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AND FOR MANY OF THOSE YEARS SHE
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Spirometry, COPD's main diagnostic tool

A spirometry test is the primary diagnostic tool in COPD. Spirometry (meaning the measuring of breath) is the most common of the pulmonary function tests (PFTs), measuring lung function, specifically the amount (volume) and/or speed (flow) of air that can be inhaled and exhaled.

The spirometry test is performed using a device called a spirometer, which comes in several different varieties. Most spirometers display graphs, called spirograms, which graphically depict the rate of airflow on the Y-axis and the total volume inspired or expired on the X-axis

The basic forced volume vital capacity (FVC) test varies slightly depending on the equipment used. Generally, the patient is asked to take the deepest breath they can and then exhale into the sensor as hard as possible, for as long as possible, preferably at least six seconds. It is sometimes directly followed by a rapid inhalation (inspiration), especially when assessing possible upper airway obstruction. Sometimes, the test will be preceded by a period of quiet breathing in and out from the sensor (tidal volume), or the rapid breath in (forced inspiratory part) will come before the forced exhalation. During the test, soft nose clips may be used to prevent air escaping through the nose.

Limitations of test

The test is highly dependent on patient cooperation and effort and is normally repeated at least three times to ensure reproducibility. Also, **Continued on Page 6**

Chronic Obstructive Pulmonary Disease
www.copdcanada.info

What is Chronic Obstructive Pulmonary Disease (COPD)?

Chronic Obstructive Pulmonary Disease (COPD) is a progressive lung disease characterized by chronic inflammation of the airways and obstruction of airflow in and out of the lungs. It is a term used to describe a group of lung conditions, including chronic bronchitis, emphysema, and alpha-1 antitrypsin deficiency.

Here are some key features and information about COPD:

Emphysema: Emphysema involves the destruction of the air sacs (alveoli) in the lungs, which reduces the surface area for oxygen exchange. This results in shortness of breath and reduced lung function.

Chronic Bronchitis: In chronic bronchitis, the airways become inflamed and narrowed. This leads to increased production of mucus, causing a persistent cough and difficulty in breathing.

Alpha-1 antitrypsin deficiency:

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Ask Dr. Bourbeau

Jean Bourbeau is a respirologist and full professor in the Department of Medicine and Epidemiology and Biostatistics, McGill University, Montreal



Q I experience breathlessness quite a bit. I read in one of the many online medical newsletters I receive that I may have hypoxia. Are hypoxia and breathlessness the same thing?

A No, breathlessness is a symptom, something you and only you can feel. Hypoxemia is a lack of oxygen in your blood. It results from different respiratory or cardiac conditions. People can have breathlessness with or without hypoxemia.

Q I've started using my Atrovent puffer before bedtime to see if it might affect my snoring

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Ask Dr. Bourbeau

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which was quite loud and disturbing. My wife says my snoring has improved significantly, that it's milder. Is this a thing? Have you heard of using a puffer before bedtime to relieve or soften snoring?

A No, this is not a treatment for snoring. You would be better talking to your physician and be referred for a sleep study to make sure you don't have sleep apnea. Other respiratory conditions such as asthma and COPD can be improved with a short acting bronchodilator such as Atrovent. A proper evaluation will be necessary before making any final diagnosis and offering appropriate therapy.

Q My coughing recently has gotten worse. I understand that there's a lot of research going into diagnosing and treating chronic cough. Can you provide an update on where we are with regard to chronic cough? A remedy would certainly be helpful.

A You are asking the impossible here. Chronic cough has many causes, and it needs to be approached in a very systematic way, to rule out respiratory conditions, some requiring immediate attention and/or to offer specific treatment. I suggest you ask to be referred to a respirologist. Chronic conditions like COPD, to minimize complications.

Q I have end stage 4 COPD and use oxygen 24/7. I often experience a runny nose which makes it difficult to breathe. I have been

prescribed a prednisone taper which helps a bit but I was wondering about any other OTC or home remedies or even another prescription which would dry up my nose. Thank you for any suggestions.

