



COPD: Medicines

Information for Patients

What is COPD?

*COPD is a condition that affects the lungs and airways. COPD stands for chronic (KRON-ick) obstructive (ob-STRUCK-tiv) pulmonary (PULL-muh-nair-ee) disease. **Chronic** means the condition is long term. You will have it the rest of your life. COPD usually gets worse over time, but you can learn how to manage it.*

***Pulmonary** refers to the lungs and airways. The condition is **obstructive** because it limits the flow of air into and out of your lungs.*

For an overview of COPD, see the UPMC patient education sheet [COPD: Chronic Obstructive Pulmonary Disease](#).

Variety of medicines

Several groups of medicines are used to help people with COPD. These medicines cannot prevent long-term decline in lung function. What they can do is help prevent or decrease symptoms and keep people with COPD out of the hospital longer. These medicines include bronchodilators, steroids, expectorants, mucolytics, and antibiotics.

Many of these medicines are inhaled. See the UPMC patient education sheet [COPD: How to Use Inhalers](#). Some of these medicines are taken by mouth as pills or liquids. Others are taken as nebulized (NEB-you-liezd) liquids. See the “Nebulizers” section on the last page.

The best medicine for people with COPD may be oxygen. Your doctor can assess your oxygen levels to see if you qualify for oxygen therapy. To learn more, see the UPMC patient education sheet [COPD: Nutrition, Oxygen, and Exercise](#).

Note: This booklet tells you some basics about COPD medicines. The information is not intended to be complete for every COPD medicine. Please ask your pharmacist and health care team for detailed information about each of your medicines.

Two names

It's important to know that every medicine has 2 names. A medicine has a **generic** name and a **brand** name. The generic name is the scientific name of the drug. The brand name is the name that a specific company uses when it makes that drug. As an example, look at a common headache medicine. Many people use acetaminophen for a headache. Acetaminophen is the generic name of the drug. The brand names include Anacin Aspirin Free, Bayer Select Headache, Panadol Maximum Strength, and Tylenol.

New medicines

When your doctor prescribes a new medicine for you, you should review all of the medicines you take — both prescribed and over-the-counter — with your doctor. Every time you go to the doctor, take a list of all of your medicines with you, **including inhalers**. If your doctor changes your medicines and you start to feel side effects, call your doctor. To learn more about taking medicine, see the UPMC patient education sheet [Safety Tips: For Taking Your Medicine](#).

Bronchodilators

Bronchodilators (brank-oh-DIE-lay-ters) relax and open your airways to increase the flow of air. They let you exhale more completely. The preferred way to take these medicines is by inhalers. Others may be taken as pills, liquids, or nebulized liquids. Bronchodilators may be given on an as-needed basis for relief of symptoms that persist or worsen. They may also be given on a regular basis to prevent or reduce symptoms. When you use inhalers, it's **very important** to talk to your doctor about a treatment plan.

Short-Acting Bronchodilators

Inhaled beta-2 agonists. These drugs are short-acting bronchodilators that provide quick relief — they are fast-acting. They start to work in minutes, but last only 4 to 6 hours. They are sometimes called “rescue medicines.” Short-acting bronchodilators include:

Generic name	Brand name
albuterol	Proventil Proventil HFA Ventolin
metaproterenol	Alupent
pirbuterol	Maxair
terbutaline	Brethaire
bitolterol	Tornalate
levalbuterol	Xopenex

Keep one of these inhalers, if prescribed, with you at all times. Use it as prescribed when you have shortness of breath. If you need a fast-acting inhaler more than 12 times a day, call your doctor.

An increased use of rescue medicine may mean that your COPD is not well controlled. Possible side effects of fast-acting bronchodilators include faster heart beat, headache, and shaking (tremors). If you have side effects that bother you, talk to your doctor.

Anticholinergics. Anticholinergic (an-tee-call-in-ER-jik) bronchodilators affect nerve impulses sent by the vagus nerve. A bronchodilator of this type is:

Generic name	Brand name
ipratropium	Atrovent

When the vagus nerve is stimulated, the airways can narrow. Ipratropium helps relieve this tightening of the airways, which is called bronchospasm (brank-oh-SPAZ-im). Ipratropium helps to keep the airways open. It works in 5 to 15 minutes and lasts for 4 to 6 hours. This drug is short-acting (but **not** fast-acting).

