



# MDwise

*A McLaren Company*

## COPD (Chronic Obstructive Pulmonary Disease)

### Table of Contents

- Topic Overview
- Credits
- Appendix
  - Topic Images
    - Chronic bronchitis
    - Airways Inside the Lungs
    - Emphysema

### Topic Overview

---

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

COPD is a lung disease that makes it hard to breathe. It is caused by damage to the lungs over many years, usually from smoking.

COPD is often a mix of two diseases:

- Chronic bronchitis (See figure 1 in appendix) (say "bron-KY-tus"). In chronic bronchitis, the airways that carry air to the lungs (bronchial tubes (See figure 2 in appendix)) get inflamed and make a lot of mucus. This can narrow or block the airways, making it hard for you to breathe.
- Emphysema (See figure 3 in appendix) (say "em-fuh-ZEE-muh"). In a healthy person, the tiny air sacs in the lungs are like balloons. As you breathe in and out, they get bigger and smaller to move air through your lungs. But with emphysema, these air sacs are damaged and lose their stretch. Less air gets in and out of the lungs, which makes you feel short of breath.

COPD gets worse over time. You can't undo the damage to your lungs. But you can take steps to prevent more damage and to feel better.

#### What causes COPD?

COPD is almost always caused by smoking. Over time, breathing tobacco smoke irritates the airways and destroys the stretchy fibers in the lungs.

Other things that may put you at risk include breathing chemical fumes, dust, or air pollution over a long period of time. Secondhand smoke also may damage the lungs.

It usually takes many years for the lung damage to start causing symptoms, so COPD is most common in

people who are older than 60.

You may be more likely to get COPD if you had a lot of serious lung infections when you were a child. People who get emphysema in their 30s or 40s may have a disorder that runs in families, called alpha-1 antitrypsin deficiency. But this is rare.

## What are the symptoms?

The main symptoms are:

- A long-lasting (chronic) cough.
- Mucus that comes up when you cough.
- Shortness of breath that gets worse when you exercise.

As COPD gets worse, you may be short of breath even when you do simple things like get dressed or fix a meal. It gets harder to eat or exercise, and breathing takes much more energy. People often lose weight and get weaker.

At times, your symptoms may suddenly flare up and get much worse. This is called a COPD exacerbation (say "egg-ZASS-er-BAY-shun"). An exacerbation can range from mild to life-threatening. The longer you have COPD, the more severe these flare-ups will be.

## How is COPD diagnosed?

To find out if you have COPD, a doctor will:

- Do a physical exam and listen to your lungs.
- Ask you questions about your past health and whether you smoke or have been exposed to other things that can irritate your lungs.
- Have you do breathing tests, including spirometry, to find out how well your lungs work.
- Do chest X-rays and other tests to help rule out other problems that could be causing your symptoms.
- Do an Alpha-1 antitrypsin (AAT) blood test. AAT is a protein your body makes that helps protect the lungs. People who have a low AAT are more likely to get emphysema. This test only needs to be done once.

If there is a chance you could have COPD, it is very important to find out as soon as you can. This gives you time to take steps to slow the damage to your lungs.

## How is it treated?

The best way to slow COPD is to quit smoking. This is the most important thing you can do. It is never too late to quit. No matter how long you have smoked or how serious your COPD is, quitting smoking can help stop the damage to your lungs.

Your doctor can prescribe treatments that may help you manage your symptoms and feel better.

- Medicines can help you breathe easier. Most of them are inhaled so they go straight to your lungs. If you get an inhaler, it is very important to use it just the way your health provider shows you.
- A lung (pulmonary) rehab program can help you learn to manage your disease. A team of health professionals can provide counseling and teach you how to breathe easier, exercise, and eat well.
- In time, you may need to use oxygen some or most of the time.

People who have COPD are more likely to get lung infections, so you will need to get a flu vaccine every year. You should also get a pneumococcal shot. It may not keep you from getting pneumonia. But if you do get

pneumonia, you probably won't be as sick.

## How can you live well with COPD?

There are many things you can do at home to stay as healthy as you can.

