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# Living with COPD

## The Ins and Outs of Home Oxygen Therapy

**O**xxygen therapy is prescribed for people who cannot get enough oxygen on their own. As a prescribed therapy, it's important that it is used as instructed by your healthcare professional. If your province approves multiple oxygen providers you should be given the opportunity to choose your provider. Here are some important points to help you through the process.

Starting on home oxygen therapy should not be complicated. Your provider should involve you in all decisions related to your therapy. Simply stated, your provider should focus their efforts around you. The process for choosing your provider may vary from province to province as may the quality of service. For example, Ontario has dozens of providers approved by the Ministry of Health & Long-Term Care. There are minimum requirements every approved provider must meet but quality and responsiveness can vary greatly. You need to ensure that you receive the equipment and respiratory care that meets your expectations and supports your independence and desired quality of life. Equipment is important to therapy compliance and lifestyle; the clinical support—care—is important to your overall health outcomes.

Funding reimbursement for home oxygen therapy differs from province to province so it is best to check with your provincial government for details.

Most people on home oxygen therapy select a stationary oxygen concentrator for use while inside their home. A concentrator is powered by electricity and takes air from the room and concentrates the oxygen to higher purity levels, generally **Continued on Page 6**

Chronic Obstructive Pulmonary Disease  
[www.copdcanada.info](http://www.copdcanada.info)

## What Are Pulmonary Function Tests?

**P**ulmonary function tests (PFTs) are non-invasive tests that show how well the lungs are working. The tests measure lung volume, capacity, rates of flow and gas exchange. This information can help your doctor diagnose and determine the best treatment of certain lung disorders.

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 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, that 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,

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## Ask COPD Canada

**Q** Are there normal and abnormal symptoms I may experience during physical activity?

**A** Normal symptoms can include light to moderate breathlessness and some minor sweating. You may also experience the feeling of heat or fatigue in the legs as well as some light muscular or joint pain. These are normal symptoms. Abnormal symptoms would include chest pain, intense joint pain, dizziness or vertigo. If you feel these or heart palpitations, severe or prolonged respiratory problems or headache you should stop or reduce your activities. It may be wise to contact your doctor or health professional to discuss these unusual symptoms.

**Q** Are there tools to monitor my level of physical activity and progress?

**Continued on Page 2**



## Ask COPD Canada

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**A** You should consider using a pedometer. A pedometer is a movement detection device that counts every step you take. It should be clipped to your belt or waistband midway between your navel and your hip—in line with your knee. This device will encourage you to go a bit further every day. Using the three-step pedometer technique will allow you to challenge yourself and observe your progress over time. Step 1 helps to determine the average number of steps you take every day. Note the number of steps each day for three consecutive days then divide by three. You should include at least one weekend day within the three days. Step 2 sets your first objective which is to add 1,000 steps to your daily average. You then maintain this level of steps for a one-month period. Step 3 begins after you have achieved your step 2 goal. Then add another 1,000 steps and maintain that daily average for one month. You should then try to increase your objective until you have reached an average 5,000 to 6,000 steps per day. If your condition allows it, you can keep increasing your

daily steps up to a maximum 10,000 steps per day. There are many different types of pedometers on the market so it would be worthwhile to shop around before making your purchase.

**Q** What is the difference between chronic bronchitis and emphysema?

**A** Bronchitis is the inflammation of the lining of the bronchial tubes. These tubes connect the windpipe with the lungs. When the tubes are inflamed less air is able to flow to and from the lungs and heavy mucous—or phlegm—is coughed up. This is bronchitis. Chronic bronchitis is defined by the presence of a mucus-producing cough most days of the month.

Emphysema is a disease that affects the air sacs and/or the smallest breathing tubes in the lungs. Simply put, the lungs lose elasticity and that causes the affected areas to become enlarged. When lungs lose their elasticity getting air into and out of the lungs becomes very difficult.

