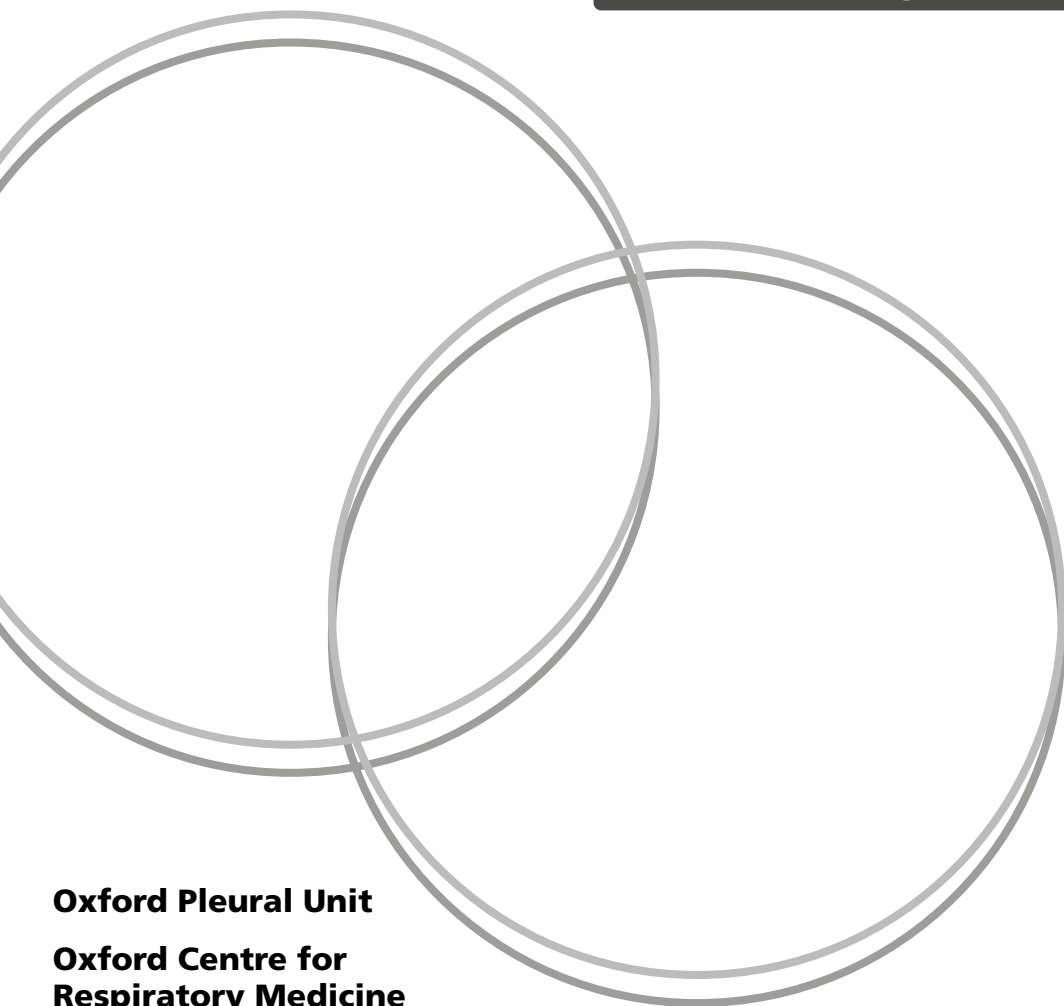




Oxford University Hospitals
NHS Foundation Trust

Pneumothorax

Information for patients



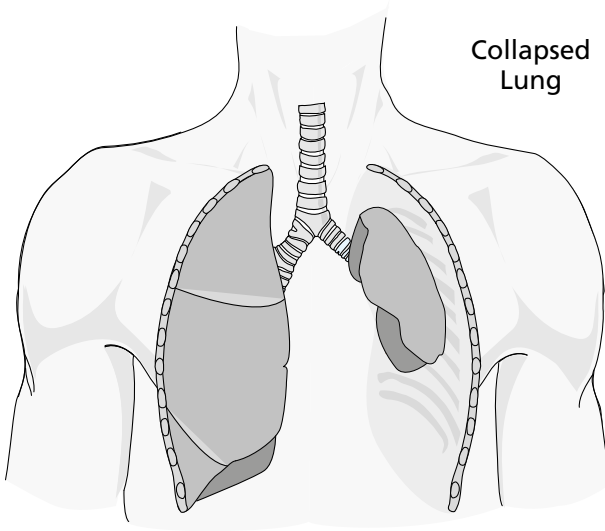
Oxford Pleural Unit
Oxford Centre for
Respiratory Medicine

Introduction

You have developed a pneumothorax (air in the cavity around the lung). This leaflet gives you information about the condition, and what to expect during treatment.