- Avoid things that can irritate your lungs, such as smoke and air pollution.
- Use an air filter in your home.
- Get regular exercise to stay as strong as you can.
- Eat well so you can keep up your strength. If you are losing weight, ask your doctor or dietitian about ways to make it easier to get the calories you need.

**Dealing with flare-ups:** As COPD gets worse, you may have flare-ups when your symptoms quickly get worse and stay worse. It is important to know what to do if this happens. Your doctor may give you an action plan and medicines to help you breathe if you have a flare-up. But if the attack is severe, you may need to go to the emergency room or call **911**.

**Managing depression and anxiety:** Knowing that you have a disease that gets worse over time can be hard. It's common to feel sad or hopeless sometimes. Having trouble breathing can also make you feel very anxious. If these feelings last, be sure to tell your doctor. Counseling, medicine, and support groups can help you cope.

## Credits

---

Current as of: July 6, 2021

Author: Healthwise Staff

Medical Review:

E. Gregory Thompson MD - Internal Medicine

Adam Husney MD - Family Medicine

Ken Y. Yoneda MD - Pulmonology

---

## Appendix

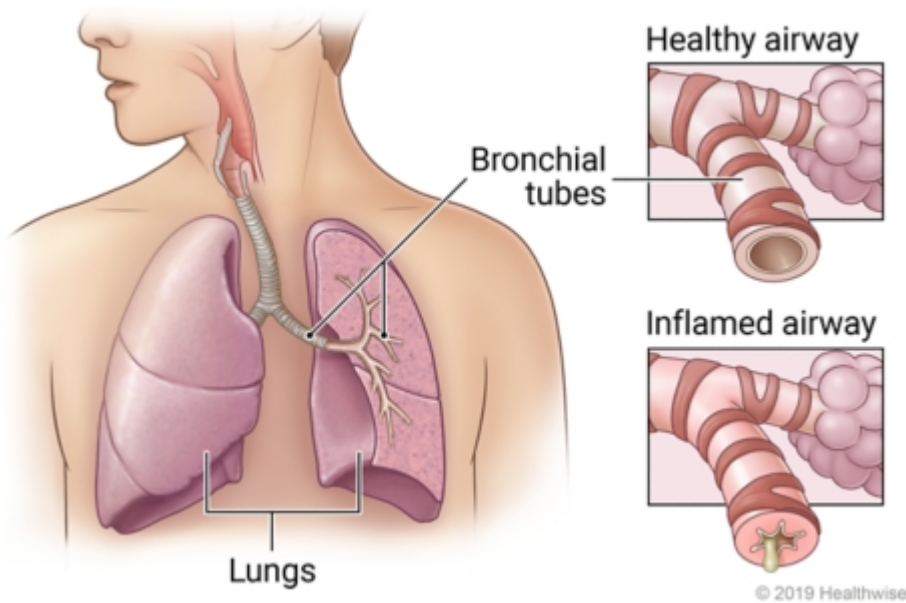
---

## Topic Images

---

Figure 1

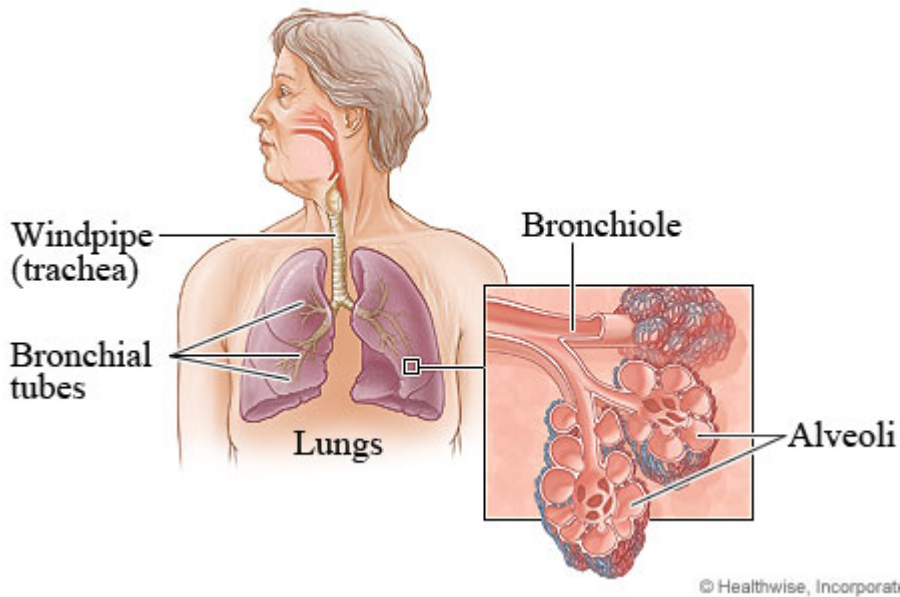
**Chronic bronchitis**



Bronchial tubes are airways that deliver air into the lungs. With chronic bronchitis, breathing in tobacco smoke and other irritants over time can make the airways inflamed. The airways make more mucus than normal. This reduces air flow and makes you cough. Over many years, damage to the lungs can grow worse and become a lifelong condition.

