

Patient information

Airway Clearance

Therapies Department – Aintree Hospital

This leaflet will have been given to you by your Physiotherapist to compliment the advice given during your airway clearance session.

Aims of the airway clearance session:

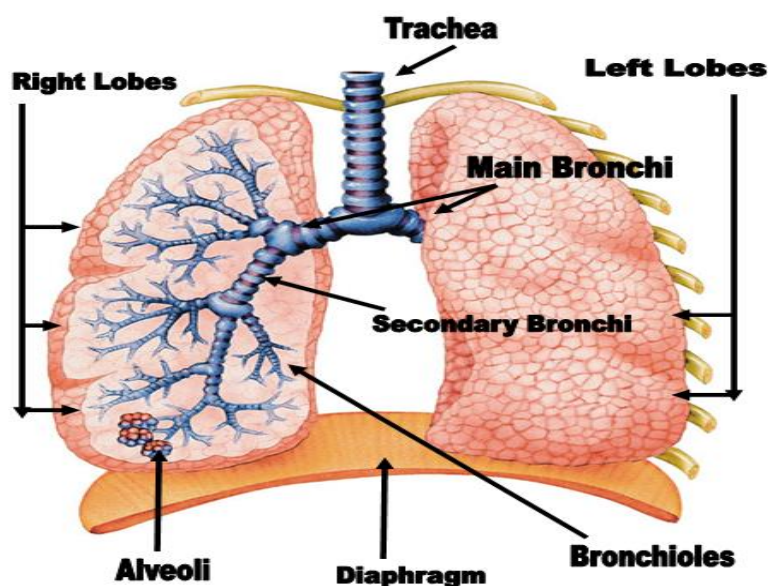
- Develop an understanding of how your lungs normally work.
- Understand what happens to your lungs with a chronic lung condition (e.g bronchiectasis and COPD).
- Understand how to clear your lungs of sputum effectively using chest clearance techniques.
- Understand how to manage your chronic lung condition to help reduce the number of infections.

Lung Anatomy

The lungs are full of tiny branching airways, known as the bronchi and bronchioles, whose role is to move oxygen into small air sacs called alveoli.

Alveoli transfer oxygen into the blood so it can then be transported around the body.

The bronchi and bronchioles are coated with a sticky fluid called mucus, which is moved along the airways out towards the throat by small hairs (cilia).

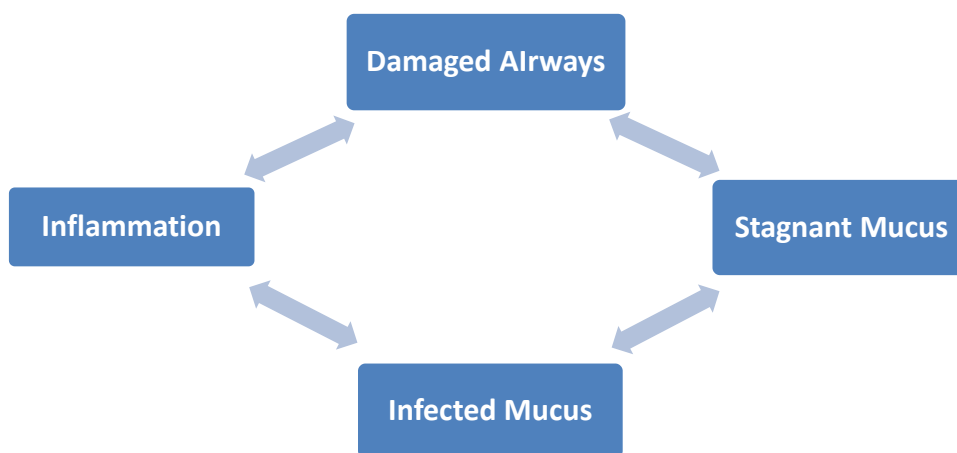


This protects against particles moving down into the lungs and causing infection/damage.

For lungs to perform at their best your airways need to be open during inhalation and exhalation and free from inflammation or swelling and excess or abnormal amounts of mucus.

What is bronchiectasis?

- A long term lung condition where the airways of the lungs become abnormally widened, cilia are destroyed leading to a build-up of excess mucus.
- This makes the lungs more prone to infection.
- The most common symptoms of bronchiectasis includes:
 - a persistent cough that usually brings up sputum (phlegm).
 - Breathlessness.
 - coughing up or spitting out blood streaked sections.
 - Symptoms can vary widely. Some people have only a few symptoms that don't appear often, while others have wide-ranging symptoms that occur daily.
- During an infection, the symptoms of bronchiectasis will usually get worse.



What is COPD?

An 'umbrella' term which describes lung conditions including chronic bronchitis and emphysema.

Chronic bronchitis- inflammation of the airways causing narrowing and increase in cough/phlegm.

Emphysema-reduced elasticity of the air sacs (alveoli) from damage which leads to increased shortness of breath.

Symptoms of COPD include: cough (with or without phlegm), breathlessness and wheeze.

Airway Clearance Techniques

Airway clearance techniques help to clear excess thick sticky mucus from the lungs

It is important to clear mucus from the lungs as it can increase problems with infection/inflammation and can block smaller airways meaning the lungs will not be able to work effectively

There are different techniques that can be used to help clear your chest of secretions

Some require aids whereas others don't require any equipment

In addition to chest physiotherapy, antibiotics and inhaled medications which help to open the airways and thin the mucus (mucolytics) are used

Treatment is usually needed on a daily basis. When well treatment may only be needed once or twice a day however during an active infection treatment may be required more frequently

The length of each treatment session will vary according to need. Sessions may only be 10-15 minutes when there are only small amounts of mucus, however longer treatments may be necessary if there's more mucus to be cleared.

