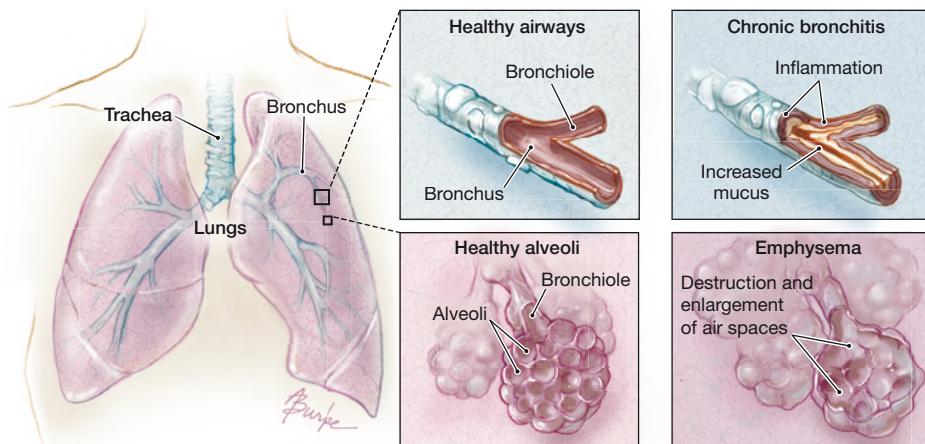


Chronic Obstructive Pulmonary Disease

One of the most common lung disorders in adults is **chronic obstructive pulmonary disease** (COPD), a term used to include **chronic bronchitis** and **emphysema**. Obstruction due to airway inflammation and excess mucus occurs in the airways of the lung (called **bronchi** and **bronchioles**), leading to decreased air flow. This ultimately results in decreased amounts of oxygen delivered to the body's tissues. In emphysema, there is also destruction of the **alveoli** (tiny sacs where oxygen and carbon dioxide exchange takes place). Emphysema and chronic bronchitis may both be present in an individual at the same time. COPD is one of the leading causes of death in developed nations and affects both men and women. Smoking is the cause of COPD in most cases and accounts for 80% to 90% of COPD-related deaths. The June 16, 2010, issue of *JAMA* includes an article about treatment of COPD. This Patient Page is based on one previously published in the November 26, 2008, issue of *JAMA*.



SIGNS AND SYMPTOMS

- Shortness of breath
- Cough
- Sputum production
- Wheezing
- Decreased blood oxygen levels and increased carbon dioxide levels
- Exercise intolerance

DIAGNOSIS AND TESTING

Measurement of breathing volumes, called **spirometry**, is the most important test for COPD. A **bronchodilator** (a medication that helps to relax airway muscles and open the bronchioles) may be given to see if a person's spirometric measurements improve. **Arterial blood gas sampling** (blood taken from an artery, not a vein) shows the levels of oxygen and carbon dioxide in the bloodstream. **Pulse oximetry**, a noninvasive tool used routinely in intensive care units and during any type of anesthesia, measures the oxygen saturation of hemoglobin, which is a reflection of the amount of oxygen in the bloodstream. Chest x-ray is used to determine the amount of lung damage done by COPD and can also indicate the presence of **pneumonia** (lung infection) or other types of lung disease processes.

INFORM YOURSELF

To find this and previous JAMA Patient Pages, go to the Patient Page link on JAMA's Web site at www.jama.com. Many are available in English and Spanish. A Patient Page on evaluating lung function was published in the May 16, 2007, issue; one on adult asthma was published in the July 21, 2004, issue; and one on smoking cessation was published in the December 12, 2007, issue.

Sources: National Heart, Lung, and Blood Institute; American Lung Association

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TREATMENT

- Stop smoking! This is the most important step in treating COPD (or any other lung disease).
- Medications including bronchodilators (to widen the airways), inhaled steroids (to reduce airway inflammation), and antibiotics (used to treat infection if it is present) may be prescribed. Often, several medications are used in combination to treat COPD.
- Some individuals may require oxygen therapy at night, during activity, or, in some cases, at all times.
- Pulmonary rehabilitation, including exercise, may increase **functional status** (ability to perform daily activities).
- Vaccines for prevention of influenza and pneumococcal diseases are recommended for persons who have COPD.

FOR MORE INFORMATION

- American Lung Association
www.lungusa.org
- National Heart, Lung, and Blood Institute
www.nhlbi.nih.gov
- American Thoracic Society
www.thoracic.org

