

Chest drain insertion

A patient's guide

What is a chest drain?

A chest drain is a thin plastic tube which is inserted between the ribs, to lie between the lung and the inside of the rib cage. The medical name for the gap between the lung and the rib cage is the pleural space.

My doctor has suggested I have a chest drain. What is it for?

We have recommended that you have a chest drain as liquid or air has collected in your pleural space which should not be there. This is called a pleural effusion (liquid) or pneumothorax (air). Either of these can cause problems with breathing and can stop the lungs working properly. The chest tube will allow this liquid or air to leave the body.

Also you may also need to have treatment given to the pleural space and the chest drain would allow this. Your doctors and nurses will be able to explain whether air or liquid (or both) is the problem in your case and why it needs treating with a chest drain.

How does a chest drain work?

Once a chest drain is inserted, it is connected to a bottle which contains clean water. The air or fluid in your chest then travels down the tube into the bottle and into the water. This acts as a seal preventing air or fluid coming up the tube and back into your chest. When only air is present in the pleural space a small one-way valve is sometimes used instead of the bottle.

How will the chest drain be put in?

Chest drains are usually inserted in a procedure room near the ward and do not require you to go to the operating theatre. Before the procedure you may be offered some pain killing and/or sedative medication. This helps to make the procedure more comfortable.

You will be asked by your doctor, to either sit or lie in a comfortable position by your doctor. The drain is usually put into the side of your chest below the armpit, as it is more comfortable and you can sleep on your back.

Once you are resting comfortably, the skin will be cleaned with an antiseptic cleaner to kill any bacteria. This fluid often feels cold. An anaesthetic is then injected into the skin to numb the place where the chest drain will go. This can feel mildly uncomfortable but this discomfort passes off quickly.

Your doctor will then make a small cut in the numb area of skin and gently open a path for the chest drain. This should not be painful, although you may feel some pressure or tugging. The chest drain is then eased gently into the chest.

Will it be painful?

Local anaesthetic is injected into the skin before the drain is put in so that you do not feel the drain going in and painkilling medications are given to control any pain.

Looking after your chest tube

After it is inserted your chest drain will be connected to a bottle as described above. As the liquid or air drains you should be able to breathe more easily.

There are two types of bottle that may be attached to the drain that has been inserted: the Thopaz drain or an underwater sealed drain.

Your doctors and nurses will look after your chest tube and whichever drain is used. Also they will tell you how to look after yourself and be safe with the drain.

If you have an underwater sealed drain there are a few simple rules that you can follow to minimise any problems:

1. Keep the drainage bottle on the floor when seated or in bed. Never lift the bottle higher than your chest or fluid may leak back into your chest.
2. Do not swing the bottle by the tube.
3. Do not leave the ward.
4. Try not to knock the bottle over.
5. If your chest is painful please tell your nurse.
6. If you feel your tube may have moved or may be coming out, please tell your nurse.

7. Your drainage bottle may be attached to the wall to allow a gentle suction to be applied to help drain the fluid. While your drainage bottle is attached to the wall suction stay close to your bed, (as the suction tube will limit your movement).
8. Please inform the nurse if you feel any increased shortness of breath.

A specific information sheet about what you should do to look after your chest drain is included with this information leaflet.

Are there any risks with chest drains?

In most cases, the insertion of a chest drain and its use in treatment is a routine and safe procedure. However, like all medical procedures, chest drains can cause some problems. All of these can be treated by your doctors and nurses:

- Chest drains sometimes fall out and need to be replaced. Your doctor will use a firm dressing or a
- Most people get some pain from their chest drain. You must tell your doctors and nurses if this happens and they will give you painkilling medication to control this.
- Sometimes chest drains can become infected but this is uncommon (affecting about one in 50 patients). Your doctor will clean the area thoroughly before putting in a chest drain to try to prevent this. Tell your doctor if you feel feverish or notice any increasing pain or redness around the chest drain.
- Sometimes air can collect under the skin next to the chest drain. This can cause a mild swelling or a 'crackly'

stitch to try to stop this happening. You can help to reduce the likelihood of this problem by being very careful not to pull on your chest drain, or to allow it to get tangled for example around your bed . If you are concerned that the chest drain is in danger of falling out, you should tell your nurse about this.

feeling in this area. This is not usually a major problem but can need treatment if it progresses. If you notice anything unusual near your chest drain site you should tell your nurse about this.

- Very rarely during its insertion the chest drain may accidentally damage a blood vessel and cause serious bleeding. This affects probably only about one in 500 patients. Unfortunately, if it does happen it can be a serious problem which requires an operation to stop it. In such bleeding can be fatal. Your doctors and nurses will do everything they can to avoid this problem.
- Rarely one of your organs, such as the liver or spleen can be punctured during insertion of the chest drain. This can be very serious but is extremely rare. If it happens an operation may be required to mend the damage.

anywhere between one day and many days, depending on how well you are responding to treatment. You may need to have several chest X-rays during this time.

Removing the drain is straightforward and will be done by your nurse. Once all the dressings are removed, the drain is gently withdrawn from the chest. This can feel uncomfortable but only lasts a few seconds.

After your chest drain is removed a stitch is often left where the drain has been. This should be removed after about five to seven days. If your chest remains uncomfortable after the drain has been taken out you can take simple pain killers to ease the pain. If you develop any other worsening symptoms (lots of pain, difficulty breathing or a high temperature) you should tell the doctors and nurses about this so they can check whether there is a problem to explain this.

When is the drain taken out?

Your doctors will discuss with you how long the drain needs to stay in. This can be

How to contact us/further information

If you have had a chest drain inserted, you will almost always be an inpatient in Papworth Hospital. If you have any questions please speak first to your nurse, who can call one of the doctors if required.

If you are at home and have a problem with your drain, please phone 01480 830541 and ask to speak to the Chest Registrar on-call (if you were under the care of the Chest Medical Unit) or the Cardiothoracic Surgery Registrar on-call (if you were under the care of the Surgical Team).

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