



## Bronchitis

### What is bronchitis?

Bronchitis is inflammation of the bronchial tubes, or bronchi (the air passages that extend from the trachea [windpipe] into the lungs). The inflammation may be caused by a virus, bacteria, smoking or the inhalation of chemical pollutants or dust. When the membranes lining the bronchi are irritated beyond a certain point, the tiny hairs (cilia) on the surface that normally trap and sweep away pollutants stop functioning. Consequently, the air passages become clogged by debris. In response, a heavy secretion of mucus develops, which causes the characteristic productive cough of bronchitis.

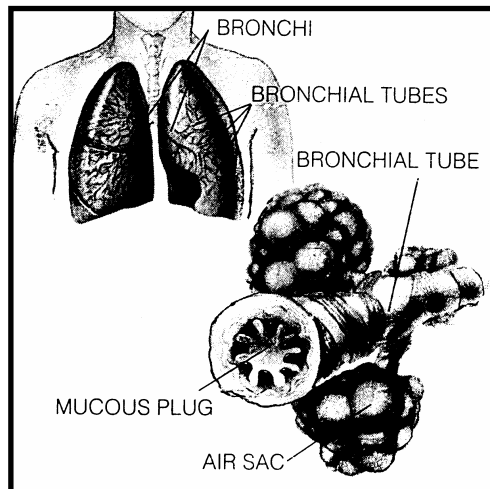
Bronchitis is classified as either acute or chronic. Chronic bronchitis is one of three types of chronic obstructive pulmonary disease (COPD). The others are emphysema and certain types of asthma. It is defined by the chronicity of the cough, which by definition has lasted for at least three months per year for at least two consecutive years. COPD is diagnosed by pulmonary function testing (spirometry) and history.

### Acute bronchitis

Sometimes called a "chest cold", this is one of the most common illnesses. This disorder usually follows a cold, but may also follow or accompany flu symptoms typically lasting 7-21 days, and resolve without treatment other than over-the-counter products. In the first few days of the illness, acute bronchitis cannot be distinguished from the common cold. The causative agents are viruses in 90%, and bacteria in 10% of the cases. Acute bronchitis caused by a virus does not respond to antibiotic therapy. Unfortunately, 60% of the time, the diagnosis leads to a prescription for antibiotics. This diagnosis is one of the leading causes of antibiotic abuse. Both the Centers for Disease Control and Prevention (CDC) and the American College of Physicians have issued guidelines which state unequivocally that pertussis (whooping cough) is the only indication for antibiotic therapy for acute bronchitis.

### How is bronchitis diagnosed?

Patients who have a persistent, productive cough, usually following an upper respiratory infection (a cold) are suspected of having bronchitis. The presence of fever, chills, muscle aches, or chest pain suggests a more serious infection such as pneumonia or influenza ("the flu"). While a chest X-ray is not helpful in diagnosing acute bronchitis, if physical examination indicates serious lung involvement, the X-ray will help a health care provider diagnose pneumonia. About 50% of persons with acute bronchitis will have yellow or green sputum, due to sloughed epithelial and inflammatory cells, not to bacterial infection, as it is often assumed.



The top left illustration shows the normal pulmonary tree, while the lower right illustration shows what happens during an attack of bronchitis. The inflammation of the bronchi and bronchial tubes produces a buildup of mucus. The thickened mucus forms a plug that can block bronchial tubes, the passages that carry air from the trachea (windpipe) to the alveoli (air sacs) of the lungs. This results in the difficult breathing characteristic of bronchitis.

### Smoking

If you are a smoker and have difficulty quitting, ask your provider for guidance. There are numerous stop-smoking programs, ranging from peer-support groups to those involving hypnosis and behavior-modification techniques.

## Summary

Bronchitis, an inflammation of the bronchial tubes, may be caused by smoking, chemical irritants, and viral or bacterial infections. Complications of a cold or flu may lead to acute bronchitis, which can be treated with over-the-counter cold remedies and by drinking plenty of fluids. Suffering from a series of acute bronchitis attacks, smoking heavily or inhaling contaminated air for prolonged periods may result in chronic bronchitis. Patients with chronic cough, but no history of recent upper respiratory infections should be evaluated by a health care provider for other possible causes of cough such as postnasal drip, asthma, heart disease, cancer, adverse effects of medications, and gastroesophageal reflux.

## References

Compendium of Patient Information (1987). New York: Biomedical Information Corporation.  
UpToDate Online14.2

If you are a registered University of Illinois student and you have questions or concerns, or need to make an appointment, please call: **Dial-A-Nurse at 333-2700**

If you are concerned about any difference in your treatment plan and the information in this handout, you are advised to contact your health care provider.

Visit the McKinley Health Center Web site at: **<http://www.mckinley.uiuc.edu>**