

# THE BASICS OF COPD



**COPD**  
FOUNDATION





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## What is COPD?



Chronic obstructive pulmonary disease (COPD) is a term used to describe chronic lung diseases including emphysema and chronic bronchitis. COPD is characterized by breathlessness. Some people with COPD also experience tiredness and chronic cough with or without mucus. Let's break down this complicated name into smaller pieces:

**C**

### HRONIC

This means this disease is not curable. The symptoms of COPD may take years to develop. Symptoms can vary from person to person and they may be more or less severe at times. It is important to remember that while COPD isn't curable, it is treatable.



### BSTRUCTIVE

This means that the airflow through your lungs is blocked (obstructed). This can be caused by swelling and extra mucus in the tubes inside your lungs. These airways are called bronchial tubes. They look like the roots of a tree, with larger tubes leading to smaller ones.

**P**

### ULMONARY


This means that the disease is in your lungs.

**D**

### ISEASE

This means that your lungs have some damage. But with the right treatment, your symptoms can be managed and the progression of the disease can be slowed.

## COPD FACTS





Nearly  
**16 MILLION**  
Americans are diagnosed  
with COPD,  
and estimates suggest  
that up to  
**16 MILLION**  
more have COPD but are  
**UNDIAGNOSED**.<sup>1,2</sup>

Cases of COPD are expected to  
**INCREASE WORLDWIDE**  
due to exposure to smoke, pollution,  
and other inhaled irritants.<sup>4</sup>

<sup>1</sup>Ford E. et al. COPD Surveillance-United States, 1999-2011. *CHEST* 2013; 144(1):284-305.

<sup>2</sup>Ford, E. et al. Trends in the Prevalence of Obstructive and Restrictive Lung Function Among Adults in the United States. *CHEST* 2013; 143(5):1395-1406.

<sup>4</sup>Global Initiative for Chronic Obstructive Pulmonary Disease (2021) "Global Strategy for the Diagnosis, Management, and Prevention of Chronic Obstructive Pulmonary Disease." [https://goldcopd.org/wp-content/uploads/2020/11/GOLD-REPORT-2021-v1.1-25Nov20\\_WMV.pdf](https://goldcopd.org/wp-content/uploads/2020/11/GOLD-REPORT-2021-v1.1-25Nov20_WMV.pdf)



Nearly  
**ONE OUT OF**  
**EVERY FIVE**  
**PATIENTS**  
40 years or older in  
U.S. hospitals has a  
diagnosis of COPD.<sup>3</sup>

More than  
**320**  
**MILLION**  
people are affected  
by COPD worldwide.<sup>5</sup>

<sup>3</sup>Wier, LM, Elixhauser, A, Pfuntner A, Au, DH. *Overview of Hospitalizations among Patients with COPD, 2008*. HCUP Statistical Brief #106. February 2011. Agency for Healthcare Research and Quality. <https://www.hcup-us.ahrq.gov/reports/statbriefs/sb106.pdf>

<sup>5</sup>Wang, Dongming, et al., Association of Silica Dust Exposure and Cigarette Smoking With Mortality Among Mine and Pottery Workers in China. *JAMA Network Open* 2020; 3(4) <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2764378>



# Causes of COPD



## There are many different causes of COPD such as:

### Smoking:

Smoking is the most common cause of COPD in the United States and most high income countries. If you are still a smoker, it is very important to quit. Quitting smoking helps slow the progression of your COPD and makes your treatment more effective.

### Inhaled Irritants:

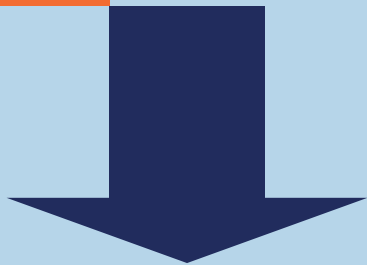
COPD can also be caused by breathing in substances that irritate the lungs. These can include smoke, chemical fumes, and dust. These irritants can be found in workplaces and in homes.

