Living Well COPD

Chronic Obstructive Pulmonary Disease



Summary Guide

February 2016

Introduction

The skills you need to manage your COPD

Chronic Obstructive Pulmonary Disease, or COPD, is a disease that can affect every part of your life. The more the disease progresses, the impact can become considerable on your daily activities. The exacerbations of the disease, or periods of symptoms aggravation, are the main cause of hospitalization in people with COPD and can also affect your quality of life. Fortunately, there is a lot that you can do to overcome and prevent these limitations, and improve your well-being. This is why we have created this module on COPD self-management.

How can this program help me with self-management of the disease?

This module is part of the "Living well with COPD" program. This is an educational program in which you learn skills to manage your disease and adopt healthy new lifestyle behaviours. The "Living well with COPD" program has been tested as part of a research project and the results have been very encouraging. Patients who used this program in collaboration with their health professional, "case manager" or resource person and physician had fewer exacerbations needing hospitalization or emergency room visits. Their quality of life also improved, enabling them to do more of the activities they enjoyed, and better live with their disease.

National and international guidelines agree that patient education and selfmanagement are valuable for people with COPD. The self-management program "Living well with COPD", that you can adapt to your own situation, has been created by medical experts in collaboration with COPD patients.

This module is your guide. Use it to write down your questions or concerns. Share it with people close to you so that they can understand what you are going through. Discuss whatever thoughts and feelings you have with your case manager, professionals in your healthcare team and your physician.

Best of luck in your program!

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Chronic obstructive pulmonary disease (COPD) - a chronic, respiratory disease - is a leading cause of disability and death in Canada. Unfortunately, it is also increasing in prevalence. COPD is not a hopeless diagnosis. Use this patient information booklet to learn about COPD, medications and your action plan in treating and managing your disease.

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Chronic Obstructive Pulmonary Disease (COPD)

COPD: Obstructive Chronic Bronchitis and/or Emphysema

Obstructive chronic bronchitis and emphysema are major breathing diseases that cause airways to become "obstructed" or blocked. They often occur together but they can also occur separately.

They are also known as COPD (chronic obstructive pulmonary diseases).



Smoking

The leading cause of COPD



Adapted from Fletcher C, Peto R. The Natural History of Chronic Airflow Obstruction. Br Med J 1977;1: 1645-48





Factors that can make your symptoms worse (COPD exacerbation)

Here are the most common ones:

Indoor pollutants

• cigarette smoke, household cleaning products, strong odours, dust

Outdoor pollutants

• exhaust fumes, gas fumes, smog

Emotions

• anger, anxiety, stress



Changes in temperature

• extreme heat or cold, wind, humidity



Respiratory infections

• cold, flu, bronchitis, pneumonia

Discuss with your health care provider (e.g. physician or resource person) about the use of a Plan of Action to better prevent and manage your symptoms earlier.

Importance of adherence to medication

Medications can help to improve your symptoms and your quality of life.

You should know the following about your medication:

- the name of each medication you are taking
- what your medication does
- the dose you should be taking
- when you should be taking your medication
- how to take your medication properly
- medication precautions and side effects

It is very important to take them regularly and exactly as prescribed.

Your health professional can help you to acquire a better routine to make sure to take your medications on a regular basis.

If you have any concerns about your medications, ask your doctor and/or your pharmacist. Write your questions in advance to not to forget them.



Bronchodilators

- Bronchodilators are the most important medication in COPD therapy.
- They work by opening up the airways to allow for easier breathing.
- They reduce the symptoms of shortness of breath by opening up the airways, reducing air trapping and lung hyperinflation.
- They also reduce the risk of acute exacerbations (flare-ups) of COPD
- Because they work for different lengths of time, they are usually called "short-acting" or "long-acting" bronchodilators.
- They may be taken in either of 2 ways: "inhaled" or "oral".
- Certain ones are absolutely essential during an attack of shortness of breath. These are known as "rescue" medications.

