

Healthful Living

S P R I N G
2 0 2 5



SCAN TO READ
this issue & more!
(See details, p. 5)

**SPECIAL
COPD
ISSUE**



**Facts
About
COPD**

**Common
COPD
Symptoms**

**"I GOT THIS"
ONE WOMAN'S
COPD JOURNEY**

**All About
Inflammation
& COPD**

**COPD:
What to Eat,
What to Avoid**



HELPS PEOPLE

BREATHE EASIER

STARTING IN AS LITTLE AS 2 WEEKS

WHEN USED WITH INHALERS*, DUPIXENT WAS PROVEN TO HELP REDUCE FLARE-UPS.

The most common side effects in patients with chronic obstructive pulmonary disease include injection site reactions, common cold symptoms (nasopharyngitis), high count of a certain white blood cell (eosinophilia), viral infection, back pain, inflammation inside the nose (rhinitis), diarrhea, gastritis, joint pain (arthralgia), toothache, headache, and urinary tract infection.

* COPD inhalers are considered standard of care (SOC), which refers to a typical treatment approach prescribed by a healthcare professional for COPD.

INDICATION

DUPIXENT® is a prescription medicine used with other medicines for the maintenance treatment of adults with inadequately controlled chronic obstructive pulmonary disease (COPD) and a high number of blood eosinophils (a type of white blood cell that may contribute to your COPD). DUPIXENT is used to reduce the number of flare-ups (the worsening of your COPD symptoms for several days) and can improve your breathing. DUPIXENT is not used to relieve sudden breathing problems and will not replace an inhaled rescue medicine. It is not known if DUPIXENT is safe and effective in children with chronic obstructive pulmonary disease under 18 years of age.

IMPORTANT SAFETY INFORMATION

Do not use if you are allergic to dupilumab or to any of the ingredients in DUPIXENT.

Before using DUPIXENT, tell your healthcare provider about all your medical conditions, including if you:

- have eye problems.
- have a parasitic (helminth) infection.
- are scheduled to receive any vaccinations. You should not receive a “live vaccine” right before and during treatment with DUPIXENT.
- are pregnant or plan to become pregnant. It is not known whether DUPIXENT will harm your unborn baby.
 - A pregnancy registry for women who take DUPIXENT during pregnancy collects information about the health of you and your baby. To enroll or get more information call 1-877-311-8972 or go to <https://mothertobaby.org/ongoing-study/dupixent/>.
- are breastfeeding or plan to breastfeed. It is not known whether DUPIXENT passes into your breast milk.

Tell your healthcare provider about all the medicines you take, including prescription and over-the-counter medicines, vitamins, and herbal supplements.

Especially tell your healthcare provider if you are taking oral, topical, or inhaled corticosteroid medicines or have chronic obstructive pulmonary disease and also have asthma. **Do not** change or stop your other medicines, including corticosteroid medicine or other asthma medicine, without talking to your healthcare provider. This may cause other symptoms that were controlled by those medicines to come back.



DUPIXENT[®] (dupilumab) Injection 300mg

**DU MORE
WITH LESS
COPD**

TALK TO YOUR PULMONOLOGIST ABOUT DUPIXENT

Not an actual patient.

DUPIXENT can cause serious side effects, including:

- **Allergic reactions.** DUPIXENT can cause allergic reactions that can sometimes be severe. Stop using DUPIXENT and tell your healthcare provider or get emergency help right away if you get any of the following signs or symptoms: breathing problems or wheezing, swelling of the face, lips, mouth, tongue or throat, fainting, dizziness, feeling lightheaded, fast pulse, fever, hives, joint pain, general ill feeling, itching, skin rash, swollen lymph nodes, nausea or vomiting, or cramps in your stomach-area.
- **Eye problems.** Tell your healthcare provider if you have any new or worsening eye problems, including eye pain or changes in vision, such as blurred vision. Your healthcare provider may send you to an ophthalmologist for an exam if needed.
- **Joint aches and pain.** Some people who use DUPIXENT have had trouble walking or moving due to their joint symptoms, and in some cases needed to be hospitalized. Tell your healthcare provider about any new or worsening joint symptoms. Your healthcare provider may stop DUPIXENT if you develop joint symptoms.

The most common side effects in patients with chronic obstructive pulmonary disease include injection site reactions, common cold symptoms (nasopharyngitis), high count of a certain white blood cell (eosinophilia), viral infection, back pain, inflammation inside the nose (rhinitis), diarrhea, gastritis, joint pain (arthralgia), toothache, headache, and urinary tract infection.

Tell your healthcare provider if you have any side effect that bothers you or that does not go away. These are not all the possible side effects of DUPIXENT. Call your doctor for medical advice about side effects. You are encouraged to report negative side effects of prescription drugs to the FDA. Visit www.fda.gov/medwatch, or call 1-800-FDA-1088.

Use DUPIXENT exactly as prescribed by your healthcare provider. It's an injection given under the skin (subcutaneous injection). Your healthcare provider will decide if you or your caregiver can inject DUPIXENT. **Do not** try to prepare and inject DUPIXENT until you or your caregiver have been trained by your healthcare provider.

Please see Brief Summary of Important Patient Information on the next page.

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US.DUP.25.01.0192 02/2025

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injection, for subcutaneous use

What is DUPIXENT?

- DUPIXENT is a prescription medicine used:
 - with other medicines for the maintenance treatment of adults with inadequately controlled chronic obstructive pulmonary disease (COPD) and a high number of blood eosinophils (a type of white blood cell that may contribute to your COPD); DUPIXENT is used to reduce the number of flare-ups (the worsening of your COPD symptoms for several days) and can improve your breathing.
- DUPIXENT is not used to relieve sudden breathing problems and will not replace an inhaled rescue medicine.
- DUPIXENT works by blocking two proteins that contribute to a type of inflammation that plays a major role in chronic obstructive pulmonary disease.
- It is not known if DUPIXENT is safe and effective in children with chronic obstructive pulmonary disease under 18 years of age. Chronic obstructive pulmonary disease is most often seen in adults.

Who should not use DUPIXENT?