### Genetics:

In some cases, COPD can be genetic. This means that it runs in families. A condition called alpha-1 antitrypsin deficiency, or Alpha-1, causes this type of COPD. Alpha-1 is caused by a lack of a protein in the blood called alpha-1 antitrypsin (AAT). The main role of this AAT protein is to protect the lungs from inflammation caused by infection and irritants you breathe in. The Alpha-1 Foundation reports that there may be as many as 100,000 people with Alpha-1 in the United States. Ask your health care provider about simple screening and testing for Alpha-1.



## Symptoms of COPD



The symptoms of COPD can be different for each person. Symptoms can also vary from day to day, with some days being worse than others. Common symptoms of COPD include:

- Shortness of breath
- A frequent cough with or without mucus
- Wheezing (a whistling sound when you breathe in or out)
- Chest tightness

Some of these symptoms can be related to other diseases, such as heart problems, obesity, asthma, allergies, and other conditions. It is important to tell your health care provider if you are experiencing any of these symptoms.

*Many people with COPD also have additional chronic diseases. These are called comorbidities. Talk to your health care provider if you have other symptoms even if you think they are not related to your COPD.*



# Getting Tested



A simple breathing test called spirometry (part of a lung function test or pulmonary function test) can help determine if you have COPD. Spirometry measures how much air your lungs can hold. This is called lung volume. Spirometry also measures how fast you can blow the air out of your lungs. This is called expiratory flow. Spirometry can detect COPD before you have symptoms. Your health care provider may order a spirometry test if:

- You have symptoms of shortness of breath or difficulty breathing.
- You are a smoker or have smoked in the past.
- You have been exposed to poor air quality, such as living in a large city or working in construction, mining, or cleaning.
- You have already been diagnosed with COPD.

*Spirometry testing every one to two years is an important part of COPD management. It shows how well your lungs are working.*

Spirometry testing is offered in some doctors' offices and hospitals. Your primary care physician may refer you to a lung specialist for spirometry testing. These doctors are called pulmonologists. They are experts in diseases of the lungs.

Your health care provider may order other more specialized lung function tests depending on your symptoms and condition. These can include more exact measurements of your lung volumes and flows. Your health care provider may also order a DLCO test. This breathing test tells your health care provider how well your lungs deliver oxygen to your body. It can help your health care provider to tell if you are not getting enough oxygen. All of these breathing tests are simple, painless, and only take a few minutes to do.

If your health care provider orders spirometry or other lung function testing for you, be sure to follow any instructions you're given. Some medications may need to be stopped before your test and you may have to avoid large meals that day. If you are a smoker, you may have to stop smoking for a certain amount of time before your test.

*X-rays or an office visit are not enough to diagnose COPD. Ask your health care provider about spirometry testing and Alpha-1 testing if you have symptoms of COPD.*





## What to Expect During Spirometry Testing

When you arrive for your spirometry test, the technician will measure your height and weight. They will also ask questions about your symptoms and medications that you take. Then, the technician will show you what you will need to do during the test.

Spirometry is an easy, painless test that can detect COPD before you have serious symptoms. When it's time to start the test, your technician will tell you to:

1. Sit with your feet flat on the floor.
2. Place a mouthpiece in your mouth, between your teeth, with your lips forming a tight seal around the mouthpiece.
3. Breathe normally for a few breaths.
4. Take a big, deep breath in.
5. Blow out as hard and fast as you can. Keep blowing even if you feel like your lungs are empty.
6. Take a big, deep breath in.

You will likely repeat this test a few more times. You may need to perform this test again after your technician gives you a breathing treatment. This helps your health care provider know how well your lungs respond to the medication. You may also have to breathe into the machine in different patterns depending on the testing that your doctor ordered.



## COPD Flare-ups (Exacerbations)



There will be times when your COPD symptoms suddenly get worse. These flare-ups are called exacerbations. They are usually caused by an infection in your lungs. Flare-ups can also be caused by a change in weather, increased air pollution, and other factors. It is important that you call your health care provider at the earliest sign of a flare-up.

Some common warning signs of a flare-up include:

- Fever
- Increased shortness of breath or coughing
- Needing your bronchodilator (rescue inhaler) more often than normal
- Change in the color, thickness, or amount of mucus
- Unusual tiredness
- New or increased swelling in the legs

Call 911 for dangerous warning signs such as:

- Disorientation, confusion, or slurring of speech
- Severe shortness of breath or chest pain
- Lips or fingers that are blue or pale







## Medications for Exacerbations

There are many medications available that can help improve your COPD symptoms. Let's learn more about the different types of COPD medications and how to use them properly.