**Q** Do all smokers eventually develop emphysema?

**A** Tobacco smoking is the most obvious cause of emphysema but other factors contribute as well. Being born with the wrong set of genes will make a person susceptible to the destruction of the air sacs in the lung, the tobacco-related injury doctors call emphysema. The genetic story behind common types of COPD is still being unravelled but one rare genetic form of emphysema has been well understood for more than 40 years. It is estimated that 50,000 to 100,000 North Americans living today were born deficient in a blood protein known as alpha1 antitrypsin (AAT). This protein is normally present to protect the lungs from injury. Without sufficient protein in circulation, the lungs are easily damaged leading to the form of emphysema called alpha1 antitrypsin (AAT) deficiency-related emphysema. This kind of emphysema can develop after only a few years of tobacco smoking and, in some instances, without any tobacco exposure at all. AAT deficiency is thought to account for about 1 to 2% of COPD diagnosed in North America.

## Healthy Eating

**M**anaging your diet can make a difference. The single most effective way to prevent and slow the progression of COPD is to quit smoking, but beyond that, there are several strategies that people with COPD can employ to further manage their illness.

Healthy eating habits can make a significant difference when it comes to COPD. A poor diet can result in a lack of energy for anyone, but when coupled with COPD a poor diet can have multiple negative effects. Many experts suggest that people with COPD double the number of meals, while halving individual portions. Smaller, more frequent meals can reduce the effort of eating and digestion, but still supply necessary nutrition.

Carbohydrates are one of the best sources of energy for people with COPD. Most physicians recommend that at least half of your calorie intake consist of complex carbohydrates. However, it's advisable to try to avoid simple carbohydrates (sugars), which have less nutrition per calorie. Instead, opt for whole grain crackers, breads and pastas, high fibre cereals, and fresh fruits and vegetables. A regular diet of ocean-caught fish (two to three times

per week) can be beneficial. The Omega-3 fatty acids in the fish can help fight bronchitis and emphysema. Sardines, salmon, mackerel, herring, bluefish and tuna are all particularly rich in omega-3 fatty acids. Additionally, anti-oxidants (vitamin C, E and certain minerals) found in fruits and vegetables have also been proven to protect lung tissue from damage at the cellular level. A word of advice: the deeper and darker the colour of the fruit or vegetable, the richer it is in anti-oxidants.

For non-pharmacological relief of COPD, patients are encouraged to practice simple breathing and mucous-clearing techniques as well as conserve their energy when possible. Physicians also recommend avoiding items or situations that can irritate COPD, such as dusty or smoky air, polluted air, cold air, hot or humid conditions, or anything else known to cause breathlessness. None of these things may worsen one's illness, but they can certainly make it seem that way.

Maintaining a healthy body weight, regular exercise, and a proper diet can also make a positive difference in symptom relief. Most simple exercise routines such as daily stretching and breathing exercises plus a walk can also be very beneficial.

Canada Post Canadian Publications Mail Sales Product Agreement Number 40016917

Please forward all correspondence to: Chronicle Information Resources Ltd., 555 Burnhamthorpe Road, Ste 306,

Toronto, Ont. M9C 2Y3 *Living with COPD* is published for COPD Canada by Chronicle Information Resources Ltd.

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## Tech to support aging in place

■ **Ottawa**/More than 90% of Canadians aged 65 years and older are currently living in private residences. And most of them, if not all, want to remain there as long as possible. To support this desire to “age in place,” there are many new health technologies being developed that aim to help older adults remain healthier, more productive, and living in their own communities. In a recent issue of Health Technology Update, the Canadian Agency for Drugs and Technologies in Health (CADTH) looked at a few emerging technologies that could potentially help support aging in place. As is typically the case with new and emerging technologies, there is currently only limited evidence on their effectiveness or how they compare with existing treatments. But early awareness of interventions that might come into broad use can help us plan for their possible introduction into the Canadian health care system.

 <https://tinyurl.com/wxruggl>

## Study looks at using virtual reality training as rehab tool for patients with COPD

■ **Ople, Poland**/This study compared the effects of an inpatient-based rehabilitation program for patients with chronic obstructive pulmonary disease (COPD) using non-immersive virtual reality (VR) training with a traditional pulmonary rehabilitation program. The aim of this study was to determine whether rehabilitation featuring both VR as well as exercise training provides benefits over exercise training (ET) alone or whether rehabilitation featuring VR training instead of exercise training provides equivalent benefits. The study recruited 106 patients with COPD to a two-week high-intensity, five times a week intervention. Randomized into three groups, 34 patients participated in a traditional pulmonary rehabilitation program including endurance exercise training (ET), 38 patients participated in traditional pulmonary rehabilitation, including both endurance exercise training and virtual reality training (ET+VR) and 34 patients participated in pulmonary rehabilitation program including virtual reality training but no endurance exercise training (VR). Results suggest that pulmonary rehabilitation program supplemented with VR training is a beneficial intervention to improve physical fitness in patients with COPD.

