

POST COVID-19 CONDITION

OCSO BIWEEKLY SCAN OF EVIDENCE #22

April 23-May 6, 2022

SCOPE

This biweekly update presents an analysis of new evidence, guidance and issues related to post COVID-19 condition and synthesizes the current state of knowledge. Comprehensive lists of details and resources on this issue are available at the Office of the Chief Science Officer.

CURRENT STATE OF KNOWLEDGE

According to the World Health Organization (WHO), post COVID-19 condition (PCC) refers to persistent symptoms occurring 12 weeks or more after an acute COVID-19 infection, which persist or reoccur for a minimum of 8 weeks. The most common symptoms include fatigue, cognitive problems (e.g., memory, concentration), respiratory issues, and mental health issues (e.g., anxiety, depression). PCC is also referred to as long COVID, post-acute sequelae, post COVID-19 symptoms, and post-acute COVID-19 syndrome. Prior to the WHO definition, a number of studies reported on post-acute sequelae (PAS) from 4 to 12 weeks post diagnosis. While scientific knowledge on these conditions is building, there is still much that is unknown about this condition. There have been reports of more than 100 symptoms or difficulties with everyday activities.

There is limited data suggesting that the condition may be more likely to develop in those:

- who were hospitalized during acute infection;
- had more than 5 COVID symptoms during the acute phase;
- have pre-existing respiratory disease;
- are older;
- are women; and
- have other co-morbidities or have higher BMI.

(UPDATED) There is currently no specific treatment for long COVID. We do not know why some people develop long COVID while others are not affected. The impacts of vaccination on PCC or PAS are important, given early estimates of the burden of PCC suggest >50% of individuals with confirmed COVID-19 infection have reported at least one PCC symptom more than 12 weeks after diagnosis. Typical therapeutic itinerary involves consultations with multiple specialists and puts emphasis on self-management (rest & relaxation, self-pacing, etc). Emerging evidence points to the importance of multidisciplinary care given the heterogeneity of symptoms associated with PCC. Multidisciplinary teams in “long COVID” clinics have been set up to include professionals from the following fields: rehabilitation, respiratory and cardiac consultants, physiotherapists, occupational therapists, psychologists, etc.

It is anticipated that [Post COVID-19 condition](#) will have medium and long-term impact on public health in Canada. Based on research to date, and reviewed by the Public Health Agency of Canada as part of a living [systematic review](#), 56% of individuals who have had COVID-19 reported the presence of one or more symptoms 12 weeks after diagnosis. About [58%](#) of children had 1 or more symptoms 4 weeks or more after their initial COVID-19 infection. Post COVID-19 condition will have implications for the economy, as well as federal programs including disability benefits, employment related measures and sick pay, among others. It is reported that 10% of adults are unable to return to work in the long term. The [WHO](#) has said that about one in 4 people infected with COVID-19 have experienced a post-COVID-19 condition for at least 1 month. One in 10 people experience symptoms lasting beyond 12 weeks.

This week's scan includes a [scoping review](#) on Post-COVID-19 Condition published by *CADTH*, as well as a [review](#) published in *Nutrients* examining the potential role of vitamin D in long COVID.