### Short-acting Medications

Short-acting medications work quickly to help relieve your COPD symptoms. Common short-acting medications – the ones you use when you need quick relief – include bronchodilators. These are medications that relax the muscles around the lungs' breathing tubes. They help you to breathe easier and reduce your coughing.

### Oral Corticosteroids

Oral corticosteroids are medications that reduce swelling in the breathing tubes of the lungs. This helps make breathing easier. Oral corticosteroids are pills or tablets that are taken by mouth. These are not the same type of steroids that some athletes take to give them bigger muscles. These medications are only used for a short time during a COPD flare-up.

### Antibiotics

COPD flare-ups are often caused by infections in your lungs. Your health care provider may give you antibiotics to treat the infection. Antibiotics only work on lung infections caused by bacteria, such as bronchitis and pneumonia. These infections can make your COPD much worse.

*Be sure to keep all of your medications refilled. If you are having trouble affording your medication, talk to your health care professional.*

## Medications for Daily Use

### Long-acting Medications

Long-acting medications are used every day to help prevent your COPD symptoms. These medications do not work quickly. Often, you need to take long-acting medications for several days or weeks before noticing a change in symptoms. These medications can include:

- **Inhaled Corticosteroids:** These are medications that help to reduce inflammation and swelling in your lungs. They decrease your risk of a flare-up, but you will not notice a change right away.
- **Long-acting Bronchodilators:** These medications help open up your airways over a longer period of time. They do not work immediately and should not be used for quick relief of COPD symptoms. These medications are used once or twice daily, every day. Do not stop your long-acting medications when you feel well.

*Follow your medication schedule as directed by your health care provider.*





## Medication Delivery



COPD medications come in many forms, including pills, inhalers, and nebulizer treatments.

### Metered Dose Inhalers

Metered dose inhalers are available in many forms. Some of these inhalers release medication only when you breathe in. Others release a “puff” or spray of medication when you press down. Sometimes the medication may hit your tongue or the back of your throat instead of going deep into your lungs. Adding a spacer or holding chamber to your inhaler can help. Check with your health care professional to see if your inhaler requires a spacer.

*The COPD Foundation website has videos showing you the proper way to use these different inhalers. For more information on how to use your inhalers, visit <http://copdf.co/videos>*



*Be sure to follow the care and cleaning instructions for your nebulizer and other home health equipment.*

## Soft Mist Inhalers

Soft mist inhalers release a spray of medication at a slower rate than metered dose inhalers. This allows you to inhale the medication slowly so that the medication goes deep into your lungs. Several different medications are available in soft mist inhaler form.

## Dry Powder Inhalers

Dry powder inhalers contain medication in a fine powder. These inhalers do not release puffs of medication. Instead, you inhale the powder quickly and deeply. Dry powder inhalers and metered dose inhalers are used very differently.

## Nebulizers

Many COPD medications come in liquid form which is used with a nebulizer machine. Nebulizers are machines that turn liquid COPD medications into a fine mist. Many different medications come in nebulizer form, including long-acting medications and short-acting medications. Nebulizers are available by prescription from pharmacies or home oxygen suppliers.