Figure 2

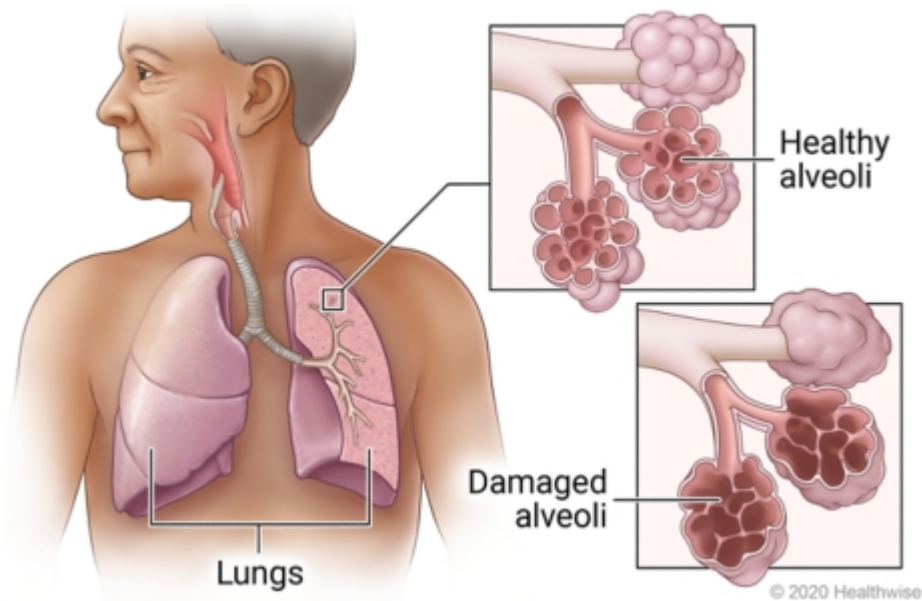
### Airways Inside the Lungs



The lungs' airways (bronchial tubes) divide into smaller and smaller branches (bronchioles). The airways end in air sacs (alveoli) where oxygen moves into the blood.

Figure 3

### Emphysema



Emphysema is a long-term (chronic) lung disease. With emphysema, the tiny air sacs (alveoli) at the end of the airways in the lungs are damaged. When the air sacs are damaged or destroyed, their walls break down and the sacs become larger. These larger air sacs move less oxygen into the blood. This causes problems with breathing or shortness of breath. These symptoms get worse over time. After air sacs are destroyed, they can't be replaced.

Emphysema is often caused by smoking. A rare type of emphysema is caused by the lack of a substance in the lungs called alpha1-antitrypsin. This type of emphysema is usually inherited.

---

Note: The "printer friendly" document will not contain all the information available in the online document. Some information (e.g. cross-references to other topics, definitions or medical illustrations) is only available in the online version.

---



This information does not replace the advice of a doctor. Healthwise, Incorporated, disclaims any warranty or liability for your use of this information.

© 1995-2022 Healthwise, Incorporated. Healthwise, Healthwise for every health decision, and the Healthwise logo are trademarks of Healthwise, Incorporated.