There are various types of bronchodilators:

- 1. Anticholinergics
 - Short-acting
 - Long-acting
- 2. Beta₂-agonists
 - Short-acting
 - Long-acting
- 3. Combination of bronchodilators
 - Short-acting
 - Long-acting

Bronchodilators

Short-Acting Anticholinergics

- Make breathing easier by opening your narrowed airways.
- Usually taken regularly, multiple times a day.
- For some COPD patients, they can be used as needed.



Bronchodilators

Long-Acting Anticholinergics

- Indicated for maintenance treatment of COPD.
- Reduce breathlessness, disability and exacerbation, and improve quality of life.
- Make breathing easier by opening your narrowed airways.
- Taken on a regular basis.



Bronchodilators

Short-Acting Beta₂-Agonists

- Rescue medication used as needed.
- Open up airways immediately.
- Can also be taken regularly but with the advice of your medical doctor.



Bronchodilators

Long-Acting Beta₂-Agonists

- Indicated for maintenance treatment of COPD.
- Reduce breathlessness, disability and exacerbation, and improve quality of life.
- Open up airways for 12-24 hours.
- Should not be used to replace "rescue" medications.



Bronchodilators

Combination of short-acting bronchodilators

Combination effect of Short-Acting Anticholinergics and Short-Acting $\mathsf{Beta}_{\mathsf{2}}\text{-}\mathsf{Agonists}$

- Rescue medication used as needed Opens up airways immediately.
- For some COPD patients, it can be used as needed.
- Can also be taken regularly, 4 times a day, but with the advice of your medical doctor.



Bronchodilators

Combinations of long-acting bronchodilators

Combination effect of Long-Acting Anticholinergics and Long-Acting $\mathsf{Beta}_{2}\text{-}$ Agonists:

- Open up airways for 12 to 24 hours.
- Indicated for maintenance treatment of COPD.
- Prevent shortness of breath and wheezing.
- Reduce disability and exacerbation, and improve quality of life.
- Taken regularly, one or two inhalations daily.
- Should not be used to replace "rescue" medications.



Anti-inflammatories

Anti-inflammatories reduce certain types of inflammation in your bronchi. Antiinflammatories come in various forms:

- Inhaled corticosteroids
 - Make exacerbations less frequent.
 - In COPD, inhaled corticosteroids <u>can only be used in combination with</u> <u>bronchodilators.</u>
- Inhibitors of phosphodiesterases (PDE) (such as Roflumilast or theophyllines)
 - These medications are taken orally on a regular basis.
- Oral corticosteroids (such as Prednisone)
 - Help to treat exacerbations but are usually not recommended as maintenance treatment.
 - For more information, see the section "Medications to treat Exacerbations".

Anti-inflammatories

Inhaled Corticosteroids

In COPD inhaled corticosteroids <u>can only be used in combination with</u> <u>bronchodilators</u>.

Combinations of Long-Acting Beta2-Agonists and Inhaled Corticosteroids

- Combination effect:
 - Reduce inflammation and swelling
 - Open up airways
- Make exacerbations less frequent.
- Can also be helpful for some patients to further relieve symptoms.
- Are not recommended as a rescue medication.



Anti-inflammatories

Inhibitors of phosphodiesterases (PDE)

- These medications result in less inflammation in the lungs and help to stop the narrowing of airways which occurs in COPD.
- They can be only used in addition to an inhaled bronchodilator medication.
- They can decrease breathlessness.
- They must be taken orally (pill form), on a regular basis.
- They must not be used as rescue medication.

A. Inhibitors of phosphodiesterases (PDE) - such as Theophyllines

- They can interact with food and other medications. Make sure your doctor and pharmacist know all the other medications you are taking.
- Your may require blood tests to monitor how much of the medication is in your body.



B. PDE-4 inhibitors - such as Roflumilast

- They are used in patients with a history of frequent exacerbations.
- They can have side effects that are not usually seen with inhaled medication. Diarrhea is a very common side effect.



