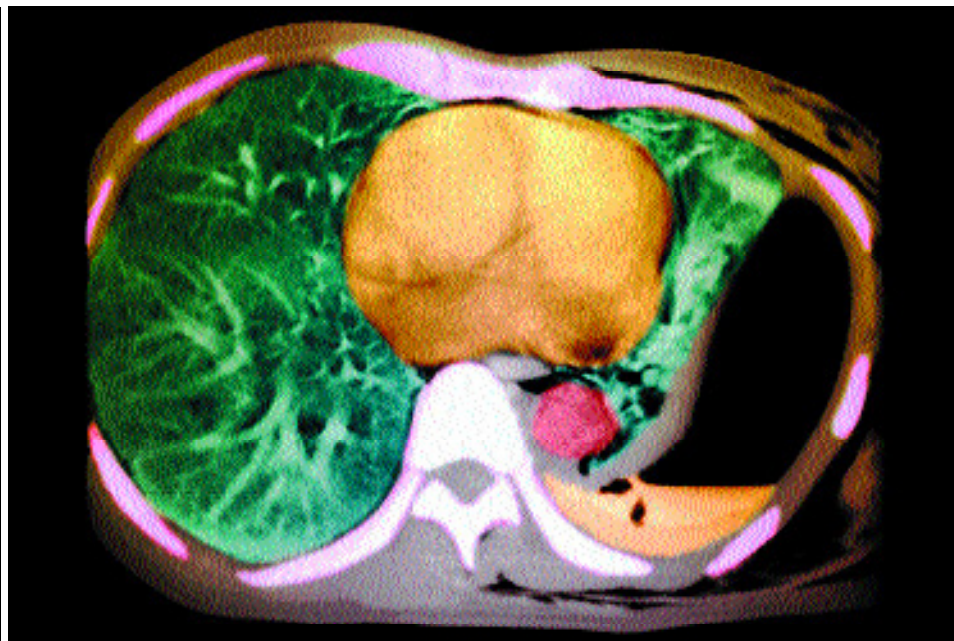


What you need to know about...

## PNEUMOTHORAX

*CT scan of a pneumothorax (shown in black), which has expanded the pleural cavity and compressed the patient's left lung (shown in green)*



### WHAT IS IT?

A pneumothorax is commonly known as a collapsed lung. It occurs when air or gas collects in the pleural space that surrounds the lungs.

### CAUSES

There are various types of pneumothorax.

- Primary spontaneous pneumothorax occurs when there is no discernible underlying lung disease. It is thought to be caused by the tearing of a small, air-filled sac in the lung called a bleb.
- Secondary spontaneous pneumothorax is a complication of an underlying lung disease, for example, asthma, chronic obstructive pulmonary disease (COPD), tuberculosis, cystic fibrosis, and whooping cough.
- Traumatic pneumothorax is the result of an injury to the chest such as a stab wound.
- Tension pneumothorax occurs when an air pocket causes excessive pressure in the pleural cavity. This collapses the lung and can cause a mediastinal shift, where the heart and major blood vessels are moved to the other side of the chest. This can lead to a life-threatening drop in blood pressure.

- Tension pneumothorax most commonly occurs in people with penetrating chest injuries as well as people on ventilators or those who have had cardiopulmonary resuscitation.

### SYMPTOMS

- Pain when breathing.
- Tight chest.
- Dry cough.
- Engorgement of the neck veins (in tension pneumothorax).
- Chest pain.
- Low blood pressure (in tension pneumothorax).
- Shock (in tension pneumothorax).
- Rapid heartbeat.
- Shortness of breath.
- Cyanosis (MedlinePlus, 2004).

### ASSESSMENT

A physical examination uncovers symptoms including:

- Lowered blood pressure;
- Lowered blood oxygen levels;
- Loss of normal breathing sounds on the affected side;
- A hollow sound when the affected part of the chest is percussed;
- A change in the location of heart sounds.

### DIAGNOSIS

- A chest X-ray should confirm the presence of a pneumothorax. It will show up as a dark area on the affected side of the chest.
- If the pneumothorax is very small or the person has extensive lung disease, a computerised tomography (CT) scan may be needed.
- An electrocardiogram (ECG) can also be used to test heart function.

### TREATMENT

The objective is to remove air from the pleural space, allowing the lung to re-expand. Treatment includes:

- Using a needle and syringe to remove air from the pleural space;
- Inserting a chest tube between the ribs and attaching a suction device;
- A controlled oxygen supply may be needed to help the patient breathe more easily;
- If there is serious chest injury, or treatment fails to expand the lung, then surgery may be necessary. Damaged or scarred sections of lung can be removed to allow the pneumothorax to heal (Intelihealth, 2004);
- Some small pneumothoraces heal without intervention.

### REPEATED PNEUMOTHORAX

Some people experience repeated pneumothorax. Treatment options in this case include:

- Surgery to remove blebs or areas of scarring;
- Surgery to attach the lung to the chest wall;
- An injection that fuses the lung and chest wall together (chemical pleurodesis), removing the space for fluid to build up.

### REFERENCES

- Intelihealth (2004) *Pneumothorax*. [www.intelihealth.com/IH/ih1IH/WSIHW000/9339/23667.html](http://www.intelihealth.com/IH/ih1IH/WSIHW000/9339/23667.html)
- MedlinePlus (2004) *Medical Encyclopaedia*. [www.nlm.nih.gov/medlineplus/ency/article/000087.htm](http://www.nlm.nih.gov/medlineplus/ency/article/000087.htm)