Module Two: Managing Your Medicine and Symptoms

Welcome

Welcome to Module Two of Lung Foundation Australia’s C.O.P.E program.

C.O.P.E. stands for **COPD. Online. Patient. Education.**

This module is designed to explain how your prescribed medicines will help you to manage your symptoms.

Please move through this module at your own pace by clicking through the ‘Prev’ and ‘Next’ buttons, located in the navigation bar.

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Learning objectives

COPD is a manageable condition. In order to manage your COPD, you must learn about the symptoms and the medicines that can help you.

Upon completion of this module, you should understand:

- The different types of medicines, including reliever medicines, maintenance medicines, combination medicines, and flare-up medicines;
- The effects and side effects of these medicines;
- How to use the various medicines available to you;
- How to prevent and manage a flare-up; and
- How to use your COPD Action Plan.

Knowing your medicines

Why medicines are used in the management and treatment of COPD

To improve or manage your COPD symptoms, your doctor may have prescribed various medicines. Although medicines cannot cure COPD, when used as prescribed they can go a long way towards reducing your symptoms and preventing flare ups. As each person's health is different, each person may be prescribed different medicines at different doses – *your* medicines program is tailored especially for *you.*

For each different medicine you are prescribed, make sure you understand:

- What the medicine is for.
- How the medicine works.
- How to take the medicine.
- How long the effects of the medicine last.
- What the possible side effects of the medicine are and how you can avoid these side effects.
- If the medicine will cause problems with your other medicines.
- How to store your medicines.
- When the medicine is out of date.

If you are confused or unsure about any of the information provided in relation to these points, you should ask your doctor, respiratory nurse, physiotherapist or pharmacist to explain. It is okay to ask these questions multiple times if you are unsure. It can help to repeat back what you have heard in your own words so you can be sure you have understood correctly.

You should be confident and informed about your own condition, including the medicine you use. Although each medicine may cause side effects, it is important to remember that only a small number of people using that medicine will develop *side effects*.

As respiratory medicines target the lungs, most COPD medicines are inhaled using special inhaler devices so that the medicine is delivered directly to the lungs. Correct technique is important in delivering your medicine effectively. To ensure you are receiving the full benefits from your medicine, demonstrate your inhaler technique to your doctor, pharmacist, respiratory nurse or physiotherapist.

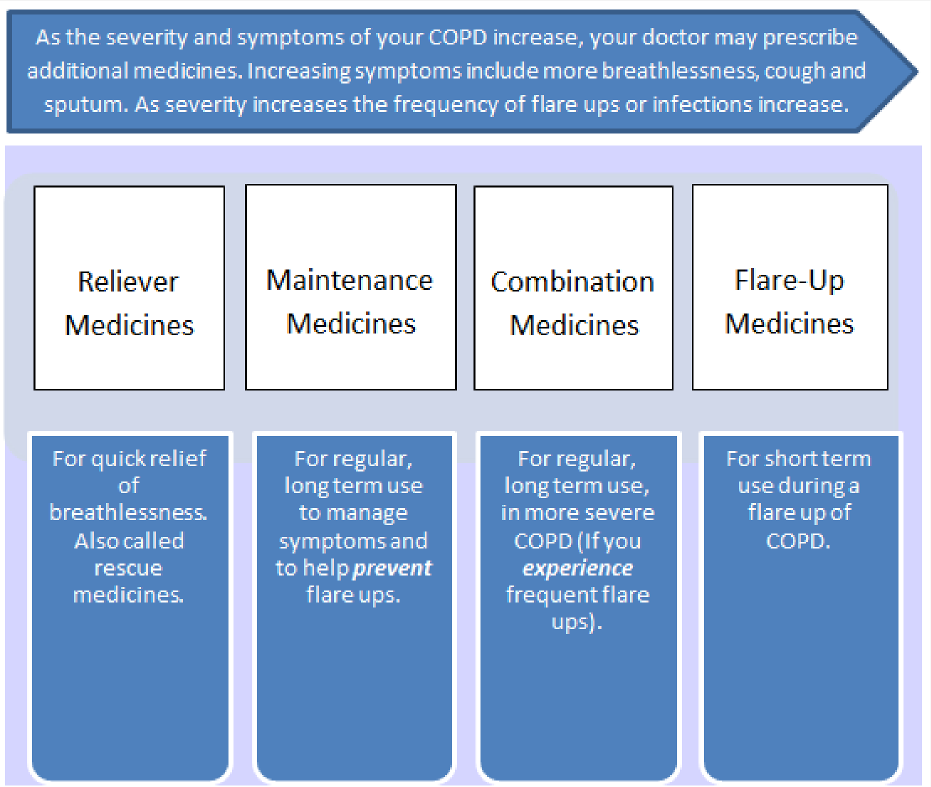
Types of medicines

Types of medicines

There are four main categories or groups of medicines you may be prescribed (see diagram below). You will notice that you might have medicines from more than one category depending on your situation:

1. Reliever medicines – for quick relief of increasing symptoms of breathlessness.
2. Maintenance medicines – for long term regular use to control your symptoms and to help prevent flare ups or exacerbations.
3. Preventer medicines, including combination medicines – for long term regular use when COPD becomes more severe and you experience several flare ups.
4. Flare up medicines – for short term use during an acute flare up of your COPD symptoms.

Categories of COPD Medicines



As the severity and symptoms of your COPD increase, your doctor may prescribe additional medicines. Increasing symptoms include more breathlessness, cough and sputum. As severity increases the frequency of flare ups or infections increase.

For quick relief of breathlessness. Also called rescue medicines.

For regular, long term use to manage symptoms and to help ***prevent*** flare ups.

For regular, long term use, in more severe COPD (If you ***experience*** frequent flare ups).

For short term use during a flare up of COPD.

When you are initially diagnosed with COPD, your doctor may start you on a reliever medicine and then, if the severity of your disease progresses and your symptoms worsen or you experience more frequent flare ups, your doctor may prescribe additional medicines. Some patients find themselves on three different medicines, each with its own inhaler. This is normal, however, it is important that you understand the role of each of your medicines and to take them properly.

The majority of medicines for people who have COPD are listed on the Pharmaceutical Benefits Scheme (PBS) and require prescriptions from a doctor. However, Ventolin® and Bricanyl® are available over the counter without a prescription, but will cost more if you buy them without a prescription.

Use, effects and side effects of your medicines

Reliever or bronchodilator medicines

Reliever medicines should be used for symptom relief as a rescue medicine for the relief of breathlessness. They are called short-acting (because they work quickly) bronchodilators.

They work by relaxing the muscles around the breathing tubes or airways. This helps to open up the breathing tubes or airways which reduces the obstruction and allows air to flow out of and into the lungs when you breathe – easing your feelings of breathlessness and increasing your ability to exercise.

Relievers often work within minutes of inhalation and their effects last for several hours.

Beta$_2$-agonists (short-acting) and Anticholinergic (short-acting) also known as short-acting muscarinic antagonists (SAMA) are both classes of reliever or broncholdilator medicines.

Beta$_2$-agonists (short-acting)

Terbutaline (**Bricanyl®**) given by a **Turbuhaler** and sometimes by a **nebuliser**.