Medications to treat exacerbations

Oral Anti-Inflammatories (corticosteroids)

- These medications reduce inflammation in the lungs.
- Usually prescribed for short periods (5 to 14 days) when your symptoms get worse (exacerbation). Rarely prescribed on a permanent basis.



Antibiotics

- Are useful in treating respiratory infections (sinusitis, infected bronchitis, pneumonia, etc.).
- The treatment has to be taken exactly as prescribed.



These medications can be part of your Plan of Action to be used in the event of an exacerbation.

Importance of using the proper inhalation technique

- In order to work COPD medication must be able to reach your lungs. This is why the proper use of your inhalation devices is essential to prevent and manage your symptoms (shortness of breath, wheezing, etc.).
- Most patients have difficulties using certain inhalation devices and keeping a good inhalation technique.
- Learning the right inhaler technique can be difficult, but you must persist.
- If you use any of these inhalers incorrectly, the medicine may not get into your airways as it is supposed to, and the therapy could be less effective.
- Handling these devices should become a second nature to you, like a reflex.



Ask your health professional, your doctor and/or your pharmacist to verify your inhalation technique at each visit.

Inhalation devices

The devices that deliver your inhaled medications are classified in three categories:

1. The metered-dose inhaler (MDI) and the spacing device

With an **MDI** (also called inhaler or puffer), the medication is dispensed by pressing down on the canister, which releases a spray of medication at a set dose.

When using an **MDI** you need to coordinate your inhalation with the activation of the inhaler.

The use of a **spacing device** is highly recommended since it:

- increases the amount of medication reaching your lungs, and
- diminishes the amount of medication remaining in your mouth and throat, which may reduce some of the drug side effects (bitter taste, hoarseness and thrush).

2. The dry powder inhalers (DPI)

These devices deliver medication as a powder to your lungs when you inhale; the coordination of your inhalation with the medication release is greatly simplified.

Some of these devices are unidose (you need to put a new capsule inside the device to get each dose), while other devices are multidose (the device is preloaded with multiple doses).

3. Soft Mist[™] inhalers (SMI)

This is a new type of inhaler, which is propellant-free. It releases medication slowly and gently, making it easy to inhale it into your lungs: the medication is delivered as a soft mist, which is suspended in a cloud longer, which simplifies coordination of inhaler activation with inspiration.

Metered-dose inhaler

TECHNIQUE

- 1. Remove the cap.
- 2. Shake the inhaler 3-4 times from top-down (to mix the contents well).
- 3. Tilt your head slightly back and exhale normally.
- 4. Place carefully the mouthpiece within your teeth and seal your lips around it.
- 5. Begin to breathe in slowly through your mouth. Press down once on the canister and continue breathing in slowly (only once to release one dose of medication).
- 6. Continue to breathe in slowly and deeply until your lungs are full.
- 7. Hold your breath for 5-10 seconds or as long as is comfortable, so the medication will have time to settle in your airways.
- 8. If another dose is required, wait one minute between puffs and repeat steps 2-7.
- 9. Replace the protective cap.



Ask your resource person to do a demonstration and to evaluate your technique. Note that your inhaler may look different than these images.

Metered dose inhaler with a spacing device

TECHNIQUE

- 1. Remove the caps.
- 2. Shake the inhaler 3-4 times.
- 3. Connect the inhaler to the spacing device, keeping it upright.
- 4. Tilt your head slightly back and breathe out normally.
- 5. Place the spacing device mouthpiece carefully between your teeth and seal your lips around it.
- 6. Press down canister once.
- 7. Breathe in slowly and deeply through your mouth.
- 8. a. Single breath technique: Try to hold your breath for 5-10 seconds or as long as is comfortable. Then exhale normally.

b. Tidal volume technique: If you find it difficult to take one deep breath or to hold your breath for long, breathe slowly in and out of the spacing device, 3-4 times in a row.

