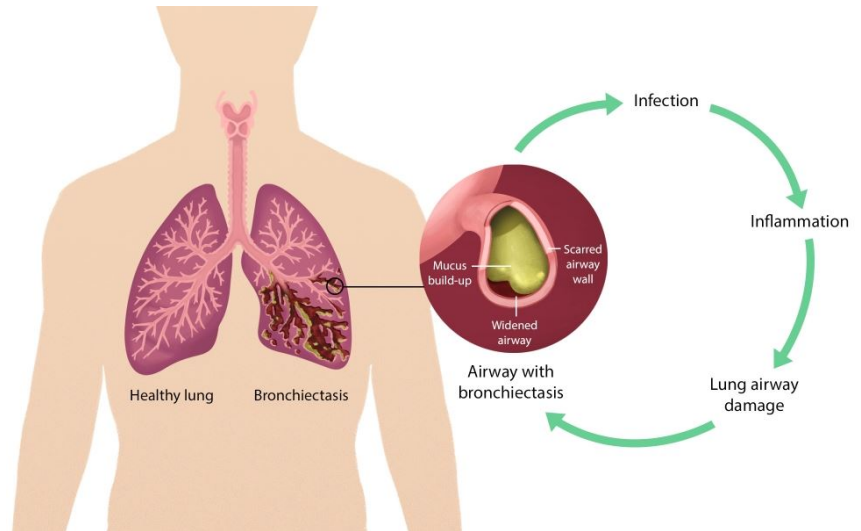


Bronchiectasis is a lung condition in which the bronchial tubes of the airways become permanently widened and scarred. Bronchiectasis usually occurs as a result of inflammation caused by an infection or other condition that injures the walls of the airways, especially to the cilia. The cilia are the tiny hair-like structures lining the inside of the airways. Damage to the cilia prevents them from sweeping dirt and clearing mucus out of the lungs. The airways slowly lose their ability to clear the mucus out of the lungs. The accumulated mucus breeds the bacteria which leads to repeated and severe infections causing further damage to the bronchial tubes. As it progresses, “pockets” in the airway can be developed as a result of scarring and elastic tissue destruction which traps mucus and germs growing inside. This can eventually lead to lung damage and inability to get oxygen to the body’s tissues as well as respiratory failure.

Symptoms

The most common symptoms of bronchiectasis include chronic coughing with a large amount of thick yellow or green sputum, shortness of breath, wheezing, and chest pain. In more severe cases, symptoms such as excess fatigue and coughing up blood can occur. At the late stages of bronchiectasis complications such as respiratory failure or atelectasis can occur. Respiratory failure can cause rapid breathing, bluish color of the lips and skin, and confusion. Atelectasis is a condition in which one or more areas of the lungs collapse which causes increased heart and breathing rate.



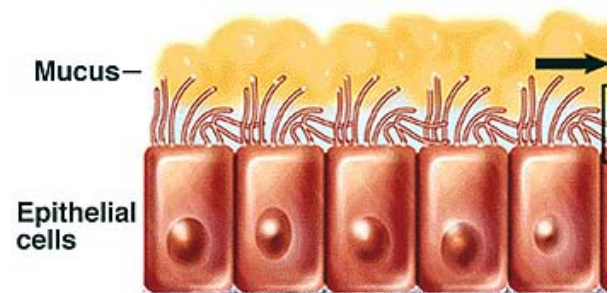
Causes

One cause of bronchiectasis involves lung infections such as pneumonia, whooping cough, tuberculosis, or lung fungal infections. Other causes involve conditions that damage the airways as well as raise the risk of lung infections such as cystic fibrosis, immunodeficiency disorders, allergic bronchopulmonary aspergillus, primary ciliary dyskinesia, and connective tissues disease such as rheumatoid arthritis.

