

COPD (Chronic Obstructive Pulmonary Disorder)

Chronic obstructive pulmonary disease (COPD) refers to a group of lung diseases that block airflow and make it increasingly difficult for you to breathe.

Emphysema and chronic bronchitis are the two main conditions that make up COPD, but COPD can also refer to damage caused by chronic asthmatic bronchitis. In all cases, damage to your airways eventually interferes with the exchange of oxygen and carbon dioxide in your lungs.

COPD is a leading cause of death and illness worldwide. Most COPD is caused by long-term smoking and can be prevented by not smoking or quitting soon after you start. Damage to your lungs can't be reversed, so treatment focuses on controlling symptoms and minimizing further damage.

Things you should know!

In general, symptoms of COPD don't appear until significant lung damage has occurred, and they usually worsen over time. People with COPD are also likely to experience episodes called exacerbations, during which their symptoms suddenly get much worse. Beyond this, signs and symptoms of COPD can vary, depending on which lung disease is most prominent. It's also possible to have many of these symptoms at the same time.

Emphysema

Signs and symptoms of emphysema include:

- Shortness of breath, especially during physical activities
- Wheezing
- Chest tightness

Chronic bronchitis

Chronic bronchitis occurs mainly in smokers. It's defined as a cough that you have at least three months a year for two consecutive years. People who continue to smoke may go on to develop emphysema, but in smokers who are able to quit, the cough may clear in a few days or weeks.

Signs and symptoms of chronic bronchitis include:

- Having to clear your throat first thing in the morning, especially if you smoke

- A chronic cough that produces yellowish sputum
- Shortness of breath in the later stages
- Frequent respiratory infections

Chronic asthmatic bronchitis

Chronic asthmatic bronchitis is usually chronic bronchitis combined with asthma (bronchospasm). Asthma can occur when inflamed and infected secretions irritate the smooth muscles in your airways. Symptoms are similar to those of chronic bronchitis, but you're also likely to have intermittent — or even daily — episodes of wheezing.

Symptoms & Diagnosis

If you have symptoms of COPD and a history of exposure to lung irritants — especially cigarette smoke — your doctor may recommend these tests:

- **Pulmonary function tests.** Spirometry is the most common lung function test. During this test, you'll be asked to blow into a large tube connected to a spirometer. This machine measures how much air your lungs can hold and how fast you can blow the air out of your lungs. Spirometry can detect COPD even before you have symptoms of the disease. It can also be used to track the progression of disease and to monitor how well treatment is working.
- **Chest X-ray.** A chest X-ray can show emphysema — one of the main causes of COPD. An X-ray can also rule out other lung problems or heart failure.
- **Arterial blood gas analysis.** This blood test measures how well your lungs are bringing oxygen into your blood and removing carbon dioxide.
- **Sputum examination.** Analysis of the cells in your sputum can help identify the cause of your lung problems and help rule out some lung cancers.
- **Computerized tomography (CT) scan.** A CT scan is an X-ray technique that produces more-detailed images of your internal organs than those produced by conventional X-rays. A CT scan of your lungs can help detect emphysema and help determine if you might benefit from surgery for COPD.

Treatment

Unfortunately, there's no cure for COPD, and you can't undo the damage to your lungs. But COPD treatments can control symptoms, reduce your risk of complications and exacerbations, and improve your ability to lead an active life.

Smoking cessation

The most essential step in any treatment plan for smokers with COPD is to stop all smoking. It's the only way to keep COPD from getting worse — which can eventually result in losing your ability to breathe. But quitting smoking is never easy. And this task may seem particularly daunting if you've tried to quit before. Talk to your doctor about nicotine replacement products and medications that might help, as well as how you might handle relapses. It's not known what role exposure to secondhand smoke plays in COPD, but avoid it whenever possible.

Medications

Doctors use several basic groups of medications to treat the symptoms and complications of COPD. You may take some medications on a regular basis and others as needed:

- **Bronchodilators.** These medications — which usually come in an inhaler — relax the muscles around your airways. This can help relieve coughing and shortness of breath and make breathing easier. Depending on the severity of your disease, you may need a short-acting bronchodilator before activities, a long-acting bronchodilator that you use every day, or both.
- **Inhaled steroids.** Inhaled corticosteroid medications can reduce airway inflammation and help you breathe better. But prolonged use of these medications can weaken your bones and increase your risk of high blood pressure, cataracts and diabetes. They're usually reserved for people with moderate or severe COPD.
- **Antibiotics.** Respiratory infections, such as acute bronchitis, pneumonia and influenza, can aggravate COPD symptoms. Antibiotics can help fight bacterial infections, but are only recommended when necessary.

