



IMPACT™
Individual Management of
Patient Airway Clearance Therapy

What Is Bronchiectasis?

The IMPACT Program was created in partnership with the IMPACT Advisory Team and is sponsored by International Biophysics Corporation, manufacturer of the AffloVest.

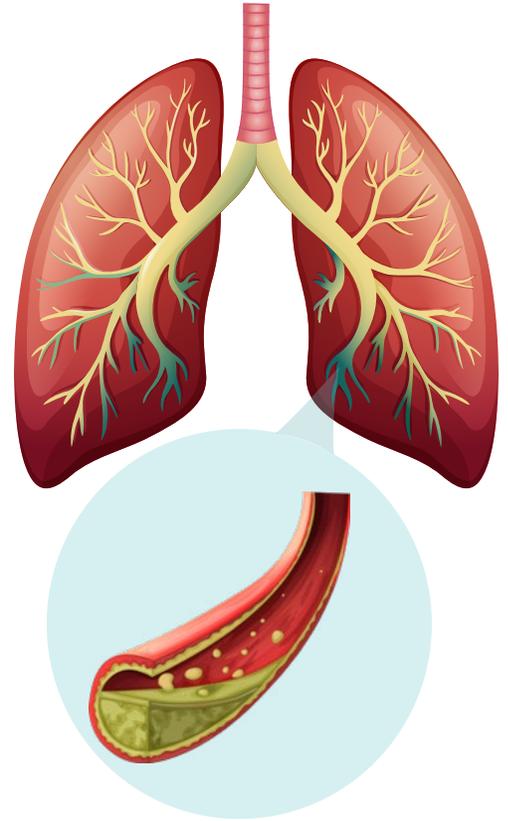
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What Is Bronchiectasis?

Bronchiectasis (bron-kee-**eck**-tuh-sis) is a chronic lung condition in which the breathing tubes (also known as airways or bronchi) become abnormally dilated. While there are many causes, damage to the airways by lung infection is the most common. These damaged airways can no longer effectively clear mucus from the lungs.

Over time, the excess mucus creates a breeding ground for bacteria. Here starts a vicious cycle of inflammation and infection, further damaging airways. This can lead to flare-ups of cough, more mucus production, and shortness of breath. Called exacerbations, each can make bronchiectasis worse. Therefore, early diagnosis and treatment is very important.





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Signs and Symptoms of Bronchiectasis

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Signs & Symptoms of Bronchiectasis

Symptoms of bronchiectasis often develop gradually. They may not appear for months or even years after the predisposing event or events. Some of the signs and symptoms are the same as those of acute bronchitis or Chronic Obstructive Pulmonary Disease (COPD). This makes them hard to differentiate. Diagnosing bronchiectasis can therefore be tricky because it often presents like COPD but won't respond to COPD therapy.

Symptoms can include:

- Long-term cough and sputum production
- Shortness of breath
- Recurring chest infections
- Frequent exacerbations requiring antibiotics
- Frequent hospitalizations
- Fatigue and/or weight loss, in severe cases





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Diagnosing Bronchiectasis

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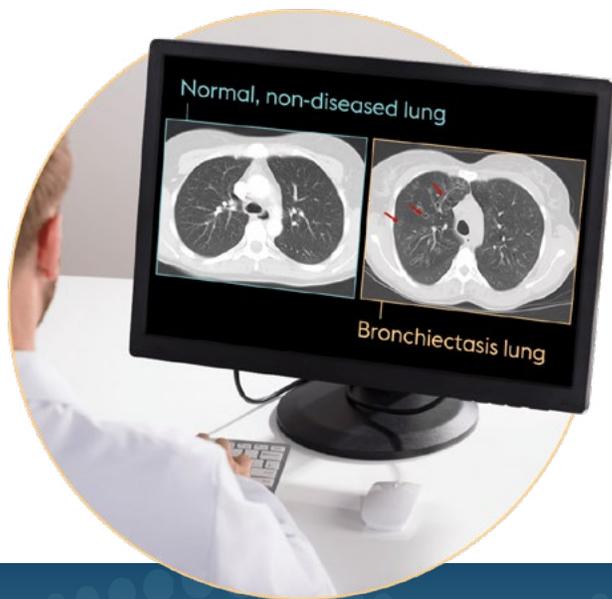
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Diagnosing Bronchiectasis

The first step in diagnosing bronchiectasis is a thorough evaluation. Your doctor may perform several tests to evaluate your lungs. Currently, the most effective test available is a high-resolution computerized tomography (HRCT) lung scan. This test produces a very detailed picture of the inside of your lungs. It will enable your doctor to identify any dilated airways (bronchiectasis).