- 9. If you need more than one dose, wait 1 minute between puffs and repeat steps 2-8.
- 10. Replace the protective caps.



Ask your resource person to do a demonstration and to evaluate your technique. Note that your spacing device may look different than these images.

Dry powder inhalers: Breezhaler

TECHNIQUE

- 1. Pull off the cap.
- 2. **Open inhalation device:** Hold the base of the inhaler firmly and tilt the mouthpiece to open the inhaler.
- 3. Prepare capsule.
- 4. Insert capsule: Place the capsule into the capsule chamber.
- 5. Close the inhalation device. You should hear a 'click'.
- 6. Pierce the capsule. Do not press the piercing buttons more than once.
- 7. Release the buttons fully.
- 8. Breathe out. Never blow into the mouthpiece.
- 9. Hold the inhaler with the buttons to the left and right. Place the mouthpiece in your mouth and close your lips firmly around the mouthpiece. **Breathe in rapidly but steadily, as deeply as you can.**
- 10. Note: As you breathe in through the inhaler, the capsule spins around in the chamber and you should hear a whirring noise.
- 11. Hold your breath for at least 5-10 seconds or as long as comfortably possible while removing the inhaler from your mouth. Then breathe out.
- 12. **Remove capsule:** Open the mouthpiece again, remove the empty capsule by tipping it out, and discard it. Close the inhaler and replace the cap.
- 13. Mark daily dose tracker: Put a mark in today's box if it helps to remind you of when your next dose is due.



Ask your resource person to do a demonstration and evaluate your technique. Note that your inhaler's color may be different.

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Dry powder inhalers: Diskus

TECHNIQUE

- 1. **Open:** To open your inhaler hold the outer case in one hand and put the thumb of your other hand on the thumb grip. Push the thumb grip away from you, until you hear it click into place.
- 2. Slide: Hold your inhaler with the mouthpiece towards you. Slide the lever away until you hear another click. Your inhaler is now ready to use.
- 3. **Exhale:** Hold the inhaler away from your mouth. Breathe out as far as is comfortable. Remember never exhale into your inhaler.
- 4. **Inhale:** Before you start to inhale the dose, read through this section carefully. Once you have fully exhaled, place the mouthpiece to your mouth and close your lips around it. Breathe in steadily and deeply through your mouth until a full breath is taken. Remove the inhaler from your mouth. Hold your breath for 5-10 seconds or as long as is comfortable. **Breathe out slowly**.
- 5. **Close:** To close your inhaler, place your thumb in the thumb grip, and slide it back until you hear a click. The lever is now automatically reset for your next use. The counter on the inhaler indicates how many doses are remaining.



Ask your resource person to do a demonstration and to evaluate your technique. Note that your inhaler's color may be different.

Dry powder inhalers: Ellipta

TECHNIQUE

1. Prepare:

- a. When you take your inhaler out of its box it will be in the closed position.
- b. Keep the cover closed until you are ready to inhale a dose.
- c. When you are ready, slide the cover to the side until you hear one 'click'.
- d. The dose counter will now count down by one number. You are now ready to inhale a dose.

2. Inhale:

- a. While holding the inhaler away from your mouth, breathe out as far as it is comfortable. **Remember never exhale into your inhaler.**
- b. Put the mouthpiece between your lips, and close your lips firmly around it. Don't block the air vent with your fingers.
- c. Take one long, steady, deep breath in. Hold your breath for 5-10 seconds or as long as is comfortable.
- d. Remove the inhaler from your mouth. Breathe out slowly.

3. Close:

a. Slide the cover upwards as far as it will go to cover the mouthpiece.

Step 1c

Step 2b



Ask your resource person to do a demonstration and to evaluate your technique. Note that your inhaler's color may be different.