Surgery

Surgery is an option for some people with some forms of severe emphysema who aren't helped sufficiently by medications alone:

- **Lung volume reduction surgery.** In this surgery, your surgeon removes small wedges of damaged lung tissue. This creates extra space in your chest cavity so that the remaining lung tissue and the diaphragm work more efficiently. The surgery has a number of risks, and long-term results may be no better than for nonsurgical approaches.
- **Lung transplant.** Single-lung transplantation may be an option for certain people with severe emphysema who meet specific criteria. Transplantation can improve your ability to breathe and be active, but it doesn't appear to prolong life and you may have to wait for a long time to receive a donated organ. So the decision to undergo lung transplantation is complicated.

Other therapies

Doctors often use these additional therapies for people with moderate or severe COPD:

- **Oxygen therapy.** If there isn't enough oxygen in your blood, you may need supplemental oxygen. There are several devices to deliver oxygen to your lungs, including lightweight, portable units that you can take with you to run errands and get around town. Some people with COPD use oxygen only during activities or while sleeping. Others use oxygen all the time. Oxygen therapy can improve heart function, exercise capacity, depression, mental clarity and quality of life. In some people, it may also extend life. Talk to your doctor about your needs and options.
- **Pulmonary rehabilitation program.** Comprehensive pulmonary rehabilitation may be able to decrease the length of any hospitalizations you require, increase your ability to participate in everyday activities and improve your quality of life. These programs typically combine education, exercise training, nutrition advice and counseling. If you are referred to a program, you'll probably work with a range of health care professionals, including physical therapists, respiratory therapists, exercise specialists and dietitians. These specialists can tailor your rehabilitation program to meet your needs.

Managing exacerbations

Even with ongoing treatment, you may experience times when symptoms suddenly get worse.

This is called an acute exacerbation, and it may cause lung failure if you don't receive prompt treatment. Exacerbations may be caused by a respiratory infection or a change in temperature or air pollution. Whatever the cause, it's important to seek prompt medical help if you notice more coughing, a change in your mucus or if you have a harder time breathing.

When exacerbations occur, you may need additional medications, supplemental oxygen or treatment in the hospital. Once symptoms improve, you'll want to take measures to prevent future exacerbations. This may include quitting smoking, avoiding indoor and outdoor pollutants as much as possible, exercise and treatment for GERD.

Get on with your life!

If you have COPD, you can take steps to feel better and slow the damage to your lungs:

- **Control your breathing.** Talk to your doctor or respiratory therapist about techniques for breathing more efficiently throughout the day. Also be sure to discuss breathing positions and relaxation techniques that you can use when you're short of breath.
- **Clear your airways.** In COPD, mucus tends to collect in your air passages and can be difficult to clear. Controlled coughing, drinking plenty of water and using a humidifier may help.
- **Exercise regularly.** It may seem difficult to exercise when you have trouble breathing, but regular exercise can improve your overall strength and endurance and strengthen your respiratory muscles.
- **Eat healthy foods.** A healthy diet can help you maintain your strength. If you're underweight, your doctor may recommend nutritional supplements. If you're overweight, losing weight can significantly help your breathing, especially during times of exertion.
- **Avoid smoke.** In addition to quitting smoking, it's important to avoid places where others smoke. Secondhand smoke may contribute to further lung damage.
- **Pay attention to frequent heartburn.** Constant heartburn can indicate gastroesophageal reflux disease (GERD), a condition in which stomach acid or, occasionally, bile flows back into your food pipe (esophagus). This constant backwash of acid can aggravate COPD, but treatments for GERD can help. Talk to your doctor if you have frequent heartburn.
- **See your doctor regularly.** Stick to your appointment schedule, even if you're feeling fine. It's important to steadily monitor your lung function.

Living with COPD can be difficult — especially as it becomes more and more difficult to catch your breath. You may have to give up activities you previously enjoyed. And your family and

friends may face significant changes and challenges in an effort to help you. You may also find yourself facing some tough questions, such as how long you have to live and what you will do if you no longer can take care of yourself.

It can help to share your fears and feelings with your family, friends and doctor. You may also want to consider joining a support group for people with COPD. And you may benefit from counseling if you feel depressed or overwhelmed.