7 COPD Treatment Options Worth Researching

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COPD Treatment: Everything You Need to Know About These Popular Treatments

When you're diagnosed with any chronic condition, wading through all the information can be overwhelming. Do you entrust your condition solely to your physician, a pharmacist, or the internet?

Relying on your physician is generally recommended – but getting all your questions answered in one 15-minute appointment can be difficult and hard to absorb. And then what about all those questions that come up *after the appointment* that you wish you asked your physician?

Below, we've compiled general information about COPD treatment. It's important to know that there is no way a recommendation for any one person, but simply *general information* that may guide you in your COPD treatment journey.

What Is the Goal of COPD Treatment?

As you are probably well aware, COPD is a chronic condition that is caused by inflammation and thickening of the tissues of the lungs. This means that there is poor oxygen exchange and the air that flows in and out of the lungs is decreased. It is also harder for the lungs to rid itself of carbon dioxide.

Thus, the goal of COPD treatment is to improve oxygenation and to improve the ability to breathe. COPD symptom management is also important, as is improving the patient's quality of life.

What COPD Treatments Are Available?

There are a variety of COPD treatments available. Often your physician will use several types together to achieve optimal control of your COPD.

We will discuss the medications in greater detail throughout the article. Treatments for COPD include:

1. Bronchodilators
2. Steroids (oral and inhaled)
3. Combination inhalers
4. Phosphodiesterase-4 inhibitors
5. Theophylline
6. Oxygen therapy
7. Pulmonary rehabilitation

1. Bronchodilators

These medications are inhalers and they act by relaxing the muscles of the airways. By doing this, they allow

more air into the lungs. Because of their mechanism of action, they improve shortness of breath and coughing.

Bronchodilators come in two forms:

- **Long-acting**: these work as long as 12 hours and are taken daily to prevent symptoms. Examples of long-acting bronchodilators include tiotropium (Spiriva), salmeterol (Serevent), and arformoterol (Brovana).
- **Short-acting**: these work quickly and their effect last for four to six hours. They are used when symptoms are present or before exercise. Examples of short-acting bronchodilators include albuterol (ProAir HFA, Ventolin HFA), levalbuterol (Xopenex HFA), ipratropium (Atrovent), and ipratropium bromide and albuterol (Combivent).

Side effects of bronchodilators include dry mouth, headaches, constipation, tachycardia (elevated heart rate), shaking, and muscle cramps.

Next page: More information about steroids, combination inhalers, and more COPD treatment options.

2. Steroids

We often hear the word “steroid” and think about oral steroids such as prednisone or decadron. Yes, oral steroids are often used to treat COPD (which we will discuss!), but there are also inhaled steroids that are used to treat COPD as well.

Steroids are a highly effective treatment option for COPD because they reduce inflammation of the airways, which reduces swelling and decreases mucus production. This, in turn, makes breathing easier.

Inhaled steroids are often used for people with stable but worsening COPD. This type of COPD treatment can reduce the amount of COPD exacerbations. According to WebMD, research indicates that inhaled steroids can “improve lung function, reduce the amount of time in the hospital, and reduce the incidence of treatment failure.”

Examples of inhaled steroids include budesonide (Pulmicort) and fluticasone (Flovent HFA).

Oral steroids are also effective, in research studies. For some people, “they reduce the frequency of COPD exacerbations compared to a placebo. However, they may not improve lung function like their inhaled counterpart.

Examples of oral steroids include methylprednisolone (Medrol), prednisolone (Prelone), and prednisone.

All medications have side effects, but steroids are used cautiously because they do have a fairly long list of side effects. In addition, the side effects are more common the longer you are on the medication.

Side effects of inhaled steroids include:

- Sore mouth and/or a sore throat
- Hoarseness
- Thrush, which is a growth of a fungus in the mouth and/or the throat; using a spacer with the inhaler can reduce this side effect

Short-term side effects of oral steroids include:

- Elevated blood glucose levels
- Weight gain
- Fluid retention
- Loss of muscle mass
- Mood changes
- High blood pressure

Long-term side effects of oral steroids include:

- Osteoporosis
- Recurrent infections
- Cataracts
- Stomach ulcers
- Thin, fragile skin
- Type 2 diabetes

3. Combination Inhalers

Combination inhalers combine bronchodilators and inhaled steroids. These inhalers reduce inflammation and help prevent inflammation.

Side effects include bruising, oral infections and hoarseness. However, they are very useful for people with frequent COPD exacerbations.

Examples of combination inhalers include salmeterol and fluticasone (Advair) and formoterol and budesonide (Symbicort).

Next page: Information on phosphodiesterase-4 inhibitors, theophylline and oxygen therapy for COPD treatment.