Do not use DUPIXENT if you are allergic to dupilumab or to any of the ingredients in DUPIXENT. See the end of this summary of information for a complete list of ingredients in DUPIXENT.

What should I tell my healthcare provider before using DUPIXENT?
Before using DUPIXENT, tell your healthcare provider about all your medical conditions, including if you:

- have eye problems.
- have a parasitic (helminth) infection.
- are scheduled to receive any vaccinations. You should not receive a "live vaccine" right before and during treatment with DUPIXENT.
- are pregnant or plan to become pregnant. It is not known whether DUPIXENT will harm your unborn baby.

Pregnancy Exposure Registry

There is a pregnancy exposure registry for women who take DUPIXENT during pregnancy to collect information about the health of you and your baby. Your healthcare provider can enroll you or you may enroll yourself. To get more information about the registry call 1-877-311-8972 or go to <https://mothertobaby.org/ongoing-study/dupixent/>.

- are breastfeeding or plan to breastfeed. It is not known whether DUPIXENT passes into your breast milk.

Tell your healthcare provider about all of the medicines you take including prescription and over-the-counter medicines, vitamins, and herbal supplements.

Especially tell your healthcare provider if you:

- are taking oral, topical, or inhaled corticosteroid medicines
- have chronic obstructive pulmonary disease and also have asthma

Do not change or stop your other medicines, including corticosteroid medicine or other asthma medicine, without talking to your healthcare provider. This may cause other symptoms that were controlled by those medicines to come back.

How should I use DUPIXENT?

- **Use the detailed "Instructions for Use" that comes with DUPIXENT for information on how to prepare and inject DUPIXENT and how to properly store and throw away (dispose of) used DUPIXENT pre-filled syringes and pre-filled pens.**
- Use DUPIXENT exactly as prescribed by your healthcare provider.
- Your healthcare provider will tell you how much DUPIXENT to inject and how often to inject it.
- DUPIXENT comes as a single-dose pre-filled syringe with needle shield or as a pre-filled pen.
- DUPIXENT is given as an injection under the skin (subcutaneous injection).
- If your healthcare provider decides that you or a caregiver can give the injections of DUPIXENT, you or your caregiver should receive training on the right way to prepare and inject DUPIXENT. **Do not** try to inject DUPIXENT until you have been shown the right way by your healthcare provider.
- **If your dose schedule is every other week and you miss a dose of DUPIXENT:** Give the DUPIXENT injection within 7 days from the missed dose, then continue with your original schedule. If the missed dose is not given within 7 days, wait until the next scheduled dose to give your DUPIXENT injection.
- If you inject too much DUPIXENT, call your healthcare provider or Poison Help line at 1-800-222-1222 or go to the nearest hospital emergency room right away.

- Your healthcare provider may prescribe other medicines to use with DUPIXENT. Use the other prescribed medicines exactly as your healthcare provider tells you to.

What are the possible side effects of DUPIXENT?

DUPIXENT can cause serious side effects, including:

- **Allergic reactions. DUPIXENT can cause allergic reactions that can sometimes be severe.** Stop using DUPIXENT and tell your healthcare provider or get emergency help right away if you get any of the following signs or symptoms: breathing problems or wheezing, fast pulse, fever, general ill feeling, swollen lymph nodes, swelling of the face, lips, mouth, tongue, or throat, hives, itching, nausea or vomiting, fainting, dizziness, feeling lightheaded, joint pain, skin rash, or cramps in your stomach-area.
- **Eye problems.** Tell your healthcare provider if you have any new or worsening eye problems, including eye pain or changes in vision, such as blurred vision. Your healthcare provider may send you to an ophthalmologist for an exam if needed.
- **Joint aches and pain.** Joint aches and pain can happen in people who use DUPIXENT. Some people have had trouble walking or moving due to their joint symptoms, and in some cases needed to be hospitalized. Tell your healthcare provider about any new or worsening joint symptoms. Your healthcare provider may stop DUPIXENT if you develop joint symptoms.

The most common side effects of DUPIXENT in patients with chronic obstructive pulmonary disease include: injection sites reactions, common cold symptoms (nasopharyngitis), high count of a certain white blood cell (eosinophilia), viral infection, back pain, inflammation inside the nose (rhinitis), diarrhea, gastritis, joint pain (arthralgia), toothache, headache, and urinary tract infection.

The following additional side effects have been reported with DUPIXENT: facial rash or redness.

Tell your healthcare provider if you have any side effect that bothers you or that does not go away. These are not all of the possible side effects of DUPIXENT. Call your doctor for medical advice about side effects. You may report side effects to FDA. Visit www.fda.gov/medwatch, or call 1-800-FDA-1088.

How should I store DUPIXENT?

- Store DUPIXENT in the refrigerator between 36°F to 46°F (2°C to 8°C).
- Store DUPIXENT in the original carton to protect from light.
- DUPIXENT can be stored at room temperature up to 77°F (25°C) up to 14 days. Throw away (dispose of) any DUPIXENT that has been left at room temperature for longer than 14 days.
- **Do not** heat or put DUPIXENT into direct sunlight.
- **Do not** freeze. **Do not** shake.
- **Keep DUPIXENT and all medicines out of the reach of children.**

General information about the safe and effective use of DUPIXENT.

Medicines are sometimes prescribed for purposes other than those listed in a Patient Information leaflet. Do not use DUPIXENT for a condition for which it was not prescribed. Do not give DUPIXENT to other people, even if they have the same symptoms that you have. It may harm them.

This is a brief summary of the most important information about DUPIXENT. If you would like more information, talk with your healthcare provider. You can ask your pharmacist or healthcare provider for more information about DUPIXENT that is written for healthcare professionals.

For more information about DUPIXENT, go to www.DUPIXENT.com or call 1-844-DUPIXENT (1-844-387-4936)

What are the ingredients in DUPIXENT?

Active ingredient: dupilumab

Inactive ingredients: L-arginine hydrochloride, L-histidine, polysorbate 80, sodium acetate, sucrose, and water for injection

Manufactured by: Regeneron Pharmaceuticals, Inc., Tarrytown, NY 10591
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Healthful Living™

S P R I N G 2 0 2 5



You Got This! You Can Do This!