Salbutamol (**Asmol®**, **Airomir®**, **Ventolin®**):- given by a **spacer and puffer** and sometimes a **nebuliser**.

Use

- Always carry a short-acting reliever with you for acute situations or when doing exercise such as attending a pulmonary rehabilitation program or a Lungs in Action class.
- If you are using more than your prescribed dose, your condition may be getting worse or you might have an infection. You should see your GP as you may require a longer lasting inhaler or other medicine.

Effects

- Lasts for up to four hours.
- Works within minutes to relieve symptoms.
- Can be taken prior to exercise if needed.

Side effects

- Headaches, anxiety or nervousness.
- Nausea.
- Muscle tremors.
- Increased or irregular heartbeats.

Anticholinergic (short-acting) also known as short-acting muscarinic antagonists (SAMA)

Ipratropium bromide (**Atrovent®**)

Use

- Has a slower onset than short-acting beta$_2$-agonists, but it lasts longer.

Effects

- Relaxes smooth muscles in your lungs and opens up breathing tubes or airways in a different way compared with beta$_2$-agonists.
- It helps improve quality of life and breathlessness.
- Lasts for up to six hours.

Side effects

- Minor adverse effects such as dry mouth, urinary retention and blurred vision are common.
- Has been shown to increase risk of adverse cardiovascular events.
- Should NOT be used in conjunction with Spiriva® (tiotropium bromide, Seebri® (glycopyrronium bromide) and Bretaris® (aclidinium bromide).

Maintenance medicines

Maintenance inhalers are bronchodilators too, since they open up the breathing tubes or airways by relaxing the muscles around the breathing tubes or airways in the same way that relievers do. Maintenance bronchodilators usually take longer than relievers to start working, but once you have taken them, their effects last for much longer, usually over a 12 or 24 hour period.

Maintenance medicines will help to reduce your COPD symptoms in the long term and can help to prevent flare ups.

All maintenance inhalers work in one of two different ways to relax the muscles around the breathing tubes or airways. You can be prescribed one type alone, or may receive a combination of both types.

Anticholinergic (long-acting) also known as long-acting muscarinic antagonists (LAMA) and Beta$_2$-agonists (long-acting) are sub-classes of maintenance medicines.

Anticholinergic (long-acting) also known as long-acting muscarinic antagonists (LAMA)

Tiotropium (**Spiriva®**)

Glycopyrronium bromide (**Seebri®**)

Aclidinium bromide (**Bretaris®**)

Umeclidinium (Incruse Ellipta®)

Use

- Inhale once daily only. (Bretaris®, twice daily).
- Use with the HandiHaler®.
- The capsule should not be swallowed.

Effects

- Relaxes smooth muscles in your lungs and opens the breathing tubes or airways.
- Lasts for 12 to 24 hours depending on the medicine.
- Improves your lung function which can improve your quality of life.
- Helps to prevent flare ups.

Side effects

- Dry mouth, urinary retention and blurred vision, diarrhoea, indigestion, tooth decay.
- Use with caution if you have a prostate problem.

Beta$_2$-agonists (long-acting) often referred to as LABAs

Eformoterol (**Oxis**®, **Foradile**®)

Salmeterol (**Serevent**®)

Indacaterol (**Onbrez**®)

Use

- Do not use to treat an acute situation (**use a short-acting reliever instead**).
- Should be taken twice a day (morning and night) except for Onbrez® which is taken once a day.

Effects

- Relaxes smooth muscles in your lungs.
- Improves your lung function which can improve your quality of life.
- Onbrez® lasts up to 24 hours and is fast acting.
- Serevent® takes 10 to 20 minutes to take effect and lasts up to 12 hours.
- Oxis® is fast acting and lasts up to 12 hours.

Side effects

- Tremor, headache and a rapid heartbeat.

Anticholinergic (short-acting)

These medicines are also discussed in the reliever section as it may be used as both reliever and maintenance.

Ipratropium bromide (**Atrovent®**)

Use

- In addition to being prescribed as a short-acting reliever medicine, some people are prescribed ipratropium bromide as a regular maintenance medicine.

Combination Long Acting Beta$_2$ - Agonist and Anticholinergic (long acting) also known as long acting muscarinic antagoinsts (LABA/LAMA)

Indacaterol / glycopyrronium bromide (**Ultibro®**)

Umeclidinium/Vilanterol (Anoro Ellipta®)

Use

- a combination inhaled long-acting muscarinic receptor antagonist/long-acting beta2-adrenergic agonist (LAMA/LABA).
- Following inhalation both compounds act locally on airways to produce bronchodilation by separate mechanisms.

Effects

- Works by relaxing the muscles around the airways in the lungs so they open up to make breathing easier.
- Must be used regularly to be effective. It does not work immediately and should not be used to relieve sudden shortness of breath. If sudden breathing problems occur, use your quick-relief inhaler as prescribed.

Side Effects

- Headaches, anxiety or nervousness.
- Nausea.
- Muscle tremors
- Increased or irregular heartbeats

Preventer medicines

Preventer inhalers contain corticosteroids (with the exception of theophylline). These corticosteroids are effective in COPD and are different to anabolic steroids. In more severe COPD, these medicines help to reduce the number of flare ups people may experience by reducing inflammation which causes swelling and sputum production in the breathing tubes or airways.

They are especially important to use if you also have asthma as they specifically treat the type of inflammation or swelling that commonly occurs in asthma. Preventers must be taken twice a day every day to be effective. It may take up to a few weeks for you to start noticing their effect. So, it is important for you to keep taking them to have an impact on your symptoms.

Inhaled corticosteroids

Beclomethasone (**QVAR®**) It is recommended that this is used with a **spacer**.

Budesonide (**Pulmicort®**)

Fluticasone (**Flixotide®**) Are often given as a **puffer** to use with a **spacer**.

Ciclesonide (**Alvesco®**)

Use

- Inhaled twice a day.
- Must be used regularly to be effective.

Effects

- Reduces swelling and the amount of sputum in the breathing tubes or airways.
- May take up to a few weeks for you to notice its effect.

Side effects

A sore mouth and throat caused by a thrush infection or hoarseness of the voice are the most common side effects. To avoid these effects, use a spacer when using a metered dose aerosol (puffer), and rinse your mouth and gargle after each dose).

Inhaled combination medicines

Sometimes inhaled corticosteroids (preventers) are combined with a long-acting bronchodilator (maintenance inhalers) in one inhaler. This is often called ICS/LABA combination therapy. These are usually prescribed for those with moderate to severe COPD who have had two or more flare ups over the previous year.

Combining medicines like this can help to reduce the number of flare ups which in turn improves lung function and overall health. In addition, combined medicines are easier to use since they are available in one inhaler for two different medicines. They are prescribed twice daily.

Combination inhalers include:

- **Budesonide** and **eformoterol** (**Symbicort®**). Delivered via **Turbuhaler** or given as a **rapihaler** to use with a **spacer**.

- **Fluticasone** and **salmeterol** (**Seretide®**). Delivered via **Accuhaler** but often given as a **puffer** to use with a **spacer**.
- **Fluticasone furoate** and **vilantero** (**Breo Ellipta®**)

Use

- Designed to improve patient adherence with two medicines in one inhaler.
- Improves quality of life, improves lung function, and prevents flare ups.

Effects and side effects

Refer to individual medicines.