A Nasal oxygen will have the tendency to dry the nose, but some people may have vasomotor rhinitis which is a condition that can be increased with draft of air such as nasal delivery of oxygen, or change in temperature. Usually, topical medication will be tried such as nasal corticosteroids or anti muscarinic (nasal Atrovent). Speak to your respirologist and/or health care professional following up on your long-term oxygen therapy.

Q I have a lot of sputum or phlegm. Removing it is a challenge. Do you have any suggestions or tips on how to best bring up the phlegm so I can spit it out?

A Smoking (cigarette, marijuana) is to be avoided. Conditions such as COPD, bronchiectasis can be associated with increased phlegm. A combined therapeutic approach will include inhaled treatment, sometime a mucolytic agent such as oral acetylcysteine, and the use of a device such as Aerobika to help bring up the secretions. This device works by creating positive pressure to maintain the airway open during expiration with oscillations to best bring up the phlegm.

We invite your questions. Please mail questions to: Ask COPD Canada, 1460 The Queensway, Suite 212, Etobicoke, ON M8Z 1S4 – or you can e-mail questions to: AskCOPDCanada@gmail.com. General inquiries: COPD Canada Tel: 416-456-0459 E-mail: exec.copdcanada@gmail.com

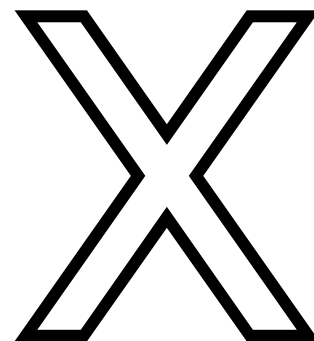
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For more information contact:
exec.copdcanada@gmail.com



Dupilumab benefits patients with COPD, type 2 inflammation regardless of emphysema


■ **San Francisco**/Among patients with COPD and type 2 inflammation, investigator-reported emphysema did not change the benefits seen with dupilumab, according to research presented at the American Thoracic Society International Conference. “In the BOREAS and NOTUS trials, one of the inclusion criteria was the presence of cough and expectoration for three months in the previous year,” Surya P. Bhatt, MD, professor in the division of pulmonary, allergy and critical care medicine at The University of Alabama at Birmingham, told the news site *Healio*. “The findings of this study indicate that the benefits of dupilumab in patients with COPD and type 2 inflammation are not confined to those with predominant airway disease but are also applicable to those with emphysema,” Dr. Bhatt said.

In this post hoc analysis of pooled BOREAS and NOTUS phase 3 trial data, Dr. Bhatt and colleagues assessed 1,874 adults with moderate to severe COPD and type 2 inflammation (blood eosinophil count ≥ 300 cells/ μL) who were current or former smokers. The researchers wanted to determine if investigator-reported emphysema impacts benefits observed with dupilumab (Dupixent, Sanofi, Regeneron) regarding exacerbation rate and lung function. “These findings are reassuring in that future studies of biologics targeting airway inflammation do not need to exclude individuals with emphysema,” Dr. Bhatt said.

 <https://tinyurl.com/38nabawp>

Rise in respiratory-related ED visits attributed to wildfire smoke episode in Ontario


■ **Toronto**/Following a period of heavy wildfire smoke in Ontario, daily emergency department (ED) visits for asthma-related causes rose and stayed higher for several days after, according to research published in the *Canadian Medical Association Journal*. “Our study indicates that there are opportunities to modify public health impacts of future wildfire smoke,” Hong Chen, PhD, research scientist at Health Canada, senior adjunct scientist at the Institute for Clinical Evaluative Sciences and assistant professor at the Dalla Lana School of Public Health, told the news site *Healio*. In this quasi-experimental study, Dr. Chen and colleagues evaluated the number of ED visits/syndromes in Ontario during early June 2023 and late June 2023, when “heavy wildfire smoke blanketed much of Ontario,” to determine how this wildfire smoke impacted residents’ respiratory and cardiovascular health.

