

Bronchitis

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What is it?

The term "bronchitis" is used to describe inflammation of the *bronchi*, the two tree-like structures whose branches reach into the lungs to serve as air tubes. Bronchitis is considered to be a lower respiratory tract infection, because the bronchi and lungs are part of the lower respiratory tract, in contrast to the nose, throat, larynx, and trachea, which are considered part of the upper respiratory tract.

Acute bronchitis is a short-term, rapidly developing, and generally mild form of the condition, easily treated and usually followed by complete healing and return of normal lung function.

Chronic bronchitis is a more serious, slow-developing, and long-term respiratory condition that may have acute flare-ups from time to time. Chronic bronchitis is often associated with *emphysema*, a disease that causes damage to lung tissue. The combination of chronic bronchitis and emphysema is often referred to as *chronic obstructive pulmonary disease*, or COPD for short.

What causes it?

Acute bronchitis can be the results of an infection caused by viruses that invade the bronchi, often following a common cold or other acute viral disease of the upper respiratory tract. Such cases are more properly called acute infectious bronchitis, to distinguish them from acute irritative bronchitis, caused by various inhaled irritants, such as tobacco smoke, dust, or chemicals.

Chronic bronchitis is more commonly associated with a history of heavy cigarette smoking. As in acute infectious bronchitis, flare-ups in chronic bronchitis may also be caused, in part, by viral upper respiratory tract infections.

When the smoker's cough becomes constant, the mucous producing layer of the bronchial lining has thickened, narrowing the airways to the point where breathing becomes increasingly difficult. With immobilization of the cilia that sweep the air clean of foreign irritants, the bronchial passages become more vulnerable to further infection and the spread of tissue damage.

Who gets it?

Almost anyone can get acute bronchitis, either infectious or irritative. Bronchitis complicates approximately one-half to one percent of upper respiratory tract infections, like the common cold. Smokers are about four times as likely to get acute respiratory illnesses, including bronchitis.

There is no doubt that cigarette smoking is the chief cause of chronic bronchitis, and recent studies indicate that smoking marijuana causes similar damage. Unless some other factor can be isolated as the irritant that produces the symptoms, the first step in dealing with chronic bronchitis is to stop smoking. Irritation caused by cigarette smoke also places non-smokers at risk for acute bronchitis.

What are the symptoms?

As mentioned above, bronchitis is an inflammation in the bronchial tubes, which may be caused by a virus, bacteria, smoking or the inhalation of chemical pollutants or dust. When the cells of the bronchial-lining tissue are irritated beyond a certain point, the tiny cilia (hairs) within them which normally trap and eliminate pollutants, stop functioning. Consequently, the air passages become clogged by debris and irritation increases. In response, a heavy secretion of mucous develops, which causes the characteristic cough of bronchitis.

Most cases of acute infectious bronchitis are preceded by the symptoms typical of upper respiratory tract infections: a cold, vague bodily discomfort, chills, slight fever, sore throat, and back or muscle pain. When bronchitis begins, usually the first symptom is a persistent dry cough. Later the cough produces a mucousy secretion called "sputum" which blocks the normal flow of air. Because of this you may have trouble getting your breath, or you may wheeze when you breathe. Pain or heaviness behind your breastbone, especially when you cough or take a deep breath, is common. In more severe cases, there may be a fever of 101-102F (38-39C) for three to five days, and difficulty in breathing.

The most common sign of mild chronic bronchitis is a cough upon wakening in the morning, or on lighting up the first cigarette of the day, occurring most regularly during the winter months. As the condition progresses,

the cough tends to occur throughout the day, year round, and results in increasing amounts of sputum production. Episodes of severe coughing may occur. Flare-ups in cases of chronic bronchitis may be accompanied by the symptoms associated with a triggering upper respiratory tract infection.

How do you prevent it?

First, and most importantly, stop smoking. Try to avoid exposures to potentially irritating aerosol sprays at home, such as deodorants, hair sprays, and insecticides, and objectionable pollutants in the air at work, if possible. Exercise, especially walking, is often beneficial.

Can it be treated?

The most effective way to deal with acute bronchitis consists of the following regime: Avoid fatigue by getting proper rest, stay indoors when the weather is cold or windy and drink large amounts of fluid to help keep the chest mucous thin. Congestive mucous should be coughed up, so avoid the use of cough suppressants except at night time to allow for adequate sleep. It should be understood that not all coughing is bad. Cough is one of the body's natural defense mechanisms to help bring the sputum up so that it can be swallowed or spit out and removed from the respiratory system.

- **Stop Smoking** and avoid smoky rooms and all environmental irritants if possible. Smoke paralyzes the body's own immune system which normally fights the infection.

- **Drink plenty of fluids** which can help to keep the bronchial secretions thin promoting drainage.

- **Expectorants** ("plain" Robitussin, Mucinex and others) can thin respiratory secretions and appear to increase drainage and promote the recovery of the immune system.

- **Acetaminophen** or **ibuprofen** can be given every 4-6 hours to help control fever and relieve muscle aches and pains.

- **Bronchodilators** (albuterol, ipratropium, brands Proair, Ventolin, Atrovent, Combivent and others) which help to relieve the spastic contractions of the bronchi and help the muscles around your airways relax. This allows your airways to stay open for several hours. In turn, this assists the immune system to eradicate the infection.

- **Antibiotics** do not speed recovery or prevent worsening of illness in those with simple acute bronchitis and can have side effects. For those with chronic bronchitis or COPD, antibiotics may help to treat heavy mucous if there is a prolonged bacterial infection (lasting longer than 10-14 days in most cases). It is important to

take any antibiotic prescribed by your doctor exactly as directed and for as long as recommended.

Are there complications?

Seeking prompt medical treatment is advisable to prevent serious complications from acute and chronic bronchitis. If, for example, the inflammation extends downward to the ends of the bronchial tree into the small bronchi or bronchioles and then into the air sacks, or alveoli, *bronchopneumonia* results. Gradual and progressive destruction of bronchial tissue cannot be detected by chest x-ray. However, pulmonary function tests have demonstrated that disease of the smaller airways is present in many young people, who have smoked for one to five years. Although completely free of obvious symptoms, these individuals are likely candidates for future respiratory diseases.

Suffering from a series of acute bronchitis attacks, smoking heavily or inhaling contaminated air for prolonged periods may result in chronic bronchitis. Since chronic bronchitis can be life threatening, it should receive professional medical attention, no matter what its underlying cause.

In summary

- Bronchitis is an inflammation of the bronchial tubes or large airways in the lungs.
- Acute bronchitis usually follows a viral upper respiratory infection, inhalation of chemical pollutants or dust, or by prolonged exposure to smoke.
- Acute bronchitis usually can be treated at home with simple over the counter medicines.
- Chronic bronchitis is a result of recurrent episodes of acute bronchitis or heavy smoking producing a continuous productive cough that lasts three or more months and recurs year after year.
- It is absolutely essential that you stop smoking if you've had problems with recurrent acute bronchitis, or now have chronic bronchitis.
- For more information, contact familydoctor.org or the American Lung Association at (800) 586-4872 or www.lungusa.org.

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