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Major Trauma Centre Collaborative Cheshire and Mersey Network

Guidance for patients with a traumatic pneumothorax

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What is a pneumothorax?

A pneumothorax is a collection of air or gas between a lung and the chest wall that causes part or all of a lung to collapse.

This is more commonly known as a collapsed lung. The medical name for the space between a lung and the chest wall is the **'pleural space'.**

A pneumothorax itself is being classified into three categories:

- ✓ Small (<15%), as it only causes a tiny compression of the lung which does not cause clinical symptoms,
- ✓ Moderate, as it causes a moderate compression of the lung which can or cannot cause clinical symptoms,
- ✓ Large, as it causes a full or almost full collapse of the lung which will always cause sudden clinical symptoms (Figure).

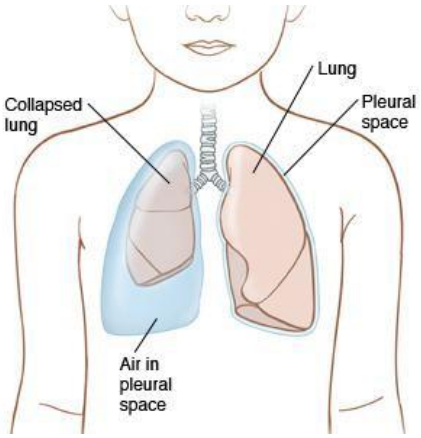

Figure. A large traumatic pneumothorax (collapsed lung).

What is a traumatic pneumothorax?

It is a pneumothorax secondary to trauma; examples of trauma that can cause this are penetrating trauma (knife injury) or blunt trauma (a fall).

Any injury, secondary to a crash or blow, to the chest wall, ribs, or the lung underneath could cause air to leak from the lung or outside the body and become trapped in the pleural space causing a pneumothorax.

How is a traumatic pneumothorax treated?

- ✓ If the air pocket in the pleural space is small (so called a small pneumothorax) and not causing any breathing difficulties it may not need any treatment because your body is likely to absorb it. Your doctor may arrange further chest X-rays to check that it has gone.
- ✓ Treatment of a moderate pneumothorax depends on breathing symptoms. That means that this condition may (in most of the cases) or may not require a chest drain.
- ✓ When a traumatic pneumothorax is large or causing breathing difficulties the air needs to be 'drained' off the chest, i.e. pleural space.

How is a chest drain inserted?

Local anaesthetic is put into the skin. A sterile tube is inserted through the space between the ribs into the pocket of trapped air beside the lung.

This is usually the side of your chest just underneath the armpit.

The drain is connected to a tube and a drainage bottle containing water. The water acts as a one way seal which prevents air or fluid re-entering your chest cavity.

Important things to know about your chest drain

- ✓ You may see air bubbling out through the bottle. This is normal. Fluid may also drain from the chest.
- ✓ This is usually clear but sometimes may be blood stained. This is nothing to be alarmed about.
- ✓ After a chest injury you may find it painful to breathe. There is no need for you to be in pain. If you are in pain ask for painkillers.
- ✓ The drain can come out if pulled or twisted so please take care. If the drain does come out tell someone straight away.
- ✓ You need to keep the drainage bottle below the level of the drain (at the point it enters the chest). Usually it is placed on the floor.
- ✓ If you feel more breathless, please tell the nursing staff.
- ✓ It is important that you take deep breaths and cough to help prevent a chest infection.
- ✓ You will obtain a professional advice from the chest physiotherapist.

When and how is a chest drain removed?

You may need the chest drain in for several days. You will be told by the medical team when it is safe to remove the drain.

You may need to take opiate pain killers or use a patient controlled analgesia devise. If so, the opiate painkillers can cause temporal constipation.

To avoid this, you should try and eat a diet high in fibre, i.e.

- lots of fruit and vegetables, whole-wheat bread and cereals, and also drink plenty of water. Laxatives will be prescribed and administered to you.
- Removing a drain is usually done on the ward. You may be asked to hold your breath in a special way when this is done.
- It can be uncomfortable but only lasts a few seconds. You may have a stitch left in which is usually removed after 7 days.

What to expect after a traumatic pneumothorax?

Wound and scar

If a chest drain was inserted you will have a wound at the side of your chest. It may be raised and swollen at first but this should gradually settle.

You may bathe and shower as normal but avoid rubbing soap or shower gel directly onto your wound.

Instead pat dry with a soft towel. Do not pick any scabs which form as they are protecting the new tissue that is growing underneath.

Things that will help you to recover more quickly

Stop smoking

The single most important thing you can do to give yourself the best chance of recovery is to stop smoking - right now.