For those diagnosed with COPD (chronic obstructive pulmonary disease) the initial shock of a diagnosis is hard. Anger. Fear. Sadness. Depression. These are all common feelings that people with the disease have. (See Lisa's inspiring story on p. 16.) But then, armed with knowledge, their doctor's advice, and the right treatments, it is possible to find the inner strength to go on and embrace life. Let this issue of *Healthful Living* be that knowledge and strength you need to help you on your COPD journey. Brought to you in partnership with the COPD Foundation, this guide is packed with advice and tips for those with COPD. In this issue, you'll find helpful diagrams that show what's happening in the lungs with COPD (p. 10). You'll also find proven lifestyle changes to help you breathe easier (p. 14), as well as foods to support healthier lungs (p. 21), and so much more. We hope this issue inspires you to say: "I Got This! I Can Do This!"



For a digital version of this issue with even more information, hold your phone's camera up to the code on the front cover and click on the link that appears on the screen or scan the code with a QR reader app.

We'd love to hear from you, email us at info@pacmediagroup.com

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The nutrients your lungs need to work optimally. Plus, a delicious recipe!



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A photograph of five diverse women walking barefoot on a sandy beach. They are all smiling and looking towards the right. The background shows the ocean and a bright sky. The image has a blue tint.

Someone you know has COPD
Could it be you?



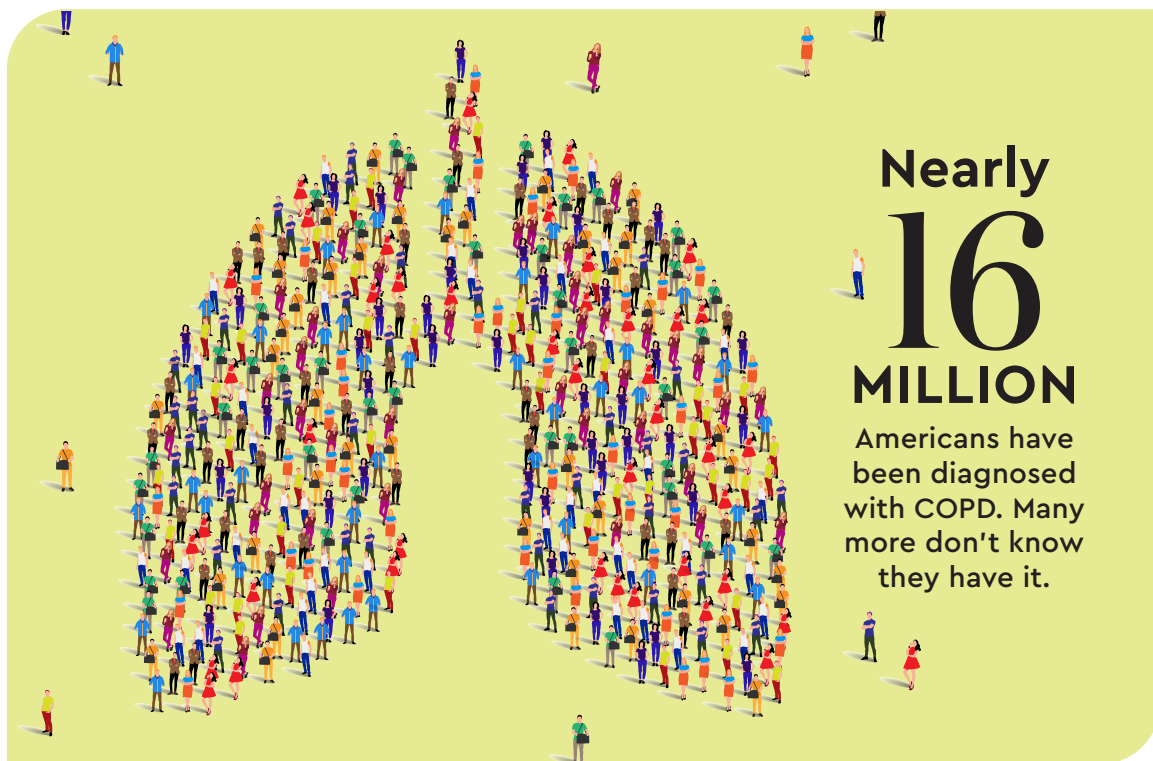
COPD FOUNDATION®

If You Breathe, You Should Know About COPD

copdfoundation.org

A Closer Look at COPD

What you need to know about chronic obstructive pulmonary disease, or COPD, a progressive lung disease.



Chronic bronchitis (repeated irritation and inflammation of the airways) and **emphysema** (caused by damage to the lung's air sacs) are two conditions that are part of COPD. Most people who have COPD have a mixture of both conditions, which can cause trouble breathing.

**COPD
Is More
Common In
Adults 40+**

You may be more at risk for COPD if you have asthma. In fact, about 25% of people with COPD are also diagnosed with asthma.



The Right Treatments Can Help

Damage to the lungs that occurs with COPD isn't able to be cured or reversed, but interventions and treatments can help slow the progression of it and mitigate symptoms. Talk to your doctor about what may be able to help you breathe easier and feel better.

De-Stressing Strategies

Chronic stress plays a part in the progression of many diseases, including COPD. Below are some proven ways to help you relax.



Deep Breathing

Taking slow, deep breaths activates the parasympathetic nervous system. This helps to reduce anxiety and calm you. Most of us are shallow breathers, which activates the body's stress response. If you need help learning how to deep breathe, try apps like the Breath Ball, where you simply breathe in and out to the rhythm of an expanding breath ball on the screen.



Restful Sleep

Getting enough restful sleep is a powerful stress buster. It reduces levels of a stress hormone called cortisol. It's cortisol that's responsible for the body's flight or fight stress response. By ensuring that you get enough sleep, you can reduce cortisol levels, helping to restore balance and calm to the body. And in the process, you'll be reducing inflammation, too.