Theophylline

(**Nuelin®**, **Theo-Dur®**)

Use

- Use twice (daily)
- For use in severe COPD with frequent flare ups.
- Is less often used because of the potential for more significant side effects.
- Regular blood tests are required.
- Take with food.
- Available in controlled release tablet and syrup.

Effects

- Theophylline relaxes the bronchial smooth muscle and reduces inflammation in the breathing tubes or airways.
- There are both short-acting (works for 6 hours) and long-acting (works for 12-24 hours) forms of theophylline.

Side effects

- Theophylline is associated with more frequent side effects and therefore is used less often than other bronchodilators. If you have been prescribed theophylline, your doctor may wish to monitor you more closely.
- Tremor, nervousness, light-headedness, nausea and vomiting.

Flare up medicines

These medicines are used when your symptoms start to worsen and you are experiencing a flare up. These medicines should be taken as detailed in your COPD Action Plan and will help you to reduce the severity of your flare up.

Antibiotics

- Antibiotics are used to treat flare ups when sputum colour, volume and texture change.
- The antibiotics chosen will depend on your allergy status and cause of infection.
- Follow the instructions when taking antibiotics. You may need to take the antibiotic on an empty stomach or with food.
- You must complete the full course.

Oral corticosteroids

Prednisone (eg. **Sone®**, **Panafcort®**)

Prednisolone (**Solone®**, **Panafcortelone®**)

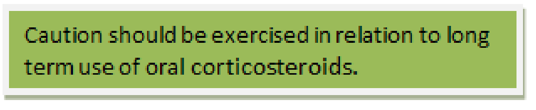
Use

Short term:

- To manage a flare up of signs and symptoms.
- Use minimal doses for the shortest duration.
- If it is prescribed as a daily dose take it in the morning with food.
- If you have been taking this treatment for more than two weeks, do not stop treatment unless advised by your doctor as patients on longer courses of oral steroid tablets may need to be weaned slowly, with successively lower doses of drug, over time.
- If you have been taking the oral steroid for two weeks or less, you do not need to taper the medicine.

Long term:

- Use when inhaled corticosteroid on its own is not enough to prevent a flare up.



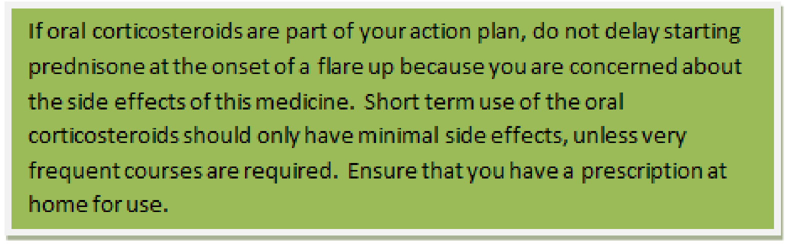
Caution should be exercised in relation to long term use of oral corticosteroids.

Effects

Reduces the inflammation in the breathing tubes or airways.

Side effects

Difficulty in sleeping, weight gain, bruising easily, osteoporosis, muscle wasting, diabetes, hypertension (high blood pressure), mood disturbance and glaucoma. The risk of side effects increase with long term use.



If oral corticosteroids are part of your action plan, do not delay starting prednisone at the onset of a flare up because you are concerned about the side effects of this medicine. Short term use of the oral corticosteroids should only have minimal side effects, unless very frequent courses are required. Ensure that you have a prescription at home for use.

Mucolytics

Bromhexine (**Bisolvon®**)

Use

- Drinking enough water is essential before starting treatment.
- Available in tablet or liquid form.

Effects

Reduces the stickiness of sputum.

Side effects

Nausea, diarrhoea and bronchospasm (tightening of breathing tubes or airways).

Immunisations

- A yearly influenza (flu) immunisation has been shown to reduce risk of death and hospital admissions.
- Immunisation against pneumonia (PneumoVax® 23) is recommended for those at high risk of serious pneumococcal disease, such as those with COPD. This should be given no more than five yearly. After two immunisations (over 5 years apart), discuss with your doctor whether further immunisations should be given.

Why using inhalation devices is an important skill

Using an inhalation device is a skill. After many years of using inhalation devices, you can develop habits that may not allow you to make the most of your inhaled medicines. You may also have extra medicines prescribed over time that can complicate your treatment schedule: as the more device types you are using, the greater the chance you have of using them incorrectly. If you are using more than two device types, ask your doctor if it is possible to reduce the number of device types without changing the medicines you are on.

Research shows that 90% of patients don't use their inhaler devices correctly.

Having your inhalation device technique assessed regularly by an appropriate member of your health care or pulmonary rehabilitation team is essential. You can also check with your managing doctor, nurse or a pharmacist.

To make the most of using an inhalation device, it is important to position your body appropriately. Typically you should be sitting upright or standing while taking your inhaled medicine.

The inhalation devices covered here include:
1. Puffer and spacer
2. Puffer (metered dose inhaler or rapihaler)
3. Haleraid®
4. Turbuhaler®
5. Accuhaler™
6. HandiHaler®
7. Autohaler™
8. Breezehaler™
9. Nebuliser
10. Genuair®
11. Ellipta®

How to use the puffer (or metered dose inhaler)

A puffer is also known as a metered dose inhaler, or an aerosol.

In the puffer, the medicine is stored under pressure in the metal canister. When the puffer is fired, a fine mist of the medicine is produced that can be inhaled into the lungs. These devices work best with spacers or holding chambers (see the following section on puffers and spacers).

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NOTE: It is recommended a puffer be used with a spacer to get the most m
your lungs. However, if one is not available, this is how to use it alone.

1. Remove the cap.
2. Hold the puffer upright and shake vigorously.
3. Raise your chin and look straight ahead.
4. Breathe out gently and fully (facing away from the inhaler).

A demonstration of how to use the puffer

Watch the video below to see how to correctly use your puffer.

How to clean and care for the puffer

When is the puffer empty?

A purple puffer is empty when the dose indicator on the back reaches zero. For most other puffers, it is more difficult to know when they are empty. If the puffer is becoming empty, the amount of and speed at which the spray comes out is reduced, or the puffer may feel empty when shaken.

If using a puffer for regular medicine, you can calculate when your puffer is likely to be empty. To do this, work out how many puffs per day you use and divide the number of puffs in the canister (written on the canister box) by the number of puffs per day you use. This will tell you how many days you can use your puffer for before it needs replacing.

How to clean the puffer

- Wiping the mouthpiece with a clean cloth is often all that is required unless the puffer becomes soiled or blocked.
- Remove the metal canister (do not wash the metal canister).
- Wash the plastic casing and cap with running warm water through the top and bottom for at least 30 seconds.
- Shake off excess water and allow to completely air dry.

How to care for the puffer

- When reassembling the puffer, ensure that the metal canister fits securely into the plastic casing.
- Always keep the cap on the puffer when not in use to prevent foreign objects lodging in the mouthpiece.

You can download a guide to accurate use of the puffer here

How to use the Haleraid®, puffer and spacer

Puffers (also known as a metered dose inhaler or an aerosol) may be used with a spacer, which is a small or large volume holding chamber.

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The Haleraid® can assist those people who have difficulties pressing the canister.
A Haleraid® can be obtained from independent living centres or pharmacies, and are a
two sizes.

