



BRONCHIECTASIS

This information sheet is for your information and is not a substitute for medical advice. You should contact your doctor or other healthcare provider with any questions about your health, treatment or care.

What is bronchiectasis?

Bronchiectasis is a chronic lung condition. Bronchiectasis is characterised by permanent widening of the airways with associated thickening of the walls of the airways, resulting in build-up of sputum, causing lungs to be more susceptible to infections with subsequent scarring and damage to the lungs.

All age groups, from infants to the older population, can be affected by bronchiectasis.

Causes of bronchiectasis

There is a wide variety of causes of bronchiectasis:

- genetic disease, e.g. cystic fibrosis and immotile cilia syndrome
- immune-deficiency states, e.g. HIV and congenital immune deficiencies
- previous childhood infections, e.g. tuberculosis, whooping cough, pneumonia and measles
- airway obstruction with impairment of drainage, e.g. foreign bodies in lung and enlarged lymph nodes
- allergic bronchopulmonary aspergillosis - an allergy to some fungi that damages the lungs
- severe reflux (but this is rare)
- Rheumatoid arthritis.

Sometimes a cause cannot be found.

Signs and symptoms of bronchiectasis

- Chronic cough with the production of huge volumes of phlegm
- Wheezy chest or shortness of breath
- Chest pain
- Coughing up of blood (haemoptysis)
- Bad breath
- Decline in general health
- Recurring lung infections
- Another sign that may indicate underlying chronic lung disease is clubbing of the fingers, i.e. enlargement of fingertips

Bronchiectasis symptoms requiring emergency treatment

- Confused or drowsy state
- Coughing up large amounts of blood
- Severely breathlessness or breathlessness when talking

Diagnosis of bronchiectasis

Tests used in the diagnosis of this disease:

- lung function test, where the patient blows air into machine and the machine determines the volumes of air that enter and exit the lungs
- blood test to determine the underlying cause of bronchiectasis
- sweat test if cystic fibrosis is suspected
- sputum test to see which organism is infecting your lungs
- chest X-ray, where a picture is taken of the lungs and heart.
- high-resolution CT scan of lungs, which is a more specialised test to create pictures of your lungs and heart and most commonly used to diagnose bronchiectasis and affected areas
- bronchoscopy, where a flexible tube is placed into the lungs and images is produced of your airway, assisting in determining the cause and extent of bleeding or blockage in airways.

Complications of bronchiectasis

- Most commonly, recurrent bouts of infection with hospitalisation
- Risk of lung abscess
- Spread of infection to rest of body
- Severe coughing up of blood called haemoptysis

Long-term complications of bronchiectasis

- Heart failure
- Collapse of lung (atelectasis)
- Respiratory failure, which is a condition in which not enough oxygen passes from your lungs into your blood
- Condition where your lungs cannot properly remove carbon dioxide (a waste gas) from your blood

Management

There is no cure for bronchiectasis. The goals of treatment are to:

- treat underlying cause and infection
- remove mucous
- prevent complications.

Prophylaxis

It is recommended that patients with bronchiectasis receive an influenza vaccine every year and a pneumococcal vaccine every five years.

Medical management of bronchiectasis

- Treatment is aimed at improving symptoms and quality of life, as there is no cure for bronchiectasis.
- It is recommended that patients with bronchiectasis should receive a yearly influenza vaccine and pneumococcal vaccine.
- Medication must be taken to improve airflow, similar to treatment for asthma and chronic obstructive lung disease, such as inhalers. These inhalers, called bronchodilators, work on the muscles in the wall of the airways and relax these muscles.
- Antibiotics are used to treat infections. The type of antibiotic is usually determined by sending sputum to a laboratory to see which organism is causing the infection and check its sensitivity to certain antibiotics. Treatment with antibiotics can occur during worsening of the condition for a period of 10 to 14 days. In the case of resistant organisms, a specialist may consider long-term treatment with antibiotics or cyclic treatment.
- Chest physiotherapy, postural drainage and breathing exercises assist with clearing of mucus in airways. There are devices that can assist with this. Very thick mucus can be thinned and made easier to mobilise with inhaled (nebulised) saline.
- If a cause can be determined for bronchiectasis, possible treatment for the disease can be started.

Surgical management of bronchiectasis

- Surgery and removal of a lobe of the lung in patients with bronchiectasis will be considered in specific patients where optimised treatment has been tried and symptoms persist.
- A lung transplant can be considered with very severe generalised disease that is unresponsive to medical therapy.

Lifestyle management of bronchiectasis

- Avoid inhalation of cigarette smoke and other noxious gases and particulates.
- Refrain from using sedatives or antitussives.
- Exercise regularly.
- Maintain good hydration.
- Maintain a balanced diet.
- Learn as much as you can about the condition to better aid lifestyle changes.
- Discuss concerns with your family and medical team.

References

1. BRITISH LUNG FOUNDATION. 20 September 2007. *Bronchiectasis*. Website. <https://www.lunguk.org/bronchiectasis.asp/dis11>.
2. HEALTH24. 22 March 2011. *Bronchiectasis*. Website. <https://www.news24.com/health24/Medical/Diseases/Bronchiectasis-Client-20120721>.
3. HILL, Adam T et al. December 2018. British Thoracic Society Guideline for bronchiectasis in adults. *Thorax*. **74**:1-69. Website. https://thorax.bmj.com/content/74/Suppl_1/1.
4. NATIONAL HEALTH SERVICE (NHS). 27 July 2021. *Bronchiectasis*. Website. <http://www.nhs.uk/conditions/Bronchiectasis/Pages/Introduction.aspx>.
5. NATIONAL HEART, LUNG, AND BLOOD INSTITUTE (NIH). *Bronchiectasis*. Website. <http://www.nhlbi.nih.gov/health/health-topics/topics/brn/>.
6. NHS Lothian. 2015. *Bronchiectasis*. Website. <https://services.nhslothian.scot/Respiratory/Pages/Bronchiectasis.aspx>.
7. UPTODATE®. *Diagnosis and treatment of bronchiectasis*. Website. <https://www.uptodate.com/>.

The content of this publication is the intellectual property of Momentum Health (Pty) Limited and any reproduction of this publication is prohibited unless written consent is obtained.