Pathogenesis

Bronchiectasis is characterized by mild to moderate airflow obstruction that worsens over time. The condition often begins in childhood; however, symptoms may not occur until months or even years after the repeated lung infections begin. It is proposed that an insult typically from the environment impairs mucociliary clearance of mucus and foreign substance resulting in microbial colonization in the airway. Microbial colonization leads to chronic infections causing inflammation. Chronic inflammation results in tissue damage to the cilia and further impair mucociliary motility.

This process leads to a vicious cycle of repetitive infections with progressive inflammation and tissue damage. A variation in microbial flora within the lungs appears to change with the severity of the condition. The most common pathogenic bacteria discovered in bronchiectasis patients is *haemophilus influenzae*, a gram-negative anaerobic bacterium, and in patients at a more severe stage, *pseudomonas aeruginosa* which is also a gram-negative bacterium that can grow anaerobically or aerobically. Mediators released by these two types of pathogenic bacteria inhibit the process of mucociliary clearance. *H. influenzae* has the capacity to cause direct damage to airway epithelium and is also able to invade into the bronchial wall and interstitium of the lung. *P. aeruginosa* has the capacity to form biofilms which can advance the disease.



The most comprehensive study done to discover the pathogenesis of this disease was performed by Whitwell and involved 200 operative lung specimens. This study showed inflammation of the bronchial walls, bronchial dilation characterized by a loss of elastin, and bronchial wall fibrosis. Whitwell demonstrated this progression seen in Figure 1. The first process (Figure 1 A) involves infection that leads to inflammation, followed by the release of pro-inflammatory mediators such as proteases which damage the airways causing bronchial dilation (Figure 1 B). The immune cells involved in the inflammatory process have been identified as neutrophils, lymphocytes, and macrophages.

Neutrophils release mediators such as proteases and elastase which breakdown the elastin within the airways. The infection causes progressive inflammation of the small airways which become thicker from a combination of cell-mediated inflammatory infiltrate and lymphoid follicles resulting in an obstruction (Figure 1 C). Lymphoid follicles are small masses of tissue that contain aggregations of immune cells. Lastly, are the repeated infections that arise from the microbial colonization, noted as pneumonia, causing further infection and inflammation of the air sacs (Figure 1 D).