 <https://tinyurl.com/yd3joeh6>



## Chiropractors told to remove Covid-19 immune system boost claims

■ **Toronto**/There's no scientific evidence that chiropractic care can boost your immune system, but that hasn't stopped some chiropractors from touting the practice as a tool to prevent infection from the novel coronavirus that has caused the COVID-19 pandemic. The CBC recently reported that the problem is so widespread that one Ontario man has filed at least 34 complaints against chiropractic clinics in the province alone in the past few weeks. The College of Chiropractors of Ontario (CCO) said it has sent 54 cease and desist letters to practitioners. Across the country, provincial governing bodies have issued warnings to their members not to spread misinformation about chiropractic care and COVID-19.

 <https://tinyurl.com/tr7e3qk>

## Canada has a youth vaping crisis

■ **Ottawa**/More than one-third of teenagers 15 to 19 years of age have tried vaping at some point in their lives, according to a new report from Statistics Canada, the first of its kind to provide detailed information about vaping. The Canadian Tobacco and Nicotine Survey, based on data collected from 8,600 people, found that 36% of teens had tried vaping, and 15% reported doing so in the past 30 days. In comparison, just 3% of adults ages 25 years and older reported that they had used a vaping product in the previous month, while 12% had tried it at least once in the past. Among the people surveyed who had vaped in the past 30 days, about 80% had vaped nicotine. Reasons for vaping vary across age groups. "The new data reinforces the trend that we've been seeing over the last short while, which is that we have a youth vaping crisis," said Sarah Butson, public policy analyst for The Lung Association. "It demonstrates to us that vaping is in the hands of exactly the folks we are trying to protect and really emphasizes that we need to do more. One of the most common myths is that it's harmless," she said. In fact, vaping-related illness is on the rise in both Canada and the U.S.

 <https://tinyurl.com/vv4kw44>

# Types of pulmonary function tests

Continued from Page 1

preferably at least six seconds. It is sometimes directly followed by a rapid inhalation (inspiration), in particular 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.

## Limitations of test

During the test, soft nose clips may be used to prevent air escaping through the nose. Filter mouthpieces will also be used to prevent the spread of microorganisms.

The test is highly dependent on patient co-operation and effort, and is normally repeated at least three times to ensure reproducibility. Also, due to the patient co-operation required, spirometry can only be used by patients who are able to understand and follow instructions—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. Patients are encouraged to record their personal best measures. Although spirometry is the primary diagnostic tool in COPD, your doctor will likely perform other investigational studies during their initial assessment.

## Other Pulmonary Function Tests

In addition to spirometry, there are two other pulmonary function tests important when evaluating lung function in COPD: lung diffusion tests and body plethysmography. These tests measure the diffusing capacity of the lungs for carbon monoxide and the volume of air in the lungs at different stages of breathing, respectively.

## Chest X-ray

A chest X-ray alone does not establish a diagnosis of COPD. Your

doctor may order one initially, however, to rule out other reasons for your symptoms or to confirm the presence of an existing comorbid condition. A chest X-ray may also be used periodically throughout your treatment to monitor your progress.

## Computerized Tomography (CT) Scan

Although a CT is not routinely recommended when making a diagnosis of COPD, your doctor may order one when it is indicated (infection is not resolving, change of symptoms, consideration for surgery, etc.) While a chest X-ray shows larger areas of density in the lungs, a CT scan is more definitive, showing fine details that a chest X-ray does not. Sometimes, prior to a CT scan, a contrast agent may be injected into a vein. This allows your doctor to see the abnormalities in your lungs more clearly.

## Complete Blood Count

A complete blood count (CBC) will alert your doctor to any infection as well as describing, among other things, how much hemoglobin is present in your blood. Hemoglobin is the iron-containing pigment in your blood that carries the oxygen from your lungs to the rest of your body.

