Respiratory Medicine

Chest drain insertion

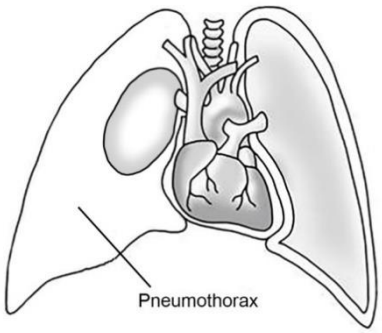
Information for patients

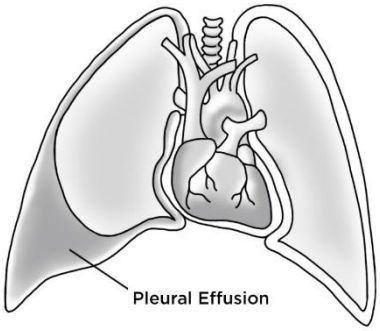
Introduction

This leaflet explains what a chest drain is, why your doctors have advised that you need one, and how to prepare for the procedure. Please feel free to ask our team any questions you have about the information below.

What is chest drain?

A chest drain is a small tube inserted through the chest wall to remove air (in the case of a pneumothorax) or fluid (in the case of a pleural effusion) from the space between the lung and the inside of the chest wall (the pleural space).





Why do I need a chest drain?

We have recommended that you have a chest drain because either fluid (including blood or pus) or air has collected in your pleural space that should not be there. Both of these conditions can cause problems with breathing and can stop the lungs working properly. Once the chest drain has been inserted, it will be connected to a bottle containing sterile water. The air or fluid in your pleural space then travels down the drain into the bottle, and the water acts as a seal to prevent any air coming back up the tube into your chest. This should improve your breathing.

Laboratory analysis of any fluid taken from your pleural space via the chest drain can also help find out the cause of your problem and help us work out the best treatment plan. You may also need medicines injected into the pleural space, and the chest drain will allow the doctors to do this easily. The drain is likely to be in place for several days.

How do I prepare for my chest drain insertion?

If you are an in-patient the ward team will explain the procedure to you and ensure you are appropriately prepared.

If you are an outpatient, please ensure we have your correct telephone numbers (**including your mobile phone number**), and ideally an email address for you. We will contact you by telephone a few days before your procedure to confirm your attendance and admission. If we are unable to reach you, your appointment and bed will be given to someone else who is waiting.

Please let us know well in advance if you will need an interpreter.

Bring any spectacles needed for reading, as you will need to read and sign a consent form in a paper or digital format.

We need details of **all** your medications (please bring them with you), allergies and any medical conditions.

You will be admitted for several nights – so please bring all else that you require for a hospital stay.

It is important to let us know in advance if you take blood-thinning medications as we usually temporarily stop these before your procedure. You should take all your other medications as usual on the morning of the procedure. The details below summarise what to do with any blood-thinning medications. Please contact us if you are not sure what to do.

Blood-thinning medication Instructions:

Warfarin:	Usually stopped 5 full days before the procedure. You will need an 'INR' blood test 1-2 days before the procedure to ensure your 'INR' is below 1.5 Please let us know if you are on warfarin and why, as in some situations, we may give you an alternative shorter-acting agent to take instead, in the lead-up to your procedure
Aspirin:	Do not take on the morning of the procedure
Clopidogrel:	Usually stopped 7 full days before the procedure
Dipyridamole:	Usually stopped 7 full days before the procedure
Ticagrelor	Usually stopped 7 full days before the procedure
Rivaroxaban:	Usually stopped 2 full days before the procedure
Apixaban:	Usually stopped 2 full days before the procedure
Dabigatran:	Usually stopped 2 full days before the procedure
Dalteparin (injections):	Usually stopped 1 full day before the procedure
Enoxaparin (injections):	Usually stopped 1 full day before the procedure

What will happen on the day?

If you are not already an inpatient, and are having the procedure at St Mary's Hospital, please come to the reception desk in **endoscopy, second floor of the Queen Elizabeth the Queen Mother (QEQM) building** at the time you have been given (Imperial College Healthcare NHS Trust | Hospital map).

If you are not already an in-patient, and are having the procedure at Charing Cross Hospital please come to **5 North at Charing Cross Hospital, in the main Tower Block,** at the time you have been given (Imperial College Healthcare NHS Trust | Charing Cross Hospital site map).

