



# Independent airway clearance techniques

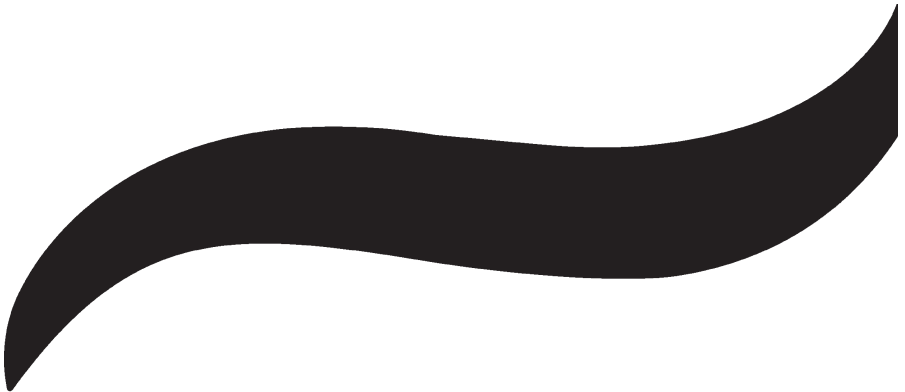
A guide on how to better manage and clear your chest

This leaflet should be supplied following assessment and treatment by a physiotherapist

Name .....

Physiotherapist name .....

Date issued ..... / ..... / .....



# INTRODUCTION

This booklet will describe techniques which can help you clear sputum (phlegm) from your chest. Take your time reading over the content of this leaflet and look back at it as often as you need to.

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These techniques are for people with chest problems. It is important to clear sputum from your lungs to help you breathe more easily and prevent chest infections. Please only use these techniques if assessed or advised by a Physiotherapist.

**Top daily tips that will help you manage your chest secretions (phlegm) more effectively:**

- ❖ Drink plenty of fluids and eat a healthy diet
- ❖ Take regular exercise or be as active as you can
- ❖ If you have a blue inhaler, use it 20 minutes before you do your breathing exercises

# ACTIVE CYCLE OF BREATHING TECHNIQUE (ACBT)

## What is ACBT?

ACBT is a way of clearing your airways. It is a set of breathing exercises that moves the sputum out of your airways. You can do ACBT in sitting or in a postural drainage position. Your Physiotherapist will give you advice on this. Please make sure you are in a comfortable, well supported and relaxed position.

There are three parts to the technique:

1. Breathing Control
2. Deep breaths
3. 'Huffing'

### 1. Breathing control

Sit well-supported in a chair, and let go of any muscle tension around your shoulders.

Rest one hand on your tummy, keeping your shoulders and upper chest relaxed. Allow your hand to rise gently as you breathe in.

Breathing control lets your airways relax. It can also help you when you are short of breath or feeling fearful or anxious.

## 2. Deep breaths

These are also known as deep breathing exercises. The aim of these exercises is to get the air behind the sputum in the smaller airways of your lungs.

- ❖ Let go of your chest and shoulders.
- ❖ Take a long, slow, deep breath in through your nose if you can.
- ❖ Feel your ribs expanding as you breathe in.
- ❖ Breathe out gently like a sigh.
- ❖ Repeat 3-4 deep breaths. If you feel light-headed, go back to relaxed breathing (breathing control).

Some people find it helpful to hold their breath for about 2-3 seconds at the end of the breath in, before breathing out. Try the deep breathing exercises both with and without holding your breath and see which works best for you.

### 3. Huffing

The aim of huffing is to empty your lungs as quickly as possible with your mouth open, as though you are steaming up a mirror. Your stomach muscles should tighten, but your throat stays open. Do not force it as this can cause your chest to wheeze.

Huffing moves sputum from the small airways to the larger airways. You can then cough to get rid of the sputum. Coughing alone does not remove sputum from the small airways.

There are 2 types of huff, which help to move sputum from different parts of your lungs.

## **The Small-long huff**

Take a small to medium breath in and then huff the air out until your lungs feel quite empty. This will move sputum from low down in your chest.