Regular Exercise

Consistent daily exercise helps to reduce stress hormones like cortisol and adrenaline. It also stimulates the production of endorphins. These are brain chemicals that are natural painkillers and help you to feel happier. You don't need to do vigorous exercise to get stress-busting results. A regular walk can help calm you and even help you sleep better at night.

Drink More H₂O

Staying hydrated is important for overall health, but it also helps to thin mucus that can build up in the airways with COPD. This can make it easier for those with COPD to breathe. When you don't get enough water, mucus can become thick and sticky, slowing down breathing. Thinner mucus is easier to cough out or blow out of the nose.





Nearly Half Of Those Diagnosed With COPD Are Women

Sex hormones like estrogen may play a role. They may make women more susceptible to lung damage from triggers like cigarette smoke.



Smoking (and being around those who smoke) and air pollution are the leading causes of COPD in high income countries like the U.S. But genetic susceptibility and dietary factors may also play a role.

A genetic condition called alpha-1 antitrypsin (AAT) deficiency can also raise your risk for COPD. AAT is a protein made in the liver to help protect the lungs. If your body doesn't make enough AAT, your lungs are more easily damaged from smoking, pollution, or dust from the environment.

COPD Develops Over Time

It may be years before you notice symptoms like shortness of breath. (For more common symptoms, see p. 13.) This is why COPD is typically diagnosed in middle-aged or older people, though younger people who are diagnosed may be able to slow the progression of the disease.



How Doctors Diagnose COPD

If you're showing symptoms of COPD (p. 13), your doctor will perform various tests to determine if you have COPD.



Spirometry

measures the amount and speed of the air you blow out.



Chest X-Ray

can show changes in your lungs associated with COPD.



Oximetry Test or ABG

measures the oxygen in your blood and tests how well your lungs are working.



CT Scan

can show whether you have emphysema or chronic bronchitis.



Alpha-1 Testing

determines if you have a mutation in the AAT gene.

Healthy Lungs VS

When you inhale, air flows down through the nose and mouth and through the airways to the lungs. These airways end in a cluster of about 300 to 500 million air-filled, balloon-like sacs called alveoli. When you breathe in, each air sac should fill up with air. When you breathe out, the sacs should deflate.

In Healthy Lungs

Alveoli are stretchy and elastic so they can easily inflate and deflate as you breathe in and out. When you breathe in, these air sacs replace

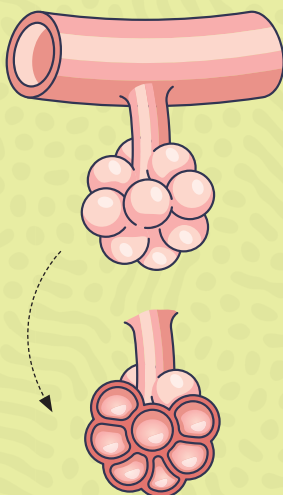
the carbon dioxide waste in your blood with oxygen from the air you breathe.

When this exchange happens, oxygen from the

lungs is moved into the bloodstream to get to tissues throughout the body. Carbon dioxide is then breathed out from the lungs.

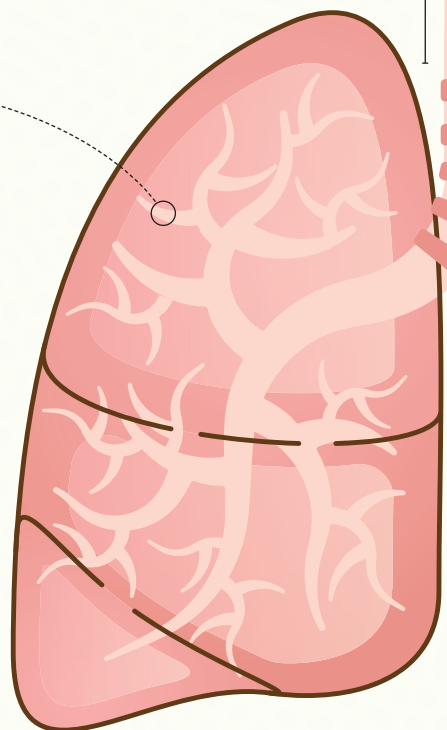
Bronchi/Bronchioles

The main airway tubes in the lungs are called the bronchi. These branch off into smaller tubes called bronchioles.



Healthy Alveoli

At the end of each bronchiole are tiny, stretchy, air-filled, balloon-like sacs called alveoli.



COPD Lungs

Ask Your Doctor

How can I slow the progression of my COPD?

In Lungs with COPD

The breathing passages and lungs are irritated and inflamed, making it hard to breathe.

Emphysema develops when there is damage to the walls between many of the alveoli. This causes many of these air sacs to lose their elasticity and become floppy. This damage can also destroy the walls of

the air sacs, leading to fewer and larger air sacs instead of many tiny ones. This makes it harder for the lungs to move oxygen into the body and carbon dioxide out of the body.

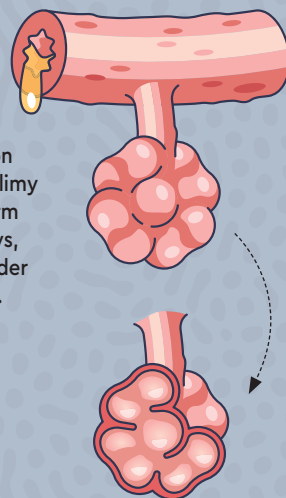
Difficulty breathing, the primary symptom of COPD, also causes the breathing muscles to contract harder and faster.

The nerves in the muscles and lungs sense this increased activity and report it to the brain. (It's the brain that controls how fast or slow you breathe by sensing your body's need to get oxygen or to get rid of carbon dioxide.) The result: you may not get enough oxygen, causing shortness of breath.

