

A woman with short, wavy grey hair is sitting on a large pile of smooth, multi-colored stones. She is wearing a light blue long-sleeved sweater and khaki shorts. Her right arm is resting on her left shoulder, and she is looking off to the side with a contemplative expression. The background is a soft, out-of-focus landscape with a clear blue sky.

Why
are you
breathless?

Chronic Obstructive Pulmonary Disease (COPD)

is a disease that makes it difficult for air to move into and out of your lungs. It is a disease that causes the airways of the lungs to be inflamed and become “obstructed” or blocked. Drawing a breath can be a difficult, frightening struggle.

Some people with COPD suffer from both chronic bronchitis and emphysema. Both make breathing difficult and cause breathlessness.

COPD is caused by cigarette smoking, occupational exposure to dusts, and possibly outdoor air pollution.

COPD is on the rise in Canada. More than 750,000 Canadians suffer from the disease. Hundreds of thousands more have COPD but have not been diagnosed. COPD is generally a disease affecting people over 60. It affects more women than men. Also, 15 to 20% of smokers will develop COPD.

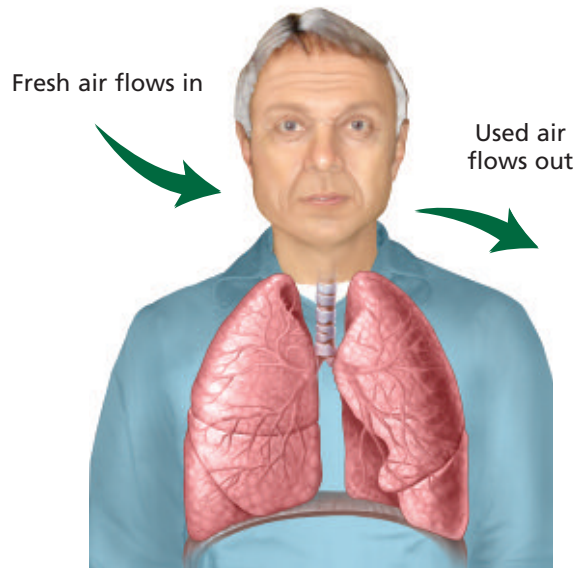
If you think you might have COPD, take this 30-second test:

Yes	No	
<input type="checkbox"/>	<input type="checkbox"/>	Do you currently smoke, or have you ever smoked cigarettes?
<input type="checkbox"/>	<input type="checkbox"/>	Do you cough regularly?
<input type="checkbox"/>	<input type="checkbox"/>	Do you bring up mucus regularly?
<input type="checkbox"/>	<input type="checkbox"/>	Do even simple chores make you breathless?
<input type="checkbox"/>	<input type="checkbox"/>	Do you get frequent colds that persist longer than those of other people you know?

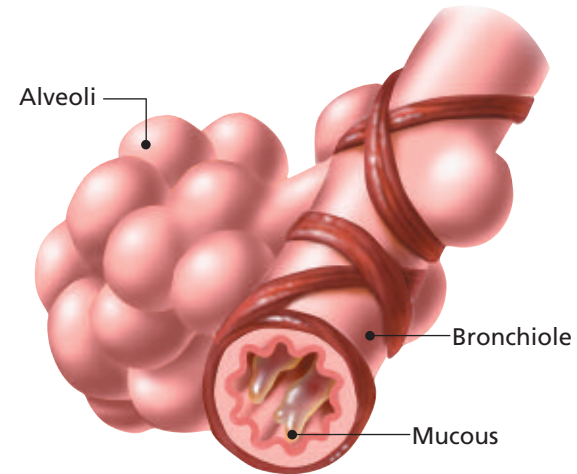
If you answered “yes” to two or more of these questions, you should ask your doctor to test you for COPD.

Breathing Is Easy

When your lungs
are healthy



Healthy Lungs

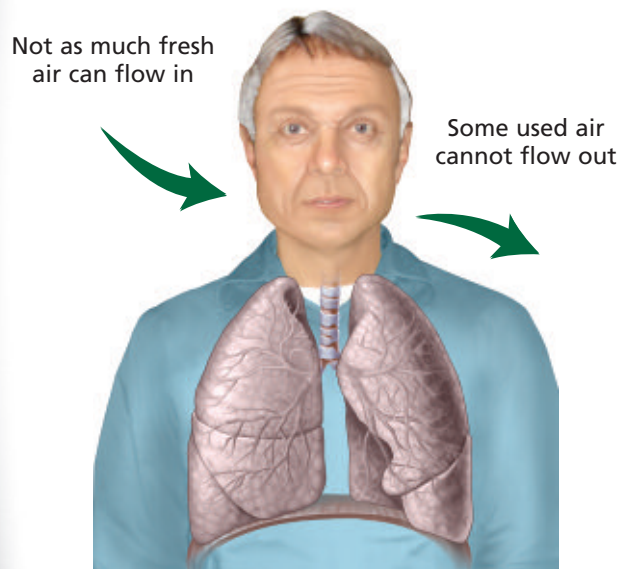


Healthy bronchiole

- **Bronchioles** are air passages in the lungs that bring air to and from the alveoli.^{1,2}
- **Alveoli** are air sacs where gas exchange occurs (i.e., oxygen enters the bloodstream and carbon dioxide leaves the bloodstream).^{1,2}