How does the puffer and spacer work?

A spacer holds the spray before the spray is breathed in. Using a spacer with a puffer allows more medicine to get to where it is needed in the breathing tubes or airways. A puffer and spacer when used correctly can increase the amount of medicine that reaches your lungs by up to threefold.

A puffer and spacer prevent throat irritation by reducing the amount of medicine sitting in your mouth or throat. Spacers have a one way valve that stops air being breathed into the spacer while the spacer is in your mouth.

If used correctly, a puffer used with a spacer is at least as effective as a nebuliser in delivering a similar dose of medicine, that is, 4 to 10 puffs equals one nebuliser dose.

If you change the spacer you are using, particularly for your preventer or combination medicines, the amount of medicine you receive may be different, so check with your doctor if your symptoms change.

You can download a guide to accurate use of the puffer and spacer here

How to clean your spacer

Every two weeks or at least monthly, separate the two pieces of the spacer and wash in warm soapy water.

Do not rinse as the soap helps to reduce the static charge in the spacer (static causes the medicine to stick to the sides of the spacer reducing the amount of medicine delivered to the breathing tubes or airways).

Allow to drip dry thoroughly after washing.

DO NOT dry with a tea towel and DO NOT wash in dishwasher as these increase the static charge.

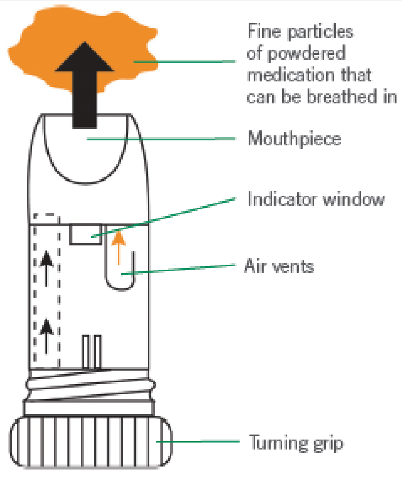
What is the Turbuhaler®?

A Turbuhaler® is a device that is activated by breathing in. When you load the Turbuhaler®, a precise dose of powdered medicine is measured and deposited into a reservoir by gravity.

It is important that you hold the Turbuhaler® upright when you load it.

When the Turbuhaler® is placed in your mouth and you breathe in, air is drawn through vents on the side of the Turbuhaler®. This causes the air in the Turbuhaler® to become turbulent. This turbulence breaks up the powdered medicine into very fine particles. As you breathe in, these very fine particles are able to go further down the breathing tubes or airways.

How to prime a new Turbuhaler®



The Turbuhaler®

Before you start to use a new Turbuhaler® you need to “prime” it.

1. Remove the cap
2. Twist the base left and right as far as it will go. You will hear a ‘click’.
3. Repeat (step 2) one more time

The Turbuhaler® is now primed.

How to use the Turbuhaler®

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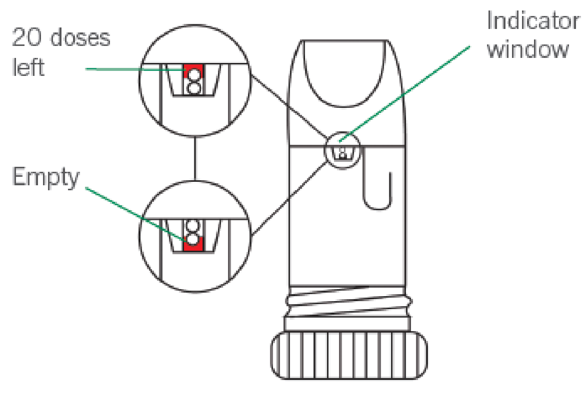
How to use the Turbuhaler®:
1. Hold the Turbuhaler® upright, and unscrew the cap.
2. Hold the white body and turn the colour ba right as far as it will go and then back again hear a click.
3. Breathe out gently away from the Turbuha

How to clean and care for the Turbuhaler®

When is the Turbuhaler® empty?



Determining when the Turbuhaler® is empty

The Symbicort® Turbuhaler® (red base) has a counter that counts down to zero (in twenties). When the indicator window is red, the device is empty.

On other Turbuhalers®, a red line will appear at the top of the indicator window on the side of the device, which indicates that 20 doses are left (this is a good time to organise a new device). When the red line appears at the bottom of the window, the Turbuhaler® is empty.

Do not rely on shaking the turbuhaler to determine if it is empty. The sound you hear rattling inside is not the drug but the drying agent so it will continue to rattle even when the drug is all gone.

How to clean the Turbuhaler®

- Wipe the mouthpiece with a dry tissue from time to time.
- Do not wash any part of the Turbuhaler®.

How to care for the Turbuhaler®

- Do not breathe into the device as the medicine is a dry powder.
- Do not expose to water (keep the cap on tightly to prevent moisture entering the device).
- The sound you hear when you shake the device is NOT medicine, it is a drying agent.
- The medicine is inhaled directly into the lungs; therefore, you may not feel or taste anything.

You can download a guide to accurate use of the Turbuhaler here

How to use the Accuhaler™

The Accuhaler™ is a breath activated device that contains a hidden foil strip that has 60 regularly spaced doses of medicine.

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How to use the Accuhaler™

1. Check the window that indicates the number of doses left.

2. To open, hold the base of the Accuhaler™ horizontally in one hand; place the thumb
hand in the thumb grip and push the thumb grip around as far as possible.

3. With the mouthpiece facing up, push the lever around until it clicks. The number indi
by one.

4. Breathe out gently away from the Accuhaler™.

A demonstration of how to use the Accuhaler™

Watch the video below to see how to correctly use your Accuhaler™.

How to clean and care for the Accuhaler™

When is the Accuhaler™ empty?

The Accuhaler™ is empty when the dose counter on the top indicates zero. The last five doses will appear in red.

How to clean the Accuhaler™

- Wipe the mouthpiece with a dry tissue from time to time.
- Do not wash any part of the Accuhaler™.

How to care for the Accuhaler™

- Keep your Accuhaler™ dry.
- Keep your Accuhaler™ closed when not in use.
- Store your Accuhaler™ below 30°C and do not keep it in the car on hot days.

You can download a guide to accurate use of the Accuhaler here

How to use the HandiHaler®

The Handihaler® is activated by breathing in through the mouthpiece. When activated, a capsule (containing the medicine) inside the Handihaler® is pierced, allowing the medicine to be inhaled.

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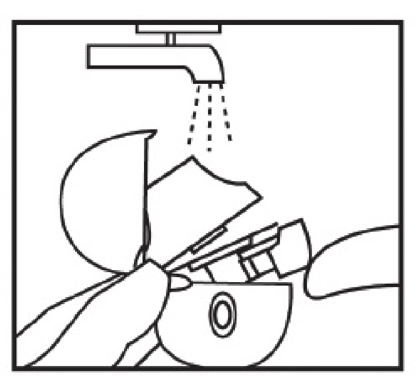
How to use the HandiHaler®
1. Open the dust cap by pulling upwards.
2. Open the mouthpiece by pulling upwards.

How to clean the HandiHaler®

When is the HandiHaler® empty?

When you have run out of capsules, you will have no more medicine. The HandiHaler® should be replaced yearly.

