Tracheobronchomalacia and Physiotherapy

Who is the leaflet for? What is its aim?

This leaflet is intended to provide information to people who have tracheobronchomalacia, their families and carers. It explains what tracheobronchomalacia is and how physiotherapy can play a part in its treatment.

Tracheobronchomalacia (TBM)

This is a condition where there is softening of the cartilage within the walls of your airways. It can affect different parts of your lungs, your windpipe, known as your trachea and your main airways that branch into your lungs, called your bronchi. The cartilage is responsible for keeping the airways open, allowing air to easily move in and out as you breathe.

Breathing in is an active process where the muscles of your diaphragm and rib cage contract to open up space for air to come into the lungs and then they relax which allows the breath out. TBM means that the airways are floppy. When the muscles relax, the airways are unable to stay open fully and they partially close down making it more difficult for the air to move out.

If you have phlegm, known as sputum, this will also get stuck if the airways partially close as you breathe out. This will make it more difficult for you to clear the sputum.

Causes

TBM can be due to genetic links and is often first found in children. In adults, it is thought to either be a consequence of another condition/problem or may not have a known cause. Long-term irritation and coughing occurring with asthma and Chronic Obstructive Pulmonary Disease (COPD) may weaken the airway walls, causing airway collapse.

Symptoms

- Cough – often sounding like a ‘bark’
- Shortness of breath
- Wheezing
- Difficulty clearing secretions
- Recurrent chest infections
- Feeling less able to do physical exercise
Chest infections

TBM can mean that you are more at risk of chest infections. The more chest infections you have, the more likely it is that there may be damage to your lungs. Therefore controlling the number of infections you get is one of the key parts of staying well.

You should learn to become aware of the symptoms related to a chest infection as early recognition and treatment is extremely important in preventing severe infections and further damage. Signs of an infection may include the below symptoms that are different to your normal:

- Increased amounts of sputum
- Thicker sputum which is more difficult to clear
- Darker coloured sputum
- Having a high temperature
- Experiencing chest discomfort
- Coughing up small amounts/streaks of blood

If you suspect that you may have an infection it is useful to give a sputum sample to your GP or practice nurse to send to the labs. This will help identify which bacteria are causing your infection and which antibiotics will be most effective at treating it. The best time to do this is before you start any antibiotics.

An infection is often treated with a minimum of a one week course of oral antibiotics but in severe infections, intravenous antibiotics may be needed. This may require you to be admitted to hospital. Some people who get a lot of infections may be advised to take continuous antibiotics.

What other treatments are there?

The problems with your airways can’t be reversed, so treatment will be aimed at reducing your symptoms, managing your mucus, and preventing further damage. Inhalers aren’t effective for people with TBM because the airway wall weakness does not respond to medication to open the airways or reduce inflammation.

However, if you have another respiratory condition as well, you may already be on them. Other treatments to help hydrate or thin the mucus may be used to make it easier to cough up. These may include nebulisers such as saline or capsules such as Carbocisteine.

On some occasions patients may be referred for consideration of home ventilation. If this is the case your therapist and consultant will discuss this with you more. Occasionally, operations may be helpful to address the symptoms. But this is rarely needed and your doctor would refer you if they felt this was appropriate.
Physiotherapy in TBM

Physiotherapy can be very useful in helping to manage the mucus produced in TBM. A respiratory physiotherapist will assess you in order to create a personalised management plan for you to perform at home.

Techniques used to help clear sputum may include:

- Breathing exercises such as the Active Cycle of Breathing (ACBT)
  This will be taught to you by a Respiratory Physiotherapist. Unlike the normal ACBT, it is important that you do not perform any forced expiratory technique. This is because the floppiness of your airway cartilage can lead to airway collapse if you breathe out in a forced way. However, you will be taught other ways to avoid this.
- Use of devices such as an Acapella or Flutter. These help if you tend to find you have a lot of sputum in your lungs.
- Use of positioning to target the most affected portions of your lungs which is known as postural drainage.

You should do these techniques daily, even if you are feeling well, to reduce the chances of mucus getting stuck, causing further infections and leading to airway damage.

What to do during an infection

During an infection you may need to increase the amount of chest physiotherapy techniques that you do, in order to control and clear the larger quantities of sputum. A respiratory physiotherapist will be able to advise you on this when your management plan is made, based on your particular circumstances.

If you are admitted to hospital for your chest infection it is important that you continue to perform your usual airway clearance. If you develop a more severe infection then more intensive treatment may be required. If you are having difficulty clearing your mucus whilst you are in hospital please ask to be seen by a Respiratory Physiotherapist. They may be able to offer alternative treatments during your hospital stay.

If you wish to be seen by a respiratory physiotherapist, either when you are well or unwell, then please speak to your GP.

Other ways to stay well

There are some things that all adults should do to try and keep well. These are even more important when you have TBM, to prevent your condition from getting worse.
- **Stop smoking**
  - Smoking has many negative effects on your health but in particular on your lungs. Smoking damages your airways and can cause larger amounts of sputum as well as making it more difficult to clear.
  - Talk to your local NHS Stop Smoking Service, Pharmacist or GP for advice on quitting smoking.

- **Stay active**
  - It is recommended that **all** adults between the ages of 19-64 should take part in either 150min of moderate activity (e.g. fast walking, cycling) a week, or 75min of vigorous activity (e.g. running, taking part in a sport) as well as two or more sessions of strength exercises a week.
  - Staying active and keeping your body strong will allow your muscles to work more effectively and make it easier to cope when you have an infection. If you are fit and strong you will feel less breathless when trying to do everyday activities.
  - Ask to speak to a physiotherapist for advice regarding starting exercise.

- **Eat well**
  - Eating a balanced diet will give your body the fuel and nutrients it needs to help fight off and recover from infections.
  - Ask to speak to a dietician about how to improve your diet.

- **Control your weight**
  - Being overweight puts strain on many organs in your body, including your lungs. The heavier you are the more your heart and lungs have to work to power your body.
  - Being underweight can put excess strain on your body and reduce your ability to cope with infections.
  - Staying active and eating well will help to prevent weight gain and loss.

- **Stay properly hydrated**
  - Not drinking enough can lead to your sputum becoming thicker and more difficult to clear. Drinking non-alcoholic drinks such as water, squash, tea and coffee regularly throughout the day can help prevent this.

- **Have the flu jab**
  - All adults with a chronic lung disease should have a flu jab each year. Flu can be a very serious infection especially if you have a chronic lung disease so it is important to protect yourself.
  - Speak to your GP about the flu jab.

- **Have the pneumonia jab**
  - All adults over the age of 65 and those with a long-term health condition should have the pneumonia jab. It is only given once and covers you for life.
  - Speak to your GP about the pneumonia jab.
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:

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