

# **Chronic Obstructive Pulmonary Disease (COPD)**

## **What is chronic obstructive pulmonary disease (COPD)?**

Chronic obstructive pulmonary disease (COPD) is a condition in which airflow from the lungs is permanently obstructed. It is usually a combination of two diseases: chronic bronchitis (inflamed airways) and emphysema (damage to the lung tissue). The disease makes it harder for you to breathe.

## **How does it occur?**

Chronic bronchitis and emphysema result from irritation of your airways over a long time, usually by cigarette smoke or air pollution.

Bronchitis and emphysema can occur separately but often develop together. In chronic bronchitis, the airways are narrowed by swelling. Excess mucus blocks the narrow airways and makes breathing difficult. In emphysema, the tiny air sacs in the lungs become damaged. The walls of the air sacs stretch and tear. This makes it harder for you to breathe out carbon dioxide after breathing in air. As the carbon dioxide accumulates in your lungs, there is less room for oxygen to be breathed in.

COPD causes strain on and enlargement of your heart (cor pulmonale), increased blood pressure in your lungs (pulmonary hypertension), and swelling of your legs and ankles (edema).

## **What are the symptoms?**

COPD usually has symptoms of both chronic bronchitis and emphysema. These symptoms include:

- deep, persistent cough that produces lots of mucus (sputum)
- wheezing
- shortness of breath, trouble breathing
- rapid breathing
- blue-purple color in the skin (cyanosis), especially of the hands, feet, and lips
- weight loss
- frequent lung infections
- swelling in the legs, ankles, and feet.

## How is it diagnosed?

Your health care provider will ask you about:

- your symptoms and if you are less active because of the symptoms
- your smoking habits
- exposure to irritants such as aerosol sprays, industrial chemicals, and air pollution.

Your health care provider will examine you. You may have the following tests:

- pulmonary function test (you breathe into a tube to measure airflow into and out of your lungs to see how well your lungs are working)
- chest x-ray
- blood tests
- electrocardiogram (ECG)
- lab tests of sputum.

## How is it treated?

The damage to your lungs cannot be reversed, so treatment aims to relieve symptoms and prevent the condition from getting worse. Your health care provider may prescribe:

- Medicine that relaxes and opens the airways (called a bronchodilator). This makes it easier to breathe. Some forms of this medicine are taken as pills or liquid. Some are inhaled. Some need to be used with a nebulizer. (A nebulizer is a device used to inhale medicine through a face mask or breathing tube.)
- Steroid medicines to reduce inflammation.
- Antibiotics to treat bacterial infection.
- Medicine (called an expectorants) that loosens the mucus and helps you cough it up.
- Medicine (called a diuretics or water pill) that reduces leg swelling.

Ask your health care provider if you can help your symptoms with:

- regular exercise, such as walking or riding a stationary bicycle, according to your health care provider's recommendations
- breathing exercises
- oxygen therapy to make breathing easier
- a humidifier to increase air moisture
- changes in your work environment to reduce exposure to irritants.

Also ask your health care provider how much fluid you should drink every day.

If it is hard for you to cough up mucus, your health care provider may recommend one of the following methods to help clear your airways. These treatments may be done by a nurse or a respiratory therapist, or by a family member after training on how to do it.

- chest percussion: striking a part of your chest with short, sharp blows
- postural drainage: helping you get into a position that helps drain secretions from the lungs.

In rare cases of severe COPD, surgery may be an option. Surgery can remove the most diseased part of the lungs, or a lung transplant might be considered.

## **How long will the effects last?**

COPD cannot be cured. Once you have COPD, it does not get better, but taking good care of yourself is the best way to prevent it from getting worse. For smokers the most important part of treatment is to quit smoking.

## **How can I take care of myself?**

- If you smoke, quit.
- Follow your health care provider's advice for treating COPD. Take all of your medicine.
- Avoid other people's secondhand smoke, air pollution, and extreme changes in temperature and humidity.
- Ask about getting flu and pneumonia shots.
- Eat healthy foods.
- Eat high-calorie snacks between meals if you are underweight.
- Take vitamin and mineral supplements if recommended by your health care provider.
- Be as active as you comfortably can.
- Get plenty of rest and sleep.
- Learn to use relaxation techniques to reduce anxiety.
- Consider lifestyle changes such as changing jobs or moving to a less polluted climate or lower altitude.

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# Respiratory System

