

What is bronchiectasis?

Bronchiectasis (“bronk-ee-EK-tuh-sis”) is a lung condition where your airways (tubes going into your lungs) get damaged and widen. Damaged airways can’t clear mucus like they’re supposed to. Bacteria then grows in the mucus, causing more inflammation and damage to your lungs. This makes you cough a lot as your body tries to remove the infected mucus.

What’s the difference between bronchiectasis and bronchitis?

Bronchiectasis and bronchitis have similar symptoms, including mucus in your lungs and coughing. But bronchiectasis causes permanent widening of your airways and bronchitis is a temporary infection that doesn’t cause lasting damage.

What are the types of bronchiectasis?

Healthcare providers categorize bronchiectasis based on what the damage to your airways looks like — cylindrical (or tubular), varicose or cystic. Cylindrical bronchiectasis is the most common and least serious form of bronchiectasis. Cystic bronchiectasis is the most severe form.

Providers also categorize bronchiectasis as focal (in one area) or diffuse (in many areas throughout your lungs). Traction bronchiectasis happens when scarring in your lungs pulls your airways out of shape.

Who does bronchiectasis affect?

You’re at higher risk of bronchiectasis if you’re living with an underlying condition that affects your lungs or immune system. Without an underlying condition, your risk increases as you get older.

How common is bronchiectasis?

About 350,000 to 500,000 people in the U.S. have bronchiectasis. This includes one person out of 150 people who are 75 and older. The actual number might be higher since you can have bronchiectasis without having any symptoms.

How does bronchiectasis affect my body?

The tubes (airways or bronchi) going into your lungs have defenses to protect you from disease. Annoying as it can sometimes be, mucus is one of these defenses. When mucus can’t be coughed out, it causes lasting damage to your airways.

How mucus protects your body

When you breathe air in, any harmful particles get trapped in mucus in your airways. Then, millions of tiny, hairlike structures (cilia) use a coordinated motion to move the mucus out of your lungs, like waves bringing debris to the shore. This is called mucociliary clearance. You cough out the mucus or swallow it, where the trapped particles are destroyed by your stomach acid.

When any part of this system isn't working — if your cilia are damaged or your airways have pockets that trap mucus — you build up mucus in your lungs. The mucus has bacteria trapped in it, which can multiply and cause infections. The damage the infections causes can make bronchiectasis worse.

Is bronchiectasis a serious lung condition?

Bronchiectasis can be mild or severe depending on how much damage you have in your lungs. Some people have it and don't even know it. Others have had it for a long time and repeated infections have severely damaged their lungs. Most people with bronchiectasis live a normal life span by managing their symptoms with a provider's advice and medication.

Symptoms and Causes

What are the symptoms of bronchiectasis?

Symptoms of bronchiectasis include:

- Cough with lots of mucus and pus.
- Repeated colds.
- Bad-smelling mucus.
- Shortness of breath (dyspnea).
- Wheezing.
- Coughing up blood (hemoptysis).
- Swollen fingertips with curved nails (nail clubbing).

You might have stretches of time where your symptoms aren't as bad and then have a flare-up (exacerbation) where your symptoms get worse. Exacerbation symptoms include:

- Extreme tiredness (fatigue).
- Fever, chills.
- Increased shortness of breath.
- Night sweats.

What causes bronchiectasis?

Bronchiectasis is caused by two phases of airway damage. In the first phase, the initial damage (or “insult”) is caused by an infection, inflammatory disorder or another condition that affects your lungs. Healthcare providers don’t know the initial cause in up to 40% of people with bronchiectasis.

The first insult makes you more likely to get inflammation and repeated infections that cause further damage to your lungs. This is the second phase, or the “vicious cycle.”

What diseases cause bronchiectasis?

Some of the specific causes of the initial damage (“insult”) which starts the cycle of bronchiectasis include:

- Cystic fibrosis.
- Mycobacterial infections, like MAC infections or tuberculosis (TB).
- Autoimmune or inflammatory disorders, like rheumatoid arthritis (RA), inflammatory bowel disease (IBD), lupus (SLE) and Sjögren's syndrome.
- Foreign bodies, tumors or lymph nodes that block airways and prevent mucus clearance.
- Conditions that decrease immunity and increase risk of infections (like HIV and hypogammaglobulinemia).
- Primary ciliary dyskinesia
- Organ transplant. Transplant medications decrease immunity and can increase risk of infection and bronchiectasis.
- Allergic bronchopulmonary aspergillosis (ABPA), an allergy to a type of fungus.
- Fibrosis (scarring) from radiation.
- Alpha-1 antitrypsin deficiency.

Does COVID-19 cause bronchiectasis?

Research suggests that COVID-19 isn’t a very common cause of bronchiectasis. But if you’ve had acute respiratory distress syndrome (ARDS) with COVID-19, you may have pseudobronchiectasis. Pseudobronchiectasis looks like bronchiectasis, but it resolves over time rather than causing the cycle of repeated infections and lung damage.

What is the most common cause of bronchiectasis?

The most common cause of bronchiectasis depends on where you live. In the U.S. and other western countries, the most common cause of bronchiectasis is cystic fibrosis. Worldwide, it’s tuberculosis. In many cases, healthcare providers can't determine the cause of bronchiectasis.

Diagnosis and Tests

How is bronchiectasis diagnosed?

A healthcare provider will diagnose bronchiectasis by examining you and asking you about your health history. They'll listen to your lungs and test how well they're working. If they think you have bronchiectasis or another lung condition, they'll order imaging tests to look at the structure of your lungs.

What tests will be done to diagnose bronchiectasis?