How to clean the HandiHaler®



- Once a month, you should:
- Open the dust cap.
- Open the mouthpiece.
- Open the bottom part by pressing the green lever in and up.
- Rinse under warm water to remove dry powder.
- Shake out excess water.
- Leave to air dry for 24 hours with the HandiHaler® open.

Dry the outside with a clean cloth, if needed.

Remember that as the HandiHaler® takes 24 hours to dry, you should wash it immediately after a dose to ensure that it is completely dry before the next dose.

You can download a guide to accurate use of the Handihaler here

How to use the Autohaler™

The Autohaler™ is activated by breathing in through the mouthpiece, which triggers the device to expel the medicine. The Autohaler™ is primed before use by lifting the pressure lever (the grey lever), which expels the medicine into a staging chamber.

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How to use the Autohaler™:
1. Unclip the mouthpiece cover from the back
2. Hold the Autohaler™ upright and click the
upwards so that it stays up.
3. Breathe out gently.

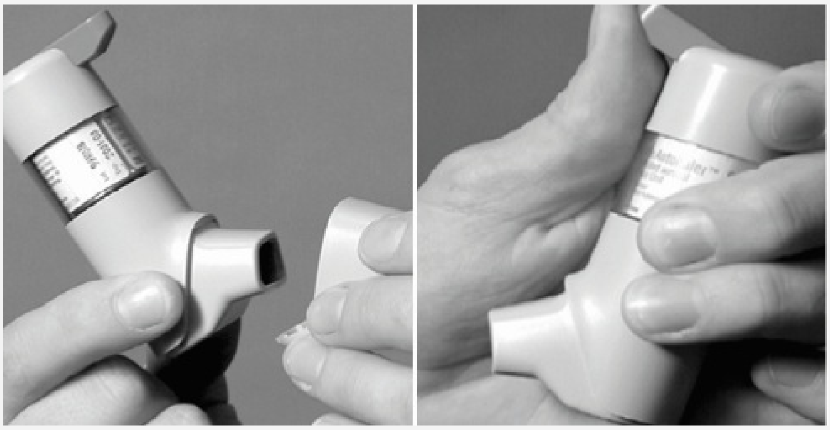
How to clean the Autohaler™

When is the Autohaler™ empty?

The Autohaler™ is empty when you do not hear any medicine being delivered.

How to clean the Autohaler™

Wipe with a clean dry cloth.



You can download a guide to accurate use of the Autohaler here

How to use the Breezhaler®

The Breezhaler® is activated by breathing in through the mouthpiece. When activated, a capsule (containing the medicine) that has been pierced inside the Breezhaler® allows the medicine to be inhaled.

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How to use the Breezhaler®:

1. Pull off the cover/cap.

2. Open the inhaler by holding the base firmly and tilt the mouthpiece.

3. Remove one capsule from blister pack with dry hands (always keep capsules in bliste immediate use), and insert into base of the inhaler.

How to clean the Breezhaler®

Clean your inhaler once a week:

- Wipe the mouthpiece inside and outside to remove any powder with a clean, dry lint-free cloth.
- Do not wash your inhaler with water. Keep it dry.
- Do not take the inhaler apart.

You can download a guide to accurate use of the Breezhaler here

How to use the nebuliser

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three

How to use the nebuliser:

1. Assemble clean dry equipment (face mask or mouthpiece, nebuliser bowl, tubing and pump).

2. Place pump on a firm flat surface.

3. Ensure the two halves of the nebuliser bowl are connected.

How does the nebuliser work?

Medicines delivered by inhalers are an effective, easy and convenient way to deliver the correct amount of medicine into your breathing tubes or airways. Most people with COPD can effectively use their inhalers to manage their conditions. This is preferred as inhalers are more practical, convenient and are less likely to cause infection.

Sometimes however, if you cannot use your inhalers correctly a nebuliser might be prescribed.

In a nebuliser, pressurised air is pumped through liquid to form a fine mist that is inhaled through a face mask or mouthpiece. The pump is usually driven by electricity; some pumps may be driven by a battery or 12 volt car batteries.

A mouthpiece stops the medicine going into the eyes and on the skin which sometimes causes irritations.

How to clean and care for the nebuliser

How to clean the nebuliser

- After ***each use***, rinse the nebuliser bowl and the facemask or mouthpiece.
- Ensure that the nebuliser parts are completely dry before storage (liquid left in the bottom of the nebuliser bowl is an ideal site for germs to grow).
- Do not wash the tubing. You may remove the mask and bowl from the tubing and turn the nebuliser on to blow air through the tubing. This can reduce any condensation in the tubing. Replace the tubing if it is discoloured or there is any sign of mould.
- Each week, soak the nebuliser bowl and the mouthpiece or facemask in half vinegar and half water, rinse and allow to air dry.
- Replace your nebuliser tubing, bowl and face mask or mouthpiece every three months.

> Correct cleaning of your nebuliser will reduce the risk of chest infections.

How to care for the nebuliser

- Inspect the nebuliser bowl and tubing for cracks, and if cracks are found, replace.
- Nebuliser bowls have a limited life span. Check the manufacturer's manual for the expected life span of your nebuliser.
- If you have a new nebuliser bowl and it is not working, check for an extra piece of plastic in the bowl call a baffle (sometimes the baffle is missing, and if so, the bowl will need to be returned).
- The filter on the nebuliser pump may need to be replaced occasionally. See the manufacturer's manual for how often the pump may need replacing.
- Have the nebuliser pump checked annually for correct airflow and pressure by the company that sold you the nebuliser or by your local pharmacy.
- If nebulising Atrovent® or Pulmicort®, the use of a mouthpiece is preferable. If you do not use a mouthpiece, the use of eye protection is advisable.
- Ensure you rinse your mouth and face afterwards.

> Nebuliser bowls have a limited life span. Check manufacturer's manual for expected life span.

How to use the Genuair®

one

two

three

How to use the Genuair® device:

1. Hold the device horizontally with the green button up. Don't tilt.

2. Press and release the green button to release the dose.

A demonstration of how to use the Genuair®

Watch the video below to see how to correctly use your Genuair®.

You can download a guide to accurate use of the Genuair here

How to use the Ellipta®

one

two

three

How to use the Ellipta® device:

1. Slide open the cover to prepare the dose and when you hear the click the medicine h loaded.

2. Breathe out gently away from the device.

3. Seal your mouth around the mouthpiece, keeping the vents clear.

A demonstration of how to use the Ellipta®

Watch the video below to see how to correctly use your Ellipta®.

You can download a guide to accurate use of the Ellipta device here

Preventing and managing a flare up

People with COPD are at risk of having an exacerbation or flare up.

A flare up is what happens when your COPD gets worse. Flare ups can become serious and you may even need to go to hospital. It is important for you to understand how to avoid having a flare up, what the signs and symptoms of a flare up are, and how you can minimise its impact.

Some of the typical signs and symptoms of a flare up are one or more of the following:

- More wheezy or breathless than usual.
- More coughing.
- More sputum than usual.
- A change of colour or taste in your sputum.
- Loss of appetite or sleep.
- Less energy for your usual activities.
- Taking more of your reliever medicine than normal.

It is important to recognise your normal (baseline) symptoms so you can identify these signs and symptoms of a flare up.

