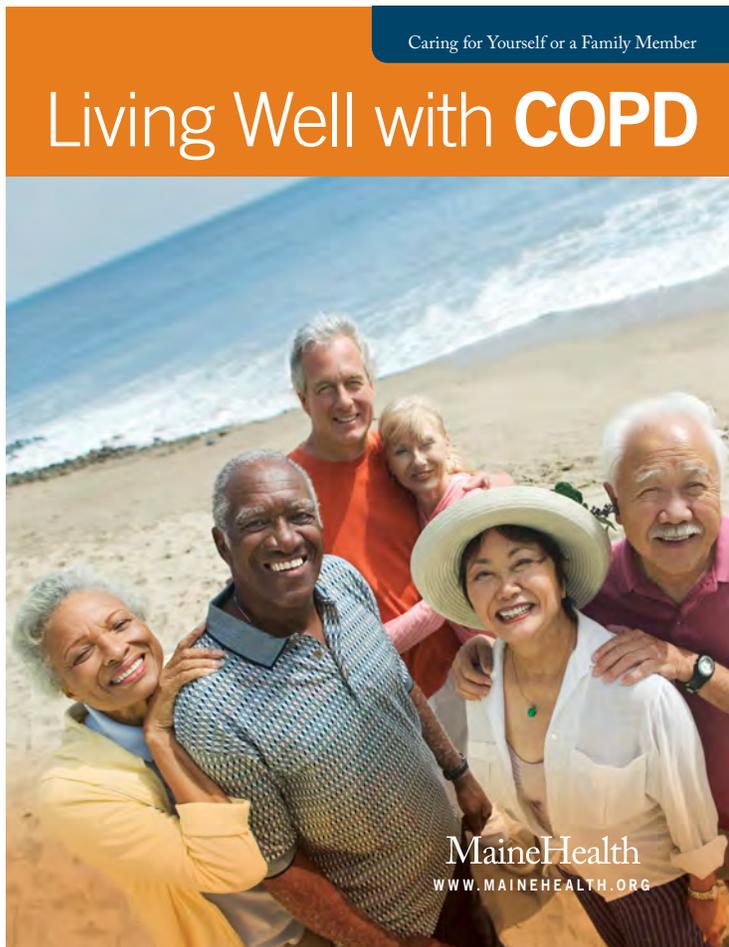


# Living Well with COPD

This information is part of the MaineHealth Living Well with COPD patient education book.



## SECTION

# 2

## COPD: Causes

### In This Section:

- What Causes COPD?
- Glossary

This book was created for patients and their families to help them manage their lung disease.

Your doctor or nurse chose this section because they felt it would be most helpful for you.

There are 10 sections in the COPD book and a list of definitions in the glossary section. Share this information with family, friends and those who help care for you.

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# 2 COPD: Causes



## What Causes COPD?

### Tobacco smoke

Smoking is the number one cause of COPD in the United States. Smoke from tobacco products, including secondhand smoke, has over 7,000 harmful chemicals. These chemicals can cause irritation and swelling in your lungs. This can lead to permanent lung damage. Over 70 of these chemicals also cause cancer.

Some people with COPD have never smoked but have been around people who smoke and get sick from **secondhand smoke**.

### Secondhand smoke

Secondhand smoke is the smoke from a burning cigarette, cigar, pipe or hookah. Breathing in secondhand smoke can cause:

- COPD
- symptoms of COPD or asthma to be worse
- lung infections and bronchitis
- irritation in the nose and throat



## \* remember

**Tobacco smoke is not just from cigarettes.  
Cigars and pipes can also damage your lungs.**

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### Thirdhand smoke

**Thirdhand smoke** is the tobacco particles that stay on surfaces long after burning tobacco has been put out. Thirdhand smoke clings to hair, skin, clothes, furniture, drapes, walls and carpets. The smoke particles build up over time and are hard to get rid of. They do not go away by airing out a room or opening a window or using a fan or air conditioner. Thirdhand smoke is becoming a greater concern for non-smokers.

### Tobacco can cause:

- heart disease
- stroke
- smoking-related chronic diseases

## Genetic disease Alpha-1

Some people are born with a genetic disease called **alpha-1-antitrypsin** (ALF-a-ONE-anty-TRIP-sin) deficiency, or alpha-1. Alpha-1 can cause COPD.

- This disease makes your lungs very sensitive to chemicals and pollutants in the air.
- Alpha-1 can cause COPD at a young age.
- Alpha-1 can be treated with medicines to slow down the lung damage.

You can have a blood test to find out if you have this disease. Anyone with COPD that is younger than 40 years old should be tested.

## Lung infections

Having severe lung infections (**pneumonia**) as a child or adult can damage your lungs and cause COPD. Staying healthy and getting a yearly influenza (flu) vaccination can help prevent lung infections.

## Chemicals and pollutants

Breathing in chemicals and **pollutants** can cause COPD and other lung diseases. The air in your home or workplace can worsen COPD.