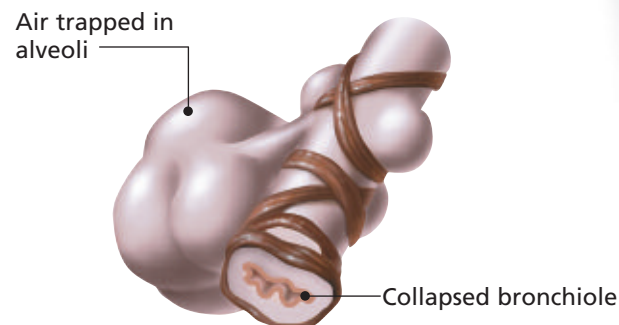
Breathing Is Difficult

When your airflow
is obstructed³



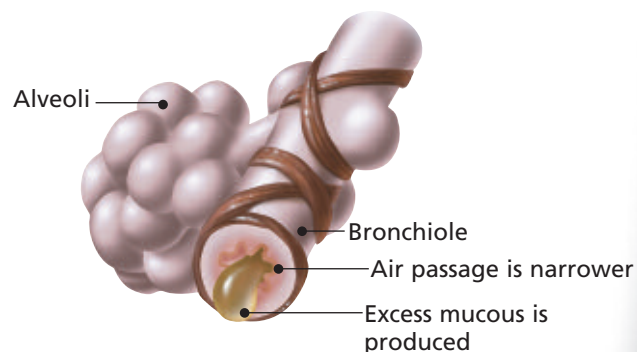
Lungs with COPD

This is what happens in **chronic obstructive pulmonary disease (COPD)**. It can happen when the bronchioles (small airways) narrow, as in emphysema, or when the bronchioles become inflamed, causing an obstruction, as in chronic bronchitis.¹



Bronchiole with emphysema

- Air is **trapped** in the alveoli.^{1,4}
- Airways are collapsed and filled with mucus, making breathing difficult.^{1,4}



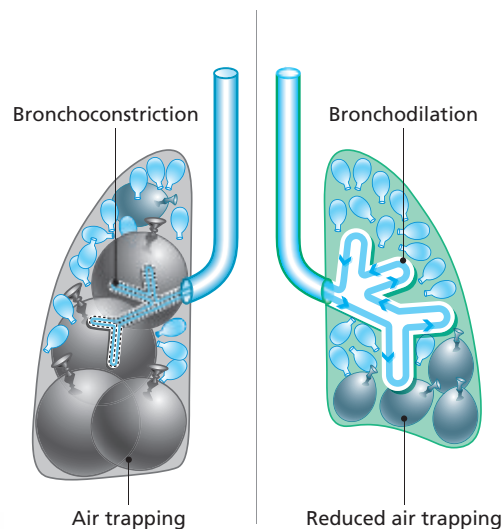
Bronchiole with chronic bronchitis

- Air passage becomes **swollen** and **narrowed**, and the lining of the bronchiole makes **excess mucous**. This makes breathing difficult.^{1,4}

What Is Air Trapping?

COPD can lead to air trapping, which occurs when air is inhaled but cannot easily escape when breathing out.³

- Small airways are collapsed in patients with COPD.³
- This leads to shortness of breath and difficulty doing physical activities.³
- Patients cannot expel all the air from their lungs. This leads to air being trapped in the lungs. The lungs become over-inflated, which increases discomfort.^{3,5}



What Can Air Trapping Lead To?

- When less air is expelled from the lungs, the amount of air that can be inhaled is also reduced.⁵
- This reduces the ability of the lungs to maintain normal levels of oxygen and carbon dioxide in the blood. This can lead to pulmonary hypertension and right heart failure.³
- In more advanced cases, patients can experience loss of muscle function and loss of bone density.^{3,5}

Managing COPD

Pursed-lip breathing

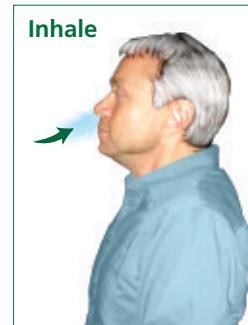
- Pursed-lip breathing can help COPD patients cope with shortness of breath.^{6,7}
- Pursed-lip breathing is a simple technique that helps slow the rate of breathing and reduce the amount of air trapped in the lungs.^{4,6,7}
- When less air is trapped in the lungs, more fresh air can be inhaled.⁶
- By exhaling through partially closed (pursed) lips, the pressure in airways is increased. This helps prevent airways from collapsing.⁸
- Pursed-lip breathing also decreases the amount of energy required to breathe.⁷