How can you monitor your symptoms and avoid having a flare up?

There are several possible triggers that can cause a flare up. Some people are particularly susceptible to particular triggers. These can include:

- Respiratory viral or bacterial infections, such as bronchitis, a cold or the flu.
- Smoke.
- Pollutants such as dust, wood smoke or smog.
- Other unknown causes account for about one third of all flare ups.

COPD ACTION PLAN
(Chronic Obstructive Pulmonary Disease)

LungFoundation Australia
"When you can't breathe... nothing else matters"

Date: ______________________ (Ask your doctor to review each year with your GPMP)

Feeling your usual self (easy to breathe)

- Feeling your usual self
- Sleeping well
- Taking usual medicine
- No headaches, not dizzy
- Have lots of energy
- Usual amount of phlegm

ACTION: Continue taking your usual medicines as listed below.

Annual Influenza Immunisation - Date: ______________________

Last Pneumoccal Immunisation - Date: ______________________

My usual medicines	Colour of device	How many puffs or tablets	How often
Oxygen	Yes/No	Setting or l/min	hrs/day

Feeling a little bit sick (harder to breathe)

- Harder to breathe than usual
- Fever
- More coughing
- More phlegm or thicker than usual
- A change of colour of phlegm
- Loss of appetite
- Not sleeping well
- Not much energy
- Taking more reliever medicine

ACTION: Follow plan below for extra medicines. Plan your day, get rest, relax, use breathing techniques, huff and cough to clear phlegm as required. Consider contacting your Health Worker/Nurse or Doctor.

My extra medicine	Colour of device	How many puffs or tablets	How often

Medicine	Strength	Tablets each day	No. of days
Prednisolone*:			
Antibiotics*:			

* GP to fill in if prescribed. Identify if reducing schedule is required.

Not Good (trouble breathing and wheezing)

- Very short of breath at rest
- High fever
- Confused, slurring of speech
- Drowsy
- Chest Pain
- Afraid/scared

ACTION: Phone an Ambulance 000

- Blood in your phlegm
- Difficulty sleeping/woken easily
- Swollen Ankles

ACTION: Contact Emergency Doctor

CALL AMBULANCE 000 IMMEDIATELY
Show them this plan and say you have a flare up of your COPD

CAUTION: Ambulance/Paramedics: CO_2 Retainer ☐ **YES - Please keep SpO_2 88-92%** ☐ **N/A**

Patient Name:	Date of Birth:
GP Name:	GP Phone: A/H:
Health Worker Name:	Health Worker Phone:

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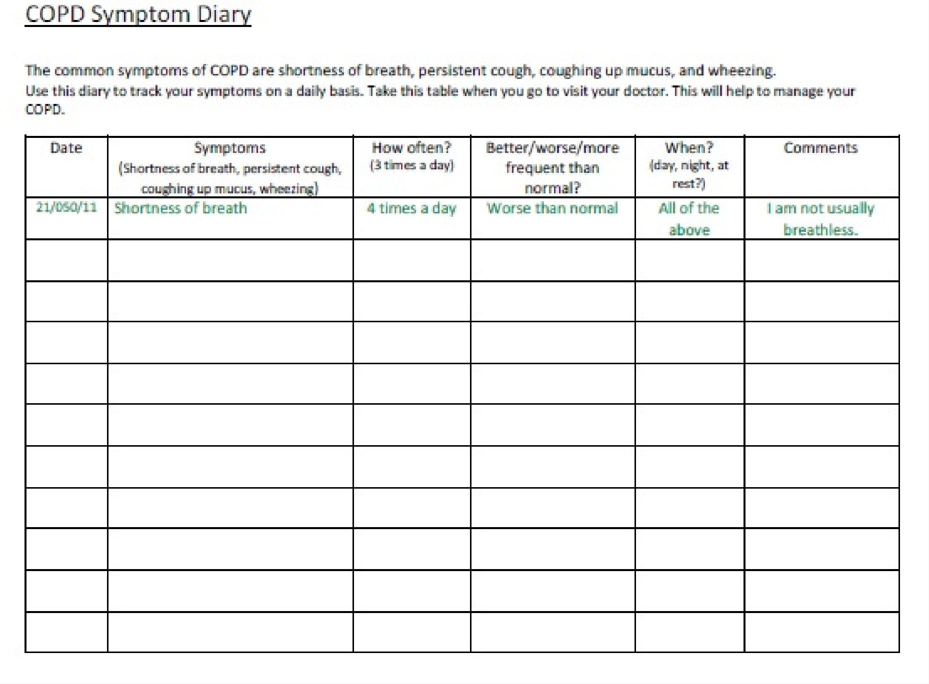
There are things you can do to avoid getting a flare up:

- Follow your written *COPD Action Plan* that you developed with your doctor
- Ask if you don't know how to use it
- Learn what the triggers are that make your COPD worse and how to avoid them.
    - Stay inside on particularly cold or hot days if possible.
    - Avoid second hand smoke.
    - Avoid strong cleaning products or strong perfume.

- Make sure you get the flu immunisation every autumn and that you are immunised to protect you from pneumonia.
- Take your medicines regularly and as prescribed by your doctor and as indicated in your COPD Action Plan.
- Avoid people with colds and flu.
- Take good care of yourself by eating healthy foods, exercising and getting enough sleep.
- Keep track of your daily symptoms so that you can recognise quickly when you are starting to become unwell (a sample symptom diary is provided below).
- Maintain good hand hygiene, many germs are spread by hand contact so wash your hands regularly.

The following sample symptom diary captures information about your symptoms such as cough, sputum and shortness of breath. Some people find a diary like this one helps them to recognise what is 'normal' and also help identify when their symptoms change.



COPD Symptom Diary

The common symptoms of COPD are shortness of breath, persistent cough, coughing up mucus, and wheezing.
Use this diary to track your symptoms on a daily basis. Take this table when you go to visit your doctor. This will help to manage your COPD.

Date	Symptoms (Shortness of breath, persistent cough, coughing up mucus, wheezing)	How often? (3 times a day)	Better/worse/more frequent than normal?	When? (day, night, at rest?)	Comments
21/050/11	Shortness of breath	4 times a day	Worse than normal	All of the above	I am not usually breathless.

What can you do when you become sick?

When you start to become sick it is important that you act quickly. The quicker you act, the less likely it is that you will end up in hospital.

- Commence your interventions indicated on your written COPD Action Plan.
- Contact your doctor (or healthcare professional) as soon as possible.
- Reduce your activity level.
- *Clear sputum with the huff and cough technique*.
- *Practice controlled breathing and relaxation techniques*.
- *Eat small amounts of nourishing food*.
- Drink extra fluids. (if not on a fluid restriction).
- Use additional medicine as planned by your doctor and written on your action plan.

How can you develop and use a written COPD Action Plan?

COPD Action Plans aim to help you recognise a flare up earlier and provide instructions on how to act to reduce the severity and duration of your illness.

To be successful it is essential that you plan it together with your doctor. Nursing and allied health staff can start the development of your plan however decisions about medicine changes must be made by a doctor or an appropriately qualified nurse practitioner.

COPD Action Plans work best when they are checked, updated and rehearsed regularly. This should occur each six months or after each flare up.