## Arterial Blood Gases

In COPD, the amount of air that you breathe into and out of your lungs is impaired. Arterial blood gases (ABGs) measure the oxygen and carbon dioxide levels in your blood and determine your body's pH and sodium bicarbonate levels. ABGs are important in forming a diagnosis of COPD as well as in determining the need for, and adjusting the flow rate of, oxygen therapy.

Pulse oximetry is a non-invasive method of measuring how well your tissues are being supplied with oxygen. A probe or sensor is normally attached to the finger, forehead, ear lobe or bridge of the nose. Pulse oximetry can be continuous or intermittent. A measurement of 95% to 100% is considered normal. Along with ABGs, measuring your oxygen saturation level by way of pulse oximetry helps your doctor assess your need for oxygen therapy.

Living Well **COPD**<sup>™</sup>  
with  
Chronic Obstructive Pulmonary Disease

*A plan of action for life*

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## Sign-up for FREE!

*The Living Well with COPD program can help you!*

- You were recently diagnosed with COPD (obstructive chronic bronchitis, emphysema) and you want to know where to start
- You want to learn about the causes of COPD, including hereditary factors, and what to do TODAY to improve your symptoms
- You want to have FREE access to educational resources specifically designed for you, including videos, brochures and many others

> Join us today

- YES, its possible to live WELL with COPD!
- Get started today and ask your friends and family to join
- Follow the FREE online course: stress management, nutrition, healthy lifestyle...

*The essential self-management education program for people living with COPD and their loved ones!*



# Questions to ask your provider

Continued from Page 1

between 90% to 95%, delivering it to you through an oxygen tube.

## What should you do in a hydro outage?

The concentrator has a series of alarms, one of which will notify you if the electrical supply is disrupted. In that event, there are some simple checks you will learn to complete to determine whether it is a problem with your home or an outside electrical outage.

You will be provided with a back-up supply of oxygen to use in the event of a power outage or concentrator failure. This is commonly a supply of high-pressure oxygen cylinders, like what is used in a hospital. Your home oxygen therapy provider will help you to determine how many cylinders you should keep as back-up but will rely on you to request more when your supply is depleted. If you experience a power outage in your area, you should let your home oxygen provider know, enabling them to be ready to respond with oxygen supply replenishment if the outage lasts for an extended period.

Starting on home oxygen therapy does not have to slow you down. Oxygen, if used as prescribed, will help you remain active and get the most out of each day.

## Suggested questions when evaluating providers:

1. *Does the provider offer all types of home oxygen systems (e.g., stationary concentrators; portable concentrators; cylinders with oxygen conserving devices; liquid oxygen)?*

This is an important question as your oxygen needs may change over time and you don't want to be restricted or find yourself having to change providers. Liquid oxygen is not available from all providers yet is sometimes the only suitable option to ensure clinical benefit.

2. *How does the provider determine which oxygen system to recommend for you?*

Your provider's respiratory therapist should perform a respiratory assessment including pulse oximetry on each system you are considering, during exertion and rest, to ensure your oxygen needs are adequately met. Lifestyle needs are important and clinical effectiveness—the oxygen meeting your physiological needs—is of paramount importance.

3. *What is the provider's after-hours response? How long will you wait for a return phone call and how long for a visit to your home, if necessary?*

In most instances it is reasonable to expect a return phone call

within 15 minutes and an in-home visit from your provider within two hours, if necessary. Some providers have on-call teams that cover large geographies after regular business hours which may make it difficult to meet your expectations. If you have the opportunity, test their after-hours phone response before making your decision by calling their phone number on a Friday or Saturday evening. This is a good test of their responsiveness and overall customer service. Ask if they will deliver supplies to you after regular business hours if needed. The person returning your call should be accommodating and able to answer your questions.

4. *How will the provider assist you with travel, including by automobile?*

Whether for medical appointments or leisure, many patients depend on their provider to make travel easy. If travel is important to you, learn how the provider will coordinate oxygen therapy for your travel plans. Learning at the last minute your provider cannot accommodate your request can be frustrating. With pre-planning most travel can be accommodated.

Some patients can be effectively treated with smaller portable concentrators or cylinders while others require a continuous flow with liquid oxygen systems. There are restrictions (government and provider) on the use of liquid oxygen in vehicles including the type of vehicle and how it is secured. Your provider should be open and upfront about their policies around your oxygen travel needs and be able to direct you to additional resources to help in your planning.

