwelling pleural catheter (IPC) is a thin, flexible tube, that is put in the pleural space. It is a small chest drain that is secure and can stay in for as long as it is needed.

After draining the fluid during surgery, the lung may still be compressed by thickened pleura. This leaves a space between the lung and the chest wall, meaning that talc will not work in this case, as fluid will just build up again. The IPC allows the fluid to be drained intermittently, relieving the breathlessness. You (and a close friend/relative) can be trained on how to drain fluid from the IPC at home. Support from your district nurse will be arranged. Drainage is usually needed every other day to start with, this may change over time. As an IPC allows you to control your breathlessness, you may change how often the drainage happens depending on how you are breathing.

What are the benefits of pleural biopsy, talc and IPC?

The benefits are that pleural biopsy and pleural effusion drainage can help to get a diagnosis. Having a diagnosis can guide which treatments would be best for you. It can also give you an idea of what to expect from the disease, including symptoms, or whether the disease may shorten your life.

Talc can help prevent fluid building up again.

An IPC can relieve symptoms such as breathlessness by draining fluid from around the lung.

What are the risks?

General risks of thoracic surgery apply.

Pain

It is normal to have pain after this operation. Regular pain relief will be given to control the pain and it should settle in a few weeks.

Very occasionally, pain does not settle (long-lasting or chronic pain), and you may need to see a specialist at a pain clinic.

Bleeding

Following chest surgery, some blood loss into your chest drain is normal. Occasionally, a blood transfusion will be required, and if this is the case, further information will be given to you. Very few patients will need to return to theatre to control the bleeding.

Chest infection

This occurs in a small number of patients having chest surgery.

Physiotherapy, early mobilisation, and adequate pain relief can help you to be more mobile and clear chest secretions, which reduces the risk. If you do develop a chest infection, you may need extra physiotherapy, antibiotics, and to stay in hospital for a little while longer.

Wound infection

Showering before your surgery, frequent hand washing, and using the alcohol rubs provided, will reduce this risk. However, some patients will develop a wound infection, and

Information for Patients

as a result, will need further antibiotics and wound dressings. This may require help from the district nurses to dress the wound once you have been discharged.

Air leak

Air leaking from the lung into the chest drain for a few days is common after lung surgery. Occasionally this lasts for longer, possibly weeks. A chest drain will need to be in place until this settles. You may be able to go home with the chest drain still in, but you will need to come back for regular check-ups, until the air leak stops.

Acute kidney injury

Your kidneys may not work as well after surgery, but this is usually temporary and kidney function will improve with extra fluid.

Blood clots

These can occur in the legs (deep vein thrombosis) and then travel to the lung (pulmonary embolism). The risk is greatly reduced by wearing support stockings, wearing special massaging boots on your legs (called Flowtron boots), having daily injections of a blood thinning drug, and early mobilisation.

Heart attack or stroke

This can occur during or after surgery. The risk is higher in patients with a cardiac history or undiagnosed cardiac disease. For this reason, every patient will be fully assessed before surgery.

In addition, the following risks apply:

- Not getting a diagnosis from the biopsies
- Build-up of fluid again, despite surgery
- Damage to organs in the abdomen

What are the alternatives?

If you do not want to have an operation to get a diagnosis, other options may include:

Relying on existing tests (such as scans) to judge which disease is most likely.

Repeating a previous test

Continuing close observation

If you do not want an operation to improve your symptoms other options may include:

Palliative care - If you have an illness that cannot be cured, palliative care makes you as comfortable as possible, by managing your pain and other distressing symptoms. It also involves psychological, social, and spiritual support, for you and your family or carers.

It is your choice whether to go ahead with surgery or choose another kind of treatment. We will respect your wishes and support you in choosing the treatment that suits you. You are always welcome to seek a second opinion.

What can I expect during my admission and during my recovery?

There are two routes by which you might present to hospital. The most common route is during an emergency, where you have been transferred from another hospital. The less common route is via elective pathway, where you have come in from home and been given a date for your procedure in advance. In most cases, you will be in hospital for at least a few days, depending on your recovery. On discharge home, you may be on some antibiotics. You may also be visited by the

Information for Patients

district nurses to help with fluid drainage.

Following surgery, sudden movements can cause discomfort due to the healing and recovery process. You may also have some muscle weakening as a result of having the operation. It is generally not advisable to drive for 4-6 weeks after an operation, to allow time for healing. We advise patients to check with their motor insurance provider following surgery.

On average, we expect that it will take around three months for you to return to your usual level of activity.

If you require this information in another format, such as a different language, large print, braille or audio version, please ask a member of staff or email patientexperience@uhb.nhs.uk.