

Pneumothorax

This leaflet explains what a pneumothorax is, how it is treated and gives advice to aid your recovery at home.

What is a pneumothorax?

A pneumothorax is air that is trapped between a lung and the chest wall. The air gets there either from the lungs or from outside the body.

What causes pneumothorax?

Primary spontaneous pneumothorax

This means that the pneumothorax develops for no apparent reason in an otherwise healthy person. This is the common type of pneumothorax. It is thought to be due to a tiny tear of an outer part of the lung - usually near the top of the lung. It is often not clear why this occurs. However, the tear often occurs at the site of a tiny bleb or bullae on the edge of a lung. These are like small balloons of tissue that may develop on the edge of a lung. The wall of the bleb is not as strong as normal lung tissue and may tear. Air then escapes from the lung but gets trapped between the lung and the chest wall.

Most pneumothoraces occur in healthy young adults who do not have any lung disease. It is more common in tall thin people, men, if you are under 40, and in those who smoke. About 3 in 10 people who have a primary spontaneous pneumothorax have one or more recurrences at some time in the future. If a recurrence does occur it is usually on the same side and usually occurs within three years of the first one.

Secondary spontaneous pneumothorax

This means that the pneumothorax develops as a complication (a secondary event) of an existing lung disease. This is more likely to occur if the lung disease weakens the edge of the lung in some way. This may then make the edge of the lung more liable to tear and allow air to escape from the lung. So, for example, a pneumothorax may develop as a complication of chronic obstructive airways disease (COPD) - especially where lung bullae have developed in this disease. Other lung diseases that may be complicated by a pneumothorax include: pneumonia, tuberculosis, sarcoidosis, cystic fibrosis, lung cancer, and idiopathic pulmonary fibrosis.

Other causes of pneumothorax

An injury to the chest can cause a pneumothorax. For example, a car crash or a stab wound to the chest. Surgical operations to the chest may also cause a pneumothorax.

What are the symptoms of a pneumothorax?

- The typical symptom is the sudden development of a sharp, stabbing pain on one side of the chest.
- The pain is usually made worse by breathing in (inspiration).
- You may become breathless. As a rule, the larger the pneumothorax, the more breathless you become.
- You may have other symptoms if an injury or a lung disease is the cause. For example, cough or fever.

How is a pneumothorax diagnosed?

A chest x-ray can confirm a pneumothorax. Other tests may be done if a lung disease is the suspected cause.

What happens to the trapped air and small tear on the lung?

In most cases of spontaneous pneumothorax, the pressure of the air that leaks out of the lung and the air inside the lung equalises. The amount of air that leaks (the size of the pneumothorax) varies. Often it is quite small and the lung collapses a little. Sometimes it can be large and the whole lung collapses. If you are otherwise fit and well, this is not too serious, as the other lung can cope until the pneumothorax goes. If you have a lung disease, a pneumothorax may make any existing breathing difficulty much worse.

The small tear that caused the leak usually heals within a few days, especially in cases of primary spontaneous pneumothorax. Air then stops leaking in and out of the lung. The trapped air of the pneumothorax is gradually absorbed into the bloodstream. The lung then gradually expands back to its original size. Symptoms may last as short as 1-3 days in cases of primary spontaneous pneumothorax. However, symptoms and problems may persist longer, especially in cases where there is an underlying lung disease

What is the treatment for pneumothorax?

No treatment may be needed

You may not need any treatment if you have a small pneumothorax. A small pneumothorax is likely to clear over a few days. Follow up will be arranged for you in the Chest Clinic. You may need painkillers for a few days if the pain is bad.

Aspirating (removing) the trapped air is sometimes needed

This may be needed if there is a larger pneumothorax or if you have other lung or breathing problems. As a rule, a pneumothorax that makes you breathless is best removed. The common method of removing the air is to insert a very thin tube through the chest wall with the aid of a needle. The air is sucked out with a syringe and 3-way tap. This

is repeated until most of the air of the pneumothorax is removed. You may then be able to be discharged home with follow up in Chest Clinic.

Sometimes, a larger tube is inserted through the chest wall to remove a large pneumothorax or if aspiration fails. This is more commonly needed for cases of secondary spontaneous pneumothorax when there is underlying lung disease. Commonly, the tube is left place for a few days to allow the lung tissue that has torn to heal. You will need admission to hospital.

Discharge advice

- Do not fly until you have the 'all clear' from your doctor as it can dangerous.
- Also, do not go to remote places where access to medical care is limited until you have the 'all clear' from a doctor.
- Scuba diving is not advisable following a pneumothorax.
- If you suddenly feel more breathless, increasing pain or are concerned, you should return to the Emergency Department or contact your GP.
- Some people do have repeated episodes of pneumothorax, if this is the case, then various procedures can be offered to aim to prevent this.
- Stop smoking if you are a smoker.

Tell us your views

If you wish to discuss any aspect of your treatment and care, please speak to a senior member of staff or to the nurse looking after you. The matrons are also available during normal working hours and they welcome your views.

You can also pick up a copy of the Trust leaflet called 'Talk to us', which explains how you can raise concerns or give feedback on your experience at the hospital.

Friends and Family Test

Whatever your experience you can give feedback by answering the Friends & Family test question – *How likely are you to recommend our service to family and friends if they needed similar care or treatment?* - by going online www.royalberkshire.nhs.uk/get-in-touch/friends-and-family-survey.htm.

Further information

More information is available on the Trust website:

www.royalberkshire.nhs.uk

Emergency Department

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