Physiotherapy Department

Bronchiectasis

This leaflet explains more about bronchiectasis.

If you have any further questions, please speak to a doctor or nurse caring for you.

How do my airways work?

Air goes in to the lungs through the windpipe (trachea), which divides into a series of branching airways called bronchi. Air goes from the airways into millions of tiny air sacs (alveoli). Oxygen from the air is passed into the bloodstream through the thin walls of the alveoli.

Tiny glands in the lining of the airways make a small amount of mucus. This mucus keeps the airways moist, but also traps any dust and dirt in the inhaled air. There are many tiny 'hairs' (cilia) on the surface of the cells lining the airways. These cilia 'sweep' the mucus to the back of the throat to form sputum (phlegm), which is swallowed. Coughing also helps to clear the airways.

What is bronchiectasis?

Bronchiectasis is an abnormal widening of one or more airways.

Extra mucus (sputum) is made in the abnormal airways and tends to pool in the widened areas. These pools of mucus are prone to infection.

The main symptom is a cough which produces a lot of sputum. Treatment includes regular physiotherapy and courses of antibiotics. Surgery is occasionally needed.
The airways in bronchiectasis
The extent of bronchiectasis can vary greatly. There may be only one section of one airway that is widened and abnormal. At the other extreme, many airways may be widened. Many affected people fall somewhere between these extremes.

The widened parts of the airways are damaged and inflamed. This causes extra mucus to form, which is less easily cleared. The severity of symptoms depends on how many of the airways are affected, and how badly.

What causes bronchiectasis?
The cause is often not clear, and no cause can be found in over half of cases. Some conditions that affect or damage airways can cause bronchiectasis. An underlying cause is found in about four in ten cases. Examples include the following:

- Some inherited conditions. For example, a condition called primary ciliary dyskinesia affects the cilia so they do not ‘beat’ correctly to clear the mucus. Cystic fibrosis is another condition that affects the lungs and causes ‘bronchiectatic’ airways. Some rare immune problems can cause lung infections and damage to airways.
- Inhaled objects, such as peanuts, can become stuck and block an airway. This may lead to local damage to that airway. Acid from the stomach that is regurgitated and inhaled can also damage airways. Inhaling poisonous gases may also cause damage.
- Severe lung infections such as tuberculosis (TB), whooping cough, pneumonia or measles can damage the airways at the time of infection. Ongoing bronchiectasis may then develop.

What are the symptoms of bronchiectasis?
- Coughing up lots of sputum is the main symptom. The amount of sputum can vary, depending on the severity. It can be very tiring to cough up large amounts of sputum each day.
- Tiredness and poor concentration are common.
- Wheeziness is common.
- You may cough up some blood from an inflamed airway.
- About one in three people with bronchiectasis also have chronic (persistent) sinusitis. This may cause an increase in mucus from the nose (catarrh).
- Recurring chest infections are common. This is because an inflamed airway with extra mucus that does not clear easily is ideal for bacteria (bugs) to grow and multiply. Sputum turns green/yellow when it is infected.

The severity of symptoms varies greatly. Many people have only mild symptoms and become used to an intermittent cough. They may have the occasional chest infection, but a diagnosis of bronchiectasis is never made, or is made years after symptoms begin. At the other extreme, some people have severe symptoms with an almost permanent chest infection.

How is bronchiectasis diagnosed?
Tests may be advised if bronchiectasis is suspected. A lung scan and other lung and sputum tests help to confirm the diagnosis. Other tests may be advised if an underlying cause is suspected.
What are the treatments for bronchiectasis?

**Physiotherapy** is thought to be an important part of treatment. This helps you to cough up and clear the mucus and may prevent a build-up of infected mucus, which may prevent chest infections.

- A physiotherapist will advise on the correct way to drain the affected areas. This usually means that once or twice a day you should adopt positions recommended by your physiotherapist, and do some controlled breathing exercises, to clear the build up of mucus. This may be combined with chest clapping by yourself, or by a relative, carer or friend.
- It takes time and effort to do this properly and regularly, but doing so will help you to manage and control your bronchiectasis.

**Exercise.** If you are able, a daily exercise such as running, walking, swimming, dancing or aerobics, helps to clear the mucus too. Patients have found that, when possible, exercise helps them to manage their condition and enjoy a better quality of life.

**Antibiotics.** If you have mild bronchiectasis, you may need a course of antibiotics to treat any chest infections that occur. A change in the colour of your sputum to green and feeling unwell usually indicates that you have a chest infection. If you have severe bronchiectasis, you may find that chest infections return quickly once you stop taking antibiotics. In this situation you may be advised to take a lower (prophylactic) dose of antibiotics every day to keep chest infections away.

**Smoking** makes symptoms worse and smokers are very strongly advised to stop.

**Treatment of underlying conditions.** As mentioned earlier in this leaflet, about four in ten people with bronchiectasis have an underlying cause and additional treatments may be advised.

**Surgery** may be an option if you have a small local area of lung damage causing symptoms. Removing the damaged airway may cure the problem. Surgery may also be considered if you have widespread bronchiectasis. Removing a particularly bad area of lung that is acting as a reservoir for mucus and infection may help to improve symptoms. Occasionally, a lung transplant may be considered in severe cases.

**What is the outlook (prognosis)?**

Most people with bronchiectasis (with no underlying cause) have a good outlook. Symptoms do not usually become severe. Regular physiotherapy, and antibiotics when an infection occurs, keeps most people reasonably well.

The condition can become worse in some cases, and breathing problems may develop. In a small number of cases the condition becomes gradually worse over time as more and more of the airways become affected.

The outlook for people where bronchiectasis is part of another condition depends on the underlying cause.

**Contact us**

If you have any questions or concerns, please contact the physiotherapy reception on 020 7188 5094, Monday – Friday, 8.30am – 4.45pm.
Useful sources of information

Pharmacy medicines helpline
For information about any medicines that you have been prescribed at Guy's and St Thomas' Hospitals, you can speak to the staff caring for you or call our helpline.
**t:** 020 7188 8748, 9am to 5pm, Monday to Friday.

Patient Advice and Liaison Service (PALS) – To make comments or raise concerns about the Trust’s services, please contact PALS. Ask a member of staff to direct you to the PALS office or:
**t:** 020 7188 8801 at St Thomas’  **t:** 020 7188 8803 at Guy’s  **e:** pals@gstt.nhs.uk

Knowledge & Information Centre (KIC) – For more information about health conditions, support groups and local services, or to search the internet and send emails, please visit the KIC on the Ground Floor, North Wing, St Thomas’ Hospital.
**t:** 020 7188 3416

Language support services – If you need an interpreter or information about your care in a different language or format, please get in touch using the following contact details.
**t:** 020 7188 8815  **fax:** 020 7188 5953

NHS Direct – Offers health information and advice from specially trained nurses over the phone 24 hours a day.
**t:** 0845 4647  **w:** www.nhsdirect.nhs.uk

NHS Choices – Provides online information and guidance on all aspects of health and healthcare, to help you make choices about your health.
**w:** www.nhs.uk

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To join, please call 0848 143 4017, email members@gstt.nhs.uk or visit www.guysandstthomas.nhs.uk