5. *Will the provider include you in your care planning?*

You and your family caregivers should be given the opportunity to develop your care plan and to define appropriate goals that will enable your independence and improve your quality of life. Your provider's respiratory therapist should encourage and monitor your progression toward achieving these goals and schedule follow-up clinical visits to support your care plan.

Effective communication, mutual respect and trust are keys to establishing a positive relationship with your provider. Being aware of your rights and responsibilities within this relationship will help you to develop reasonable expectations regarding your care.

—Kelly Munoz, RRT, CRE  
ProResp Inc.

**Editors note:** This article was written before Covid-19 restrictions were put in place



## COPD Canada Twitter

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**Join Today:** The COPD Canada website is your portal to our association, new and varied educational materials and medical resources. **Membership** is free of charge. Just visit our website [www.copdcanada.info](http://www.copdcanada.info) and click on **membership**. **Once you've joined** you will begin receiving our "Living with COPD" newsletter.

**For more information contact:** [exec.copdcanada@gmail.com](mailto:exec.copdcanada@gmail.com)



# COPD people

## Bob Bingham

Bob was born in 1937 in Guelph, Ont. and grew up on a farm in Erin Township in rural Ontario. His dad was a general-purpose farmer who worked 150 acres and raised beef cattle and pigs and grew potatoes. Bob helped out on the farm as a young lad—once he picked potatoes all day and was paid \$1 for his labors. Just six years old, he was too small to heave his wire basket of potatoes into the large bag. He needed help with that.

Such was life on a farm back in the war years. Bob walked two miles to a one-room school. The family sold the farm in April 1945 and moved to a house in “New Toronto,” a town just west of Toronto that has since been amalgamated with the City. He’s lived in the same house for seventy-five years. Bob and Barb have been married for 53 years but have known each other since elementary school. They have a son who lives in Acton, Ont. and a daughter in Georgetown, Ont. They’re proud grandparents of four grandchildren ranging in age from 10 through 20 years of age.

### **When did you become aware that there was something wrong with your breathing?**

It was 16 years ago. We were on vacation in Florida. I damaged my leg getting into a swimming pool, and went to hospital where they told me I had ruptured my knee. My leg was mobilized in Florida, enough to allow us to get back to Toronto for treatment. At Toronto Western Hospital, pre-surgical testing discovered that I had atrial fibrillation. Over the years further examinations and tests revealed that I also had COPD.

### **How was your breathing?**

I was aware that my breathing was getting worse. We have a big screen TV in the basement rec room. By the time I got up the stairs I would be completely exhausted. Barb told me that every time I came up from the TV room I was puffing, out of breath.

### **Were you a smoker?**

I quit smoking on August 12, 1978. I smoked a pack a day for 20 years before I quit.

### **Do you think you got COPD from smoking or perhaps you were exposed to chemicals or toxic air in the environment?**

It was the smoking. I worked in an office environment for my entire adult life, mostly for a life insurance company. I still help organize events for retirees from the company, a couple of events per year.

### **Are you taking supplemental oxygen for your condition?**

Yes. I started using it in pulmonary rehab. It helps a lot. I can go a lot longer without getting fatigued when I use the oxygen.

### **Is pulmonary rehab helping you?**

Definitely. I’m currently on the 36-week pro-

gram. It’s fantastic. Meeran Manji runs the rehab facility and she’s wonderful. The program is great, very helpful. I’m blessed.

### **Which part do you like most?**

I get a lot out of the breathing lessons. They’ve started a “Singing to Breathe” program. I’m not a very good singer, but it’s a lot of fun and helps a lot with my breathing.

### **What kind of medicines do you take for your condition?**

I have three inhalers. Two I take daily. I also have a rescue inhaler, in case I run out of breath suddenly. Usually if I’m out for a long walk I’ll stop and use it. It really helps.

### **Do you and Barb travel?**

We have travelled in eight of the 10 provinces in Canada, several states in the U.S., Nassau, Egypt, British Isles and countries in Europe.