Ipratropium comes both as a metered-dose inhaler (MDI) and as a liquid for a nebulizer. Take this medicine only as directed by your doctor. Usually this means 2 puffs from your inhaler every 4 to 6 hours. Unless your doctor tells you otherwise, you should not take more than 2 puffs more than 4 to 6 times a day. Side effects may increase from too frequent use. Ipratropium is **not** a rescue medicine. Be sure to talk to your doctor about a treatment plan when you use ipratropium.

You should not use ipratropium if you have an allergy to soy products or peanuts. Tell your doctor and pharmacist of all your allergies. Be sure to include any allergies to medicine and food.

Possible side effects of ipratropium include dry mouth and bitter taste. **Do not** allow the spray to get into your eyes. Be very careful. When you activate the inhaler, close your eyes. If you get ipratropium in your eye, it may cause blurred vision or worsen narrow-angle glaucoma. A spacer can help to keep spray out of your eyes. To learn about spacers, see the UPMC patient education sheet [COPD: How to Use Inhalers](#).

See “Combined Inhaled Medicines,” Pages 6-7, for an inhaler combining ipratropium and albuterol (brand name Combivent).

Long-Acting Inhaled Bronchodilators

Long-acting bronchodilators last about 12 hours or as long as 24 hours. It depends on their type. These medicines help to keep your symptoms under control. So they sometimes are called “controllers.” They’re also called “maintenance” bronchodilators. Usually these medicines are used on a regular basis (**not** “as needed”). They generally do not provide quick relief. **Do not** take them for an attack. They should not be used for immediate relief of breathing problems.

The 2 types of long-acting bronchodilators are beta-2 agonists and anticholinergics.

Generic name	Brand name
salmeterol	Serevent
formoterol	Foradil

Salmeterol. This beta-2 agonist is inhaled by a dry-powder inhaler or a metered-dose inhaler (MDI). Salmeterol is usually taken 2 times a day, 12 hours apart. It begins to work in about 20 to 30 minutes. **Do not** take this medicine for an attack. Possible side effects include headaches in the first few weeks of use, shaking (tremors), higher blood pressure, or faster heart beat.

See “Combined Inhaled Medicines,” Pages 6-7, for the inhaler Advair (brand name), which combines salmeterol with fluticasone. It is another long-acting bronchodilator.

Formoterol. This beta-2 agonist is usually taken 2 times a day. It begins to work in less than 5 minutes, but it is not a rescue medicine. **Do not** take formoterol for an attack. It is sometimes prescribed for people who have tightening of the airways brought on by exercise. This medicine comes as a dry powder in a gelatin capsule. It is taken using a special type of inhaler that is packaged with the medicine. Possible side effects include shaking (tremors), trouble sleeping, faster heart beat, muscle cramps, and nausea.

Generic name	Brand name
tiotropium	Spiriva HandiHaler

Tiotropium. This anticholinergic is especially for COPD. It is taken just once daily. As with other long-acting bronchodilators, **do not** take it for immediate relief of breathing problems. This medicine comes as a powder in a capsule. It is inserted into a special type of inhaler called the HandiHaler. **Do not** swallow the capsule. The only way to take this medicine is with the HandiHaler. Be sure to learn the correct way to use it. Read the package insert that comes with this medicine. On the Web, you can also find Patient’s Instructions for Use at www.spiriva.com.

Possible side effects of this medicine include dry mouth, which may go away with continued use; constipation; faster heart rate; blurred vision; eye pain or redness; and trouble urinating. Be careful not to let the powder get into your eyes. Tell your doctor right away if you have any eye problems. **Do not** take this medicine if you’ve ever had a bad reaction to atropine, ipratropium, or ingredients listed on the package insert. If you also are prescribed ipratropium (Atrovent), it’s **very important** to talk to your doctor. Ask if you should stop this medicine or how you should continue to use it.

Oral Bronchodilators

Oral bronchodilators are taken by mouth. They are used to aid inhaled medicines. Oral bronchodilators work by relaxing the muscles around the airways.