Click here to download the Lung Foundation's COPD Action Plan.

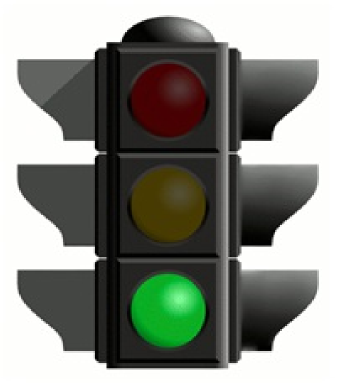
Step 1

Talk to your doctor about developing a COPD action plan. When developing the plan with your doctor, you will discuss what happened with previous flare ups.

You will need to identify the lead up signs and symptoms you experienced (consider the events that were both associated and not associated with an infection), the treatment and outcomes.

Check your Symptom Diary for information.

Step 2



You and your doctor will then agree on what actions you should take to manage your COPD whilst you are stable. When you are stable you are:

- Feeling your usual self.
- Taking your usual medicine.
- Have regular levels of energy.
- Sleeping normally.
- Not experiencing headaches or dizziness.
- Experiencing usual amounts of sputum.

Your stable section will include your “usual daily medicine” and may include other information about your care, i.e. contact details for your doctor, oxygen use and lung volume readings.

Step 3

You and your doctor will also agree on treatment directions for management of a mild to moderate flare up.

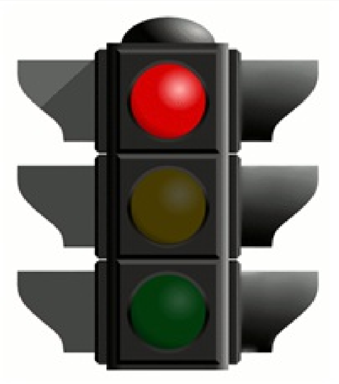
A mild to moderate flare up is when you are feeling a little bit sick and are finding it harder to breathe.

When you are experiencing a mild to moderate flare up you may:

- Find it harder to breathe than usual.
- Have a fever.
- Experience more coughing.
- Have more sputum or find it is thicker than usual.
- See a change of colour in your sputum.
- Lose your appetite.
- Not be sleeping as well as normal.
- Not have much energy.
- Be taking more reliever medicine.

This will include details about increasing your reliever dose, the frequency and the delivery method. You may also get directions on starting a course of steroid tablets and / or an antibiotic if signs of an infection are present.

Step 4



You and your doctor will then agree on the point that you will need to seek urgent medical treatment in the case your flare up becomes severe.

During a severe flare up you may:

- Be very short of breath at rest.
- Have a high fever.
- Feel confused.
- Slur your speech.
- Feel drowsy.
- Experience chest pain
- Feel afraid or scared.
- Notice blood in your sputum,.

- Have difficulty sleeping or be woken easily in the night.
- Have swollen ankles (or your ankles are more swollen than usual).

It will be extremely important to recognise when to seek urgent treatment and what you can do whilst waiting for help to arrive. Your action plan will provide you with these instructions.

Step 5

Your doctor will need to provide or arrange for prescriptions for extra medicines to use with the COPD Action Plan (e.g. steroid tablets or antibiotics to keep at home with your COPD Action Plan).

Step 6

Don't forget to get your doctor to sign and date the plan to ensure it is up to date.

Step 7

Ask your doctor, nurse or health care person to regularly explain and reinforce the COPD Action Plan to you and to your carer including all the signs to watch for and actions to take.

Step 8

Keep your plan somewhere visible at home (on the fridge). Remember to always bring your COPD Action Plan to your clinic, doctor appointments and admissions to hospital.

There are several versions of Action Plans for COPD and depending on where you live, a locally designed COPD Action Plan may be available. This is the Lung Foundation's COPD Action Plan:

COPD ACTION PLAN
(Chronic Obstructive Pulmonary Disease)

LUNG FOUNDATION AUSTRALIA

Date: (Ask your doctor to review each year with your GP/NP)

Feeling your usual self (easy to breathe)

- Feeling your usual self
- Sleeping well
- Taking usual medicine
- No headaches, not dizzy
- Have lots of energy
- Usual amount of phlegm

ACTION: Continue taking your usual medicines as listed below.

Annual Influenza Immunisation - Date:

Last Pneumococcal Immunisation - Date:

My usual medicines	Colour of device	How many puffs or tablets	How often

Feeling a little bit sick (harder to breathe)

- Harder to breathe than usual
- Fever
- More coughing
- More phlegm or thicker than usual
- A change of colour of phlegm
- Loss of appetite
- Not sleeping well
- Not much energy
- Taking more reliever medicine

ACTION: Follow plan below for extra medicines. Plan your day, get rest, relax, use breathing techniques, huff and cough to clear phlegm as required. Consider contacting your Health Worker/Nurse or Doctor.

My extra medicine	Colour of device	How many puffs or tablets	How often

Medicine	Strength	Tablets each day	No. of days
Prednisolone*:			
Antibiotics*:			

* GP to fill in if prescribed. Identify if reducing schedule is required.

Not Good (trouble breathing and wheezing)

- Very short of breath at rest
- High fever
- Confused, slurring of speech
- Drowsy
- Chest Pain
- Afraid/scared

ACTION: Phone an Ambulance 000

- Blood in your phlegm
- Difficulty sleeping/woken easily
- Swollen Ankles

ACTION: Contact Emergency Doctor

CALL AMBULANCE 000 IMMEDIATELY
Show them this plan and say you have a flare up of your COPD

CAUTION: Ambulance/Paramedics: CO_2 Retainer ☐ YES - Please keep SpO_2 88-92% ☐ N/A

Patient Name:	Date of Birth:
GP Name:	GP Phone: A/H:
Health Worker Name:	Health Worker Phone:

Things to talk about with the Health Worker, Nurse or Doctor

- What COPD is and how your lungs work
- How to manage COPD when it gets worse

When you are feeling your usual self

- How breathless are you?
- How far can you walk?
- How well do you sleep and eat?
- What is the colour of your phlegm?
- How much phlegm do you cough up?

Relievers

Maintenance

Flare Up Medicines

1. Antibiotics
2. Oral steroids (Prednisone, Prednisolone)

What you do to stay well

- Don't smoke
- Avoid tobacco smoke
- Get flu and pneumonia immunisations
- Walk daily/exercise regularly
- Don't let your medicines run out
- Use medicines and oxygen as prescribed
- Attend lung health rehab
- Join a support group
- Learn to control your breathing and cough
- Plan your activities and pace yourself
- Eat a balanced diet
- Keep in touch with friends
- See GP regularly
- Keep well hydrated

RESOURCES
Lung Foundation Australia | 1800 654 301 | www.lungfoundation.com.au
Better Living with COPD - Patient Guide

Your nearest Support Group contact person:
Your nearest Pulmonary Rehabilitation Program:
Your nearest Lungs in Action class:

It doesn't really matter which Action Plan you use. It is just important that you use one!

