A Guide to Understanding What COPD Is (And Isn't)

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What Is COPD? A Guide to Understanding COPD

If you have been diagnosed with chronic obstructive pulmonary disease, or COPD, know that you are not alone – upwards of 15.7 million Americans also have been diagnosed with COPD.

This is approximately 6.4 percent of the American population!

At a very basic level, COPD is a grouping of diseases that cause breathing problems; over 50 percent of Americans state that they were unaware that their pulmonary function was diminished, so the actual number of people with COPD is likely higher.

Often when you're diagnosed with a condition, your physician delivers the news, hands you several new prescriptions and sends you on your way.

If you're really lucky, your physician may spend a little bit of time discussing your condition – focusing and perhaps focusing more on treatment – and may even print of several handouts so that you can do a bit of reading after your appointment to give you a better understanding about your new condition. Such is the nature of healthcare these days when our appointments are only allotted 15 minutes.

My guess is that when you received your diagnosis of COPD, you left that appointment with unanswered questions and were a bit overwhelmed – which is why you're here.

What Is Chronic Obstructive Pulmonary Disease?

As we've already briefly discussed COPD is a group of diseases that causes breathing problems.

COPD is an umbrella term for several progressive lung disorders that occur simultaneously – emphysema, chronic bronchitis, and refractory asthma (asthma that is not reversible).

We consider COPD *progressive* because, at this time, there is no cure, meaning that the disease will continually progress – we will discuss this in greater detail in a later section.

Because there are several diseases occurring simultaneously, and there are several things happening in the lungs at the same time.

- Due to ***emphysema***, the alveoli become damaged. The alveoli are the tiny air sacs of the lungs. These air sacs become stretched out, making it more difficult for air exchange. Old air gets trapped inside the alveoli, meaning that there is no room for new air.
- ***Chronic bronchitis*** causes inflammation of the bronchial airways of the lungs. This inflammation damages the cilia (the tiny, hair-like structures of the airways that sweep mucus up, which ultimately keep

the airways clean), so without the cilia, your body cannot cough up mucus.
- ***Refractory asthma*** causes breathing issues in general. This type of asthma does not respond well to medications. Asthma causes the bronchial airways to tighten up; asthma medications are designed to reduce this tightening. With refractory asthma, do not work as expected.

So, rather than saying the person has all three of the mentioned above lung disorders, the term “COPD” was created.

What Are the Symptoms of COPD?

Shortness of breath and difficulty breathing are the hallmark symptoms of COPD. However, you can have COPD without these symptoms – which is why COPD is often undiagnosed for many years.

Other symptoms of COPD include:

- Frequent coughing (with or without mucus production)
- Tightness in the chest
- Increased breathlessness
- Wheezing
- Fatigue
- Weight loss

While there are more symptoms of COPD, examples including depression/anxiety or weakness, the ones noted above are the most common symptoms seen in people who are living with COPD.

What Causes COPD?

The most prominent cause of COPD is smoking; smoking accounts for 85 to 90 percent of all COPD cases.

On the note of COPD and smoking – female smokers are 13 times more likely to die from COPD than their non-smoking counterparts. While men are not immune – males are 12 times more likely to die from COPD than non-smokers.

By now, we know that smoking has a heavy correlation with lung disorders, along with all a myriad of other chronic health conditions, such as heart disease and certain cancers. But *why* does smoking cause all of these health conditions?

When a cigarette burns, it creates 7,000 chemicals – most of these chemicals are harmful to the body. Specific to COPD, these chemicals “weaken your lungs' defense against infections, narrow air passages, cause swelling in air tubes and destroy air sacs—all contributing factors for COPD.”

What Causes COPD in Nonsmokers?

Although smoking is the most common cause of COPD, we also know that COPD sometimes occurs in nonsmokers.

Here are some of the causes of COPD in nonsmokers:

- Environmental exposure can increase the risk of developing COPD. For example, long-term exposure to dust, secondhand smoke, air pollution, and certain fumes and chemicals are known environmental causes.
- Alpha-1 antitrypsin deficiency is a rare cause of COPD. Alpha-1 antitrypsin is a protein that is protective of the lungs. Some people have a genetic condition that causes them to be deficient in alpha-1 antitrypsin; this deficiency typically causes COPD.

Next page: What increases your risk of COPD? How is COPD diagnosed? And more.