Theophylline. This drug is an oral bronchodilator that belongs to a group of drugs called methylxanthines (meth-ill-ZAN-theenz). These medicines may also help the diaphragm to work better. Theophylline is sold under several brand names:

Generic name	Brand name
theophylline	Slo-Bid Theochron Theo-Dur Theo-24 Uniphyl

Possible side effects include stomach upset, faster heart beat, trouble sleeping, and hyperactivity in children. Some medicines, foods, and even smoking can change the way your body uses these medicines. You will need to have regular blood tests to check if your dosage is right for you or needs to be changed.

Oral beta-2 agonists. Other oral bronchodilators belong to the group of medicines called beta-2 agonists. These include:

Generic name	Brand name
albuterol	Proventil Volmax VoSpire ER
terbutaline	Brethine

These oral bronchodilators also relax the muscles around the airways. Some of the generic names of these oral beta-2 agonists are the same as those for inhaled beta-2 agonist bronchodilators. The possible side effects are similar and include faster heart beat, headache, trouble sleeping, and shaking (tremors).

Steroids

Steroids (STEER-oyds) may help to reduce swelling and inflammation. Steroids may also be called corticosteroids (KOR-ti-ko-STEER-oyds). Steroids are beneficial for asthma, and experts believe that inhaled steroids may also be beneficial for COPD. Steroids may decrease the number of times that symptoms get worse. In COPD, these episodes are called exacerbations (eg-zass-er-BAY-shuns).

Steroids are available as inhalers, which include metered-dose inhalers (MDIs) and dry-powder inhalers. Steroids also come as liquid for nebulizers, as pills, and as injections (shots).

Inhaled steroids. Of all the types of steroids, inhaled steroids usually cause the fewest side effects because very little enters your blood stream. Most of the inhaled steroid goes to your lungs where you need it. **Do not** use steroids for fast relief of shortness of breath.

Inhaled steroids available today include:

Generic name	Brand name
beclomethasone dipropionate	Beclovent QVAR Vanceril
budesonide	Pulmicort Turbuhaler
flunisolide	AeroBid
fluticasone	Flovent
triamcinolone	Azmacort

Possible side effects of these medicines include hoarseness or a yeast infection in the mouth. There are several things you can do to avoid these side effects. Gargling with mouth wash or even water after taking these steroids helps to prevent side effects. If you use an MDI, attach a spacer to the inhaler. For more information about spacers, see the UPMC patient education sheet [COPD: How to Use Inhalers](#).

Oral steroid. The oral steroid is:

Generic name	Brand name
prednisone	many brand names

Any steroid medicine may have side effects. Possible side effects with short-term steroid use include:

- bigger appetite
- retaining fluids
- weight gain
- nausea or vomiting
- stomach upset or ulcers
- blood sugar changes

Possible side effects with long-term use include:

- high blood pressure
- thinning bones
- cataracts
- muscle weakness
- easier bruising
- slower wound healing

Oral steroids slow down the work of your adrenal glands. But when COPD symptoms suddenly get worse, oral or intravenous (IV) steroids are often needed. It's **important** to take steroids **exactly** as your doctor says.

Note: You can become seriously ill if you stop taking steroids suddenly. **Do not** stop taking any steroid medicines without talking to your doctor.

Combined inhaled medicines

Many inhaled medicines are available for COPD. Some people with COPD may need to take several of these medicines to manage their disease. To simplify taking these medicines, some have been combined into one inhaler. For example, some inhalers combine a maintenance (controller) inhaler and a rescue inhaler. Others combine 2 maintenance inhalers. Some combined inhalers include:

Generic name	Brand name
albuterol and ipratropium	Combivent
albuterol and ipratropium	DuoNeb (used with a nebulizer)
salmeterol and fluticasone	Advair

Combivent. This medicine combines albuterol and ipratropium. Combined bronchodilators often have a greater effect than either of the drugs used alone at the recommended dosage. Combivent comes as a metered-dose inhaler (MDI). It works quickly to keep the airways open and lasts up to 4 to 6 hours. The usual dosage is 2 puffs, 4 times a day, unless your doctor tells you otherwise. **Do not** increase the dosage or frequency without consulting your doctor.