 <https://tinyurl.com/5n7s8hfs>

Pulse: News about COPD


Just how harmful is vaping? More evidence is emerging

■ **Rochester, N.Y./**A new study that found high levels of heavy metals in popular nicotine vapes adds to concerns about the products, according to a report in *The New York Times*. When vapes started to become popular in the mid-2010s, the cartridges carried big promises. They were presented as a healthier alternative to cigarettes and a path to quit smoking. Now, researchers are coming to understand the hazards of vapes themselves. In a recent study, for example, a team of scientists analyzed the mist from popular vapes and found such high levels of heavy metals that one researcher thought their machine had malfunctioned. Other studies have suggested that vaping can affect the heart, lungs, and brain. Data on the long-term health effects of vaping is limited, because vapes are relatively new and constantly evolving. Many people who use them are in their teens or 20s; it might take a while before further effects become apparent. Consumers also often use both cigarettes and vapes, which makes it difficult to isolate harms from vaping alone. Vaping is still less common than cigarette use among U.S. adults, 4.5% of whom said they vaped in 2021.

 <https://tinyurl.com/7xy6u6s7>

High-dose flu shot may cut hospitalizations in older adults

■ **Madrid, Spain/**The high-dose inactivated influenza vaccine may reduce older people's risk of hospitalization for flu or pneumonia more than a standard-dose shot, according to two large open-label, randomized clinical trials. Results of the two trials were published in the *New England Journal of Medicine* and presented simultaneously at the *European Society of Cardiology Congress*. Taken together, the twin trials' pooled results among older adults "showed significant reductions in the primary endpoint of influenza or pneumonia hospitalizations, as well as hierarchically tested cardiorespiratory hospitalizations, laboratory-confirmed influenza hospitalizations, and hospitalizations from any cause," the DANFLU-2 investigators wrote.

 <https://tinyurl.com/5cf6s9ju>

Some typical symptoms of COPD

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Alpha-1 antitrypsin deficiency (AATD) is a genetic disorder that primarily affects the lungs and liver. It is also known as alpha-1 proteinase inhibitor deficiency or A1AD. This condition is caused by mutations in the SERPINA1 gene, which leads to a deficiency of a protein called alpha-1 antitrypsin (AAT) in the bloodstream.

COPD is a serious condition that can significantly reduce a person's quality of life and may lead to severe complications if left untreated. Therefore, it's important for individuals at risk (e.g., smokers and those with a history of exposure to lung irritants) to seek medical attention and follow recommended treatments and lifestyle changes to manage the disease.

Typical symptoms of COPD

Chronic obstructive pulmonary disease (COPD) is a chronic inflammatory lung disease that causes obstructed airflow from the lungs. Typical symptoms include:

Shortness of breath (dyspnea): This is often the most prominent symptom, especially during physical activities

Chronic cough: A persistent cough that may produce mucus (sputum) that may be clear, white, yellow or greenish

Wheezing: A whistling or squeaky sound when you breathe

Chest tightness: A feeling of constriction or pressure in the chest

Fatigue: Feeling tired or lacking energy, often due to the increased effort required to breathe

Frequent respiratory infections: COPD can make you more susceptible to respiratory infections such as colds, flu, RSV, or pneumonia

Difficulty breathing: Especially during physical exertion or in severe cases, even during rest

Excess mucus: Excess mucus production is a common feature of COPD. Chronic bronchitis, which is one of the conditions that falls under the umbrella term of COPD, is characterized by inflammation and irritation of the bronchial tubes,

leading to increased mucus production. This excess mucus can contribute to symptoms such as coughing and can exacerbate breathing difficulties. Additionally, in some cases, the mucus may become thick and difficult to clear from the airways, further complicating breathing and increasing the risk of respiratory infections

These symptoms can vary in severity and may worsen over time, especially if the condition is not properly managed. It's essential for individuals experiencing these symptoms to consult a healthcare professional for proper diagnosis and management.

Testing for COPD

There are several tests that can be used to diagnose chronic obstructive pulmonary disease (COPD), including:

Spirometry: This test measures how much air a person can inhale and exhale and how quickly they can exhale

Lung function tests: These tests measure how well the lungs are working and can include tests such as diffusion capacity and arterial blood gases

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Before making medical decisions

Your physician should be consulted on all medical decisions. New procedures or drugs should not be started or stopped without such consultation. While we believe that our accumulated experience has value, and a unique perspective, you must accept it for what it is...the work of COPD patients. We vigorously encourage individuals with COPD to take an active part in the management of their disease. You can do this through education and by sharing information and thoughts with your primary care physician and respirologist. Medical decisions are based on complex medical principles and should be left to the medical practitioner who has been trained to diagnose and advise.