Understanding COPD Risk Factors

We know definitively that smoking causes COPD, as well as exposure to certain environmental factors and having an alpha-1 antitrypsin deficiency.

There are also other factors that appear to increase the odds of developing COPD:

- The risk for COPD increases with age, and it is most common over the age of 40.
- Family history. People with a family history of COPD appear to have a greater risk of developing this condition, regardless of their smoking status.
- Former smokers. Even if you have quit smoking, your risk of COPD is increased. This risk is intensified if you began smoking in your teenage years.
- People who began smoking during their teenage years.
- People who had mothers who smoked while they were in utero.
- People who had frequent illnesses as a child.
- People who experienced a history of childhood respiratory infections.

How Is a Diagnosis of COPD Made?

According to Mayo Clinic, COPD is often misdiagnosed. For example, "former smokers may sometimes be told they have COPD, when in reality they may have simple deconditioning or another less common lung condition."

Unfortunately, many people are also not diagnosed until later stages of their disease process, when it becomes more difficult to treat and the medications become less effective.

When your physician suspects a diagnosis of COPD, your physician will initially review your symptoms, discuss your medical history (as well as your family history), and discuss exposure to chemicals and irritants – especially cigarette smoke. Then, she will likely order diagnostic tests.

Pulmonary Function Test

A **pulmonary function test** is the gold standard when it comes to diagnosing COPD; it measures the amount of air that you inhale and exhale, and can detect COPD even before you have symptoms of the disease.

During a pulmonary function test, or PFT, you'll be asked to blow into a tube, which is connected to a small machine – the spirometer. The spirometer measures your lung capacity and how fast you can blow air out of your lungs.

PFTs not only help with diagnosis but they can also track the progression of a lung disease and monitor how well a therapy is working.

Other Diagnostic Tests for COPD

A **chest x-ray** can detect emphysema, as well as rule out other lung problems, such as heart failure.

A **CT scan** can also detect emphysema, and may determine if surgery would be beneficial. A CT scan is also used for lung cancer screenings.

Arterial blood gas analysis is a blood draw that measures how well the lungs are bringing oxygen into the blood, as well as removing carbon dioxide. This blood draw is typically drawn from an artery in your wrist.

Other **lab tests** can't diagnose COPD, but they may be used to rule out other conditions. A lab test can also detect alpha-1 antitrypsin deficiency. This test is often performed on someone who has a family history of COPD

and develops COPD under the age of 45.

What are the Stages of COPD?

Like many other chronic conditions, COPD is staged to describe the severity of your condition. The classification system used to stage COPD is the GOLD staging or grading system.

The GOLD is an acronym for the Global Initiative for Chronic Obstructive Lung Disease; the National Heart, Lung, and Blood Institute, National Institutes of Health, and the World Health Organization created this initiative in 1997.

GOLD's goal was to raise awareness for COPD, to improve treatment, and to improve prevention. Ultimately, the GOLD staging system was born, which allows physicians to classify COPD in a consistent manner.

The GOLD staging system used to use the term "stage" but now uses the term "grades" and is based on the following criteria:

- The severity of your current symptoms
- Spirometry results
- The chances that your COPD will worsen
- The presence of other comorbid conditions

Based on the above criteria, plus a questionnaire that your physician will have you fill out, you will be placed into one of the following "groups":

- Group A: low risk, fewer symptoms
- Group B: low risk, more symptoms
- Group C: high risk, fewer symptoms
- Group D: high risk, more symptoms

A Breakdown of Each COPD Stage

The GOLD criteria is one way to stage COPD. We can also label COPD by stages, which is what most people are used to hearing when discussing a chronic condition:

- **Stage I**; this stage is considered the most mild form of COPD. Often, in this stage, there are little to no symptoms present. If symptoms are present, a mild cough may begin that is thought of as a "smoker's cough" that is merely annoying. At this point, COPD is very treatable, but most people do not realize that they have it.
- **Stage II**; this stage is considered moderate COPD. This is the stage that most people are diagnosed with COPD. Why? Because symptoms have become bad enough for them to realize that there is an issue – symptoms have begun to interfere with daily life. It is estimated that by the time stage II occurs, lung function is approximately 50 percent to 80 percent.
- **Stage III**; this stage is considered severe COPD. Serious breathing issues are occurring now that greatly affect a person's quality of life. A person may require a large number of medications, as well as oxygen therapy. It is estimated that by the time stage III occurs, lung function has diminished to 30 percent to 50 percent.
- **Stage IV**; this stage is considered very severe COPD, or "end-stage" COPD. Exacerbations may become frequent, and symptoms are severe. Hospitalizations can become regular. Maintaining regular activity can become difficult, because activity can worsen breathing. Lung function is estimated to be less than 30 percent.