If Combivent becomes less effective over time in relieving your symptoms, call your doctor. Be careful about taking this medicine with other fast-acting bronchodilators. Combivent already includes a fast-acting rescue medicine. It's **important** to tell your doctor if you are using rescue medicines.

Do not allow the Combivent spray to get into your eyes. Be very careful. When you activate the inhaler, close your eyes. Remember that Combivent contains ipratropium. If you get any spray into your eye, it may cause blurred vision or worsen narrow-angle glaucoma. A spacer can help to prevent this. If you are allergic to soy products or peanuts, **do not** take Combivent. Talk to your doctor about these allergies.

DuoNeb. This medicine also combines albuterol and ipratropium. You take DuoNeb with a nebulizer. It gives the same benefits as Combivent, but it is in liquid (nebulizer) form.

Advair. This medicine is sometimes prescribed for people with COPD. Advair combines 2 controllers: salmeterol (a bronchodilator) and fluticasone (a steroid). Advair offers the long-acting bronchodilator effects of salmeterol and the steroid's ability to reduce swelling in 1 inhaler. It is usually prescribed 2 times a day, morning and evening, about 12 hours apart.

Do not exceed this dosage.

Note: Advair comes in 3 different strengths that are color-coded. The fluticasone (steroid) dosage is different in each. When you go to the doctor, take your Advair with you. Ask the doctor to check if you are taking the right dosage. Keep in mind that when you change the dosage of any combined medicine, you are changing the dosage of **2** medicines, not just 1 medicine. **Always** follow the advice of your doctor.

Advair does **not** replace fast-acting inhalers (rescue medicines) to treat an attack of severe symptoms. You will usually have a fast-acting rescue inhaler for an attack. Talk to your doctor about how to use your rescue medicine for severe symptoms. If your doctor prescribes Advair, be sure to tell your doctor about any other inhaled medicines you are taking. You should not take salmeterol, formoterol, or inhaled steroids along with Advair, unless your doctor tells you otherwise. Also **do not** take Advair with a spacer device.

Expectorants and mucolytics

Expectorants (ex-PECK-ter-ents) and mucolytics (myu-ko-LIT-iks) are medicines that may help move secretions out of the lungs and airways. How well they work is not clear. For some people, drinking 6 to 8 glasses of water a day can have the same effect, and it costs less. Check with your doctor before trying this. If you retain fluids or have heart failure, you must be careful about drinking fluids.

Expectorants. These medicines increase fluid in your lungs and airways, and this helps secretions to liquefy and thin. These medicines come as pills and liquids. The most common one is:

Generic name	Brand name
guaifenesin	many brand names

Mucolytics

These medicines break down mucus to make it easier to clear the lungs and airways. The most common one is:

Generic name	Brand name
acetylcysteine	Mucomyst

Mucomyst is taken with a nebulizer and is prescribed along with a bronchodilator.

Antibiotics

Antibiotics are used to treat infections caused by bacteria. Your doctor will choose medicine that is best to attack the kind of infection you have. It is very **important** to take all the medicine prescribed. If antibiotics are not taken as directed, the bacteria may become weakened, but not destroyed. This leads to antibiotic resistance. Always take antibiotics as your doctor says to destroy all the bacteria.

Call your doctor at the first sign of infection. The following are signs of infection:

- Your mucus changes in color, consistency, or amount.
- Your wheeze, cough, or shortness of breath gets worse.
- You get fever or chills.

Nebulizers

A nebulizer is a small machine that changes liquid medicine into a fine mist. You then inhale the mist into your lungs. Many different nebulizers are on the market today. Directions for use are supplied by each company that makes these devices. To prevent infection, it is **important** to clean your device as the company recommends. Talk to your doctor about the best way for you to take inhaled medicines. Also check with your insurance company. Some insurance plans require a co-payment for nebulized medicines.

When should you seek help?

If any of the following occur, get medical care:

- Your mucus changes in color, consistency, or amount.
- Your wheeze, cough, or shortness of breath gets worse, even after you take your medicine and it has time to work.
- Your breathing gets difficult.
- You have trouble walking or talking.

Call 911 right away if any of the following occur:

- You get confused.
- You have trouble staying awake.
- Your lips or fingernails are blue or gray.

If you have questions

If you have any questions, call your doctor or nurse at _____.



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