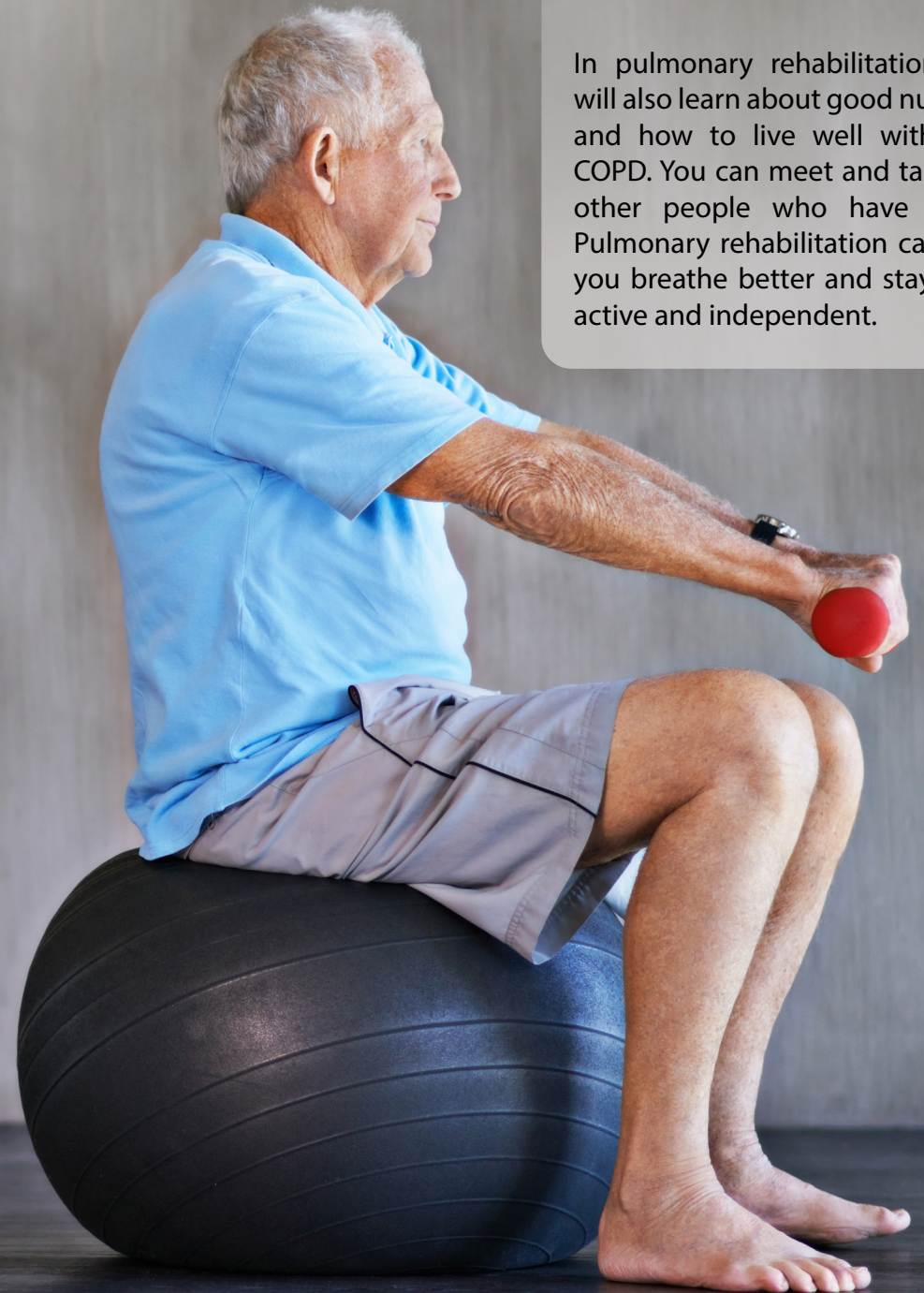


# Pulmonary Rehabilitation & Exercise

Pulmonary rehabilitation is a program that includes exercise, education, and emotional support for people with COPD. Many different types of health care professionals work with you in the program, such as respiratory therapists, nurses, physical therapists, and dietitians. You will work with this team to build up your stamina and strength.

Many people believe that if they are short of breath, they should not exercise. This is not true. Exercise can help improve your breathing and help you feel better. You don't have to join a health club or do difficult exercises. Even simply increasing your daily activities can help improve your health. You and your pulmonary rehabilitation team will design an exercise plan that's right for you.

***Talk with your health care provider if you are interested in pulmonary rehabilitation. These programs are covered by insurance, but a prescription from a health care provider is required.***



In pulmonary rehabilitation, you will also learn about good nutrition and how to live well with your COPD. You can meet and talk with other people who have COPD. Pulmonary rehabilitation can help you breathe better and stay more active and independent.