4. Phosphodiesterase-4 Inhibitors

Phosphodiesterase-4 inhibitors, also known as PDE4 inhibitors, also reduce inflammation and swelling in the lungs – much like all of the medications we have discussed. However, their mechanism of action is different than all of the other medications.

PDE4 is an enzyme that is present in our bodies when we have an inflammatory response. Therefore, it is present in people with COPD in high amounts, because their lungs are chronically inflamed. PDE4 inhibitors block this enzyme, which helps to reduce inflammation.

The only PDE4 inhibitor that is currently available is an oral medication called roflumilast (Daliresp). It is taken daily and is used in conjunction with a bronchodilator. Studies indicate that people prescribed Daliresp have fewer COPD exacerbations.

It is important to note that PDE4 inhibitors are NOT rescue medications – they are maintenance medications and must be taken at regular intervals in order to be effective.

Side effects include:

- Diarrhea, nausea, and vomiting
- A headache
- Back pain
- Dizziness
- Decreased appetite
- Insomnia
- Flu-like symptoms

Side effects typically decrease when taking the medication regularly.

5. Theophylline

Theophylline is another oral medication used to treat lung conditions such as COPD and asthma. It belongs to a

drug class called methylxanthines.

Theophylline also works by opening the airways of the lungs. It works a bit differently than some of the other medications that we have discussed. It relaxes the muscles of the lungs. It also acts by “decreasing the response to substances that cause your airways to constrict.” The combination of these two actions makes it easier for people with COPD to breathe.

Although this medication may be highly effective, it is not without risks. For someone with COPD who may be on other medications for comorbid conditions, this medication can interact with many different medications.

Although this list is not extensive, here are some medications, listed by condition, that interact with theophylline. Many of these medications may increase serum theophylline levels in the body, which means that taking these medications in conjunction with theophylline can heighten the risk of side effects:

- **Antibiotics:** ciprofloxacin, clarithromycin, erythromycin
- **Anxiety medications:** diazepam, flurazepam, lorazepam, midazolam
- **Blood clot medications:** pentoxifylline, ticlopidine
- **Depression medications:** fluvoxamine
- **Gout medications:** allopurinol
- **Heart rhythm medications:** mexiletine, propafenone, verapamil, propranolol
- **Birth control:** estrogen

Certain seizure medications can cause a reduction in serum theophylline levels of the body, which can be dangerous if you have a seizure condition – this can mean that if you take phenobarbital or phenytoin with theophylline, you could have seizures.

The most common side effects of theophylline include a headache and insomnia. Generally, these side effects go away within a couple of weeks.

Be sure to check with your pharmacist to ensure that your current medications do not interact with theophylline if you are prescribed it.

6. Oxygen Therapy for COPD

Oxygen therapy is an excellent option for people with COPD who have a hard time maintaining their oxygen saturation. In fact, it is typically an option *only* for these people, as insurance coverage is tricky for oxygen therapy.

Some people need oxygen therapy for everyday life activities, while others need oxygen therapy only while they're asleep. If you need oxygen therapy, your physician will need to write a prescription that is specific to your needs.

For those that need oxygen, it can improve quality of life and can even extend life.

Next page: Learn about pulmonary rehabilitation for COPD. And can diet help improve COPD symptoms?

7. Pulmonary Rehabilitation for COPD

Although not a medication, pulmonary rehabilitation can be very helpful for people with COPD. It is a program that has been designed to help all people with breathing difficulties – those with COPD, sarcoidosis, pulmonary fibrosis, and cystic fibrosis, for example.

Pulmonary rehabilitation is not a replacement for medications that may have been prescribed. Rather, it may be prescribed by a physician and then utilized in conjunction with medical therapy.

Here are some things you may learn in pulmonary rehabilitation:

- Exercises to strengthen your lungs.
- The fundamentals of nutrition to help prevent exacerbations.
- Education about your specific lung condition and how to manage it.
- Tactics on how to conserve energy.
- Breathing strategies.
- Counseling and/or group support.

Pulmonary rehabilitation typically involves a team of practitioners. You may work with nurses, dietitians, doctors, respiratory therapists, physical therapists, occupational therapists, psychologists, and social workers.

It is also important to note that pulmonary rehabilitation is a long-term commitment – which is what makes it effective. This long-term commitment is an outpatient program, and it is individualized to each individual. Your pulmonary rehabilitation treatment program will likely be different than another person's because each of you has different needs.

Not only will your program meet weekly with the disciplines that we have discussed, but you will have exercises and different lifestyle changes that you will carry out at home, as prescribed by these disciplines.

The goal of pulmonary rehabilitation is to improve your functioning and your quality of life, as well as relieve some of your breathing problems.

