Cardiac + Respiratory FOUNDATION NZ

What is bronchiectasis? (pūkahukahu hauā)

Bronchiectasis (pūkahukahu hauā) is a long-term lung illness where the airways (breathing tubes) are damaged and produce more sputum (phlegm/mucus) than healthy lungs. The sputum damages the airways, and this causes symptoms such as a chesty cough, repeated infections and some people have shortness of breath.

Bronchiectasis comes from the Greek words **'Bronkhia'** (airway) and **'Ektasis'** (widening).

It is pronounced 'BRON-kee-EK-ta-sis'.

What happens in bronchiectasis?

In the lining layer of healthy lung airways, tiny hair-like structures called *cilia* work continuously to 'sweep' sputum up to the larger airways so that it is easy to cough out. In **bronchiectasis**, these *cilia* are damaged when there is damage to the airway walls. This means that sputum is difficult to clear and can become trapped in the damaged areas of the airways.

Bacteria can grow in the build-up of sputum, which can cause chest infections and scar the lungs. These infections can also cause damage to other areas of the lungs and cause more scarring. With good treatment, the damage can be slowed down. However in children, research shows that with early diagnosis and good treatment, the damage can get better.

What causes bronchiectasis?

Bronchiectasis can occur at any age. For about half of all people who have bronchiectasis, the cause is not known. The most common cause is from previously having a bad chest infection from the flu, measles, whooping cough (pertussis), or other viruses or bacteria.

There are some less common causes of bronchiectasis, such as a weakened immune system from a primary immunodeficiency (from birth) or a secondary immuno-deficiency that develops later in life from another health condition, or due to medications that suppress the immune system.

Other causes include breathing in something like a nut or small toy/object, breathing in noxious chemicals, or having acid reflux (heartburn), an allergic reaction to a fungus called *Aspergillus*, and autoimmune health conditions. Rare, inherited diseases such as cystic fibrosis or primary ciliary dyskinesia can also cause bronchiectasis.

Risk factors for bronchiectasis

Māori and Pasifika people have a higher risk of getting bronchiectasis than Pākehā people. The illness can be worse for Māori and Pasifika people, and they may spend more time in hospital. This can be for a lot of different reasons.

Although smoking is not a cause of bronchiectasis, smoking tobacco will make your bronchiectasis worse. You should avoid smoking cigarettes, cannabis (weed), vaping, or being in a place where other people are smoking.

What are the symptoms of bronchiectasis?

Symptoms can vary between people. The most common symptom is a long-term cough with sputum. For some people there might only be a small amount of sputum, and for others this can be an egg cupful or more every day. A few people just have a dry cough. Your cough and amount of sputum are likely to be worse when you have a chest infection. Frequent chest infections are also a common feature of bronchiectasis.

Other ways that bronchiectasis might affect you may include feeling tired; having difficulty with breathing or feeling short of breath; coughing up blood; chest pain or discomfort; sinus or nasal symptoms; incontinence when coughing; anxiety or depression.

Naku rourou, nau rourou, ka ora ai te iwi.
With your food basket and my food basket, the people will be well.

How is Bronchiectasis diagnosed?

The healthcare practitioner will ask about your symptoms, your medical history and will listen to your lungs using a stethoscope.

If they think you have bronchiectasis, they will arrange for you to have some tests and may refer you to a respiratory specialist service.

Some of the tests that might be done include: blood tests, sputum tests, chest X-ray, breathing tests (spirometry) and a CT scan.

- A computerised tomography (CT) scan is a special lung scan that shows more detail than an X-ray. It is the test used to a diagnose bronchiectasis.

How is Bronchiectasis treated?

Bronchiectasis cannot be cured. It is a chronic illness that needs you to do sputum clearance techniques every day and sometimes more. This will help you control your symptoms, cut down the number of chest infections you have and help to slow down further damage to your lungs.

Most people don't need to take pills every day for bronchiectasis and they would only use antibiotics when they have a chest infection. Treating bronchiectasis is best done by a team of different health professionals who will work alongside you to develop the best treatment plan for you. This healthcare team may include your doctor, specialist doctor, specialist nurse, physiotherapist, kaimahi hauora Māori (Māori health worker), or other clinicians and support workers.

Treatments usually include:

- A personalised action plan to help control your symptoms. See the Bronchiectasis Action Plan on our website: www.cardiacandrespiratory.org.nz/resource-hub/bronchiectasis-action-plan/
- Breathing exercises for sputum clearance to help clear the sputum from your lungs. See: bronchiectasis.com.au/physiotherapy/techniques/the-active-cycle-of-breathing-technique
- Antibiotics for any chest infections.
- Teaching you ways to help manage breathlessness. See the Breathlessness Quick Reference on our website: www.cardiacandrespiratory.org.nz/resource-hub/breathlessness-quick-reference/
- Flu and COVID vaccines, and other recommended vaccines.
- Advice on keeping your home warm and dry. See the Healthy Homes Initiative: www.hhi.org.nz
- Advice and support to stop smoking and other lifestyle changes.
- Treatment for other illnesses or problems that may be making your bronchiectasis worse, for example acid reflux (heartburn) or immune problems

For more information, see the 'Living with Bronchiectasis – Things to Know' checklist on our website: www.cardiacandrespiratory.org.nz/resource-hub/living-with-bronchiectasis-things-to-know/

What is the outlook for someone with bronchiectasis?

Unfortuntely bronchiectasis cannot be cured and your symptoms may change over time. Regular check-ups with your primary healthcare team (general practice) are important so that your treatment plan can be adjusted for what suits you best.

We know that people worry about the impact of bronchiectasis in the future. In general, most people with mild bronchiectasis have a normal life expectancy with treatment suited to their needs.

If you have more severe bronchiectasis, you will likely have more flare-ups with chest infections and need to spend more time on sputum clearance. At its worst, bronchiectasis can affect life expectancy; your healthcare practitioner can tell you if this is a risk for you.

Remember most people manage very well living with bronchiectasis.