By not smoking, you immediately start to improve your circulation and your breathing - not to mention a whole list of other benefits to the heart and lungs.

The risk of developing complications after your injury will also reduce significantly if you stop smoking. Free expert help is

available on the NHS to help you stop - ask your nurse or GP.

Keep a routine

Get up at your normal time in the morning, get dressed, & move about the house. If you get tired, you can rest later.

Build up gradually

Have a go at doing some of the things you'd normally do, but build up gradually. When you're building up your activities, you may feel more tired than normal. If so, stop, and rest until your strength returns. If you feel a large amount of pain, stop immediately and consult your GP.

Start active walking and jogging

You can do that any time you want and most important gradually. All will depend on capacity of your lungs.

Go back to work as soon as you can

Getting back to your normal routine sooner rather than later will play a big part in preventing this. In most cases it's usually safe to return to work between 2 & 3 weeks after discharge.

However, if you have sustained more injuries, especially to chest bones or joints, recovery time will be longer. Your consultant or GP will advise you on this.

People whose work involves a lot of heavy lifting, or standing up or walking for long periods of time, will not be able to return to work as quickly as those who have office jobs which are less demanding physically.

Depending on the nature of your job, you might want to ask your employer about returning to work on lighter duties at first.

When can I drive after a traumatic pneumothorax?

Your insurance company must be informed about your injury.
It is important to remember that the painkillers you are taking may have a sedative effect, which can slow down your reactions. You must be able to be able to do an emergency stop without causing yourself any pain.

Driving exercise

After about a fortnight, you might want to test your fitness to drive. You do this without switching the engine on: simply sit in the driving seat and practise putting your feet down on the pedals. Again, build up gradually.

If you feel pain, stop immediately.
If you feel sore afterwards, you may need to wait a day or two and try again.

Only when you can put enough pressure on the pedals to do an emergency stop - without feeling any pain or soreness afterwards - should you think about driving again.

When can I fly after a traumatic pneumothorax?

Once you have had a pneumothorax, the risk of your lung collapsing again is increased if you fly in an aeroplane. This increased risk lasts for around a year.

The most recent advice is that this risk is quite small and most airlines will allow you to fly within two weeks of an x-ray confirming that your lung is re-inflated.

If you do plan a flight in the six weeks following your injury it would be sensible to check with the airline.

You should not fly in an unpressurised aeroplane unless you have been assessed as fit to do so by a doctor with a special interest in chest medicine.

If you are flying after a traumatic injury you should avoid excess alcohol and caffeine and exercise your legs during the flight.

You should also wear below-knee elastic compression stockings similar to those you wore while on the ward.

When can I scuba-dive after a traumatic pneumothorax?

Rules (above) are the same.

You should not to scuba-dive unless you have been assessed as fit to do so by a doctor with a special interest in chest medicine.

Provided that there has been complete resolution of traumatic pneumothorax and associated lung illness, you will be allowed to dive.

You should bear in mind, that a traumatic pneumothorax and a spontaneous pneumothorax are two different conditions.

If you have had a spontaneous pneumothorax, the rules for extreme physical activities are much stricter. Your Doctor can prohibit you to dive up to 4 or 5 years.

When should you return to hospital?

Most people recover well from a traumatic pneumothorax and they do not experience complications. However there always is a small risk of developing complications. Call your doctor or us, if you have:

- ✓ Short of breath (sudden short of breath is especially dangerous condition)
- ✓ Increased or persistent pain despite the use of pain relief medications
- ✓ Increasing cough
- ✓ Redness or swelling around the Wound
- ✓ Discharge of pus or blood from the Wound
- ✓ Persistent fever
- ✓ Temperature above 38.5°C
- ✓ Shakes, swelling, chills, rigors
- ✓ Uncontrolled vomiting
- ✓ Dizziness/feelings of faintness
- ✓ Swollen leg or both legs

Who do I contact if I have questions or concerns?

Major Trauma Nurse Coordinators: Contact Hospital switch board on 0151 525 5980 and ask switchboard to bleep 5428.

This service is available 7 days a week from the hours of 8 am to 8 pm.

Nursing staff on Major Trauma Ward:
Telephone number: 0151 529 6255
During working hours, 8am - 5pm in the working week:

Contact the secretary and leave a message for the surgical team.

If you think that your condition is serious then it is best to come straight to Aintree Accident & Emergency department*.

Please seek advice from your GP.

*When you come to the hospital please bring this and any other relevant discharge documents that you may have been given at the time of discharge to help the A&E doctors to decide your management.

Other sources of information

http://www.patient.co.uk

http://www.uksdmc.co.uk

https://www.rcseng.ac.uk

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