Bronchioles Narrowed + Blocked with Mucus

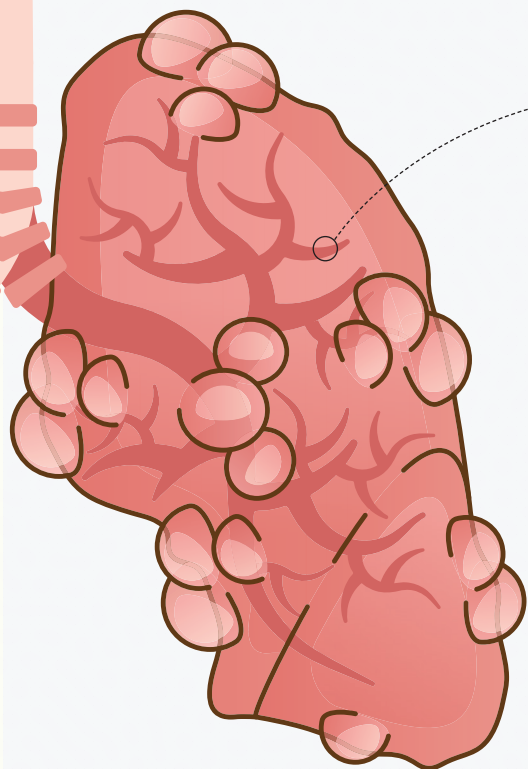
Chronic bronchitis causes irritation, swelling, and inflammation to the linings of the airways (the trachea/windpipe, bronchi/bronchioles) that bring air into and out of your lungs.

This irritation causes thick, slimy mucus to form in the airways, making it harder to breathe.



Unhealthy Alveoli

The alveoli become less defined and elastic—and are unable to work well.



SCAN HERE
to learn more



Your COPD Action



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 and bad air days
- ☐ I will update my COPD Action Plan every 6 months
Next update:



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 (see p. 15)
- ☐ I will take regular medications as prescribed
- ☐ I will report these changes to my doctor today
- ☐ I will start special medications* prearranged with my doctor which include:

Plan

Use this daily if you have COPD. Work with your doctor to complete the medication sections.



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 in one day after taking special medications, consult your doctor.)



SCAN HERE to download the full Action Plan from the COPD Foundation. *This Plan is not intended to be a substitute for professional medical advice, diagnosis, or treatment.

COPD SYMPTOMS

what to look for

These common symptoms are hallmarks of COPD. If you have these symptoms but have not yet been diagnosed with COPD, talk to your doctor about getting tested.



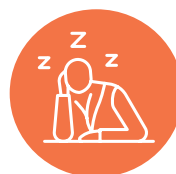
Wheezing



Chest tightness



Chronic cough that may produce mucus



Lack of energy & feeling more fatigued than usual



Frequent respiratory infections



Swelling in ankles, feet, or legs



Shortness of breath, especially during physical activities



Unintended weight loss (in later stages of COPD)



These daily tweaks can help mitigate COPD symptoms. Check off which ones you're doing.

Snuff It Out

By quitting smoking, you improve your oxygen intake and breathing, which can become compromised with COPD, according to the Centers for Disease Control and Prevention. The free Quick Start app (for both android and iPhone) may be able to help. Even if you don't smoke, secondhand smoke exposure can also increase your COPD risk.

- ☐ Doing it
- ☐ Working on it
- ☐ Need to try it

Wear a Mask

From forest fires to daily pollution, poor air quality can affect breathing. That's why keeping N-95 masks on hand, and wearing one when air quality is bad, is so important. While many smartphones display air quality alerts with the weather, you can also download the free AIRNow app (for both android and iPhone) from the Environmental Protection Agency.

- ☐ Doing it
- ☐ Working on it
- ☐ Need to try it

Weight Check

Dutch scientists have found that being overweight exacerbates symptoms of COPD and increases the risk for other chronic disorders like diabetes, hypertension, and heart disease. What can help you maintain a healthy weight: Consistent daily exercise, getting enough sleep, and eating a balanced diet with plenty of foods good for the lungs (see p. 21 for lung-healthy options).

- ☐ Doing it
- ☐ Working on it
- ☐ Need to try it

Purify the Air

Indoor air pollution can contribute to the inflammation that's associated with COPD, according to a team of researchers at Johns Hopkins University School of Medicine. These researchers found that using HEPA air filters regularly helped to clean the air, improving breathing indoors and reducing cardiac complications that can sometimes occur with COPD.

- ☐ Doing it
- ☐ Working on it
- ☐ Need to try it



Play Music

Listening to music helps reduce stress, which can help mitigate symptoms of COPD and other chronic diseases. But playing the harmonica can help develop stronger breathing muscles because it forces you to exhale and inhale to produce sounds. Playing the harmonica can also help also develop better breathing control. It's been shown to decrease shortness of breath and improve quality of life in those with COPD.

To learn about the Harmonicas for Health® program from the COPD Foundation, which was created by respiratory therapists, go to copdfoundation.org.

- ☐ Doing it
- ☐ Working on it
- ☐ Need to try it

Move More

Walking, gardening, golfing, and even house work count. What's important is to just move more every day, doing what you can, when you can. Exercise helps the body to use oxygen efficiently. It can also help reduce shortness of breath during everyday activities. A team of researchers at Kaiser Permanente Southern California found that COPD patients with high levels of physical activity had a 34% lower risk of 30-day hospital readmission for their disease. And they had a 47% lower risk of death within 12 months of discharge compared to inactive patients.

- ☐ Doing it
- ☐ Working on it
- ☐ Need to try it

Purse Your Lips

This method of breathing can help you breathe easier. To do it, breathe in through your nose for about two seconds. Then pucker your lips like you're ready to blow out birthday candles on a cake. Breathe out slowly for about four to six seconds. Repeat as necessary. What can also help: deep belly breathing. This breathing method can help you get the air you need with less work. It can also reduce anxiety. To learn more, scan the code below.



- ☐ Doing it
- ☐ Working on it
- ☐ Need to try it



DO YOU HAVE COPD?

Rather than scrolling online, get trusted COPD info you need with a handy app.

Download the free COPD Pocket Consultant Guide app from the COPD Foundation (for both iPhone and Android phones). In it, you'll have access to an interactive "Daily Log" section; inhaler, nebulizer, and exercise videos; a goal-setting section; reminders for your next doctor's visit; a wallet card to track important information, including medications and immunizations; and so much more.