GUIDELINES OR STANDARDS

- **WHO** has developed a [clinical case definition](#) of post COVID-19 condition by Delphi methodology that includes 12 domains, available for use in all settings. This first version was developed by patients, researchers and others with the understanding that the definition may change as new evidence emerges and our understanding of the consequences of COVID-19 continues to evolve.
 - *“Post COVID-19 condition occurs in individuals with a history of probable or confirmed SARS CoV-2 infection, usually 3 months from the onset of COVID-19 with symptoms and that last for at least 2 months and cannot be explained by an alternative diagnosis. Common symptoms include fatigue, shortness of breath, cognitive dysfunction but also others and generally have an impact on everyday functioning. Symptoms may be new onset following initial recovery from an acute COVID-19 episode or persist from the initial illness. Symptoms may also fluctuate or relapse over time.”*
 - **WHO:** Q&A [page](#) on Post-COVID-19 Condition (February 2022).
- **(UPDATED) US CDC** describes [Post-COVID conditions](#) as a wide range of new, returning, or ongoing health problems that people experience after first being infected with the virus that causes COVID-19. The CDC posted [Interim Guidance](#) for healthcare providers on Evaluating and Caring for Patients with Post-COVID Conditions. Post-COVID conditions can be considered a disability under the [Americans with Disabilities Act \(ADA\)](#). The CDC also released information on [Caring for People with Post-COVID Conditions](#). CDC is using [science](#) to learn more about post-COVID conditions.
- **UK NICE:** Rapid [guidelines](#) for managing the long-term effects of COVID-19 (Updated March 2022).
- **Chartered Society of Physiotherapy** in UK published its COVID-19 [rehabilitation standards](#), which includes guidance about community-based rehab for people with COVID-19 and long COVID (July 2021).
- [Guidelines](#) to help doctors manage long COVID patients published in *British Journal of General Practice* (August 2021).
- **UK NHS** [guidance](#) for Post-COVID syndrome assessment clinics (April 2021).
- **CIHI** [guidance](#) for clinicians to ensure that data supports monitoring for Post-COVID conditions.
- [Guidance](#) for **Canadian Rehabilitation and Exercise Professionals** on Post COVID-19 condition and rehabilitation management strategies (August 2021).
- **Government of Canada:** [COVID-19 for health professionals - Post COVID-19 condition](#)
- **Center for Effective Practice** – [COVID-19: Clinical Guidance for Primary Care Providers - Long-term symptoms / Post-acute sequelae of COVID-19 \(PASC\)](#)
- [Guideline S1: Long COVID: Diagnostics and treatment strategies](#) (*Wiener klinische Wochenschrift*)
- American Academy of Physical Medicine and Rehabilitation (**AAPM&R**): [Cognitive Symptoms Guidance](#) and [Breathing Discomfort Guidance](#).
- Royal Australian College of General Practitioners (**RACGP**) [guidance](#) for GPs caring for ‘long COVID’ patients.
- European Society of Clinical Microbiology and Infectious Diseases (**ESCMID**): [Rapid guidelines for assessment and management of long COVID](#)
- **ACAS** (UK-based Advisory, Conciliation and Arbitration Service): [Long COVID – advice for employers and employees](#)

NATIONAL AND INTERNATIONAL DEVELOPMENTS (APR 23-MAY 6)

CANADA

- (NEW) A [survey](#) by Viral Neuro Exploration (VINEx), Neurological Health Charities Canada and COVID Long-Haulers Support Group Canada ran between March 23-April 13, 2022 and received responses from 1,050 long haulers in 9 provinces and 1 territory. 87% of respondents identified as women and 10.5% of respondents identified as a visible minority or member of a minority cultural community. Only a quarter of respondents were initially believed and received appropriate care when they described their long COVID symptoms to a health-care professional. Over 80% of respondents say long COVID has had a negative or very negative impact on their brain health. Over 70% had to take leave from work as a result of living with long COVID, with some having to leave the workforce.
- (NEW) Alberta Health Services, along with the University of Alberta, is conducting the first large-scale [survey](#) on the impacts of long COVID in the province.

UK

- (NEW) [UK Office of National Statistics](#): The odds of reporting long COVID symptoms 4 to 8 weeks after a first COVID-19 infection were 49.7% lower in infections compatible with the Omicron BA.1 variant than those compatible with the Delta variant among adults who were double-vaccinated when infected; after adjusting for socio-demographic characteristics.

US

- (UPDATED) Long COVID may already affect between 7 and 23 million Americans who previously had the virus, or up to 7% of the U.S. population, according to the [U.S. Government Accountability Office](#).