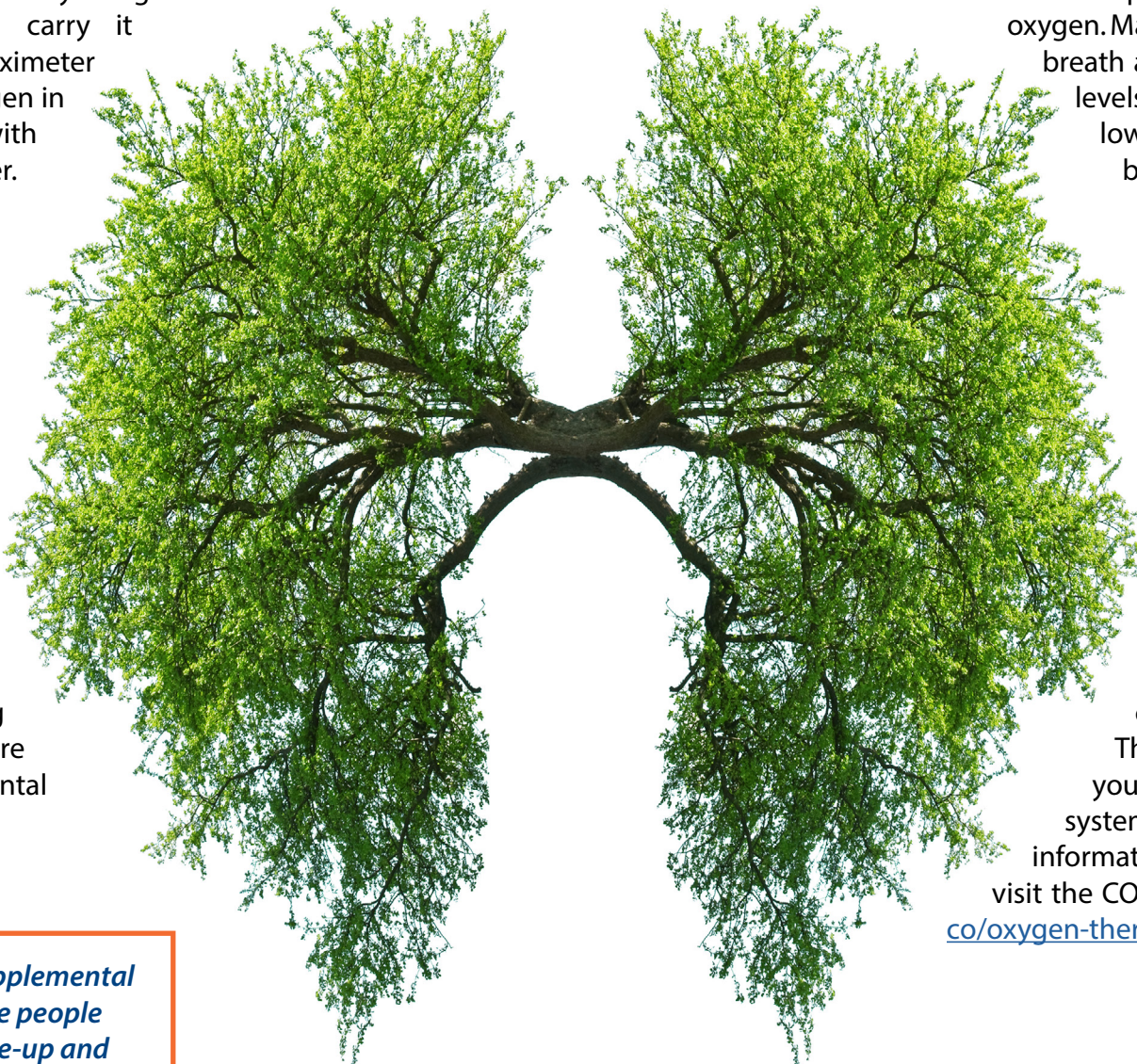
# Oxygen



COPD can reduce your lungs' ability to get oxygen into your blood and carry it throughout your body. A pulse oximeter is often used to measure the oxygen in your blood. This is a small device with a light that clips on to your finger. The light measures the oxygen level in your blood.

Your doctor may also order a more precise test called an arterial blood gas (ABG). In this test, a small amount of blood is taken from your wrist or arm. An ABG can give your health care provider an exact measurement of the oxygen in your blood. This test tells your doctor how well your lungs are working. If your oxygen levels are too low with exercise, during sleep, or at rest, your health care provider may prescribe supplemental (extra) oxygen.

