



MANAGING CHRONIC COUGH:

THAT IRRITATING ITCH AT THE BACK OF YOUR THROAT.....1



HERD IMMUNITY:

IT MAY NOT BE ACHIEVABLE WITH COVID-19.....1



COPD PEOPLE:

SUZANNE EDMONDS ENJOYS SPENDING TIME WITH HER 8-YEAR-OLD GRANDSON.....7



Managing Chronic Cough

Clinicians, researchers and current published guidelines have adopted a definition of chronic cough as one that has lasted eight weeks or more in adults and four weeks or more in children.¹ It's one of the more challenging medical conditions to screen for and to treat because it often has multiple differential diagnoses and is occasionally due to more than one condition.

For the patient, chronic cough can be frustrating or even disabling and can have a major impact on their quality of life. For the doctor, cough is one of the most common presenting patient symptoms. Age and gender-related differences in the incidence of chronic cough have also been noted with the condition being more common in females and in older populations.²

Chronic cough places a burden on the healthcare system as a whole since patients often seek repeated visits to healthcare providers. In a recent survey performed in 1,120 people with chronic cough, more than 70% of the subjects sought more than three consultations in connection with their chronic cough.³ At its most severe, chronic cough can lead to depression, anxiety, urinary incontinence, syncope (fainting), rib fractures, and dysphonia (difficulty in speaking). Chronic cough has also been associated with sleep disorders and voice disorders.

According to the European Respiratory Society guidelines:³ "The failure to recognize that the patient is suffering from the syndrome of chronic cough may lead to misdiagnosis with the patient labelled as suffering from recurrent chest infections, treatment resistant asthma or exacerbations of chronic obstructive

Continued on Page 5

Chronic Obstructive Pulmonary Disease
www.copdcanada.info

Herd immunity may not be achievable with Covid-19

According to a new report published in *The Journal of Infectious Diseases*, the classical concept of herd immunity may not apply to Covid-19. A herd immunity threshold is the proportion of a population with immunity against a communicable disease agent (resulting from innate immunity, natural infection, or vaccination) above which transmission of the agent is largely prevented, except for sporadic outbreaks in under-vaccinated or otherwise incompletely protected subsets of individuals. There has been speculation about when in the Covid-19 pandemic we will be able to live with the virus in a manner that does not disrupt most peoples' lives. Much of this discussion has focused on herd immunity thresholds.

As commonly understood, herd immunity thresholds are reached when a sufficient proportion of the population is vaccinated or has recovered from natural infection with a pathogen such that its

Continued on Page 6

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 have been on oxygen for 10 years and for the first time I have had a rash under my nose and along my cheeks where the hose sits on my cheek. This weekend it has worsened, is much redder, feels like sandpaper and is very tender. I tried removing my hose for a couple of days while monitoring my oxygen. The redness dissipated but came back with a vengeance when I put it back on. This is not a good situation. I thought it might be an allergy to the

Continued on Page 2

Ask Dr. Bourbeau

Continued from Page 1

cannula. Is that possible? Also, can you recommend a kind of cream I can use to heal the rash that does not contain petroleum products?

A This is a contact dermatitis to the nasal cannula and it is quite rare and complicated. Uncured epoxy resin is known as a cause of occupational dermatitis. It is the non-hardened, uncured form of epoxy resin that is thought to be allergenic. Incompletely hardened epoxy resins still appear in plastic medical equipment, such as certain nasal oxygen cannulas.

The offending cannula probably contains epoxy resin, while other cannulas may not. You need to check with your supplier. If the problem persists, you have to be referred to a dermatologist or allergist. Patch testing of the nasal cannulas can be done to assess which one is positive or negative. On subsequent use of a non-allergenic cannula, the dermatitis will resolve and/or not appear again.

Q I have moderate-severe COPD and along with my regular medications I take 5 mg of prednisone every morning. This helps me and the flare ups are few and far between. My question is: Will taking prednisone hurt me in the long run? I am 71, weigh 230 lbs and am 5 feet and 10 inches tall.

A Prednisone is not recommended for long term use in COPD. It has not been shown to be as effective as other treatments that can be considered with less long-term side

effects. You should be referred to a respirologist to be evaluated for other treatment options.

Q I suffer from chronic cough. I don't think it's coming from my lungs. It feels like a tickle near the bottom of my throat. Do you have any advice for people with chronic cough?

A Chronic cough is defined as a cough lasting eight weeks or more. It needs to be assessed by a physician and you may need to be referred to a respirologist. Assessments of chronic cough include a detailed history, examination, chest radiograph and some other specific tests to identify potential causes and triggers. Conditions associated with chronic cough include ACE inhibitor use, smoking, asthma, post-nasal drip, gastroesophageal reflux disease, and upper airways cough syndrome.