Lisa's children, grandchildren, and people she meets as a COPD Captain give her the strength to embrace her COPD with courage.

“MY SUPPORT SYSTEM KEEPS ME GOING”

How one woman with COPD finds the courage every day to keep moving forward.

✓ TIP: STAY CALM

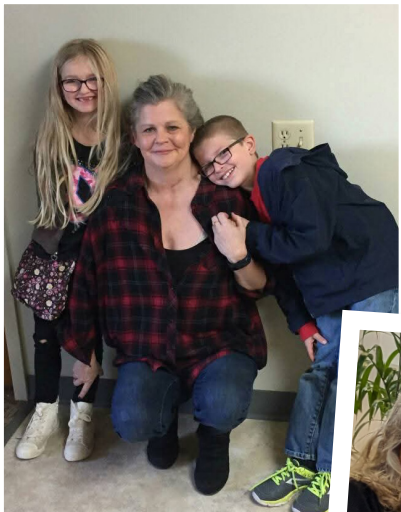
"It's easy to panic when you're having trouble breathing. When this happens, it can make it harder to breathe. Instead, stay calm and breathe in slowly through your nose and out through your mouth, making a circle with your mouth."

"I'm not going to lie. There are days when I cry and am tired of feeling like I do. But I find the strength to keep going," says Lisa Hall, 55, of Bertha, Minnesota, who was diagnosed with COPD about 8 years ago.

"I've had chronic bronchial asthma my entire life," explains this mom of two and grandmother of four. But despite dealing with asthma for almost her entire life, getting diagnosed with COPD was still really difficult for her.

"It was a shock," admits Lisa. "I Googled everything about the disease and determined that I would be dead in five years." But it was while she was researching COPD that she discovered the COPD Foundation, a non-profit national education, research, advocacy, and support group for those with COPD and other lung diseases.

"I called them and got the truth about COPD," says Lisa. "I also



SCAN HERE to learn more about COPD360social, the online support community of the COPD Foundation.



got all the information about COPD that you can't find on Google." What she learned: a COPD diagnosis isn't the end of the world. There are things you can do to mitigate symptoms and live life fully. Educating yourself is the first, most important step you need to take to move forward with confidence, says Lisa.

What else can help? Stay active and eat plenty of fruits and vegetables, explains Lisa of the daily habits she knows make a difference. "I love eating apples, bananas, and oranges and discovered that I like beets too," says Lisa.

Staying social gives you strength. "My kids, grandkids, and my sister are my support system," says Lisa. "Having people there for you when you need them is so important." Lisa's advocacy work for the COPD Foundation, where she meets others with COPD, also gives her, says Lisa, "a sense of purpose that makes all difference."

What Helps Me

See your pulmonologist regularly

"I go to my regular primary care doctor, which is important for your whole health. But it's my pulmonologist who takes care of everything having to do with COPD. He's the one who monitors my lungs and tells me when it's time to change up my medicines. I see mine twice a year"

Monitor the humidity levels in your home

"I always keep the humidity in my home between 30 and 50%. If it's over, I have problems and if it's under I have problems. Know what works for you."

Stay active

"You've got to push yourself a little, but not too much. Do what you can, but do something! Stretch. Walk to the end of the driveway and back if you can. Being active is a priority. It works your lungs and your heart."

Get your vaccines

"When you have COPD, you can't take any chances. You have to be extra careful. I have grandkids and I'm prone to catching anything that goes around. Vaccines help keep me protected."

Have a sense of humor

"On the days when I'm in a pity mood, I call my sister who makes me laugh. Humor helps me feel better. It's okay to be goofy if it helps you laugh!"

All About inflamm

Your most common questions answered

by Dr. David Mannino,
Chief Medical Officer of
the COPD Foundation

The coughing, wheezing, and shortness of breath experienced by the millions of Americans who suffer from COPD is the result of chronic inflammation of the lungs and the airways, the breathing passages into and out of the lungs.

Inflammation, which is the body's natural response to protect itself from harm, causes the lining of the airways to swell and excess mucus to be produced. It's this inflammation that makes wheezing common and breathing difficult. Over time, this inflammation can trigger long-term damage to the tissues in the lungs and airways, making COPD worse.

Here, pulmonologist David Mannino, MD, Chief Medical Officer of the COPD Foundation,

answers your most common questions about inflammation and how it contributes to COPD.

I've heard a lot about inflammation causing my COPD. What exactly is inflammation?

A: Inflammation is an essential protective tool of the immune system to fight off what it considers to be harmful invaders. In those who suffer from COPD, these invaders are your particular triggers. This can include cigarette smoke, fumes from cleaning supplies or other chemicals, smoke from a fireplace or wood-burning stove or fire pit, and things you're allergic to, such as pollen or pet dander. Illnesses like the common cold, the flu, or pneumonia can also cause an exacerbation of symptoms.

When the immune system senses this invader, it begins to fight it off, just as it would a virus

or bacteria. To aid in this fight, immune cells at the scene of the invasion (in the case of COPD, it's the airways and lungs) release natural chemicals called cytokines. It's these immune chemicals, which go by names like IL-6 and IL-8 (though there are others), that trigger symptoms of inflammation. In those with COPD, these symptoms include swelling and irritation in the airways and excess mucus production in the lungs and the breathing pathways.

Inflammatory symptoms are all an attempt by the immune system to rid the body of the invader. Coughing, for example, is an attempt to force it out of the body and can be a sign of airway constriction. Sticky mucus is designed to attach itself to the invader and pull it out of the body; and swelling is meant to draw more fighting reinforcements, such as blood and immune cells, to the area. The more inflammation in the airways, the more sensitive the airways become to triggers.



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to read more

mation

This hypersensitivity occurs often in those with COPD.

My doctor said my COPD is caused by chronic inflammation. What does this mean?

A: Inflammation with all its symptoms is meant to be short term. It's designed to turn on to get rid of the offending substance and turn off once it achieves this goal, with symptoms going away until the next invader appears on the scene. In those with COPD, however, this inflammation is chronic, meaning it's happening all the time and not ever fully turning off. This is why COPD is referred to as a chronic inflammatory disease.