What is a pneumothorax?

A pneumothorax occurs when air enters between the lining of the lung and the inside of the chest wall. This causes the lung to collapse away from the chest wall.



Why did I develop a pneumothorax?

A pneumothorax can happen for a variety of reasons

- It can happen without warning. This is called a **spontaneous pneumothorax**.
 - When this occurs in patients with otherwise healthy lungs (often younger people, particularly taller men), it is called a **primary spontaneous pneumothorax**. It is probably caused by an unusually thin area of lung lining. These areas can suddenly leak air causing a pneumothorax.
 - Patients with underlying lung problems can develop a pneumothorax due to lung disease. This is called a **secondary spontaneous pneumothorax**.
- **Traumatic pneumothorax** is caused by injury to the chest (for example, because of a broken rib or a stab wound).
- **Iatrogenic pneumothorax** occurs after a procedure such as after a lung operation, lung biopsy or during pacemaker insertion.

What are the symptoms of pneumothorax?

Most patients experience a sharp chest pain (called pleuritic), which is worse when breathing. Some people are breathless. Patients may have minimal symptoms.

What treatment will I have?

Not everyone with a pneumothorax needs treatment. If you do not have many symptoms and the pneumothorax is small (on chest X-ray), then you may be able to go home and be followed up in clinic. The lung will usually slowly re-inflate by itself over several weeks.

If you do need treatment, then you will have a procedure to try to re-inflate the lung:

Pleural aspiration

This is a relatively minor procedure in which the chest wall skin is numbed with a local anaesthetic injection. A small plastic tube (catheter) is then inserted, and the pneumothorax air is drawn off and the catheter removed. The procedure takes approximately 30 minutes.

After the procedure you are monitored for 1-2 hours and will have a repeat chest X-ray. If your symptoms have resolved and your X-ray is satisfactory, you may be able to be discharged home.

Chest drain

If the lung has not successfully re-inflated after your pleural aspiration, then you may need another procedure to place a tube (chest drain) to let the rest of the air out. Patients with known lung disease may also be initially treated with a chest drain without an attempt at pleural aspiration.

The chest drain is inserted through the chest wall after a local anaesthetic injection. The drain is usually the size of a drinking straw but, occasionally, a larger tube is needed. It is held in place with a stitch and a dressing. The procedure takes approximately 30 minutes. The tube will be connected to a drainage bottle with a one-way mechanism to let air out but not back into the chest. A variety of bottles are in use, including underwater seal drainage bottles or digital drainage devices (Figure 1).

Figure 1 (a)
Underwater seal drainage bottle (Rocket)

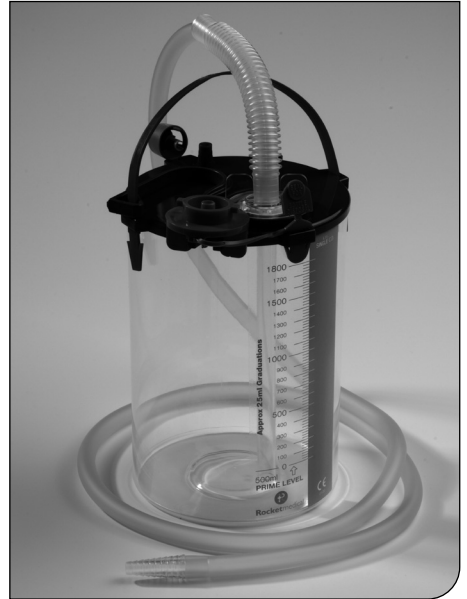


Figure 1 (b)
Digital drainage device (Medela Thopaz+)



If you need a chest drain then you will usually need to stay in hospital with the drain until your pneumothorax resolves. We often leave the drain in place for about 24 hours after the air stops coming out to make sure the lung has completely healed. This may take 2-5 days.

Ambulatory drainage device

Occasionally, patients are discharged home with an ambulatory drainage device in place to drain out any remaining air at home over a few weeks. This is not suitable for everybody and your medical team need to make sure this is a practical and safe option before they would suggest this.