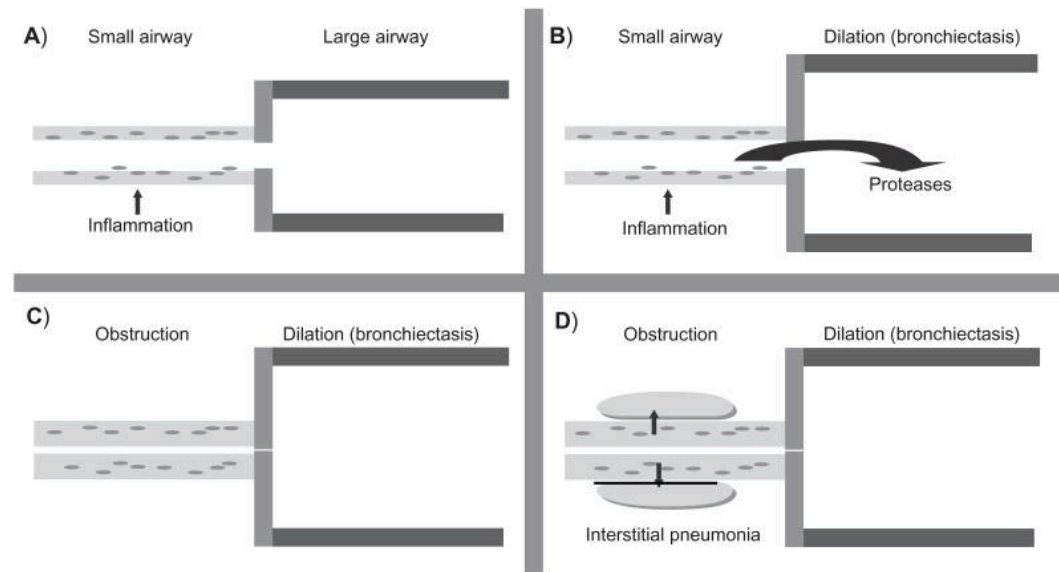


Figure 1

Obstruction of airflow characterized in bronchiectasis patients is seen based on a measurement of forced expiratory volume in one second (FEV-1). A lung function study found that the airflow obstruction was predominately due to features of mucosal wall thickening and bronchitis in the small and medium airways of the lungs. The study done by Whitwell explained these findings by showing that the large airways predominately become dilated but the small and medium airways are characterized by thickening of the bronchial walls.

Wellness Recommendation

Early stage bronchiectasis - mild or moderate condition

The wellness recommendation includes ClearLung, CL-2, Soup A and LC Balancer. ClearLung helps clear bronchi and lung tissue inflammation and coinfection caused by pathogenic gram-positive bacteria. CL-2 clears gram-negative bacteria. CL-2 directly targets both *H. influenzae* and *P. aeruginosa* as both are members of the gram-negative bacteria family. Soup A helps repair bronchi damage to reverse the bronchi dilation and facilitate new tissue growth through increasing the metabolic activities of tissue regeneration, known as Lung Yin nurturing in TCM. LC Balancer strengthens the microcapillaries and helps open it up to improve systematic microcirculation so that the herbal components, as well as nutrients, can be delivered to the bronchi. Enhanced microcirculation also helps clear up mucus and bronchial tubes inflammation. Patient's should experience symptom improvement in 2-3 weeks. 1-2 months of the protocol is recommended depending on the severity of the condition. Depending on the severity of the lung inflammation, the time required for the use of ClearLung can be varied.

Severe stage bronchiectasis which requires oxygen therapy

The wellness recommendation includes two phases. Phase one of the protocol focuses on addressing bronchi and lung tissue inflammation and infections. Phase two of the protocol focuses on addressing the bronchi thickening, scarring and dilation.

The wellness recommendation for phase one includes ClearLung, CL-2, and Jade. ClearLung helps clear bronchi and lung tissue inflammation and infection by any coexisting pathogenic gram-positive bacteria. CL-2 clears gram-negative bacteria. CL-2 directly targets both *H. influenzae* and *P. aeruginosa* as both are members of the gram-negative bacteria family. Jade helps to boost cell-mediated immunity of the lungs to help fight lung infections. Since the host immune system is typically overwhelmed by repeated lung infections, Jade will help support the immune system during this time. ClearLung, CL-2, and Jade are recommended for 2-4 weeks. Patients can see symptom improvement in one week with less shortness of breath and coughing spells.

After the first two weeks Soup A, Soup B and LC Balancer are recommended together with the ClearLung, CL-2 and Jade for phase two. In end-stage or severe cases, patients may or may not see significant improvement with the use of ClearLung, CL-2 and Jade alone. The bronchial tissue may be so damaged that just reducing inflammation and clearing infections may not be enough. Soup A helps repair the bronchi damage to reverse bronchi dilation and facilitate new tissue growth through increasing the metabolic activities of tissue regeneration, known as Lung Yin nurturing in TCM. Soup B helps to remove scars in the bronchi and resolve bronchial thickening by triggering the necessary catabolic process and enhancing the body's endogenous enzymatic activities toward scar removal. LC Balancer strengthens the microcapillaries and helps open it up to improve systematic microcirculation so that the herbal components, as well as nutrients, can be delivered to the bronchi. Enhanced microcirculation also helps clear up mucus and bronchial tubes inflammation. Patients should experience symptom improvement within the first week with the use of Soup A, Soup B and LC Balancer. 4-12 weeks are recommended for significant improvement and sustained results.