Immunisation

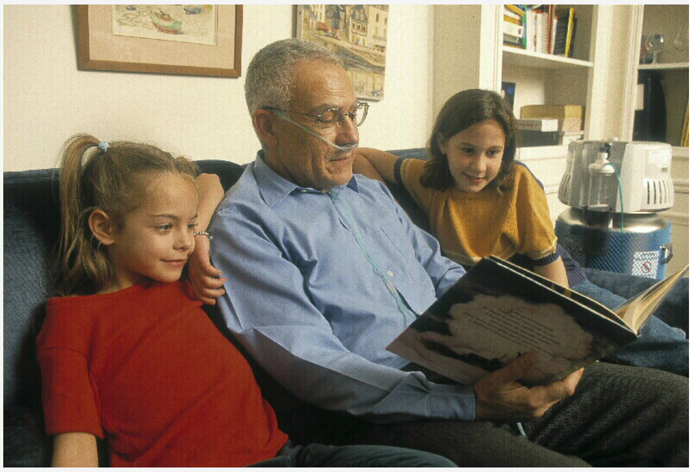
Unless told otherwise by your doctor (for example, you are allergic to eggs), you should receive immunisations for both the flu and pneumonia.

The flu vaccine is available each autumn and you should be immunised every year. It has been shown to reduce by 50% serious illness, hospitalisation and death in patients with COPD. As there are no live viruses in the vaccine, you will not get the flu from injection of the vaccine. Like any injection, injection of the flu vaccine may make your arm tender for a short period of time. Other side effects are minor and include mild fever and joint pain.

You should get the pneumonia immunisation every five years. If you had the pneumonia vaccine more than five years ago, or have had pneumonia since you first had the vaccination, ask your doctor if you should be immunised again. Like the flu vaccine, there are no live viruses in the pneumonia vaccine; however, injection of the pneumonia vaccine may make your arm tender for a short period of time.

After two immunisations (a 10 year period), discuss with your doctor whether further immunisations should be given.

Home oxygen therapy



Oxygen therapy is prescribed for many people with chronic lung disease who have low blood oxygen levels. The body can tolerate low levels of oxygen for short periods of time, but low levels of oxygen for long periods of time can cause problems in your vital organs. Home oxygen therapy helps return your blood oxygen levels to normal, thus reducing the damage to your vital organs.

Oxygen therapy is usually prescribed to prolong life and it may also improve the quality of life of the recipient. While the use of oxygen MAY relieve shortness of breath, in many cases it does not.

Feeling short of breath?

Most people with lung conditions feel breathless at times. Feeling short of breath is caused mainly by the extra work of breathing.

Important considerations

You can feel breathless even with normal oxygen levels in the blood.

- Not everyone with a chronic lung condition needs oxygen at home.
- Tests are needed so your doctor can tell if you need home oxygen.
- Home oxygen is prescribed at a flow rate and for a minimum number of hours per day.
- You only get the full benefit if you use home oxygen as prescribed. Using your oxygen as prescribed, and not just when you feel you need it, is very important.
- Do not change the flow rate of the oxygen unless directed to do so by your health care professional.
- Using oxygen when it isn't prescribed can be harmful.

Breathlessness

You have probably learned by now that long term lung conditions, such as COPD, bronchiectasis and pulmonary fibrosis, cause breathlessness. People often think that when they feel breathless, it is because they are not getting enough oxygen into their body.

For most people who have chronic lung conditions, breathlessness mainly occurs because it is harder to breathe the air in and out.

This is called the 'work of breathing'. Breathing air in and out requires more work if the lungs are 'too full' (*hyperinflated*) or are stiff, or if the breathing tubes or airways are narrow. This is why it is important to learn different breathing techniques to help control your breathlessness.

You may have already found that these techniques help when you get out of breath.

Low oxygen levels in the blood

Some people with severe lung conditions have lower levels of oxygen in their blood, either all the time or only when they are sleeping or exercising.

Home oxygen is only prescribed when the blood oxygen level is low. If your blood oxygen level is very low, this means not enough oxygen is being delivered to your vital organs via the blood. In this case, there are benefits of using oxygen at home in the long term.

How do you (and your doctor) know if you need home oxygen?

To determine if you need home oxygen, your doctor can order a blood sample to be taken from an artery (usually at your wrist) while you are resting. You'll probably remember if you've had one of these blood samples taken as it hurts more than a normal blood sample. They may also arrange to test your oxygen level by placing a probe on your finger while you are sleeping or walking.

What are the benefits of using home oxygen?

A common home oxygen prescription is to use oxygen, set at a flow rate of two litres per minute, for **at least** 16 hours each day.

Most people notice some improvement when they start using oxygen at home. You *may* notice that you:

- Feel more refreshed on waking.
- Feel less breathless performing activities, such as showering and walking.
- Are able to think more clearly.
- Have more energy.

People who have severe COPD and very low oxygen levels have been found to live longer if they use oxygen **for longer** than 16 hours every day.

When to use home oxygen

Once you know your prescription, it is useful to work out when you will use your oxygen to make sure that you get at least the minimum hours each day. Wearing oxygen from late afternoon (5 pm), through the evening and overnight while sleeping until the morning (7 am) takes care of 14 hours. In this example, you would need to wear the oxygen for at least an additional four hours during the day to reach at least 18 hours.

Keeping active, even though you may be on oxygen, is important.

Fitting the oxygen in around your weekly routine is important to ensure that wearing oxygen disrupts your life as little as possible. Some people only need oxygen while sleeping, because their oxygen level is okay during the day. Others need to wear oxygen all the time and need to plan their activities to include oxygen.

What equipment do you need to use home oxygen?

An oxygen concentrator is the most common method of giving oxygen. The concentrator is an electronic pump that filters out nitrogen from the air (which is a mixture of oxygen and nitrogen) that we breathe. The concentrator supplies oxygen through long tubing connected to nasal prongs.

There are many portable oxygen concentrators available on the market. It is important to ensure that you check with your health professional that your machine will be able to deliver your prescribed dose of oxygen during rest and during periods of activity.

Another method of delivering oxygen is via small cylinders. Small oxygen cylinders weigh about five kilograms, come with trolleys or carry bags and can be used when away from home. The cylinders are best used with oxygen conservers that make the cylinders last longer. Check with your local oxygen provider to confirm which oxygen conservers are available in your area. Portable oxygen concentrators are also available.

Who can help cover the cost of home oxygen?

Currently, each state has different arrangements for funding oxygen equipment for use in the home. Discuss with your doctor about the financial support that may be available for your home oxygen. The Lung Foundation has an information booklet called "Home Oxygen". It covers many aspects of living with home oxygen therapy, such as:

- How home oxygen therapy works.
- The equipment that is used.
- Practical tips others have found helpful.
- The answers to some commonly asked questions

Click here to download information on *Home Oxygen.*

Travelling with portable oxygen

Travelling with oxygen can be a little tricky at times, however with careful planning, it is possible to still enjoy seeing the world. More tips are available on the Lung Foundation webpage or in the PDF titled, *Portable Oxygen (O_2) Travel Tips*.

Conclusion

The aim of this module was to provide you with information on how to manage your COPD symptoms as well as as well as show you the various types of medicines available.

You should now understand:

- The different types of medicines, including reliever medicines, maintenance medicines, combination medicines, and flare-up medicines;
- The effects and side effects of these medicines;
- How to use the various medicines available to you;
- How to prevent and manage a flare-up; and
- How to use your COPD Action Plan.

You can revisit this module at any time by selecting Module Two from the dashboard.