Take Control of Your COPD Journey

Discover the new 2025 Living Well with COPD™ program and join thousands of Canadians living with COPD who are learning to breathe easier and live better.

CREATE YOUR ACCOUNT FOR FREE

www.ChronicLungDiseases.com



Flu, RSV, pneumococcal vaccine recommended

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Chest X-ray: This test can show if there is any damage to the lungs or if there are any other conditions that may be causing symptoms similar to COPD

CT scan: A CT scan can provide more detailed images of the lungs and can help to identify specific areas of damage or other conditions

Pulse oximetry: A simple test that measure the level of oxygen in your blood

Alpha-1 blood test: Testing for alpha-1 antitrypsin deficiency (AATD) typically involves a combination of blood tests and genetic testing. The initial test is to measure the level of alpha-1 antitrypsin (AAT) in the blood. A low level of AAT suggests a deficiency. A deficiency of alpha-1 antitrypsin allows these proteases to damage the lung tissue, which can lead to various lung problems, including emphysema. AATD can result in early-onset and more severe forms of these lung conditions, often in individuals who are non-smokers.

A combination of tests may be used to confirm the diagnosis of COPD. Your doctor will also take into account your symptoms and medical history to determine the best course of action.

Pulmonary Rehabilitation

Pulmonary rehabilitation is a program of exercise and education that can help people with COPD manage their symptoms, improve their physical fitness, and increase their ability to perform daily activities. Some specific benefits of pulmonary rehab for people with COPD include:

Improved breathing: Pulmonary rehab can help people with COPD improve their lung function, which can make it easier for them to breathe

Increased exercise tolerance: Pulmonary rehab can help people with

COPD increase their endurance and stamina, which can make it easier for them to perform daily activities

Reduced shortness of breath: Pulmonary rehab can help people with COPD reduce the frequency and severity of shortness of breath

Improved quality of life: Pulmonary rehab can help people with COPD improve their overall quality of life by reducing symptoms, increasing physical activity and reducing hospitalization

It's important to note that pulmonary rehabilitation is tailored to the individual needs of the patient and can vary depending on the stage and severity of the disease, and the person's overall physical condition.

Common vaccinations for people with stable COPD

Common vaccines recommended for

people with stable chronic obstructive pulmonary disease (COPD) include: High-dose influenza (flu) vaccine, pneumococcal vaccine, respiratory syncytial virus (RSV) vaccine and less frequently the tetanus, diphtheria, and pertussis (Tdap) vaccine. It's important to note that vaccine recommendations may be updated over time as individual health conditions can vary. Therefore, it's best to consult with a healthcare provider to determine the most appropriate vaccination schedule for someone with COPD. Your healthcare provider will make recommendations based on your health status and will make adjustments if there are changes to federal vaccine guidelines.

For more information:

<https://www.copdcanada.info/what-is-copd/>

Essential for COPD diagnosis

Spirometry continued from page 1

due to the patient cooperation required, spirometry can only be used on patients who are able to understand and follow instructions—thus, these tests are not suitable for patients who are unconscious, heavily sedated, or have limitations that would interfere with vigorous respiratory efforts. Other types of lung function tests are available for unconscious persons. A sudden decrease in FEV1 or other spirometric measure in the same patient can signal worsening control, even if the raw value is still normal. Although spirometry is the primary diagnostic tool in COPD, your doctor will likely perform other investigational studies during their initial assessment.

CTS Guideline on Spirometry

The Canadian Thoracic Society (CTS) Guideline on Pharmacotherapy in Patients with Stable COPD¹ states that spirometry is essential for the diagnosis of COPD. A post-bronchodilator FEV1/FVC ratio <0.70 confirms the diagnosis of COPD. The Guideline also suggests that many individuals with COPD remain undiagnosed; although they may be symptomatic, have poor overall health status, and have an increased risk of exacerbations, pneumonia and death. At the same time, due to underuse of spirometry to confirm the diagnosis of COPD, symptomatic patients, especially those with a smoking history, may receive unneeded inhaled therapy.

