

U.S. Department of Health & Human Services • National Institutes of Health

[Español](#) Tell us what you think about this site



National Heart Lung and Blood Institute
Diseases and Conditions Index

[Search](#)

Enter keywords to search this site.
(Click here for Search Tips)

[NIH Home](#) [NHLBI Home](#) [About this Site](#)

[DCI Home](#): [Lung Diseases](#): [COPD](#): What Is ...

COPD

[What Is ...](#)

[Other Names](#)

[Causes](#)

[Who Is At Risk](#)

[Signs & Symptoms](#)

[Diagnosis](#)

[Treatments](#)

[Prevention](#)

[Living With](#)

[Clinical Trials](#)

[Key Points](#)

[Links](#)

[Podcast](#)

[Quiz](#)

[Widget](#)

What Is COPD?

COPD, or chronic obstructive pulmonary (PULL-mun-ary) disease, is a progressive disease that makes it hard to breathe. "Progressive" means the disease gets worse over time.

COPD can cause [coughing](#) that produces large amounts of mucus (a slimy substance), wheezing, shortness of breath, chest tightness, and other symptoms.

Cigarette smoking is the leading cause of COPD. Most people who have COPD smoke or used to smoke. Long-term exposure to other lung irritants, such as air pollution, chemical fumes, or dust, also may contribute to COPD.

Overview

To understand COPD, it helps to understand [how the lungs work](#). The air that you breathe goes down your windpipe into tubes in your lungs called bronchial tubes or airways.

Within the lungs, your bronchial tubes branch into thousands of smaller, thinner tubes called bronchioles. These tubes end in bunches of tiny round air sacs called alveoli (al-VEE-uhl-eye).

Small blood vessels called capillaries run through the walls of the air sacs. When air reaches the air sacs, the oxygen in the air passes through the air sac walls into the blood in the capillaries. At the same time, carbon dioxide (a waste gas) moves from the capillaries into the air sacs. This process is called gas exchange.

The airways and air sacs are elastic (stretchy). When you breathe in, each air sac fills up with air like a small balloon. When you breathe out, the air sacs deflate and the air goes out.

In COPD, less air flows in and out of the airways because of one or more of the following:

- The airways and air sacs lose their elastic quality.
- The walls between many of the air sacs are destroyed.
- The walls of the airways become thick and inflamed.
- The airways make more mucus than usual, which tends to clog them.