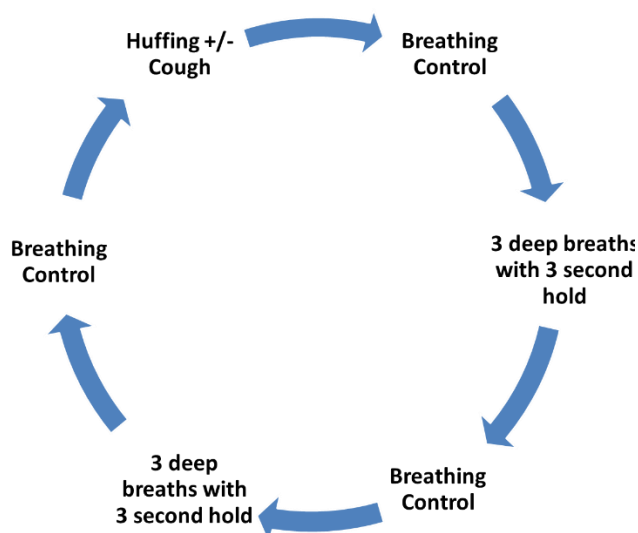
1. Active Cycle of Breathing Control (ACBT)

This can be done in upright sitting position or combined with postural drainage positions. ACBT helps the movement of sputum to the upper airways to make it easier to clear.

ACBT is a cycle which can be repeated several times depending how productive your chest is. It includes:

- Breathing control.
- Deep breathing exercises.
- Huffing (Forced Expiratory Technique or F.E.T.).

For each session complete one to three cycles. If you are feeling well/ not productive complete once per day. If you are more productive complete three-four sessions per day.



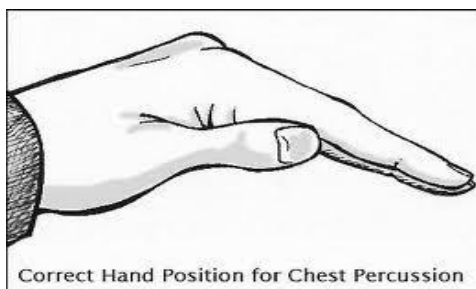
2. Postural Drainage and Percussion

Postural drainage is a sputum clearance method using gravity to aid the removal of sputum from the deeper parts of your lungs by changing your position.

You should not do postural drainage as part of your physiotherapy regime if you have or develop any of the following:

- Gastro-oesophageal reflux.
- Acid reflux/stomach acid.
- Nausea.
- Significant increase in breathlessness.
- Fresh blood in sputum.
- Recent rib, spine or muscle injury
- Bronchospasm (wheeze).

Aim to do at a convenient time for you and when you are at your most productive of sputum. Do not do for at least an hour after eating a large meal.



- Complete each position for three-five minutes.
- Practice A.C.B.T. while in the position
- Try percussion while in the position.

(See separate leaflet for postural drainage positions to try)

3. General Ways to Improve Sputum Clearance:

Hydration

If you become dehydrated mucus can become thick, sticky and be difficult to clear. Ensure you drink plenty and try to avoid too much caffeine as this can make you more dehydrated.

Humidification

If sputum is particularly thick then hot water baths and steam inhalations may help expectoration.

If you find that your sputum is thick and sticky on a regular basis then discuss this with your GP – there are medications available to help loosen your sputum.

Self-Management

Managing your lung condition is key in helping reduce the number of infections:

- Healthy diet.
- Regular exercise (three-five times per week).
- Annual flu vaccine/ pneumonia jab.
- Proper use of medications.
- **Using airway clearance techniques regularly.**
- Being able to recognise when infections are occurring and making sure you get prompt treatment of infections.

Record your symptoms

When you are unwell record your symptoms on day one and every day your symptoms change.

Sputum Colour

- Clear
- White
- Brown
- Yellow
- Green
- Bloodstained

Amount of Sputum

- None
- Some (up to a teaspoon).
- A little (up to a tablespoon).
- Moderate (up to three tablespoons).
- A lot (an egg cupful or more).

- **Early intervention and treatment is important when you have worsening symptom.**
- **You should see an improvement in symptoms within three days.**
- **If you are not better and/or your symptoms are getting worse contact your GP.**

Adjuncts

We recommend trying ACBT to see if this technique works for you. If you feel it does not work for you there are other options available.

Airway clearance aids, such as the Flutter™ and Acapella™, are available to assist in clearance of your secretions.

The Flutter © – a handheld device, shaped like an asthma inhaler, which delivers vibration to the airway of your lungs, making it easier to cough out mucus.



The Acapella © – a device, shaped like a small torch, that uses a combination of vibration and air pressure to help remove mucus.



Your physiotherapist may have individual advice. They will write them here if appropriate.

Feedback

Your feedback is important to us and helps us influence care in the future.

Following your discharge from hospital or attendance at your outpatient appointment you will receive a text asking if you would recommend our service to others. Please take the time to text back, you will not be charged for the text and can opt out at any point. Your co-operation is greatly appreciated.

Further information

If you have any further questions or concerns that this leaflet has not been able to answer, you can contact the physiotherapist who took your session on

Tel: 0151 529 3910 (Monday to Friday 8.00-16.00)

- **British Lung Foundation**
northwest@blf.org.uk
www.blf.org.uk
- **British Thoracic Society**
www.brit-thoracic.org.uk
- **Association of Chartered Physiotherapists in Respiratory Care**
www.acprc.org.uk

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