

# Chronic Obstructive Pulmonary Disease (COPD)

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

Chronic obstructive pulmonary disease (COPD) is a lung disease. It happens when your lungs and airways are damaged and unable to get oxygen into your blood normally. COPD makes it harder to breathe. It causes strain on your heart. It increases the blood pressure in your lungs (pulmonary hypertension) and makes your heart get bigger (cor pulmonale).

## How does it occur?

There are 2 main types of COPD: chronic bronchitis (inflamed airways) and emphysema (damage to the lung tissue). Chronic bronchitis and emphysema result from irritation of your airways over a long time, usually from smoking and sometimes from air pollution. Other causes are on-the-job exposure to irritants such as dust or chemicals, or frequent lung infections. Chronic bronchitis and emphysema can occur separately but often they develop together.

- In chronic bronchitis, the insides of the airways thicken and swell. This makes the passageway for air smaller. The damaged airways make more mucus, which can block the airways and make it hard to breathe.
- In emphysema, the tiny air sacs (alveoli) in the lungs may become badly damaged or destroyed and lose their ability to stretch (get bigger and smaller). This makes it harder for you to breathe out carbon dioxide after breathing in air. As the carbon dioxide collects in your lungs, there is less room for oxygen to be breathed in.

COPD is not contagious. You cannot give it to someone or get it from someone else.

## What are the symptoms?

Symptoms of COPD include:

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

In the early stages of the disease you may not have any symptoms.

## How is it diagnosed?

Your healthcare provider will ask you about:

- your symptoms and if you are less active because of the symptoms

- your smoking habits
- exposure to other people's smoke (secondhand smoke) and other irritants such as aerosol sprays, industrial chemicals, and air pollution
- your medical history, for example, if you have had asthma.

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

- a breathing test called a PFT (pulmonary function test) or spirometry (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
- lab tests of sputum to look for infection.

## How is it treated?

The damage to your lungs cannot be reversed, so treatment goals are:

- Relieve symptoms to help you breathe better and feel better.
- Help you be more physically active.
- Treat infections when they happen.
- Help prevent complications.
- Help prevent the condition from getting worse.

If you are a smoker, the most important part of your treatment is to quit smoking. Talk to your healthcare provider about ways to stop smoking. You might find it helpful to join a quit-smoking program, to use nicotine patches or gum, or to try one of the prescription medicines that can help you quit. Your healthcare 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 machine that makes a mist of the bronchodilator medicine so you can inhale it through a face mask or breathing tube.
- Steroid medicines to reduce inflammation.
- Antibiotics to treat bacterial infection.
- Medicine (called an expectorant) that loosens the mucus and helps you cough it up.

Ask your healthcare provider if you would benefit from:

- breathing exercises
- a humidifier to add moisture to the air
- changes in your work environment to reduce exposure to irritants
- oxygen therapy.

Your need for oxygen is not based on being short of breath. You may need oxygen and not feel short of breath, or you may feel very short of breath and not need oxygen. The need for oxygen is found by measuring the amount of oxygen in your blood. If the oxygen level is too low, your heart can be damaged. Some people whose oxygen levels are low all the time may need oxygen nearly 24 hours a day to help prevent heart failure and help them live longer. Other people need to use oxygen only during activity, or when they sleep, because these are the times when the oxygen level in their blood goes too low. It can help to talk with your provider about your concerns and ask him or her if oxygen is

recommended for you. Also ask your healthcare provider how much fluid you should drink every day. A pulmonary rehab program can help you learn how to live and feel better with COPD. The program may offer supervised exercise and information about a healthy diet. It can help you learn about how your lungs work and how to care for your COPD. Ask your provider if there is such a program in your area. Rarely, in cases of severe COPD, surgery may be an option. Surgery can remove the most diseased part of the lungs if enough working lung will be left after the surgery. Or a lung transplant might be considered, depending on your overall health and whether you're able to avoid the things that caused your COPD.

## 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 slow the progress of the disease. The best way to take care of yourself is to avoid things that may have caused the COPD, such as tobacco smoke or exposure to dust, fumes, or chemicals at the workplace. This will give you the greatest chance of stopping the disease from getting worse.

## How can I take care of myself?

Follow these guidelines to take care of yourself:

- If you smoke, quit.
- Follow your healthcare provider's advice for treating COPD. Take all of your medicine according to your provider's instructions.
- Avoid secondhand smoke, air pollution, and extreme changes in temperature and humidity.
- If you use a humidifier, be sure to keep the humidifier clean, as recommended in the manufacturer's instructions. It's important to keep bacteria and fungi from growing in the water container.
- Ask about getting a yearly flu shot.
- Ask about getting a shot to prevent some types of pneumonia (Pneumovax).
- Avoid close contact with people who have colds or the flu. Make a habit of good handwashing when you're in public places or around children.
- Eat healthy foods.
- Eat high-calorie snacks between meals if you are underweight.
- Take vitamin and mineral supplements if recommended by your healthcare provider.
- Drink more liquids (water or tea) every day to help you cough up mucus more easily unless your provider says you need to limit fluids.
- Ask your provider about doing some physical activity every day. If you are not used to being physically active, ask about exercise training, such as pulmonary rehab, to safely build up your strength.
- Get plenty of rest and sleep.
- Consider lifestyle changes such as changing jobs or moving to a less polluted climate or lower altitude.
- If you plan to travel, discuss your plans with your healthcare provider. It's good to make sure there will be no problems with high altitude, humidity, temperature, pressurized airplane cabins, or smoggy cities, especially if you are using oxygen.

A flare-up (exacerbation) is a worsening of the usual symptoms of COPD. You, or sometimes a family member, are usually the first to know when your lung disease is getting worse. Watch for:

- shortness of breath that gets worse

- more coughing than usual, often with chest tightness
- coughing up more sputum
- a change in how the sputum looks, such as a change to a darker color or streaks of blood
- sputum that has gotten thicker and stickier and harder to cough up
- new or worsening wheezing
- not being able to do as much activity
- being more short of breath during or after physical activity
- fever
- swelling of your legs
- not being able to sleep well because of shortness of breath
- chest pain or discomfort that is new or getting worse
- feeling drowsy or not able to think clearly.

Any of these symptoms might be a warning sign of a flare-up. If you catch these changes right away and get prompt treatment, you may be able to prevent a trip to the hospital. Ask your healthcare provider for instructions about what to do when you have these symptoms and if there are any other symptoms you should watch for.

## **When should I get emergency help?**

It is important to know the difference between earlier signs and symptoms of sickness and the signs of an emergency. You should call 911 to get emergency help if:

- You cannot talk because you are so short of breath.
- It is hard to walk because you are short of breath.
- Your lips or fingernails turn gray or blue.
- Your heart is beating faster than normal for you.
- Your medicine does not help for very long or does not help at all.
- You are breathing fast and hard.
- You feel like you are going to die.
- You are having bad chest pain that does not go away within about 5 minutes.

Do not turn up your oxygen unless your healthcare provider tells you to. Doing so can actually be harmful to you.

## **How can I help prevent COPD?**

85% of COPD cases are caused by tobacco smoke. This includes people who smoke and people who are exposed to secondhand smoke. In most cases you can prevent COPD by never smoking and not being around others who are smoking. @ Published by RelayHealth.

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