This chronic inflammation causes the immune system to be on hyper alert all the time, making the lungs and airways more sensitive. (Imagine a rash that you keep scratching; it just

keeps getting worse until you can calm it down.) Turning off this inflammation helps calm the immune system and the body, reducing hypersensitivity, and allowing everything (including breathing) to relax and become more balanced.

Turning off this inflammation can be done through a healthy, balanced diet (see p. 21), healthy lifestyle changes (see p. 14), and interventions and treatments prescribed by your doctor.

Is inflammation causing my flare-ups?

A: Yes. A COPD flare-up is an exacerbation of your symptoms that lasts for more than two days. It could be immediately triggered by breathing in something from the environment like cigarette smoke, pollution, microscopic particles in the air from a nearby forest fire or wood-burning stove, or even fumes from cleaning products being used.

These flare-ups can make it even more difficult to breathe and increase your risk of more flare-ups. Behind this flare-up is worsened irritation and swelling, or inflammation, in the lungs and the breathing passages.

Does what I eat contribute to inflammation?


A: What you eat *can* play a key role in COPD progression. Certain foods trigger more inflammation in the body, while others can reduce inflammation, helping to stabilize COPD symptoms and prevent progression of the disease. (See p. 21.) It's important to note that eating an anti-inflammatory diet cannot cure COPD. But you *can* reduce the inflammation associated with it, lessening symptoms and helping to slow the advance of the disease.

Following an anti-inflammatory diet has been found to help in numerous

studies. For example, in one long-term national study, called the National Health and Nutrition Examination Survey (NHANES), researchers studied the exacerbation and reduction in symptoms from diet alone for those with both COPD and asthma (also triggered by inflammation in the breathing passages and lungs). They scored certain foods based on whether they contribute to the inflammation with COPD and asthma—or not. What they confirmed: certain foods can help reduce symptoms, while others can inflame the breathing passages and lungs.

For example, a diet high in unhealthy fats like fried foods, red meat, and commercially prepared baked goods like cookies and cakes, can trigger inflammation. Foods high in processed sugar also can contribute to inflammation. This includes sugary drinks like soda and candy, but it also includes foods perceived as healthy like

sugar-rich yogurt, breakfast cereals, granola or protein bars, and premade smoothies. This is why it's always important to check the label of a packaged food before buying it. The Nutrition Facts Panel on food labels explains how much processed sugar is in that food. What can help reduce the inflammation: a plant-based diet (see more next page).



What about stress?
Can it make my symptoms worse?

A: There's no question that stress can make the symptoms of COPD worse—and even trigger an attack. Stress is a protective response by the body, commonly called the “flight-or-fight response,” to what it perceives as potentially harmful. During stress, your heart pounds faster, your muscles tighten, your blood pressure rises, your breath


quickens, and your senses become sharper. This puts your body on high “protective” alert to everything around it. In someone with COPD, whose body is already in a state of being hyper alert, stress can exacerbate the condition. Stress also increases airway reactivity, which can cause airways to constrict, triggering difficulty breathing. These reactions make the body's inflammatory response more pronounced, which can contribute to increased frequency, severity, and duration of symptoms.

What's more, people with COPD are at greater risk for anxiety and depression. This is why finding ways to relax that work for you is critical to helping manage COPD (see p. 8). Deep breathing, yoga, meditation, and walking are proven de-stressors. Talk therapy can also help manage the anxiety that often comes with a COPD diagnosis.

Ask Your Doctor


What are some ways to reduce my inflammation?

The 4 Stages of COPD




1. Mild

You may have no obvious symptoms but may get winded from moderate exercise. Your airflow is 80% of normal, based on testing done by your doctor.




2. Moderate

You may be experiencing coughing, wheezing, and breathlessness and may need to catch your breath when walking. Your airflow is 50% to 70% of normal.



3. Severe

You're experiencing coughing, wheezing, and breathlessness all the time, limiting your daily living. Your airflow is 30% to 50% of normal, based on testing by your doctor.



4. Very Severe

You can't get enough air to breathe, even while resting. Your airflow is less than 30% of normal, resulting in low oxygen, flare-ups, and hospitalizations.



FOODS *to* EAT FOODS *to* AVOID

The foods, and nutrients, your lungs need to help you breathe better
A healthy, balanced diet chock-full of fruits, vegetables, and healthy fats is best for you no matter what disease or symptoms you may have. But when it comes to COPD, it may be even more important. In research published in *Chronic Obstructive Pulmonary Diseases: Journal of the COPD Foundation*, a plant-based diet has been found to reduce the risk of emphysema in those with a history of smoking.

In fact, fruits and vegetables may reduce the risk of lung disease overall, as they're high in antioxidants, which help to reduce oxidative stress and protect against oxidant-mediated inflammation, say experts.

What's more, fruits and vegetables are also a source of dietary fiber, which is known to help support a healthy gut and may help slow the progression of airway diseases like asthma. In fact, researchers have found

that a high dietary fiber intake lowers lung inflammation and the risk of developing COPD. Dietary fiber also increases the concentration of short-chain fatty acids in the gut. These fatty acids have been found to protect lung function, alleviate pulmonary inflammation, and reduce the risk of COPD.

A healthy, mostly plant-based diet is also associated with less depression, which can develop with COPD. "Less than 10 percent of Americans eat

the recommended amount of produce, which is three cups of vegetables and two cups of fruits per day," says *Healthful Living's* Tina Marinaccio, RD, who specializes in plant-based eating. "One strategy is to try changing the ratio of your plate, so at least half of your plate at every meal is healthy produce."

foods to eat

These are some foods that have been shown to help lung function and breathing.

Apples are a rich source of antioxidants like quercetin, which is mainly found in the peel. It's antioxidants that can reduce oxidative stress in the body and in the lungs, which triggers inflammation. The lungs are highly susceptible to this stress, which causes inflammation in the air passages. Apples are also rich in vitamins C and E and beta carotene, all of which can help slow down lung function decline.

Researchers at the Hopkins Bloomberg School of Public Health found that eating three or more antioxidant-rich fruits like apples (and tomatoes) every day helped to slow lung function decline in former smokers.