Recommendations for Other Lung Infections

In some cases, there can be other types of bacteria that can infect the lungs in bronchiectasis patients. If ClearLung is not sufficient then Bitter, Brown, Qi Booster, and LC balancer are also required. Brown, LC Balancer, Qi Booster, and Bitter helps to enhance the liver's innate immune function and improve the body's immune system's ability to clear acute infections as well as reduce pro-inflammatory cytokines in the blood.

If the infection is caused by a mycobacteria infection typically with symptoms of post-nasal drip and coughing up clear mucus, then ClearLung, Jade, Java, and NewBase are also recommended. ClearLung helps clear inflammation and remove lung heat. Jade helps enhance Lung Qi to boost lung immunity. Java helps improve lymphatic circulation and clear damp toxins. NewBase helps remove kidney deficiency heat and improves adrenal function.

If the infection is caused by fungus, typically with symptoms of chest tightness and difficulty inhaling air, then CL-F is also recommended. CL-F helps to clear fungal infections from the lungs.

If the infection is caused by a virus, then Woad, Woad-R, and Perilla are also recommended. Woad helps enhance the humoral immunity that includes antibodies, complement proteins, and certain antimicrobial peptides in the extracellular fluids to kill the virion that is circulation in the blood and prevents the virus from entering into the host cell. Woad-R helps clear extracellular virus viruses in the liver, which is typically affected by chronic viral infections. Perilla helps to clear persistent viral infections in the lungs.

If the infection is caused by parasites, typically with symptoms of white phlegm, chest pain or coughing up blood, then Respanin and Pulmin are also recommended. Pulmin clears parasites from the lungs while Respanin addresses the die-off effects from the parasites dying.

Recommendation Summary

Severity/Infection	Products
Mild/Moderate (4-8 weeks)	ClearLung, Cl-2, Soup A, LC Balancer
Severe	
Phase One (2-4 weeks)	ClearLung, CL-2, Jade
Phase Two (4-12 weeks)	Soup A, Soup B, LC Balancer
Severe Lung Infection	Bitter, Brown, Qi Booster, LC Balancer
Mycobacteria	Jade, Java, ClearLung, NewBase
Fungus	CL-F
Virus	Woad, Woad-R, Perilla
Parasites	Respanin, Pulmin

*all infection products are in addition to the first two recommendations based on severity.

Selected Case Studies

Case 1: Successful Resolution of Rheumatoid Lung Disease and Bronchiectasis

Dr. Charles Lerner, DC/LAC, CT

A 51-year old female with rheumatoid lung disease and Bronchiectasis initiated treatment with Dr. Lerner utilizing Wei Laboratories Soup A, LC Balancer and Clear Lung in February 2015. After three weeks, she reported increased energy, reduction of colored phlegm and had not used her inhaler since starting on course of treatment. At this point, she continued her treatment with only the Soup A and LC Balancer. After the next month, she was able to walk up a flight of stairs without becoming short of breath. She now enjoys increased stamina and does not feel the past symptoms of chest tightness. Her residual symptoms included bubbly mucus coming from the lungs, and a strong chest rattle in the morning. Dr. Lerner recommended the use of KS, Xcel and Java formulas to help with kidney function and to improve her immune function. After just two weeks, she was able to walk up five flights of stairs with a laptop, a purse and an additional bag of books and despite her exertion she did not lose her breath at all. After an additional month and a half, her chest tightness and rattle had completely gone. She now only experiences symptoms during times when she has a cold and uses Clear Lung as needed to help her to rebound from these occasional small infections very quickly.

Case 2: Reduced Dependence on Oxygen and Inhalers While Also Eliminating Kidney Disease Risk

Dr. Brooke Heather, ND, ID

As of September 2018, an 81-year-old female patient had been dealing with Bronchiectasis for several years as well as 20+ years of acid reflux and IBS. The patient was diagnosed with Bronchiectasis in 2014 and put on 2 Liters of oxygen. Through her medical evaluations, tests showed that she also was in stage 3 kidney disease. Her most debilitating symptoms included shortness of breath, coughing, and lots of mucus production.