Normal Lungs and Lungs With COPD

VIEWED 03-16-2011

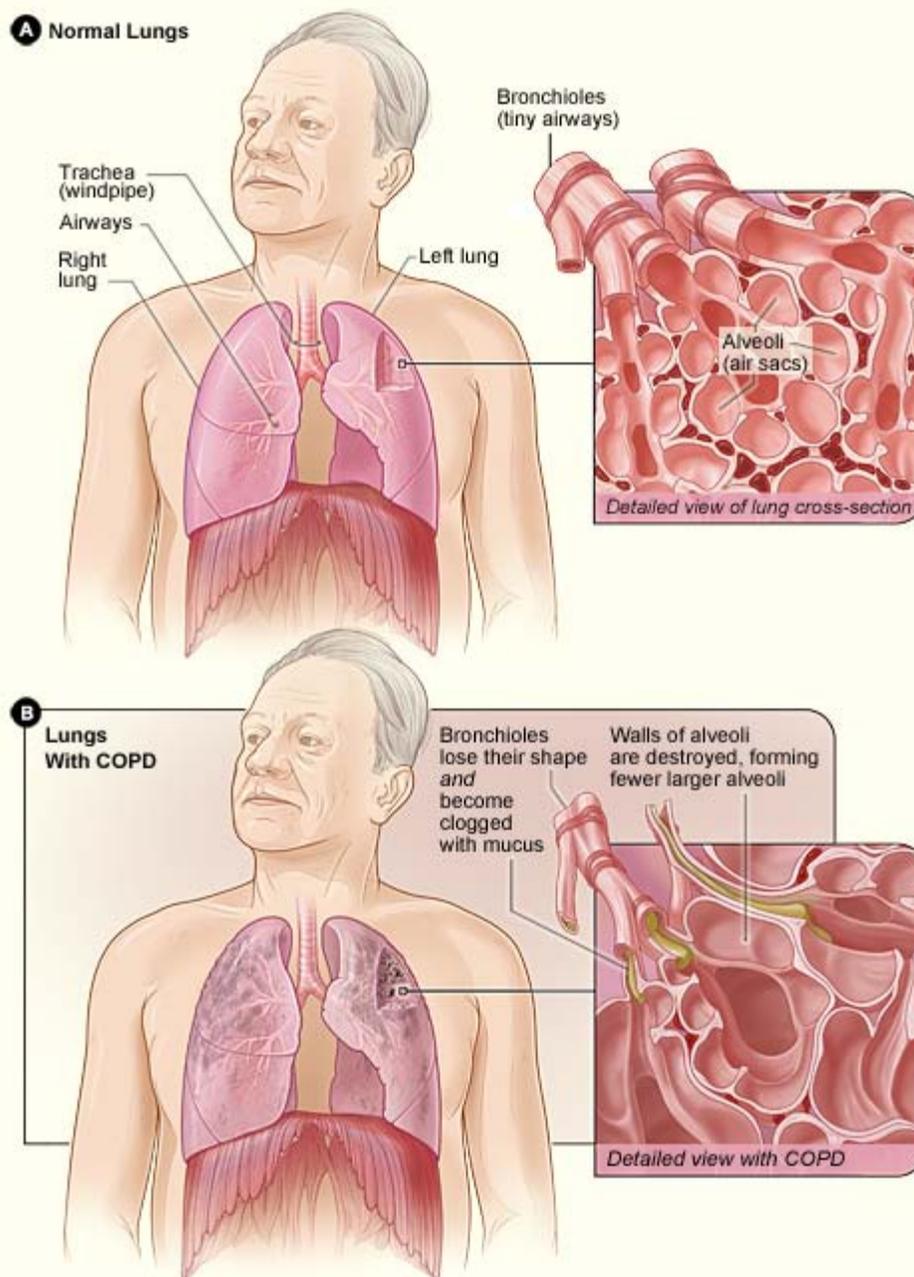


Figure A shows the location of the lungs and airways in the body. The inset image shows a detailed cross-section of the bronchioles and alveoli. Figure B shows lungs damaged by COPD. The inset image shows a detailed cross-section of the damaged bronchioles and alveolar walls.

In the United States, the term "COPD" includes two main conditions — [emphysema](#) (em-fi-SE-ma) and [chronic bronchitis](#) (bron-KI-tis). (Note: The Diseases and Conditions Index article about bronchitis discusses both acute and chronic bronchitis.)

In [emphysema](#), the walls between many of the air sacs are damaged, causing them to lose their shape and become floppy. This damage also can destroy the walls of the air sacs, leading to fewer and larger air sacs instead of many tiny ones. If this happens, the amount of gas exchange in the lungs is reduced.

In [chronic bronchitis](#), the lining of the airways is constantly irritated and inflamed. This causes the lining to thicken. Lots of thick mucus forms in the airways, making it hard to breathe.

Most people who have COPD have both emphysema and chronic obstructive bronchitis. Thus, the general term "COPD" is more accurate.

VIEWED 03-16-2011

Outlook

COPD is a major cause of disability, and it's the fourth leading cause of death in the United States. More than 12 million people are currently diagnosed with COPD. Many more people may have the disease and not even know it.

COPD develops slowly. Symptoms often worsen over time and can limit your ability to do routine activities. Severe COPD may prevent you from doing even basic activities like walking, cooking, or taking care of yourself.

Most of the time, COPD is diagnosed in middle-aged or older people. The disease isn't passed from person to person—you can't catch it from someone else.

COPD has no cure yet, and doctors don't know how to reverse the damage to the airways and lungs. However, treatments and lifestyle changes can help you feel better, stay more active, and slow the progress of the disease.

Revised June 2010

[Next](#) [Other Names](#)

[✉ Email this Page to a Friend](#) [✉ Email all Sections to a Friend](#) [🖨 Print all Sections of this Topic](#)



DEPARTMENT OF HEALTH
AND HUMAN SERVICES



NATIONAL INSTITUTES
OF HEALTH



NATIONAL HEART
LUNG AND BLOOD INSTITUTE

[Blood Diseases](#) | [Heart and Blood Vessel Diseases](#) | [Lung Diseases](#) | [Sleep Disorders](#)

[NHLBI Privacy Statement](#) | [NHLBI Accessibility Policy](#)

[NIH Home](#) | [NHLBI Home](#) | [DCI Home](#) | [About DCI](#) | [Search](#)

[About NHLBI](#) | [Contact NHLBI](#)

[Note to users of screen readers and other assistive technologies: please report your problems here.](#)

VIEWED 03-16-2011