Q Is stem cell therapy something I should consider for my COPD condition? I'm not eligible for lung transplantation. I'm at Stage 4 and feel that I'm out of options.

A Currently, neither the U.S. Food and Drug Administration (FDA) nor Health Canada has approved the use of stem cell therapy for the treatment of lung conditions, such as COPD.

There have not been any phase III trials that are usually the way a treatment can be confirmed to be effective. There have been several

phase I clinical trials, mostly looking at safety, and a handful of small phase II clinical trials that essentially have been negative. Despite this, there remains interest in continuing to study so-called "regenerative therapy" for COPD.

Q My GP tells me that considering my rising blood glucose levels, I am pre-diabetic. I have read a few research articles that identify COPD as directly attributable to diabetes, primarily because of inflammation of the pancreas caused by COPD. Do you have any comment?

A Diabetes is not known as a risk factor for COPD. However, prevalence of diabetes is high in patients suffering from COPD and COPD patients with diabetes are at higher risk of severe exacerbations. Furthermore, COPD can make it harder to control type 2 diabetes.

Dr. Jean Bourbeau is director of the Center for Innovative Medicine (CIM) of the Research Institute of the McGill University Health Centre (MUHC) and director of the Pulmonary Rehabilitation Unit. He is the past president of the Canadian Thoracic Society (CTS) and is a member of the scientific committee of GOLD.

We invite your questions. Please mail questions to: Ask Dr. Bourbeau 555 Burnhamthorpe Rd., Suite 306, Toronto, Ont. M9C 2Y3—or you can e-mail questions to: AskCOPDCanada@gmail.com. General inquiries: COPD Canada Tel: 416-465-6995 E-mail: exec.copdcanada@gmail.com

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. Contents © 2022, Chronicle Companies, except where noted. Printed in Canada.

Risk of death more than doubles with Covid-19 and flu co-infection

■ **Edinburgh**/According to a new study, adults who are hospitalized with Covid-19 and the flu at the same time are at a greater risk for serious illness and death. Researchers from the University of Edinburgh, University of Liverpool, Leiden University and Imperial College London studied more than 305,000 hospitalized Covid-19 patients and published their findings in *The Lancet*. Of the patients studied, nearly 7,000 had respiratory viral co-infections with 227 of these patients simultaneously having seasonal influenza and Covid-19. According to the study, patients with a co-infection of SARS-CoV-2, the virus that causes Covid-19, and influenza viruses were four times more likely to need ventilation during their hospital stay. These patients were 2.4 times more likely to die than patients hospitalized with just Covid-19. "We are seeing a rise in the usual seasonal respiratory viruses as people return to normal mixing, so we can expect flu to be circulating alongside Covid-19," said Calum Semple, a professor of outbreak medicine at the University of Liverpool and one of the researchers behind the study.

 <https://tinyurl.com/bdhzd5jp>

Home dust allergen exposures common in patients with COPD

■ **Baltimore**/Home dust allergen exposures are common in patients with COPD and exposure is associated with adverse outcomes in those who also have allergen sensitization, researchers reported in the *American Journal of Respiratory and Critical Care Medicine*. "Environmental pollutant exposures, particularly indoor particulate matter exposures, have been associated with adverse outcomes in COPD, particularly among those with allergic sensitization," Nirupama Putcha, MD, MHS, associate professor in the division of pulmonary and critical care medicine at Johns Hopkins University School of Medicine, and colleagues wrote. Researchers assessed allergen sensitization to five common indoor allergens: cat, dog, cockroach, mouse and dust mite. "This study highlights the potential value of environmental modification strategies that have the potential to reduce morbidity and health care utilization in patients with COPD and allergic sensitization," the researchers wrote.

 <https://tinyurl.com/4u3hmjkk>

Pulse: News about COPD

Co-existing dementia impacts patients with COPD exacerbation

■ **Nottingham, U.K./**People with COPD are at a higher risk of cognitive dysfunction than the general population. However, the additional impact of dementia amongst such patients is not well understood, particularly in those admitted with a COPD exacerbation. Researchers here assessed the impact of coexisting dementia on inpatient mortality and length of stay (LOS) in patients admitted to hospital with a COPD exacerbation, using the United States-based National Inpatient Sample database. Patients aged over 40 years and hospitalized with a primary diagnosis of COPD exacerbation from 2011 to 2015 were included in the study. The researchers concluded that dementia as a comorbidity is associated with worse outcomes based on inpatient deaths and LOS in patients admitted with COPD exacerbations.