Next page: COPD treatment options, life expectancy with COPD, and more.

What COPD Treatment Options Are Available?

The most important thing you can do if you've been diagnosed with COPD is to quit smoking. According to Mayo Clinic, it is the only way to keep COPD from getting worse.

There are also many different medications available to treat COPD; your physician will help you select medications that will best fit your needs.

Bronchodilators, Inhaled Steroids, and Combination Inhalers

Bronchodilators help to relax the muscles of the airways, which makes breathing easier, and improves shortness of breath. There are short-acting bronchodilators and long-acting bronchodilators available.

Examples of short-acting bronchodilators include:

- Albuterol (ProAir HFA, Ventolin HFA)
- Levalbuterol (Xopenex HFA)
- Ipratropium (Atrovent)

Examples of long-acting bronchodilators include:

- Tiotropium (Spiriva)
- Salmeterol (Serevent)
- Formoterol (Foradil)
- Arformoterol (Brovana)

Inhaled steroids are corticosteroids that reduce inflammation of the airways and help to reduce exacerbations. These inhalers are particularly helpful to people with frequent exacerbations. Examples of inhaled steroids include fluticasone (Flovent HFA) and budenoside (Pulmicort Flexhaler).

Combination inhalers utilize both inhaled steroids and bronchodilators. Examples include salmeterol and fluticasone (Advair) and formoterol and budenoside (Symbicort).

Oral Steroids, Phosphodiesterase-4 Inhibitors, and Theophylline

Oral steroids may be used for people who have a moderate or severe exacerbation of their COPD because this medication helps to prevent the COPD from worsening. Long-term use of steroids is discouraged because of the side effects, which include weight gain, hyperglycemia, osteoporosis, cataracts, and infections.

Phosphodiesterase-4 inhibitors are an oral medication for people with severe COPD. This medication targets airway inflammation and helps to relax these tight airways. A phosphodiesterase-4 inhibitor is roflumilast (Daliresp).

Theophylline is an inexpensive, effective medication that improves breathing and reduces exacerbations. However, low doses are recommended initially because of its side effects, which include tremor and tachycardia.

Oxygen Therapy and Pulmonary Rehabilitation

Oxygen therapy may be utilized for some people if they are having a hard time maintaining adequate oxygen levels in their blood. Some people only require oxygen while sleeping, while others require oxygen all the time. Your physician will help determine when it is necessary for you, and will help you obtain oxygen – insurance can be picky about obtaining oxygen for home use.

Pulmonary rehabilitation is a multifaceted program that combines education, exercise, counseling, and nutrition counseling. Statistics show that participants have shorter hospital stays, an improvement in the ability to participate in activities of daily living, and a general improvement in the quality of life.

COPD Life Expectancy and Outlook

We discussed the fact earlier that COPD is progressive – this means that there is no cure, and that it typically worsens with time.

You may have read over the section on COPD stages and felt panicked. However, predicting life expectancy is not necessarily cut-and-dry.

Physicians use the GOLD system as well as the COPD stages that we have discussed in order to predict life expectancy. We know that as the grades and stages increase, the life expectancy worsens.

With all of this being said, it is very difficult to predict life expectancy for someone with COPD because the medications used to treat the condition can improve the condition temporarily and improve COPD symptoms.

Is COPD Fatal?

This is a classic “yes and no” answer. As we’ve already discussed, it is very difficult to determine an accurate life expectancy for someone with COPD. It is also difficult to predict whether someone will die from their COPD.

Most of the time, someone does not die specifically as a result of COPD, but rather die specifically from COPD, but rather from complications from their disease. For example, pneumonia and heart failure are complications that can develop, and they can be fatal.

So – yes, COPD can be fatal. But – no, you may not die from COPD, you may die from something completely unrelated.

The Bottom Line…

This all-encompassing article may have been overwhelming, but if you had questions about your condition, it is our hope that it was answered above or given you a practical understanding of what COPD is and what you can discuss with your physician at your next appointment.

Please remember that this information is a general guide and does not replace any advice from your physician. It's also important to always talk to your doctor about new symptoms you're experiencing, available treatment options, and next steps.