Reference

<https://cts-sct.ca/guideline-library/>

If you've been diagnosed with Chronic Obstructive Pulmonary Disease (COPD) you probably want to know more about your condition, your medications, available treatments and assessment tools.

Download a free copy of this helpful patient education brochure:

www.copdcanada.info/patient-education

Living with COPD





COPD people

Suzanne Fortin

Suzanne Fortin was born in Sudbury, Ont. and still lives there. She grew up in a French Catholic community, graduated from Notre Dame college and then attended teacher's college. She has been married for 56 years, has two sons and three grandchildren. One son is the sound engineer for the Blues Traveler, while the other is a teacher and owns a Martial Arts Club that was started by her husband over 40 years ago.

She taught for 32 years, starting with 2nd grade students, but worked for 20 years with developmentally handicapped children including deaf/blind children. Suzanne was able to access funds to help install and manage a Snoezelen Room, which is designed to provide stimulating sensory experiences through light, sound, and touch for the deaf/blind. She was assisted in this endeavour by Ronald MacDonald House which financed the entire project. Before she retired, Suzanne took on another big project, working with the Ontario Ministry of Community and Social Services. They started the first francophone day program for medically fragile young adults. The program is still going strong today!

Suzanne has also been recognized by the Prime Minister's office for these two projects and received the Queen's medal on her 50th Jubilee. Suzanne was diagnosed with COPD in 2017.

How did you find out you have COPD?

We have a condo near West Palm Beach in Florida. In 2017 while there, my ears became completely blocked and I started coughing incessantly. The clinic prescribed steroids. It took two weeks for my ears to clear up. When we got home, my doctor sent me for a spirometry test and a CT scan. That's when I was diagnosed with Stage 2 COPD.

Have you ever had an exacerbation?

Yes, and since 2017, I often develop bronchitis when there is a major change in weather. In Sudbury we're lucky to have access to a pulmonary rehab program. I learned so much information about COPD from that program.

Do you have to pay for the rehab program?

No it's arranged through the hospital but is held at the local YMCA. You are assigned a counselor, classes on COPD, and access to all the equipment. They stress how diet and exercise are very important.

What kind of medicine are you taking for your COPD?

I take Inspiroto Respimat, and I have a rescue inhaler, Ventolin, which I only use when I'm really short of breath. The Respimat works quite well.

Were you a smoker?

I smoked for 25 years and quit in 1995. It became increasingly difficult to have a cigarette. The anti-smoking stigma got so bad you would hide your cigarette by your side. But it was time to quit.

Did you use anything to help you quit?

I used the nicotine patch which was successful.

Did your husband smoke?

He did as a teenager but then, martial arts became his main focus. He wanted to keep active and strong.

Did you take martial arts with him?

I should have. I was so busy with teaching, taking courses, and looking after my young children. I really didn't have the time. Now, I often go to the club and tournaments to watch my grandson Eric compete. My granddaughter Emilie prefers gymnastics and grandson Lucas lives in Austin and enjoys music.

What have you been doing since you retired from teaching?

I volunteered for eight years at the local soup kitchen but now I am a member of the Richelieu-féminin, an organization to help women and children in need, as well as individuals with mental health issues. We raise funds working at the bingo. I try to stay active as much as possible.

Do you and your husband travel?

We loved travelling coach through Europe, and also visited Spain, China, and Egypt. There is so much beauty and culture in this world. We also crossed all of Canada's provinces.

Are you a religious person?

I was raised Catholic, and I am blessed to have so many angels close to me.

Do you have any advice for people dealing with COPD?

I would say don't let it define you. COPD doesn't define us. Keep a positive attitude and stay active.



Meet Guy.

When he was diagnosed with pulmonary disease, Guy was worried he'd no longer be able to go for hikes and visit his family abroad.

ProResp makes sure he's able to keep doing all the things he loves.

“

They have allowed my life to go back to normal and given me back the physical strength that was fading.

”

With the right respiratory care and equipment, many patients like Guy are able to live fuller lives.

Helping people breathe right at home.