*Did you know? Your need for supplemental oxygen may be temporary. Some people may only need it for a COPD flare-up and while they are recovering.*



*Never change your oxygen flow without checking with your health care provider. Using too much oxygen can be harmful to your health.*

Not all COPD patients need to use supplemental oxygen. Many people with COPD feel short of breath at times but have normal oxygen levels. And some people who have low oxygen levels do not always feel breathless.

Supplemental oxygen is a medical treatment. It requires a doctor's prescription. Your prescription will tell you how much oxygen you need for different activities. It is very important that you use the amount of oxygen that your doctor prescribed.

There are several types of oxygen systems for home use. These include tanks, concentrators, and liquid oxygen. There are many factors that help you and your doctor decide which system is right for you. For more information on supplemental oxygen, visit the COPD Foundation website at [copdf.co/oxygen-therapy](https://copdf.co/oxygen-therapy).



# Tips for living Well with COPD

Living with COPD can be challenging at times. Once you know you have COPD and begin treatment, there are many things you can do to improve your breathing and quality of life. You can:

- **Get a flu shot every year and ask your health care provider about the pneumonia shot, COVID-19 shot, and others.** Vaccinations are important, especially for people with COPD.
- **Complete the My COPD Action Plan.** It is important to have a plan in case of a flare-up. Fill out the My COPD Action Plan with your health care provider and keep it handy. Follow the plan when you're feeling well, and when you are having a flare-up. You can find a free copy of the My COPD Action Plan on the COPD Foundation website at [copdf.co/my-copd-action-plan](http://copdf.co/my-copd-action-plan).

**Tips for Living Well with COPD**

**Health and Safety**

- If you are a smoker, make a plan to quit.
- Vaccinations are important. Get a flu shot every year and talk to your health care provider about the pneumonia shot, COVID-19 shot, and other vaccinations.
- Eat a well-balanced diet.

My Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 My Doctor's Name: \_\_\_\_\_ Phone: \_\_\_\_\_  
 Emergency Contact: \_\_\_\_\_

Please complete the section below. Bring all your medicines and inhalers along with a complete list to doctor's office visit. Think about your ability to perform these activities on a typical "green" day. Place one check mark in each column. In the last (blank) column write in an activity you would like to be able to do again. Check the box below it to show how difficult it is to do that activity now. Share this goal with your healthcare team and your family.

	CLEANING	MAKING MY BED	BRUSHING MY TEETH	BATHING/SHOWERING	WALKING	CLIMBING STAIRS	WORKING	SLEEPING	EXERCISING	COOKING	
I can do this											
I struggle to do this											
I cannot do this											

**Instructions:** Work with your doctor to complete this section on special medications for use on your Yellow and Red days.

**My Green Days**

A Normal Day for Me

- My breathing is normal
- My cough and mucus are normal
- My sleeping is normal
- My eating and appetite are normal
- My activity level is normal

**Take Action**

- I will take all medications as prescribed
- I will keep routine doctor appointments
- I will use oxygen as prescribed
- I will exercise and eat regularly
- I will avoid all inhaled irritants & bad air days
- I will update my COPD Action Plan every 6 months

**My Yellow Days**

A Bad Day for Me

- I have a low grade fever that doesn't go away
- I have increased use of rescue medications without relief
- I have a change in color, thickness, odor or amount of mucus
- I am more tired than normal or have trouble sleeping
- I have new or more ankle swelling
- I am more breathless than normal
- I feel like I am catching a cold

**Take Action**

- I will limit my activity and use pursed-lips breathing
- I will take regular medications as prescribed
- I will report these changes to my doctor today
- I will start special medications\* prescribed with my doctor which includes: \_\_\_\_\_

**My Red Days**

A Bad Day When I Need Help Right Away

- I have disorientation, confusion or slurring of speech
- I have severe shortness of breath or chest pain
- I have a blue-color around my lips or fingers
- I am coughing up blood

**Take Action**

- I will call 911 right away
- I will start these special medications\*: \_\_\_\_\_

\* If symptoms are not improved three days after taking special medications, consult your doctor. The contents of My COPD Action Plan is for informational purposes only and is not intended to be a substitute for professional medical advice, diagnosis or treatment. For personal use only. Permission required for all other uses.