 https://www.dovepress.com/articles.php?article_id=73585

Battle to address respiratory health in people experiencing homelessness

■ **Washington, D.C./**Spurred into action by the Covid-19 pandemic, the British government made a serious effort to tackle homelessness. Local authorities in England were instructed to get people experiencing homelessness off the streets, out of communal shelters and into safe, single-room accommodation. Hotel rooms, bed and breakfasts, and student halls were booked en masse. Landlords were prevented from evicting tenants and welfare payments were increased. Alistair Story is the founder and clinical lead of Find and Treat, a specialist outreach service for homeless populations, funded by the National Health Service and based out of University College London Hospital. “If you have your own place, you have somewhere to eat, wash, and sleep in private. You have your own toilet. You can get warm. You can get dry. These are the sorts of things that keep people alive”, explained Story. “There are no long-term strategies to sort out people's housing status. The pandemic has accelerated inequality—the next few years are going to be really tough.”

 <https://tinyurl.com/m9zn4t2t>

That irritating itch at the back of your throat

Cough continued from page 1
pulmonary disease (COPD).”

Chronic cough can be caused by exposure to noxious stimuli such as cigarette smoke or air pollution or be caused by excessive stimulation of a normal cough reflex which can take place following inhalation of airborne particulates. It is also a symptom of several well-recognized chronic conditions such as asthma, non-asthmatic eosinophilic bronchitis (NAEB), postnasal drip syndrome/upper airways cough syndrome (UACS), and gastroesophageal reflux disease (GERD).

It is when the cough cannot be adequately explained by these conditions that issues become more complicated. A proportion of patients with chronic cough, particularly among adults, have persistent cough despite undergoing numerous tests and various treatments according to clinical practice guidelines. This condition has been described using a variety of terms including idiopathic chronic cough, unexplained chronic cough and chronic refractory cough. One study found 42% of patients presenting to a U.K. cough clinic have unexplained cough.²

A growing understanding of the etiology of chronic cough is helping provide new approaches for therapy and defining targets for medications which could help treat the condition. The concept of cough hypersensitivity syndrome is now used to explain many cases of chronic cough and was first articulated by the

European Respiratory Society (ERS) in 2011. Cough hypersensitivity syndrome is associated with hypersensitivity of the larynx and upper airways.

For healthcare specialists, the challenges of properly diagnosing and treating chronic cough are many. Canadian family physicians report the frustrations felt by both themselves and patients when chronic cough is not properly investigated or treated. Even specialists in managing respiratory health report that many patients are not properly diagnosed and end up being told that they will have to live with their condition. Recent review articles propose a stepwise approach to assessing and managing chronic cough as follows:

- Exclude and treat obvious causes
- Investigate and treat common triggers of chronic cough
- Exclude and treat rarer triggers of chronic cough
- Manage unexplained chronic cough with speech therapy and/or neuromodulatory treatments

In the U.K., low dose morphine sulphate (MST) is often used to treat chronic cough, however, concerns about dependency have limited this use in Canada. Gabapentin or pregabalin have also been shown to be effective but can have significant side effects. Amitriptyline has also been used. Some patients may select speech and language therapy instead of medication. This intervention involves a multi-modality approach of education,

reducing laryngeal irritation with relaxation exercises, cough suppression techniques and counselling. Those that benefit often have speech and language therapy as an adjunct to medication. New therapies under investigation for treatment of chronic cough target specific receptors or channels in the peripheral sensory neurons.

A new therapy specifically for chronic refractory cough is gefapixant (MK-7264/AF-219) which is currently under review by Health Canada. It is a selective antagonist of the P2X3 receptor. Recent clinical trials of the drug evaluated over 300 patients and demonstrated positive results for decreased mean daytime cough frequency, 24-hour cough frequency, and awake cough frequency.⁶

The Canadian Cough Initiative, published in 2021, is the first Canadian report to document the challenges of diagnosing and managing chronic cough. To download a copy of the full report: <https://chroniclungdiseases.com/en/resources/chronic-cough>

References

1. <https://erj.ersjournals.com/content/55/1/1901136>
2. <https://chroniclungdiseases.com/en/news/canadian-chronic-cough-initiative>
3. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5995432>
4. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6234945>
5. <https://erj.ersjournals.com/content/55/1/1901136>
6. <https://pubmed.ncbi.nlm.nih.gov/3524818>

Printed Booklets now available on Amazon!

With *Living well with COPD* you will learn skills to adopt healthy new lifestyle behaviours. This successful program has been scientifically proven to improve the lives of people suffering from COPD, reducing hospital admission and helping them to enjoy a more fulfilling life.