A healthcare provider may perform a number of tests to diagnose bronchiectasis or rule out other conditions, including:

- Chest CT scan or X-ray. A provider uses a machine to take pictures of your lungs to see if your airways are damaged.
- Blood tests and sputum cultures. A provider takes samples of your blood or mucus (sputum) to find out if you have an infection.
- Lung function tests. A provider uses lung function tests to determine how well your lungs are working. You'll breathe into a machine that measures your lung function.
- Genetic testing. A provider may take samples of your blood or other body fluid to test for diseases.
- Sweat chloride test. If a provider thinks you could have cystic fibrosis, they'll perform a sweat test. They'll make your arm or leg sweat, collect a sample and test it for signs of cystic fibrosis.
- Bronchoscopy. In some cases, a provider may use a procedure to look more closely at your airways (bronchoscopy). They'll use a bronchoscope (a long flexible tube with a light and camera at the end) to find and remove anything blocking your airways and get samples of mucus or pus from your lungs for testing.

Management and Treatment

How is bronchiectasis treated?

Bronchiectasis can't be fully cured, but you can treat the symptoms. Healthcare providers treat bronchiectasis by clearing mucus and managing infections. Depending on the severity of your condition, your provider might prescribe medication or physical therapy. You may also use medical devices that help get rid of mucus.

If bronchiectasis is caused by an underlying condition, treating that condition may help your symptoms. If you have a small area of bronchiectasis, your provider might recommend surgery, though this is rare.

What treatments are used for bronchiectasis?

Bronchiectasis treatments help get rid of infected mucus, kill bacteria and decrease inflammation. They include:

- **Antibiotics.** Antibiotics can treat infections caused by bacteria. You can take antibiotics in pill form, but if you have a severe infection, a provider will use an IV to give you antibiotics directly into your bloodstream. Providers also often prescribe inhaled antibiotics for bronchiectasis. You may use a nebulizer for inhaled medications, which makes the medicine into a mist that you breathe in.
- **Macrolides.** Macrolides are drugs that treat infections and inflammation at the same time.
- **Expectorant and mucolytics.** These are medications that thin mucus and help you cough it out. These are available over-the-counter or by prescription.
- **Physical therapy.** Postural draining and chest percussion therapy can help loosen and remove mucus. Breathing exercises can help open up your airways.
- **Medical devices.** Oscillating positive expiratory pressure (PEP) devices and percussive vests break up and pull mucus out from your lungs.

What foods should you avoid if you have bronchiectasis?

What you eat doesn't seem to directly impact bronchiectasis. For instance, you may have heard that avoiding things like milk can help lower the amount of mucus in your lungs, but research hasn't shown this to be true.

What's most important is to maintain good nutrition. You might find yourself losing an unhealthy amount of weight or have other concerns about your diet. Ask for a dietitian if you have concerns about healthy eating with bronchiectasis.

Prevention

How can I reduce my risk of bronchiectasis?

You can reduce your risk of developing bronchiectasis by managing your lung health:

- **Make sure you and your family are up-to-date on recommended vaccinations.** Pertussis, the flu, pneumococcal disease and measles can all cause or worsen bronchiectasis.

- Work with your healthcare provider to treat any ongoing health conditions, especially ones that affect your lungs. Keep your appointments and stick to your treatment plan. Talk to your provider if you feel like medications or therapies aren't working.
- Avoid breathing in things that can hurt your lungs, like cigarette smoke, vaping, fumes and gases.

Outlook / Prognosis

What can I expect if I have bronchiectasis?

Bronchiectasis can't be cured — the damage it causes is irreversible. But most people can manage the symptoms of bronchiectasis with strategies recommended by their healthcare provider.

Your outlook will depend on how severe your condition is, how well you respond to treatment and what other health conditions you have. You may need to practice physical therapies or take medications daily. More severe cases may impact your quality of life.

Complications of bronchiectasis

Damage caused by severe bronchiectasis can lead to life-threatening complications, including:

- Respiratory failure. If your lungs aren't working properly, you might not be able to get enough oxygen to your blood and tissues, causing respiratory failure.
- Severe bleeding. Blood vessels in your airways may get so damaged that they bleed heavily. You may cough up blood if this happens.
- Antibiotic resistance. You may use antibiotics so much that you start getting infections that can no longer be treated with medication.

What is the life expectancy for bronchiectasis?

With proper treatment, most people with bronchiectasis can expect to live as long as someone without it. A history of smoking and low lung function can lower your life expectancy.

Living With

When should I see my healthcare provider about bronchiectasis?

Talk to your healthcare provider if you've been coughing with a lot of mucus for several weeks or if you feel short of breath.

If you have been diagnosed with bronchiectasis, you should contact your healthcare provider if you:

- Have signs of infection, like a fever or chills.
- Have more trouble breathing than usual.
- Are much more tired than usual.
- Are losing weight unintentionally.
- Are coughing up more mucus, mucus with blood in it or mucus that is yellow or green.
- You don't have an appetite.

When should I go to the ER?

Go to the ER if you are:

- Coughing up a lot of blood.
- Having chest pains.
- Are struggling to breathe.

What questions should I ask my healthcare provider?

- Do you know what caused my bronchiectasis?
- How can I prevent further damage?
- How can I manage exacerbations?
- When should I follow-up with you?
- What symptoms should cause me to go to the ER?

A note from Cleveland Clinic

In most cases, bronchiectasis shouldn't keep you from living a full life. Talk to your provider about bothersome symptoms and how to deal with exacerbations. They may not be able to take care of every symptom, but sometimes small changes can greatly improve your quality of life.