When you arrive, a nurse will greet you and take your blood pressure, heart rate and temperature, and ask you questions about your medical history, medications and any allergies. Please let us know if you may be pregnant.

The procedure will be explained to you again and you will have the opportunity to ask any questions. We will ask you to sign a consent form.

We usually insert chest drains in a dedicated procedure room (or occasionally on the ward if you are an in-patient). You will be asked to either sit on the side of your bed or lie in a comfortable position by the doctor. The doctor may do an ultrasound scan to confirm the best site to insert the chest drain. The ultrasound involves some jelly on the chest and is not painful, but the jelly may be cold. The procedure is usually done at the side of your chest, below the armpit, or towards your back.

Once you are resting comfortably, the skin will be cleaned with an alcohol-containing cleaning solution to kill any bacteria. This fluid often feels cold. A local anaesthetic is injected into the skin, to numb the area. This can feel mildly painful, but the pain disappears quickly.

Your doctor will then pass a small needle into the pleural space. This should not be painful, although you may feel some pressure or tugging. Fluid or air will then be removed from the chest, and a drain will be inserted through the tract created by the doctor. The procedure usually takes between 10 and 20 minutes. The drain will be attached to a bottle to drain the air or fluid. The bottle will be placed on the floor by your bed, and it is important that the bottle is never lifted above your waist level. Be careful not to knock the bottle over. The drain will have a special tap attached to it to allow the doctors to control the rate of drainage; please do not touch this.

After the drain is inserted the doctors will order a chest x-ray to establish the location of the chest drain. You will require several chest x-rays to monitor progress, whilst you are an in-patient.

If needed, we may attach your drainage bottle to some gentle suction, to encourage the air or fluid to drain. This may cause a little more discomfort but we can give you more painkillers for this if needed.

Can anything go wrong?

Chest drain insertion is generally a very safe and well-tolerated procedure, with serious complications being rare. The details below apply to all pleural procedures:

Pain
Some patients may experience a degree of pain, but this is rarely severe. The local anaesthetic stings briefly but the procedure should not be sore. If needed, we can give further local anaesthetic or pain relief. You may get some chest discomfort or coughing associated with draining larger volumes of air or fluid from the pleural space. This usually settles over a few minutes, but we occasionally give painkillers to treat this. After drain insertion, the chest may be sore whilst the drain is in place and you may need regular painkillers.

Infection
Rarely, patients who have a chest drain inserted may suffer an infection at the site of the procedure or in the pleural space. If this occurs it can usually be treated with antibiotics, but it may require a longer stay in hospital. Very rarely such infections can be serious and require an operation.

Bleeding
Rarely, patients may develop bleeding. This often settles without any further intervention, but might (very rarely) require a further procedure or operation to control it.

Lung damage
There is a small risk of damage to the lung, which could cause air to leak into the space around the lung. This usually requires no additional specific treatment, but could require a longer hospital admission. There is also a small risk that the needle used to drain fluid punctures another organ, such as the spleen or liver. This is exceptionally rare and does not usually cause any harm.

Chest drain dislodgement:
Your chest drain will be stitched in position, and bandaged, Sometimes, despite these measures, chest drains fall out. You can help to reduce the chance of this happening by being very careful not to pull on your chest drain, or let it get tangled-up around your bed. If the drain does fall out, there is a chance a new drain will need to be inserted.

Chest drain blockage:
Sometimes chest drains become blocked. Often we aim to prevent this by flushing the drain regularly with saline. If the drain does become blocked, the doctors may try other medicines to unblock it, but if this is not successful, there is a chance a new drain will need to be inserted.

When will the chest drain be removed?

Your chest drain will be removed when the doctors feel the air or fluid has been drained sufficiently. Removing the drain is straightforward and should not be painful, it will take a few seconds. If the drain was small, a dressing will be placed over the wound. If you had a large chest drain, then a stitch may be required to close the wound. This stitch will need to be removed in 7-10 days, and your doctors and nurses will arrange this.

How to contact us

If you are a current in-patient, please ask your doctors and nurses if you have any questions relating to chest drain insertion.

If you are an out-patient and have any questions or concerns leading up to the appointment, please contact the Pleural Team on 07876138418 or imperial.pleural@nhs.net (Monday-Friday, 09.00-17.00).

Alternative formats

This leaflet can be provided on request in large print, as a sound recording, in Braille, or in alternative languages. Please contact the communications team on **020 3312 5592**.

We have a free and premium wi-fi service at each of our five hospitals. For further information please visit our website: www.imperial.nhs.uk

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