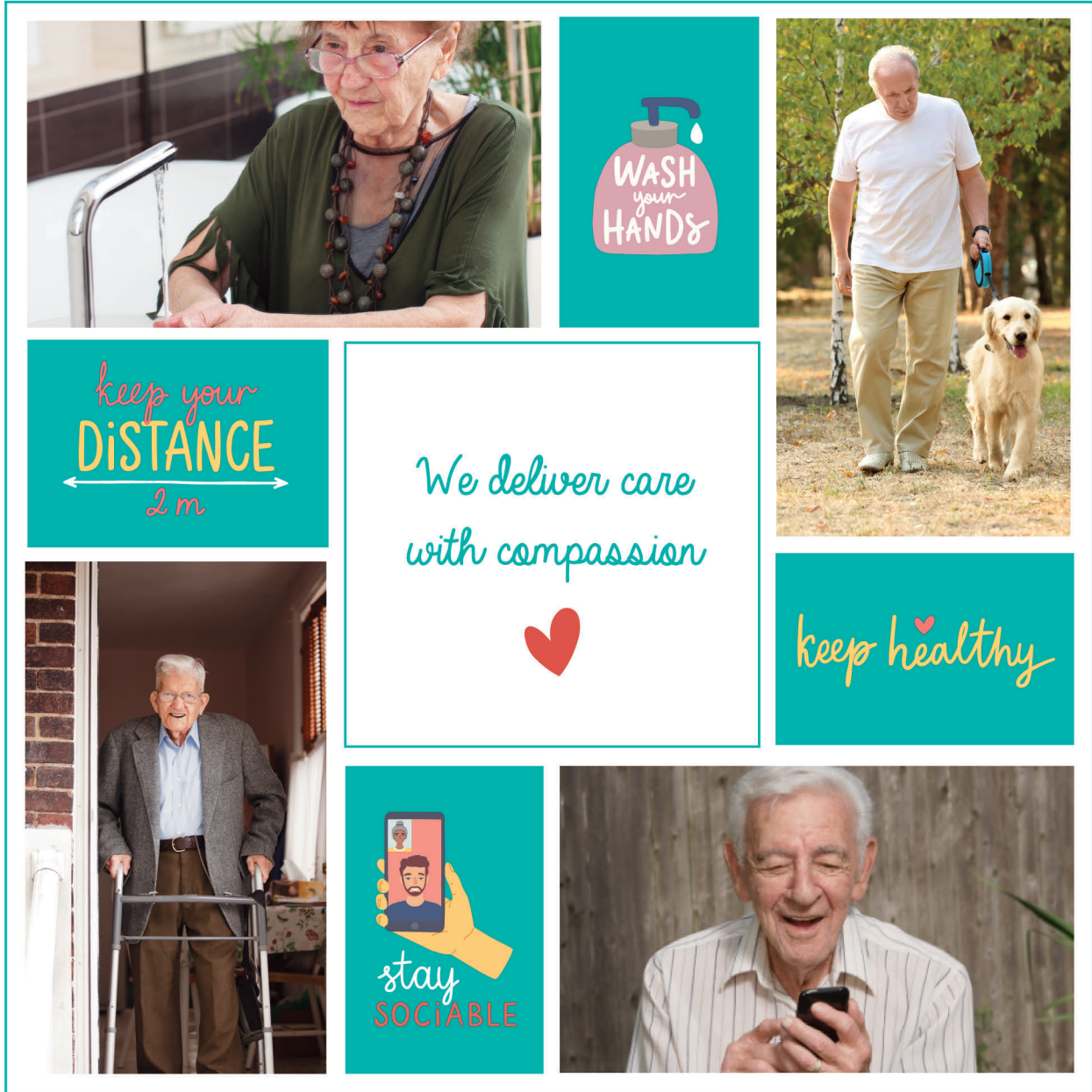
### **I understand that you were politically active at one time.**

I was an active member of the Progressive Conservative party before it merged with the Alliance party. I was very opposed to the merger and have pulled back since that happened. Peter MacKay sold us down the river in my opinion.

### **Are you involved with other organizations?**

I’m very active with the United Church of Canada in my local congregation and region. I believe in the social and spiritual equality of all people. Our congregation is an affirming congregation.





Specializing in COPD management and oxygen therapy, ProResp's mission is helping people breathe and improving their quality of life.

Our success comes from building relationships with patients and their healthcare teams based on and integrity and mutual trust.