### Smog

### Mold

### Mildew

### Work-related materials

- coal dust
- silica
- asbestos

### Smoke

- cooking
- heating
- woodstoves



### Fumes

- paint
- cooking fuels
- perfumes
- deodorants
- car exhaust

### Spray products

- bug spray
- cleaners
- hair spray
- air fresheners

# Glossary

**Advance directives (sometimes called living wills):** forms that you fill out once you decide what is important to you if you should get into a health crisis

**Air trapping:** when it is difficult to exhale completely

**Allergic rhinitis:** runny nose caused by allergies

**Alpha-1 antitrypsin deficiency:** a genetic disease that can cause COPD

**Alveoli:** air sacs

**Arteries:** blood vessels that carry oxygenated blood away from the heart to the body's cells, tissues and organs

**Arterial blood gas (ABG):** a blood test from an artery that measures how well your lungs are able to move oxygen into your blood and remove carbon dioxide from your blood

**Asbestos:** mineral that can be woven into fabrics and is used in fire-resistant and insulating materials such as brake linings

**Bone density test:** x-ray that measures bone loss

**Bronchial tubes:** air passages or airways

**Bronchodilators:** medicines that make you breathe better by relaxing the muscles in your air passages and keep them from squeezing

**Carbon dioxide:** waste air

**Cardiopulmonary resuscitation:** emergency lifesaving procedure that is done when someone's heart has stopped

**Cataracts:** clouding of the lens in your eye

**Comorbidities:** other chronic diseases a person has that make treating chronic disease more difficult

**Continuous flow oxygen:** oxygen that runs constantly through a tube into your nose and throat

**Continuous positive airway pressure (CPAP):** a device prescribed by a doctor or nurse to treat OSA

**COPD Action Plan:** a guide to help you recognize the early signs of a flare-up and what you should do when a flare-up occurs

**Coronary arteries:** blood vessels that supply oxygen-rich blood to your heart muscle

**Coronary artery disease:** a disease in which a waxy substance called plaque builds up inside your coronary arteries

**Cor pulmonale:** a condition that causes the right side of the heart to fail

**CT scan:** a picture of the inside of a part of your body

**Diabetes:** a condition in which your body does not make enough insulin or does not use insulin correctly

**Diaphragm:** a large muscle that sits below your lungs and does most of the work of breathing

**Dose:** amount of medicine

**Echocardiogram:** an **ultrasound** of the heart

**Electrocardiogram:** a test that checks for problems with the electrical activity of your heart

**Energy conservation:** saving energy

**Esophagus:** passage that connects the mouth and the stomach

**Exacerbation:** flare-up of your symptoms

**Expectorant:** medicine that loosens mucus so it's easier to cough up

**Gastroesophageal reflux disease (GERD):** acid reflux

**Glaucoma:** a condition of increased pressure within your eyeball, causing gradual loss of sight

**Healthcare agent:** the person you want to speak for you if you cannot speak for yourself

**Heart failure:** a condition in which your heart can't pump enough blood to meet your body's needs

**Hospice:** care for people closer to the end of life who want their treatment focused on comfort

**Hypertension:** high blood pressure

**Inflammatory:** swelling

**Inhaler:** device that contains medicine as a mist or powder

**Insulin:** hormone that carries sugar into your cells so that it can be used for energy

**Intravenous:** in a vein

**Long-acting (controller) medicines:** medicines taken once or twice a day that prevent shortness of breath

**Lung transplantation:** surgically replacing one or both of your lungs

**Lung volume reduction surgery:** surgically removing diseased parts of one or both of your lungs

**Mucolytics:** medicines that break up mucus

**Nebulizer:** device that turns liquid medicine into mist

**Nicotine replacement:** medicines that replace the nicotine you do not get when you quit smoking

**Obstructive sleep apnea (OSA):** a condition that causes you to have periods when you stop breathing during sleep

**Osteoarthritis:** mechanical wear and tear on joints

**Osteoporosis:** illness that makes your bones brittle and fragile

**Oxygenated:** combined or mixed with oxygen

**Palliative care:** care provided at any stage of an illness focused on preventing suffering, managing symptoms and coordinating communication between the many caregivers

**Peripheral vascular/arterial disease:** a condition of the blood vessels that supply the legs and feet. It leads to narrowing and hardening of the **arteries**. This causes decreased blood flow, which can injure nerves and other tissues.

**Pneumonia:** lung infection

**Pollutants:** waste materials that are harmful to air, soil or water

**Physician Orders for Life-Sustaining Treatment (POLST):** a medical order stating a patient's wishes regarding treatments that are commonly used in a medical crisis

**Pulmonary hypertension:** high blood pressure in the arteries of the lungs

**Pulse dose oxygen:** oxygen that flows when you breathe in through your nose and stops when you breathe out

**Pulse oximeter:** a machine that measures the oxygen in your blood with a clip that goes on your finger, toe or earlobe

**Quick-relief (rescue) medicine:** medicine that starts to work in a few minutes and lasts a few hours

**Reflux:** when stomach acid backs up and irritates the esophagus

**Rheumatoid arthritis:** when your immune system mistakenly attacks the lining of your joints, causing a painful swelling that can eventually result in joint deformity

**Secondhand smoke:** smoke from a burning cigarette, cigar, pipe or hookah

**Silica:** a very common mineral found in many materials common on construction sites, including soil, sand, concrete, masonry, rock, granite and landscaping materials. The dust created by cutting, grinding or drilling can cause lung disease and cancer.

**Sinusitis:** swelling of the air cavities within the passages of the nose. Sinusitis can be caused by infection, but also can be caused by allergies and irritation of the sinuses.

**Spirometry:** a test to see how well your lungs are working

**Sputum:** mucus in your lungs

**Stroke:** when blood flow to an area of your brain is cut off

**Suppressant:** medicine to help you cough less

**Thirdhand smoke:** tobacco particles that stay on surfaces long after burning tobacco has been put out

**Thrush:** infection of the mouth and throat

**Trachea:** windpipe

**Ultrasound:** a test that uses sound waves to see inside your body

**Vaping devices:** electronic cigarettes, cigars and pipes that produce steam vapor when smoked