

# Tobacco and Chronic Obstructive Pulmonary Disease

## What Is COPD?

COPD (Chronic Obstructive Pulmonary Disease) is characterized by abnormalities in the lungs that make exhaling difficult. The lungs cannot expel the used carbon dioxide-laden air, and there is less room in the lungs to receive fresh oxygen-rich air. There are two types of COPD, chronic bronchitis and emphysema, which can occur separately or together. Although COPD can be caused by other environmental toxins or inherited genetic abnormalities, smoking tobacco is directly responsible for almost 90% of COPD cases in the United States. Several of the toxic substances in tobacco smoke stimulate inflammation of the lungs and bronchi. The chronic inflammation eventually destroys alveoli and narrows the lung's airways. Airflow is permanently affected; hence the terms "chronic" and "obstructive." The term "pulmonary" refers to lung function. Because the damage to lung function is irreversible, COPD is a progressive disease. The symptoms gradually worsen. Breathing becomes more and more difficult. It is also a life-threatening disease. Johnny Carson, well-known television personality and chronic heavy smoker, died of tobacco-related COPD.

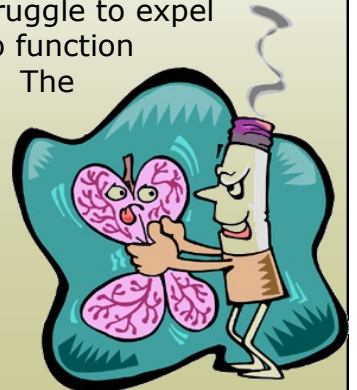
## What Is Chronic Bronchitis?

The airways in the lungs are called bronchial tubes. Inflammation of those airways is called bronchitis. Acute bronchitis is caused by a viral or bacterial infection and thus can be treated with antibiotics and decongestants. Chronic (meaning the condition lasts longer than 3 months) bronchitis is caused by chronic exposure to toxic substances in the air. Chronic bronchitis symptoms can include a chronic cough with mucus production, difficulty breathing, headache, wheezing, and tightness in the chest. The primary cause of chronic bronchitis is smoking, so symptoms do not respond to antibiotics and decongestants.

Chronic bronchitis in its early stages can be reversed. Avoiding further exposure to tobacco smoke or other toxic fumes (such as paint, hair spray, paint remover, etc.) is the best treatment for chronic bronchitis. Severe chronic bronchitis is usually treated with bronchodilators (inhaler or pill form) and/or steroids. Some sufferers may eventually need oxygen therapy.

## What Is Emphysema?

In addition to the airways, each lung contains millions of tiny elastic air sacs called alveoli. The airways deliver oxygen-rich air (inhalation) and take away air filled with carbon dioxide (exhalation), but actual exchange of oxygen and carbon dioxide occurs in the alveoli. In these tiny sacs, carbon dioxide is removed from the blood and replenished with oxygen. In response to continuous exposure to tobacco smoke or other airborne toxins, the thin elastic walls first become rigid, then break down under the constant low-grade inflammation caused by toxins in tobacco smoke and other fumes. Over time, the alveoli struggle to expel carbon dioxide on exhalation, and they gradually enlarge in an effort to function better. As they become larger, the alveoli push on the bronchial walls. The bronchial walls (airways) can also collapse, making air movement difficult. The disruption of the alveolar and bronchial walls also leads to their increase in size, making the lungs larger, which puts additional strain on other organs (like the heart) in the chest. Chest size often increases in response, but actual lung and heart function is diminished.



# Tobacco and Chronic Obstructive Pulmonary Disease, cont.

## What Is Emphysema?, cont.

Symptoms of emphysema include shortness of breath when exercising and when resting, an expanded chest, and hyperventilation. It is an irreversible condition because the lungs simply cannot recover. There is no cure for emphysema. The effects of the disease can be lessened with aerobic exercise, nutrition, and lifestyle changes. The lifestyle changes include avoiding tobacco smoke and other airborne chemicals and toxins. Medical treatments include bronchodilators and oxygen therapy.

## Grim Statistics

- COPD is the fourth leading cause of death in the United States.
- Approximately 16.4 million people in this country have some form of COPD. About 14 million of these have chronic bronchitis. The rest have emphysema or a combination of chronic bronchitis and emphysema.
- Although some forms of COPD are caused by environmental toxins or are genetically inherited, it is ten times more likely that a smoker will get COPD than a nonsmoker.
- Exposure to secondhand tobacco smoke will also increase a person's chance of getting COPD.
- COPD is often under-diagnosed and under-treated because sufferers assume they are simply "getting older." COPD is not a normal part of aging. It is a serious disease with specific causes, and it worsens with time.

## Your Future

If you suspect you have chronic lung problems, you need to see your doctor for testing and diagnosis. Some people think the shortness of breath and/or cough will go away if they quit smoking. This is not always true.

If you receive a diagnosis of COPD and you are a smoker, it is essential that you quit. Most health insurance programs will not cover smoking cessation, but your doctor can advise on nicotine withdrawal programs and products. Most states have smoking cessation programs. In South Dakota, the program is the free South Dakota QuitLine. The toll free number is 1-866-SD QUIT (1-866-737-8487). Nicotine is a serious addiction, so you need all the help you can get. The South Dakota QuitLine can help with information, coaching, discounts on nicotine withdrawal products, and free professional advice.

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For more information on tobacco and COPD, please visit:  
<http://www.pulmonologychannel.com/copd/index.shtml>  
<http://familydoctor.org/online/famdocen/home/articles/280.html>  
<http://www.copdguide.com/copd-is-different.jsp>