Dry powder inhalers: Genuair

TECHNIQUE

- 1. Remove the protective cap by **lightly squeezing the arrows** marked on each side and pulling outwards.
- 2. Hold the inhaler horizontally with the mouthpiece towards you and the colored button facing straight up.
- 3. **Press** the colored button all the way down and **release** it. The **green** control window confirms that your medicine is ready for inhalation.
- 4. Breathe out away from the inhaler.
- 5. Place your lips tightly around the mouthpiece and inhale strongly and deeply through your mouth. The inhaler signals that you inhaled correctly by emitting a "click" sound. Keep breathing in even after you have heard the "click" to be sure you get the full dose.
- 6. Remove the inhaler from your mouth and hold your breath for 5-10 seconds or as long as is comfortable, then breathe out slowly.
- 7. Make sure the control window has turned to **red**. This confirms that you have inhaled your full dose correctly.
- 8. Replace the protective cap by pressing it back onto the mouthpiece.





Dry powder inhalers: Handihaler

TECHNIQUE

- 1. To release the dust cap, press the green piercing button completely in and let go.
- 2. Open the dust cap completely by pulling it upwards, then open the mouthpiece by pulling it upwards.
- 3. **Immediately** before use, peel the aluminum back foil until one capsule if fully visible. Remove **one** capsule from the blister (do not expose more than one capsule).
- 4. Place the capsule in the centre chamber.
- 5. Close the mouthpiece firmly until you hear a click, leaving the dust cap open.
- 6. Hold the inhaler with the mouthpiece upwards and press the green button completely in only once, and release.
- 7. Breathe out completely. Do not breathe into the mouthpiece at any time.
- 8. Hold the inhaler by the grey base. Do not block the air intake vents. Raise the inhaler to your mouth and close your lips tightly around the mouthpiece. Keep your head in an upright position and breathe in slowly and deeply but at a rate sufficient to hear or feel the capsule vibrate. Breathe in until your lungs are full; then hold your breath for 5-10 seconds or as long as is comfortable and at the same time take the inhaler out of your mouth. Resume normal breathing.
- 9. To ensure complete inhalation of capsule contents, you must repeat steps 7 and 8 once again.
- 10. Open the mouthpiece again. Tip out the used capsule and dispose. Do not touch the used capsules. If the dry powder gets in your hands, make sure you wash your hands thoroughly.
- 11. Close the mouthpiece and dust cap for storage of your device.



Ask your resource person to do a demonstration and to evaluate your technique. Note that your inhaler's color may be different.

Dry powder inhalers: Turbuhaler

TECHNIQUE

- 1. Unscrew and lift off the cover. You may hear a rattling sound. This is normal; it is the sound of the drying agent, not the medication.
- 2. Holding the inhaler upright, turn the colored grip as far as it will go in one direction (clockwise or counter clockwise, it does not matter which way you turn it first); then you must turn it back again as far as it will go in the opposite direction. Do not hold the mouthpiece when turning the grip. The click you hear is part of the loading process. The inhaler is now ready to use.
- 3. **Breathe out**, with your mouth away from the mouthpiece. Then, place the mouthpiece gently between your teeth.
- 4. Now close your lips over the mouthpiece. Inhale as deeply and strongly as you can. Remove the inhaler from your mouth and hold your breath for 5-10 seconds or as long as is comfortable. Repeat this process from step 1 if more than one dose has been prescribed. When you have taken the prescribed amount of maintenance doses, rinse your mouth with water, and do not swallow.



Ask your resource person to do a demonstration and to evaluate your technique. Note that your inhaler's color may be different.

Soft Mist inhaler: Respimat

TECHNIQUE

- 1. Hold your inhaler upright with the cap closed.
- 2. Turn the clear base until it clicks.
- 3. Open the plastic cap until it snaps fully open.
- 4. Breathe out slowly and holding the inhaler level, place the mouthpiece carefully between your teeth. Seal your lips around the mouthpiece without covering the air vents.
- 5. While taking in a slow, deep breath, **press** the dose release button and continue to breathe in slowly.
- 6. Remove the inhaler from your mouth and hold your breath for about 5-10 seconds or as long as is comfortable.
- 7. Replace the plastic cap.