The benefits of pulmonary rehabilitation are multifaceted. According to the National Heart, Lung, and Blood Institute, benefits include:

- A possible reduction in anxiety and depression
- An improvement in the quality of life
- Better functioning in daily life
- An increase in the ability to exercise
- A reduction in symptoms of COPD

There is little risk to pulmonary rehabilitation, but if you have a heart condition, you should ensure that your physician has recommended pulmonary rehabilitation and has cleared you for exercise first.

Can Diet Help your COPD Symptoms and Prevent Exacerbations?

And what about making dietary changes? Can changing what you eat to improve your COPD symptoms?

Well, the answer is yes – and no.

No, changing what you eat each day won't necessarily magically improve your breathing (wouldn't that be amazing though?) However, it is well established that food is fuel. We need fuel in order to do everything that we do on a daily basis – walk down the hallway, prepare our medications, hug our grandchildren, drive our cars, and even breathe.

The specific foods that you eat provide your body with nutrients (macronutrients include carbohydrates, fats, and proteins) – at a very basic level, these macronutrients aid in cellular metabolism, which produces energy. This energy is what powers the body.

In addition, proper nutrition also helps the body to prevent and fight infections, which people with COPD are prone to developing.

A healthy diet can also help to maintain weight. Being overweight means that the heart and lungs must work harder in order for breathing to occur. Being underweight can also make you more prone to infections.

So, what constitutes a *proper diet* for someone with COPD? You should discuss this with your physician and a registered dietitian (RD), but here are some general guidelines:

- **Discuss your calorie needs.** If you are overweight, you may need to lose weight. If you are overweight, you may need to gain weight. Due to the exertion of breathing, you use more energy. In fact, people with COPD may require up to 10 times – *yes, ten times!* – as many calories as someone without COPD. An RD can help you figure out how to obtain all of your necessary calories so as to maintain your pulmonary muscles.
- **Stay hydrated.** Unless your physician has told you otherwise, you should consume six to eight glasses of non-caffeinated beverages daily. Staying hydrated keeps mucus secretions thinner and easier to cough up. Caffeine should be limited because it may interact with certain medications.
- **Foods that are rich in fiber should be consumed.** A general guideline is 20 to 25 grams per day. Examples of fiber-rich foods include fruits, vegetables, legumes, and whole grains. Why is fiber so important? For multiple reasons – it can help to control glucose levels, help move food through the digestive tract, and may even reduce blood cholesterol levels.
- **Curtail your sodium intake.** I know, I know – I love the salt shaker too! But too much salt can cause fluid retention, and fluid retention can make it more difficult to breathe. Experts recommend removing the salt shaker from your home completely! You can replace the salt shaker with fresh herbs, salt substitutes, and ensure that when you purchase foods, that you're not buying anything that has over 300mg of sodium.

For more in-depth recommendations, you should meet with your physician and an RD.

Emergency Treatment for COPD Exacerbations

What if you've taken all of your medications as prescribed, you're in pulmonary rehabilitation, you eat a healthy diet – and you think you're in the midst of a COPD exacerbation? What should you do?

First, you should know the symptoms of a COPD exacerbation. Symptoms include:

- Breathing that is fast and shallow
- Shortness of breath with minimal activity
- Excessive sleepiness
- Coughing that is powerful
- Confusion
- Having oxygen saturation levels that are lower than normal
- An uptick in mucus production
- An increase in wheezing

If you notice these symptoms, you should notify your physician right away. Your physician can assess your symptoms and decide if the symptoms are treatable at home, or if you must seek emergency medical attention.

If you have any doubts about waiting to speak with your physician, you should always seek emergency medical attention.

It is not uncommon for someone to require hospitalization for a COPD exacerbation. This will depend on the severity of the exacerbation, as well as the cause. In extreme circumstances, someone with a COPD exacerbation may require ventilatory support until the inflammation in the lungs has improved.

Prevention of exacerbations is important; taking all medications as prescribed is one of the most important things you can do to prevent exacerbations. Here are some other tips on preventing exacerbations:

- If you are still smoking, quit now!
- Stay up-to-date on vaccinations. Influenza and pneumonia are particularly dangerous for people with COPD.
- Perform hand hygiene diligently. Proper hand hygiene can prevent viral and bacterial infections from

occurring. This can be in the form of soap and water or hand sanitizer.
- Get plenty of sleep – well-rested people are less likely to get ill.
- Avoid COPD triggers, such as pollutants and irritants.
- Stay away from people who are ill, especially during cold and flu season.

The Bottom Line

Unfortunately, due to the unpredictability of COPD, it can be a tricky disease to treat. Fortunately, there are a variety of COPD treatment options available.