Get a printed booklet delivered right to your doorstep by ordering your copy on Amazon today (search for *Living Well with COPD*).



Do you prefer to watch videos and other **FREE** content? Follow the **online patient course** on our website or on our **YouTube channel**:
<https://www.youtube.com/c/LivingWellwithCOPD>

Living Well **COPD**[™]
with
Chronic Obstructive Pulmonary Disease

Visit our website and download our patient
ACTION PLAN

www.livingwellwithcopd.com



Herd immunity may not be possible with Covid-19

Immunity continued from page 1

community circulation is reduced below the level of significant public health threat. For example, this threshold has been met with polio and measles circulation in the United States. However, SARS-CoV-2, the virus that causes Covid-19, is so different from polio and measles that classical herd immunity may not readily apply to it. Important differences include the phenotypic stability of polio and measles viruses, and their ability to elicit long-term protective immunity, compared to SARS-CoV-2.

Conceptualizations of herd immunity thresholds evolved gradually before the microbiology era. By about 1700, a few diseases such as smallpox and measles had been distinguished based on pathognomonic signs and symptoms. The 1720 European and colonial introduction of smallpox inoculation clarified that both natural infection and inoculation protected against infection and re-infection. At the population level, widespread use of smallpox inoculation in human cohorts prevented or limited epidemics, including inoculation of soldiers during the American Revolutionary War and of enslaved people on U.S. plantations. Such early observations of “herd protection” led scientists of the late 19th century to propose that smallpox could be eradicated, a goal finally realized in 1978.

Around 1807, a crucial observation—seemingly unrelated to immune protection—was made. In cities and large towns, childhood measles was documented to occur in regular cycles. Comparing one city to another, cycle intervals varied from as short as two to three years, to six to seven years, with different cities having their own characteristic intervals. Longer cycles were seen in towns and smaller cities, whereas shorter cycles were more common in large, crowded cities with high birthrates. Contemporary data, such as those in Britain’s mortality registry or from comparative examination of early 19th century measles cyclicity in 20 international cities, could not explain this phenomenon.

The terms “herd immunity” and “herd immunity threshold” emerged when American veterinary researchers began using them during World War I. The terminology was soon adopted by British statistician-epidemiologists studying herd immunity in laboratory animals, hoping to identify human disease-control variables. But as experimental and human observational research progressed, such hopes were soon dashed. Numerous variables greatly affected herd immunity thresholds, including differences among diseases and hosts, transmission modes e.g., respiratory, enteric (related to the intestines) duration and completeness of immunity, crowding and population movement, and small pockets of non-immune persons (religious groups or other unvaccinated groups), among other factors. These variables interacted in complex ways to result in herd immunity thresholds that were situation-specific and often significantly altered by small changes in key variables.

Over the past 70 years, herd immunity threshold concepts have been repeatedly questioned amid attempts to control, to geographically eliminate, or to eradicate infectious diseases. With influenza, for example, the inadequacy or limited durability of immunity after vaccination or infection, and the continual antigenic drifting and occasional pandemic-producing antigenic shifting, has foiled attainment of strong herd immunity threshold effects. Moreover, small numbers of unvaccinated individuals make

completely protective herd immunity difficult even for the most phenotypically stable disease agents.

For many common respiratory viruses such as influenza and respiratory syncytial virus (RSV), the barriers to achieving herd immunity are even greater than with measles, polio, and smallpox. These barriers include asymptomatic transmission, incomplete or short-duration protective immunity, and viral immune escape. Indeed, for many such respiratory viruses, including SARS-CoV-2, immunity is itself a fluid concept, ranging from complete and durable (long-lasting) immunity that fully protects against infections, to immunity that protects against severe disease but does not prevent reinfection and onward transmission.

“ Conceptualizations of herd immunity thresholds evolved gradually before the microbiology era”

Classical herd immunity, leading to disease eradication or elimination, almost certainly is an unattainable goal with Covid-19. Like influenza, SARS-CoV-2 mutates continually into new variants that can escape immunity derived from infections and vaccines. It also can be transmitted asymptotically and without pathognomonic signs, impeding public health control. Moreover, neither infection nor vaccination appears to induce prolonged protection against SARS-CoV-2 in many or most people. And, the public health community has encountered substantial resistance to efforts to control the spread of SARS-CoV-2 by vaccination, mask wearing, and other interventions.