## **The Big-short huff**

Take a deep breath in and then huff the air out quickly. This moves sputum from higher up in your chest, so use this huff when you are ready to spit. This should clear your sputum without coughing.

## **When should I cough?**

Your huff will move the sputum in your chest and you will hear it 'rattle'. If huffing clears your sputum, there is no need to cough. However, if it does not clear your sputum, then you may need to cough.

You should only cough if the sputum can be cleared easily. It is very important to avoid long bouts of coughing as these can be very tiring and may make you feel breathless. They can also make your throat or chest sore or tight.

Clearing your chest should be done often enough to keep it as clear as possible in-between doing the exercises. When you have more sputum, you may need to do it more often.

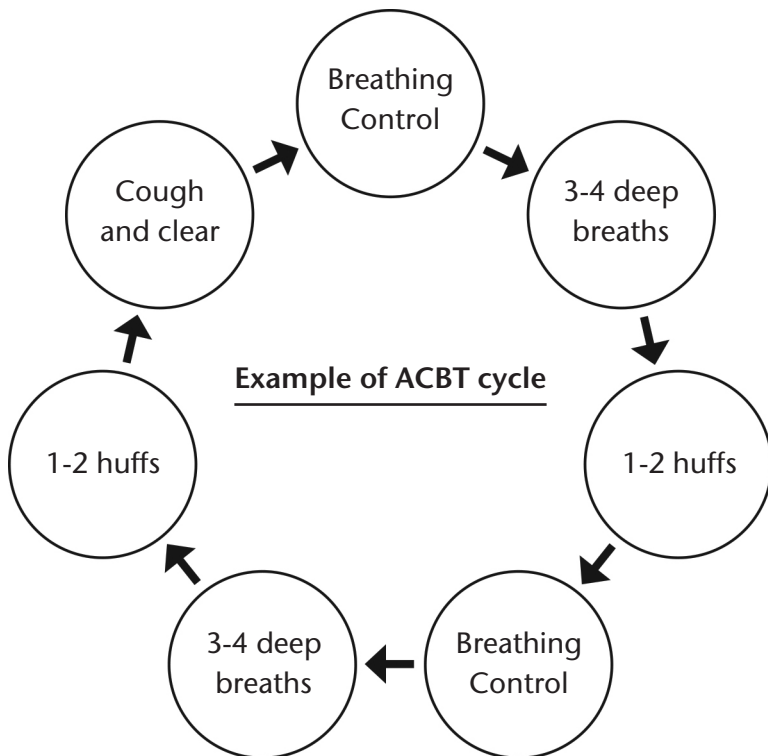
You should repeat the three parts of ACBT as a cycle. You should aim to continue to do this for about 10 minutes and ideally until your chest feels clear of sputum.

## Recap of ACBT

You will remember there are three parts to the technique:

1. Breathing Control
2. Deep breaths
3. 'Huffing'

As you become more experienced or work with your physiotherapist, you will find the best way to do this breathing technique to suit your own needs.



# AUTOGENIC DRAINAGE (AD)

## What is Autogenic drainage?

Autogenic drainage (AD) is a breathing technique that uses controlled breathing to remove mucus (sputum). It involves you hearing and feeling your sputum as you breathe out. You need to stop yourself from coughing until the sputum is high up in your chest and can easily be cleared with little effort.

## Before you start

Remember, if you have a blue inhaler take this 20 minutes before starting AD.

### Autogenic Drainage:

- ❖ Sit comfortably in a chair.
- ❖ Make sure you are well-supported with your feet sitting firmly on the floor.
- ❖ Breathe all the way out through an open mouth.
- ❖ Listen for any “rattling” or notice if you feel any rattling in your chest.

