Respiratory Medicine

Airway Clearance (Acapella)

This leaflet gives patients advice on how to optimally use an Acapella device to clear secretions from their chest. It should be used as a guide in conjunction with advice from a respiratory physiotherapist who may make modifications based on your individual needs. It should also be read in conjunction with the manufacturer’s supporting information.

Benefits

Some people with chronic lung conditions find they have sputum (mucus) that can be difficult to clear. The Acapella aids airway clearance.

If you use your Acapella regularly it may:

- reduce your need to cough throughout the day
- improve any feelings of breathlessness
- help reduce the number of infections, especially those requiring hospitalisation
- reduce any further damage to your lungs

Coughing

Although coughing is the most common way of clearing secretions, it is also quite hard work and can lead to fragile airways becoming irritated and even collapsing. Where possible, try to limit the amount of coughing you do. It is much better to move secretions up through your lungs by using your Acapella.

How does the Acapella work?

The Acapella provides slight resistance as you breathe out through it. This creates some back pressure in your airways which helps them to stay fully open, rather than collapsing. This means it is particularly useful for people with fragile, floppy airways. A rocker mechanism within the device causes the air travelling from your lungs to ‘vibrate’ which helps loosen secretions from the airway walls. This can help make airway clearance easier and more effective.
How do I use the Acapella?

1. Get into a comfortable position, with your shoulders and arms relaxed. The Acapella can be used whilst sitting, lying down or in a particular position advised by a respiratory physiotherapist.
2. Breathe in slowly through your nose, at a comfortable speed.
3. Breathe out through your mouth, at a comfortable speed, without the Acapella.
4. Avoid letting your shoulders rise up.
5. You should feel your tummy softly moving in and out with your breathing.
6. Maintain this relaxed breathing for one to two minutes, or as guided by your respiratory physiotherapist.
7. Place the Acapella mouthpiece in your mouth and ensure you have a tight seal around it with your lips.
8. Breathe in slowly through your nose and slightly deeper than normal.
9. Pause for two to five seconds to allow your lungs to fill properly.
10. Breathe out through the Acapella at a steady rate so that you feel the vibrations in your chest.
11. Breathe out to a comfortable level.
12. Try to ensure your cheeks stay still as you breathe out, they should not vibrate.
13. Repeat these breaths in and out through the Acapella five to ten times as advised by your respiratory physiotherapist.
14. Try to suppress your cough during these breaths.
15. Repeat the relaxed breathing for another one to two minutes.
16. If you can feel sputum ready to be cleared, try one or two huffs (described below).
17. Repeat the above steps for 20 to 30 minutes.

**Huffing**

Huffing is designed to move the secretions from the smaller airways upwards to where it is easier to cough and clear. This technique requires practice and should be checked by a respiratory physiotherapist to ensure you are being as effective as possible.

It may not be necessary to huff after every set of breaths through the Acapella. However, you should try to do one or two towards the end of each session to ensure any secretions are cleared.

1. Take a slow breath in through your nose, a little deeper than normal, but not all the way in.
2. Open your mouth to an ‘O’ shape and huff the air out, as if trying to steam up a mirror.
3. You should feel your tummy muscles working to push out the air.
4. The secretions should move upwards so you can cough them up or perform a short, sharp huff to move them into your mouth.
5. Avoid huffing too hard as excessive force may make you wheezy.
6. If done correctly, as you breathe out you should hear crackles which may be quite subtle and quiet if there are not many secretions or louder and more coarse if there are a lot of secretions.
7. Limit the number of huffs to one or two to reduce the chance of becoming wheezy or starting a ‘coughing fit’.

**Putting it all together**

Airway clearance is most effective when used in combination with your inhalers or nebulisers. It is advisable to use your bronchodilator (also known as a reliever which is usually blue in colour e.g Salbutamol, Ventolin) about 10 to 15 minutes before you try to clear your secretions. This will help open your airways, allowing air and secretions to move more easily and prevent you from feeling wheezy.

If you have a nebulised antibiotic use this after your airway clearance. This will ensure the nebulised antibiotic can get into the smallest airways and be more effective. Find a time and place where you can comfortably complete the full session and make airway clearance part of your daily routine.

**How long for and how many times?**

Your respiratory physiotherapist will advise you on how many sessions you should do a day. This will depend upon the amount of sputum you usually produce. Each session usually takes 20 to 30 minutes. During an exacerbation (a worsening of your symptoms) you may find it beneficial to increase the number of times you clear your airways through the day. This may be because you have more secretions, they may be thicker so more difficult to clear, or you may be getting more breathless and not able to tolerate your usual airway clearance in one session.

**Keeping your Acapella clean**

It is important to wash your Acapella daily in warm soapy water, rinse and allow to air dry. You should also sterilise your Acapella once a week by either:

It is important to keep your Acapella clean to avoid bacteria growing on it, which may cause more infections.
The manufacturer’s supporting information should include specific recommendations on how to do this, so keep them safe for future use.

- Boiling in distilled, deionised or de-mineralised water for five minutes
- In a steam steriliser, following the manufacturers guidance (not in the microwave due to metallic parts)

Your personalised Acapella routine:

Your physiotherapist today was:

They can be contacted:
We are a smoke-free site: smoking will not be allowed anywhere on the hospital site. For advice and support in quitting, contact your GP or the free NHS stop smoking helpline on 0800 169 0 169.

Other formats:

If you would like this information in another language or audio, please contact Interpreting services on telephone: 01223 348043, or email: interpreting@addenbrookes.nhs.uk For Large Print information please contact the patient information team: patient.information@addenbrookes.nhs.uk.

Document history
Authors: Respiratory Specialist Physiotherapy Team
Pharmacist: N/A
Department: Cambridge University Hospitals NHS Foundation Trust, Hills Road, Cambridge, CB2 0QQ www.cuh.org.uk

Contact number: 01223 256634
Publish/Review date: August 2018/August 2021
File name: Airway_clearance_Acapella.doc
Version number/Ref: 2/PIN3818/37274