Ask your resource person to do a demonstration and to evaluate your technique. Note that your inhaler's color may be different.

Breathing technique to reduce shortness of breath

Pursed-lip Breathing

Steps to follow



Step 2



Inhale slowly through your nose until you feel that your lungs are filled with air.

Purse your lips as you would if you were whistling or about to kiss someone.

Step 3



Exhale slowly while keeping your lips pursed. Make sure to take longer to breathe out than you would to breathe in. Remember to keep your lips pursed.

Do not force your lungs to empty.

Body positions to reduce shortness of breath

Sitting Positions





Standing Positions



Coughing Techniques

Controlled Coughing Technique

Steps:

- 1. Seat yourself in a comfortable position.
- 2. Lean your head slightly forward.
- Place both feet firmly on the ground.
- 4. Inhale deeply through your nose.
- 5. Cough twice while keeping your mouth slightly open. The first cough will loosen your sputum. The second cough will move the sputum up into your throat. Spit the sputum into a tissue.
- Take a break and repeat once or twice if there are no immediate results.
- 7. Wash your hands thoroughly.

<image>

"Huffing" Technique

Steps:

- 1. Seat yourself in a comfortable position.
- 2. Lean your head slightly forward.
- **3**. Place both feet firmly on the ground.
- 4. Inhale deeply through your nose.

5. Exhale in short, non-forceful bursts while keeping your mouth open, as if you were trying to make mist on a window.

- 6. Repeat once or twice.
 - Note: Avoid forceful expiration.

Remember: If there are changes in your sputum colour, follow your Plan of Action recommendations.

Energy Conservation Principles



- Prioritize your activities
- Plan your schedule within your limits
- Pace yourself
- Position your body and arrange your environment to reduce shortness of breath
- Use Pursed-lip breathing when doing activities requiring effort
- Keep a Positive attitude

Stress Management

The Anxiety-Breathlessness Cycle



Relaxation Techniques

Positive Thinking

- 1. Concentrate on a positive image.
- 2. Begin to relax.
- 3. Use all your senses (sight, sound, touch, taste, and smell) to make your image seem more real. For example, if you are visualizing yourself on a cruise, see the clear blue sky, the sparkling water and the wonderful scenery.
- **4**. End this visualization exercise by retaining your image.
- 5. Do this exercise once a day.



Deep breathing (diaphragmatic breathing) technique

- 1. Put your hand on your abdomen.
- 2. Breathe in deeply.
- **3**. Feel your abdomen inflate. Push your abdomen out as much as possible when you are inhaling. This will help your lungs fill up with air.
- **4**. Exhale through your mouth while keeping your lips pursed (as if you were about to whistle).
- 5. Feel your abdomen returning to its normal position.
- 6. Wait after each exhalation until you are ready to take another deep breath.
- 7. After a few times, you will find your own rhythm. For example: 1 deep breath for 5 normal breaths.

If you start feeling dizzy, take a few normal breaths before starting again.



Healthy and Fulfilling lifestyle



Quitting smoking



Exercising regularly



Complying with your medications





Getting a good night's sleep

Having a satisfying sex life



Adopting a healthy diet



Planning for leisure activities and trips



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Physical Activity

Be active!

It is recommended that you do 30 minutes of physical activity per day.

How can you tell if the intensity of your physical activity is adequate?



Adapted from the Borg scale¹

1. Borg, G. Perceived exertion and pain scales. Human Kinetics, Champaign (1998).

Start at a comfortable pace. It is normal to experience a light degree of breathlessness. It is recommended that you perform physical activity at a level of breathlessness and fatigue between **3 and 6 on a scale of 10**.

Your Plan of Action



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Acknowledgements

Living Well with COPD was developed in coordination with health professional educators on COPD and patients with COPD.

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