She reached out to the Wei Lung Institute and consulted with Naturopath Dr. Brooke Heather for a natural solution. In May, Dr. Heather suggested the patient begin Soup A to help repair lung damage and restore lung structure and function, Soup B to help dissolve scarring and fibrotic tissue in the lungs, and LC Balancer to help clear up mucus and inflammation in the bronchial tubes. Together, these three products increased her mucus and post nasal drip, so she was recommended to temporarily switch to ClearLung to remove any inflammation and pro-inflammatory cytokines, Jade to boost lung immunity and fight lung infections, and NewBase to help with her post-nasal drip and excessive phlegm. After one month, the patient was already feeling much more energetic, noticed that she was not sitting around as much, and was able to get up right away in the morning to do her daily activities, which she had not been able to do previously.

The patient continued with the protocol for another month and became less dependent on her oxygen, even at times going most of the day without it. In September, Dr. Heather recommended that the patient add in KS for a month to help with any inflammation and infection in the kidneys. The patient continued taking Soup A and LC Balancer, and in October she has reduced her inhaler usage from 4 times per day to 1 time per day. In a very short time following Brooke's protocol, the kidneys went from low risk to the most recent test results showing no risk of kidney disease. She feels encouraged that even in her 80's she has healed to this degree. She is more active without needing to stop and rest and no longer needs oxygen at night.

Case 3: Successful Improvement of Pulmonary Fibrosis and Bronchiectasis

Dr. Charles Lerner, DC/LAC, CT

A 70-year-old female patient was diagnosed with pulmonary fibrosis with symptoms of shortness of breath, tight chest, difficulty breathing when lying down, wheezing, and persistent cough. The patient also had Bronchiectasis with yellow phlegm indicating a lung infection. The doctor started treatment with an herbal protocol from Wei Laboratories consisting of 4 weeks of ClearLung for lung infections. After the lung infection and yellow phlegm had passed, the patient started an herbal treatment from Wei Laboratories of Soup A, Soup B, and LC Balancer. After two months of treatment, the patient had come in and said she had gotten a CAT scan. The scan showed that there was definitely an improvement in the lung structure and function, especially in her left lung. Her Pulmonologists at Kaiser were confused over the great improvement they had seen.

Two years later, the patient came back to Dr. Lerner to further address her residual symptoms. Dr. Lerner recommended 4 weeks of Soup A, Soup B, and LC Balancer to nurture lung structure and assist in lung tissue growth, and ClearLung to remove heat in the bronchioles and air sacs. Dr. Lerner recommended the addition of Qi Booster to the last 2 weeks in order to increase blood flow to the lungs and boost her immune system. The patient reported a significant increase in energy and a substantial improvement in her shortness of breath and breathing difficulties. Dr. Lerner then addressed her wheezing with 4 weeks of EzAir in order to restore the lining of the respiratory tract. He also recommended 4 weeks of Soup A, Soup B, and LC Balancer to be taken along with EzAir. After only 1 week, the patient reported an extreme improvement in her wheezing. She was very happy with the amazing results and said she was feeling great!

References

- Whitwell F. A study of the pathology and pathogenesis of bronchiectasis. *Thorax*. 1952;7:213-219.
- Haemophilus influenzae in lung explants of patients with end-stage pulmonary disease.
- Möller LV, Timens W, van der Bij W, Kooi K, de Wever B, Dankert J, van Alphen L. *Am J Respir Crit Care Med*. 1998 Mar; 157(3 Pt 1):950-6.
- Nontypeable Haemophilus influenzae in the lower respiratory tract of patients with chronic bronchitis. Bandi V, Apicella MA, Mason E, Murphy TF, Siddiqi A, Atmar RL, Greenberg SB *Am J Respir Crit Care Med*. 2001 Dec 1; 164(11):2114-9.
- Bugs, biofilms, and resistance in cystic fibrosis. Davies JC, Bilton D. *Respir Care*. 2009 May; 54(5):628-40.