Evaluation for bronchiectasis includes:

- A complete medical history
- A complete physical examination
- An HRCT scan of the lungs
- Breathing tests, called pulmonary function tests
- Specific screening or diagnostic tests for possible underlying conditions that may cause bronchiectasis, based on the history and physical exam





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Managing Bronchiectasis

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Managing Bronchiectasis

Treatment approaches for people with bronchiectasis include:

- a) Use of breathing exercises and devices to help clear sputum from the lungs
- b) Use of oral and inhaled medications that help clear mucus from the lungs
- c) Use of antibiotics to treat lung infections

Treatment for bronchiectasis aims to:

- Decrease symptoms (such as cough and fatigue)
- Decrease frequency and severity of exacerbations
- Decrease hospital admissions
- Improve quality of life
- Improve exercise tolerance
- Maintain or improve lung function





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What Is Airway Clearance Therapy?

Airway Clearance Therapy (ACT) is considered a cornerstone of therapy. It is aimed at minimizing the effects of airway obstruction, infection, and inflammation in lung diseases such as bronchiectasis. ACT is recommended for individuals whose ability to mobilize and clear airway secretions is compromised.

ACT uses physical or mechanical means to produce a cough. A variety of strategies may be used, with the goal of reducing the amount of mucus within the lungs. This reduces the risk of infection, pulmonary exacerbation, and lung function decline. Breathing techniques, gravity-assisted postural drainage, manual chest physical therapy, and mechanical oscillation devices can be used to produce a cough or cough-like effect.

Airway clearance is a critical part of care for people with bronchiectasis. Review the options in the following section and talk to your care team about the best one(s) for you.



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Airway Clearance Techniques

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Airway Clearance Options



Bronchodilators

Used to open your airways before doing other airway clearance treatments. May be taken through metered dose inhaler (MDI), or a nebulizer. This is not a standalone therapy.

Products: Proventil®, Ventolin®, ProAir®, Xopenex®, Perforomist®, Serevent®, Spiriva®



Hypertonic Saline

Sterile sodium chloride (salt) solution inhaled through a nebulizer to thin the mucus. Available in different concentrations, most commonly 3% and 7%.

Products: Saline, HyperSal®, Hypertonic Saline



Positive Expiratory Pressure (PEP)

Hand-held device that allows you to breathe in freely but creates resistance when you breathe out. This process helps get air behind the mucus, detach it from lung walls, and promote movement up and out of the airways.

Products: PEP Valve, PEP Mask



Oscillating Positive Expiratory Pressure (OPEP)

Hand-held device that allows you to breathe in freely, but creates vibration and resistance when you breathe out. The vibration and resistance aid in moving mucus up and out of the airways.

Products: Acapella Choice®, Aerobika®, Lung Flute®



High-Frequency Chest Wall Oscillation (Mobile)

Portable vest device that vibrates against the chest wall to loosen mucus so it can be coughed up more easily. Allows for free movement during treatment.

Products (# of sizes): AffloVest® (7), Monarch® (1)



High-Frequency Chest Wall Oscillation (Stationary)

Vest device that plugs into an electric outlet and uses an air compressor and hoses to help clear the airways.

Products (# of sizes): The Vest® (8), InCourage® (23), SmartVest® (8)



Huff Coughing

Involves taking a breath in, holding it briefly, and actively exhaling as if you are trying to "fog up" a mirror. Less intense than a regular cough, it may be more effective at clearing.



Active Cycle of Breathing Technique (ACBT)

A three-step technique that helps clear mucus: breathing control (relax airways), chest expansion exercises (get air behind mucus), and huff coughing (move mucus to larger airways).



Chest Physical Therapy (CPT) & Postural Positioning

Uses percussion (clapping) and gravity (postural drainage/positioning) along with other techniques such as huff coughing to loosen and drain mucus from the lungs.