Avocados are a good source of healthy monounsaturated fats. In fact, they're one of the highest fat plant foods, which is important for those with COPD for good reason. When you burn food for energy, your body makes carbon dioxide as a waste gas that's breathed out. (Those with COPD have a reduced ability to exhale carbon dioxide.) But healthy fats like avocados, when metabolized by the body, produce the *least* amount of carbon dioxide, making them a healthy dietary option for those with COPD.



Bananas are packed with nutrients like potassium. This mineral has been shown to be beneficial for lung health and may even help protect against lung cancer. Without enough potassium, your lungs may not expand and contract properly, resulting in shortness of breath. One study found that potassium levels were lower in those with COPD flareups. Another study found that patients with COPD who visited the ER had low levels of potassium.



Beets are rich in antioxidants and nutrients. But it's the natural dietary nitrates found in this root veggie that have been shown to benefit the lungs. In the body, these dietary nitrates are converted into nitric acid, a compound that dilates the blood vessels. This relaxing of the blood vessels increases blood flow and oxygen to the tissues. It also decreases blood pressure. Together these help to improve lung function.

Berries are rich in nutrients like fiber and vitamin C that can benefit health overall.



They also contain high levels of antioxidants called anthocyanins that can help reduce inflammation. One study in the *American Journal of Clinical Nutrition* found that having more than two, one-cup servings of berries per week helped to prevent lung function decline.



Leafy greens like arugula, kale, and spinach contain high levels of nutrients like vitamins A and C, calcium, and iron that are important for respiratory health. They're also chock-full of lung-protective antioxidants like carotenoids, which have an anti-inflammatory effect on the airways and lungs.

The minerals magnesium and potassium in leafy greens also have been found to help keep the lungs healthy. One study found that children who don't eat enough leafy greens like spinach had lower lung function (a measure of how well lungs work).

Daily consumption of colorful leafy greens and other veggies were found to help those with COPD better respond to rehab, says a study in the journal *Nutrients*. Researchers believe this is due to the anti-inflammatory effect of these vegetables.

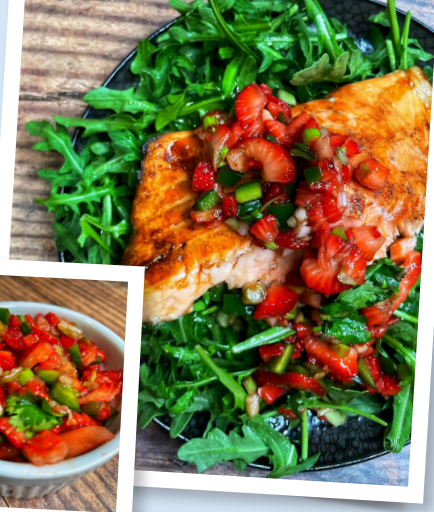


Lentils and legumes in general are rich in many nutrients, including protein. According to the American Lung Association, eating protein-rich plant foods like legumes twice daily helps to maintain strong respiratory muscles. Lentils are also rich in fiber. A team of researchers found that low fiber intake is associated with reduced measures of lung function. A diet rich in fiber-containing foods, however, is linked to improved lung health. Aim for at least 25 to 30 grams of fiber daily.

Flaxseeds and other seeds like hemp seeds, as well as walnuts, are high in omega-3 fatty acids, which have been shown to help lung function in those with COPD. A new study found that an increased level of omega-3 fatty acids in the blood may help decrease chronic obstructive pulmonary disease (COPD) flare-ups and improve quality of life for those with the lung disease.



Strawberry season is in full swing! Packed with anti-inflammatory phytonutrients, this strawberry jalapeño chutney is a perfect pairing with omega-3 rich salmon. It's served over arugula, which is high in carotenoids, vitamins, and minerals that help promote healthy respiratory function.



Balsamic Salmon with Strawberry Jalapeño Chutney

MAKES 4 SERVINGS

- 1 lb salmon filet, wild caught
- 3/4 cup balsamic vinegar, divided
- 2 cups hulled fresh strawberries, diced
- 2 scallions, thinly sliced
- 1 medium jalapeño pepper, seeds and veins removed, diced
- 1/2 cup fresh cilantro leaves, optional
- 8 cups cleaned arugula leaves
- Fine sea salt



SCAN HERE
for a bonus recipe

Preheat oven to 350°F on convection roast. Place salmon on a shallow parchment-lined baking pan. Drizzle salmon with 1/4 cup balsamic vinegar, and sprinkle with a pinch of sea salt. Bake on center oven rack until minimum internal temperature of salmon reaches 145°F, about 15 minutes.

To make the strawberry jalapeno chutney: In a medium bowl, combine strawberries, 1/4 cup balsamic vinegar, scallions, jalapeño, cilantro (if using), and a pinch of sea salt.

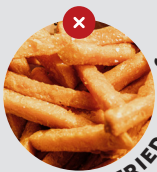
To make the balsamic glaze: In a small saucepan, gently heat remaining 1/4 cup balsamic vinegar until it reduces by half and becomes thick as syrup.

To serve, divide arugula between four plates, then add salmon to each plate of greens. Spoon strawberry chutney over salmon, then drizzle with balsamic glaze before serving.

FOODS TO AVOID As a general rule, deep fried foods, highly processed packaged foods, and foods high in processed sugar increase inflammation in the body—and in the lungs. These foods increase inflammation, making it more difficult for those with COPD (and any lung disease) to breathe. They may also exacerbate symptoms of other chronic diseases.



CANDY



FRIED FOODS



SODA & SUGARY DRINKS



CURED MEATS



SALTY SNACKS



COOKIES & CAKES

Take Action Today. Breathe Better Tomorrow.

More than 32 million people in the United States have COPD, and up to half of them haven't been diagnosed yet.



FIND OUT MORE!

- Discover risk factors for chronic lung diseases
- Join more than 60,000 people on COPD360social
- Contribute to research in our COPD Research Network
- Explore resources and education
- Join our advocacy efforts
- Learn about related diseases such as bronchiectasis and NTM lung disease



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