Two types of device may be used (Figure 2);

- **Pleural aspiration catheter with an integrated one-way valve**, such as the Rocket Pleural Vent™. This is inserted as described above but is then left in place.
- **Chest drain attached to a one-way valve**, such as the Atrium Pneumostat™ device. The one-way valve is used instead of a drainage bottle.

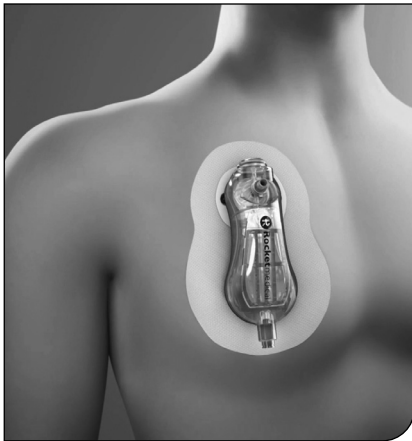


Figure 2 (a)
Rocket Pleural Vent pleural aspiration catheter with integrated one-way valve



Figure 2 (b)
Atrium Pneumostat one-way valve which is attached to a chest drain

If you are being discharged with one of these devices, we will need to frequently review you at the hospital to assess your progress and see when your pneumothorax has resolved.

What will happen to me in hospital?

If you have a chest drain you will normally be admitted to the Ward, often the Chest/Respiratory Ward (Osler Respiratory Unit).

Each day, you will be seen by the doctors and nurses and they will check whether your lung has re-inflated (by looking at further chest X-rays and the rate of drainage of air). Suction through the drain is sometimes used to help the pneumothorax to resolve.

If the lung has stopped leaking and the pneumothorax has resolved, the chest drain can be removed. We may perform another chest X-ray a few hours after removal to make sure your lung has not collapsed again.

Will I need to have surgery?

If your lung has not re-inflated or air is still leaking out after approximately four days, you may need an operation to fix it. This is relatively uncommon.

During surgery under general anaesthetic, the thoracic surgical team perform a keyhole operation to find the air leak, re-inflate the lung and perform a procedure to stop the pneumothorax happening again (pleurodesis). Further information can be found in the Patient Information Leaflet called 'Surgery for Pneumothorax'.

Patients who have had two episodes of pneumothorax (recurrence) may also be referred for surgery to prevent a further recurrence, usually electively (at a later date) after you have seen the thoracic surgical team as an outpatient.

What are my risks of recurrence?

Some patients have a further episode of pneumothorax, often months to years after their first pneumothorax. The chance of this depends mainly on whether you have a pre-existing lung problem.

Over 5 years, recurrence occurs in approximately;

- 20-25% of people with otherwise normal lungs (primary spontaneous pneumothorax).
- 30-40% of people with lung disease (secondary spontaneous pneumothorax).

What do I do after my pneumothorax?

When you are discharged home, the following advice is very important;

- You must **never SCUBA dive** unless your pneumothorax has been repaired by surgery. If a repeat pneumothorax occurs while diving, it is likely to be life-threatening.
- You should **not fly in an airplane for at least 7 days** after your pneumothorax has fully resolved.
- You should **avoid very heavy exertion / exercise** for the first few days.
- If you have any symptoms of worsening chest pain or breathlessness suggesting the pneumothorax may have come back, you should **return to the Emergency Department**.
- **Stop smoking**. If you are a smoker, you are at a much higher risk of your pneumothorax coming back.

You will receive a follow-up appointment to be seen in clinic about 2-4 weeks after discharge.

Contacts

If you have any question or concerns, please contact:

Pleural Secretary (Secretary to Dr Rahman and Dr Wrightson)

Tel: **01865 225 252**

(Monday to Friday)

Pleural Specialist Nurse

Tel: **07769 285354**

(Monday to Thursday)

If you have been cared for by the **John Radcliffe Ambulatory Assessment Unit** (AAU), you can contact them on

Tel: **01865 221 812**

(Monday to Friday 0800-2100, Saturday/Sunday 0900-1900).

Outside these hours call the Hospital switchboard

Tel: **01865 741 166** and ask for the On-call Respiratory doctor.

In an emergency or with worsening symptoms, attend the Emergency Department.

Further information

If you would like an interpreter, please speak to the department where you are being seen.

Please also tell them if you would like this information in another format, such as:

- Easy Read
- large print
- braille
- audio
- electronic
- another language.

We have tried to make the information in this leaflet meet your needs. If it does not meet your individual needs or situation, please speak to your healthcare team. They are happy to help.

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