**If you feel/hear any rattling** repeat that breath, “breathing at the rattle”, until you feel the mucus move.

- ❖ As you feel the mucus move you may notice that the rattle starts to come earlier in the breath. This is a sign that the mucus is moving up. Treatment is aiming to “track” the mucus with your breath.
- ❖ Add a small breath hold at the end of every breath in. This should help get more air behind the mucus and therefore it should come up more easily.
- ❖ Repeat the breath no more than three times before returning to “Normal Breathing”.
- ❖ Have a short rest and then repeat the process.
- ❖ As the mucus moves upwards, it will make you cough or you will notice it is sitting at the back of your throat. One or two coughs should then clear the mucus.
- ❖ If you feel or hear a wheeze when breathing out, you may be breathing out too quickly. Remember you want to breathe out as quickly as you can without causing a wheeze. Try steaming up a mirror... if you breathe out too quickly it won't work!
- ❖ Once you have cleared the mucus, breathe all the way out once more until you hear/feel mucus and repeat the sequence of breaths.

**If you do not hear or feel mucus on your chest** try increasing the speed of your breath out a little bit (about 10%) until you hear mucus.

If you still can't hear mucus, try pushing the breath out a little further.

If there is still no mucus, increase the speed again a little bit more (another 10%).

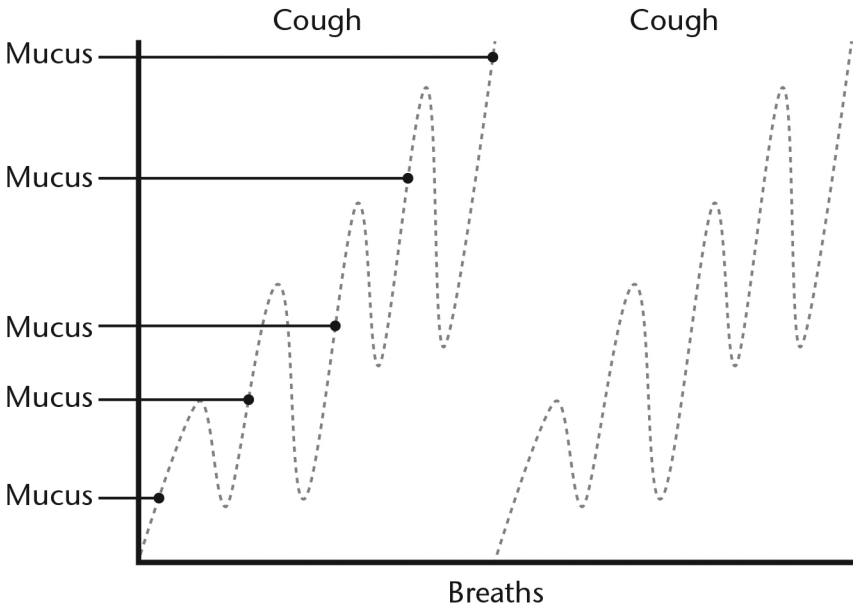
Repeat this until you are confident that there is no mucus on your chest.



The graph below shows two different examples of doing Autogenic Drainage. The line on the left shows that the mucus is first heard/felt near the end of the breath out. It then starts to be heard/felt earlier in the breath out, until it can be coughed out.

The line on the right shows that there is no mucus heard/felt in any of the breaths out.

**Maximal Inspiration (biggest breath in possible)**



## How long do I do this for and when do I stop?

Repeat this as often as your Physiotherapist advises you to. This is usually twice a day for approx. 20 mins. However, you will need to increase this to four times per day if you have an infection, or if you have lots of secretions.

Your Physiotherapist may advise different positions to carry out the treatment. This improves the air going into particular areas of lung tissue helping to remove mucus. It is important to follow their instructions.

If you are carrying out treatment in the evening, make sure it is approximately one hour before you wish to go to bed to sleep. You may find you cough and clear mucus for a while after you have completed your treatment.

Caution... if you feel lightheaded carrying out the treatment, you are probably breathing out too quickly. If this happens, take a rest and then slow down the speed of your breath out, and give yourself longer rests between each set of breathing exercises.

### Top tips for Autogenic Drainage (AD)

“Breathe at the rattle”, until you feel the mucus move. The goal is to gradually move sputum up your chest to the point where you can ‘cough and clear’.

Try to stop yourself from coughing until the last part of Autogenic Drainage when the sputum is high up in your chest and ready to be cleared.

Relax with breathing control (see earlier) in between stages or if you feel the urge to cough in-between cycles.



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