**Don't make any diet changes without talking to your health care provider first.**

## More Healthy Living Tips

- **Try new breathing techniques.** Your doctor or respiratory therapist can help you learn how to breathe more efficiently. Some breathing exercises, such as pursed lip breathing, can help you relax and reduce your shortness of breath. They can also help you learn positions and relaxation steps that will help you when you are feeling short of breath. To learn more about pursed lip breathing and relaxation tips, download the Coping With COPD guide at [copdf.co/guides](http://copdf.co/guides).
- **Learn how to clear your lungs with coughing.** If you are having trouble coughing up mucus, ask your health care professional for help. There are tools and techniques available to help you cough out mucus effectively.
- **Eat well and maintain a healthy weight.** If you are overweight, losing weight will help your breathing. If you are underweight, gaining weight will improve your strength and help your body recover from flare-ups more quickly.
- **Talk about your feelings.** Sharing your feelings with someone who cares can be helpful. Talk with a spouse, family member, or trusted friend. Consider seeing a mental health professional if your feelings are overwhelming or affect your daily activities.
- **Visit your doctor at least twice a year, even if you are feeling well.** Bring a written list of any concerns you have about your COPD, medications, or other issues.

While COPD is not a curable disease, it is treatable. You can still live a healthy, happy life with COPD. By taking your medications regularly and using them correctly, eating right, and staying active, you can help improve your COPD symptoms and enjoy a more active lifestyle.

*Changes that may seem small can add up and make a big difference in your health and well-being.*



## Additional Resources

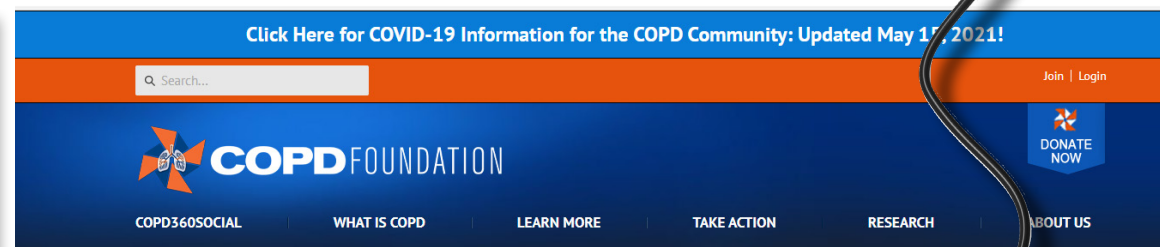


Learn more about COPD on the Foundation's website at:  
[www.COPDFoundation.org](http://www.COPDFoundation.org).

Download the COPD Guides for Better Living Series at [copdf.co/guides](http://copdf.co/guides). This series of booklets cover topics such as:

- Advance Directives
- Coping with COPD
- Exacerbations
- Exercise and COPD
- Hospitalization and the Transition to Home
- Nutrition and COPD
- Oxygen Therapy
- Traveling with COPD
- Understanding COPD

Connect with others: COPD360social, our online community, is a place to share thoughts and ideas, ask questions, and communicate with peers as well as experts. To join this free community of more than 50,000 individuals visit:  
[www.copd360social.org](http://www.copd360social.org).



[Join the COPD Patient-Powered Research Network](#) (COPD PPRN): The COPD Patient-Powered Research Network is the COPD Foundation's online registry of individuals with COPD and those who report factors that put them at increased risk for COPD who have consented to be contacted about studies they might be eligible for and complete surveys about their health and experience living with COPD.

Become an advocate: tell your story, grow awareness of the needs of the COPD community, and help make sure your voice is heard. Visit the COPD Foundation website to find out more or email [statecaptains@copdfoundation.org](mailto:statecaptains@copdfoundation.org).







# **COPD** FOUNDATION

**Miami, FL | Washington, DC**

**[www.copdfoundation.org](http://www.copdfoundation.org)**

**COPD360 Community Support Line:  
1-866-316-COPD (2673)**

**Bronchiectasis and NTM Information Line:  
1-833-411-LUNG (5864)**

**This guide has been reviewed by members of the  
COPD Foundation Guides for Better Living Review Team**