Pursed-lip breathing can improve your sense of control and your ability to perform activities.⁷

Pursed-lip breathing—how to do it⁶

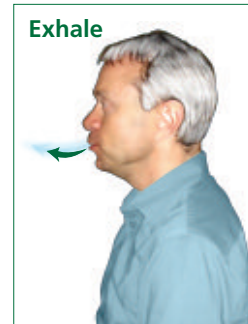
Inhaling

- Breathe in slowly through your nose for one count.
- Purse your lips as if you were going to whistle.



Exhaling

- Breathe out slowly and gently through pursed lips for two slow counts.
- Let the air escape naturally from your lungs—don't force it out.
- Continue breathing through pursed lips until you are no longer short of breath.



Use this technique whenever you feel short of breath. With practice, this technique will seem natural to you.

Managing COPD

Quit smoking

- Quitting smoking is the only way to slow the progression of COPD.³
- Quitting smoking relieves chronic cough and sputum production, wheezing and shortness of breath. It also reduces the risk of cardiovascular disease and lung cancer.³



Medication

Different medications may be prescribed to manage COPD.



- **Bronchodilators** improve airflow and reduce air trapping in the lungs. Bronchodilators are the main type of medication used to control COPD symptoms.^{3,5}
- **Corticosteroids** help reduce inflammation in airways to help improve breathing in patients with advanced disease who experience frequent exacerbations.⁵ They are not recommended for long-term treatment of COPD.³

- **Combination Drug Therapy** combines the use of a corticosteroid and a bronchodilator. This type of therapy may be recommended for patients with more advanced COPD.³

Pulmonary rehabilitation

- Pulmonary rehabilitation, which includes exercise training and behavioural changes, reduces breathlessness and improves the quality of life of COPD patients.^{3,5}
- The best candidates for pulmonary rehabilitation are motivated patients who suffer from persistent symptoms and disability despite medication.^{3,5}

Vaccination

- COPD patients have a higher risk of requiring hospitalization due to influenza ("the flu").³ COPD patients should receive a flu shot once a year.^{3,5}
- COPD patients should also receive a pneumococcal vaccine at least once in their lifetime to decrease their risk of contracting pneumonia.³

Managing COPD

Oxygen therapy

- Long-term oxygen therapy can help prolong the life of some patients with severe COPD.¹
- Oxygen therapy can reduce breathlessness and improve mental function in COPD patients.¹



Patients must never use oxygen therapy near open flames or while smoking.¹

Surgery

- Surgery may be recommended to reduce symptoms in certain COPD patients.
- **Lung volume reduction surgery (LVRS)** removes 20 to 35% of the lung that is most affected by emphysema.³
- **Lung transplantation** is an excellent option for certain COPD patients, but is limited by the availability of suitable donor lungs.³

Living with COPD

Stop smoking

- Quitting smoking is the only way of slowing the progression of COPD.³
- Counselling and medication, such as a nicotine patch, can help you “kick the habit”. Ask your doctor for advice.³



Exercise

- Exercise can help prevent deterioration of physical condition and improve your ability to carry out daily activities.⁴
- Benefits include an improved breathing pattern, improved strength and endurance of leg muscles, and improved cardiovascular endurance.³



Be sure to check with your doctor before you begin any exercise program.

Living with COPD

Medications

- Your doctor may prescribe medications to reduce your symptoms of COPD. Be sure to take all medications the way your doctor tells you to.⁹

Conserve energy

- Conserving energy and avoiding fatigue are important ways to help manage COPD symptoms.¹⁰
- Find the easiest way to do even everyday tasks.¹⁰
- Know when to rest. Sit whenever possible.¹⁰
- Try to relax. Tension uses up energy!¹⁰



Prevent lung infections

- Flare-ups of COPD are sometimes caused by bacterial infections in the lungs.¹
- Wash your hands regularly and limit your exposure to sick people to reduce your risk of infection.



Practise pursed-lip breathing⁷

- Practise pursed-lip breathing to:
 - Control your breathing rate and shortness of breath
 - Increase the flow of air out of your lungs
 - Reduce the amount of energy needed to breathe
 - Increase your sense of control and ability to perform activities

References

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Notes

Write down any questions or concerns you have in this section. Take this booklet with you to your next medical appointment to remind you to share your questions and concerns with your healthcare team.

If you think you have COPD or would like more information,
please consult your healthcare team.



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