If vaccine- or infection-induced immunity to SARS-CoV-2 indeed proves to be short-lived, or if escape mutants continue to emerge, viral spread may continue indefinitely, albeit hopefully at a low endemic level. This notably has occurred with the 1918 pandemic influenza virus, whose viral descendants still are causing seasonal outbreaks and occasional pandemics 104 years later (pandemic H2N2 in 1957, H3N2 in 1968, and H1N1 in 2009). We have been unable, after more than 80 years of trying, to fully control these variants with vaccines. Such factors probably make SARS-CoV-2 impossible to eradicate (only one human virus—smallpox—has ever been eradicated), difficult to eliminate over long periods within large geographic areas, and difficult to satisfactorily control even with good vaccines. Thus, Covid-19 is likely to be with us, even if at a very low level of endemic community spread and with lower severity, for the foreseeable future. Living with Covid is best considered not as reaching a numerical threshold of immunity, but as optimizing population protection without prohibitive restrictions on our daily lives. Effective tools for prevention and control of Covid-19 (vaccines, prevention measures) are available; if utilized, the road back to normality is achievable even without achieving classical herd immunity.

The report was authored by Drs. D.M. Morens, G.K. Folkers and A.S. Fauci of the National Institute of Allergy and Infectious Diseases. For the full report: <https://tinyurl.com/2trfdems>



COPD people

Suzanne Edmonds

Suzanne Edmonds is a retired recruiter who has worked in both the private and non-profit sectors. She has chaired or been on the boards of a number of downtown Toronto community groups. She is the mother of two and the grandmother of her wonderful eight-year-old grandson. Suzanne was born and raised in Orillia, Ont., which Stephen Leacock described as Mariposa in his book, *Sunshine Sketches of a Little Town*. Orillia was a wonderful place to grow up. Suzanne moved to Toronto after her mother developed multiple sclerosis and could only get treatment for the condition in Toronto. The city was a real eye-opener for her as she had never seen an escalator before or been on a streetcar. Her first job was with Manulife Insurance where she worked for five years but she craved more adventure, so she quit her job and flew to Hawaii. Returning to Canada she spent time touring the west coast and she has very fond memories of travelling by train across Canada. After her globe-trotting days ended, she returned to Toronto, married and had two children. Before retirement, she was a recruitment consultant to small businesses who did not have their own HR Department. She was diagnosed with COPD in 2014.

Were you a smoker?

I started smoking when I was a teenager. We all smoked as kids. I quit in my early sixties.

How was your health as a child?

I think I was predetermined to get COPD. When I was young, I had what they called bronchial attacks. There were no medicines you could take. They used a mustard plaster on your chest. My doctor at that time would come by and play the violin which he believed would calm my breathing. Sometimes my mother would give me a teaspoonful of brandy.

When was your COPD diagnosed?

I was diagnosed with asthma in my 40s. They changed my diagnosis to COPD when I was in my 60s. I had a serious exacerbation and ended up in the hospital. That's where the COPD diagnosis was made.

Was your diagnosis confirmed with spirometry?

I had all kinds of respiratory tests. I have a wonderful respirologist at Toronto General Hospital who understands COPD.

How have you managed your condition through the pandemic?

I haven't had any of my regular lung tests in the last two years such as spirometry and the six-minute walk test. Earlier, we looked into lung transplantation. During the evaluation process, they discovered that I have breast cancer.

What happens now?

Lung transplantation is now off the table. Surgery of any type is not advisable. Neither is radiation or chemotherapy. Those procedures are just too risky with my condition. The type of breast cancer I have is a slow growing type of cancer. I'm just going to have to live with breast cancer and COPD as best I can.

That must be difficult?

I'm well aware that COPD is a progressive disease, and I'm thankful that the breast cancer is OK for now. There are so many difficult things about having COPD. It's caused me to take a long hard look at life. I now try to look at the positive things and I've met a lot of fabulous people through COPD. Pulmonary rehab is great, it's too bad that there aren't more programs available. At rehab you're with people who understand what it is like to have COPD.

Do you any hobbies?

I'm a voracious reader and I used to be an avid quilter and bridge player. My kids got me an online membership to the Toronto Public Library. It's fantastic. I now have access to a tremendous number of books.

Are you a religious person?

I was born into the Presbyterian church. It's a kind, neutral protestant church, very open to all people. I have a caring chaplain who calls me every other week.

Do you have any advice for people with COPD?

You have to be proactive. You have to look after yourself. Do your best. Try very hard to see the positive side of the disease. See the good in the people you will meet. Don't let COPD define you.



You're thinking about life after a pandemic.



So are we.

Do you have questions about using your portable oxygen concentrator during COVID-19?

Visit our website to learn more.



www.proresp.com/portable-oxygen-concentrator-use-during-covid-19-pandemic



Helping you live the life you love.