EMERGING SCIENTIFIC EVIDENCE (APR 23-MAY 6)*

EVIDENCE PRODUCTS

TITLE AND AUTHOR	EVIDENCE TYPE	SUMMARY
Cardiovascular complications and outcomes among athletes with COVID-19 disease: a systematic review (Alosaimi et al)	Systematic Review (Available in <i>BMC Sports Sci Med Rehabil</i>)	A systematic search on post COVID-19 infection quantitative studies among athletes was conducted following MeSH terms in Medline, Cochrane Library, Ovid, Embase and Scopus (through 15 January 2022). This study provides a low prevalence of CV complications secondary to COVID-19 infection in short-term follow-up. Early recognition and continuous assessment of cardiac abnormality in competitive athletes are imperative to prevent cardiac complications.
Long COVID and neuropsychiatric manifestations (Efsthathiou et al)	Review (Available in <i>Exp Ther Med</i>)	There is accumulating evidence in the literature indicating that a number of patients with COVID may experience a range of neuropsychiatric symptoms, persisting or even presenting following the resolution of acute COVID-19. Among the neuropsychiatric manifestations more frequently associated with 'long COVID' are depression, anxiety, post-traumatic stress disorder, sleep disturbances, fatigue and cognitive deficits, that can potentially be debilitating and negatively affect patients' wellbeing, albeit in the majority of cases symptoms tend to improve over time. Given the alarming effects of 'long-COVID', interdisciplinary cooperation for the

		early identification of patients who are at a high risk of persistent neuropsychiatric presentations, beyond COVID-19 recovery, is crucial to ensure that appropriate integrated physical and mental health support is provided, with the aim of mitigating the risks of long-term disability at a societal and individual level.
An overview of post COVID sequelae (Shukla et al)	Review (Available in <i>J Basic Clin Physiol Pharmacol</i>)	The clinical spectrum and long-term course of this clinical entity must be better understood. Post-COVID syndrome affects a wide spectrum of individuals (16–87%), with pneumological and cognitive symptoms being the most common. Pulmonary fibrosis was the most common organic consequence seen in post-COVID patients. Post-COVID-19 syndrome can have a major impact on the health of survivors. Working-age patients should seek rehabilitation and follow-up in interdisciplinary rehabilitation programmes. COVID-19-related healthcare demands will continue to climb for the foreseeable future. For COVID-19 survivors' long-term mental and physical health, present outpatient infrastructure will be utilised, scalable healthcare models will be built, and cross-disciplinary collaboration will be required.
Vitamin D: A Role Also in Long COVID-19? (Barrea et al)	Review (Available in <i>Nutrients</i>)	Vitamin D is an immunomodulatory hormone with proven efficacy against various upper respiratory tract infections. Vitamin D can inhibit hyperinflammatory reactions and accelerate the healing process in the affected areas, especially in lung tissue. Vitamin D deficiency has been associated with the severity and mortality of COVID-19 cases, with a high prevalence of hypovitaminosis D found in patients with COVID-19 and acute respiratory failure. Thus, there are promising reasons to promote research into the effects of vitamin D supplementation in COVID-19 patients. However, no studies to date have found that vitamin D affects post-COVID-19 symptoms or biomarkers. Based on this scenario, this review aims to provide an up-to-date overview of the potential role of vitamin D in long COVID-19 and of the current literature on this topic.

SELECT PRIMARY RESEARCH

TITLE AND AUTHOR	SOURCE	SUMMARY
Reducing fatigue-related symptoms in Long COVID-19: a preliminary report of a lymphatic drainage intervention (HH et al)	<i>Cardiovasc Endocrinol Metab</i>	Paper presents an analysis of a case series of the first 20 patients' data collected in clinical practice to evaluate the potential of a possible alternative treatment for Long COVID. None of the participants had a prior diagnosis of chronic fatigue syndrome, and all were new attendees to the clinics at the time of initial assessment. The average number of treatment sessions was 9.7 in men and 9.4 in women. The reduction in profile of fatigue-related states (PFRS) scores was 45% in men and 52% in women. The highest subscale scores on average were for fatigue, with the lowest for somatic symptoms. All subscale scores showed, on average, a similar reduction of approximately 50% postintervention, with the reduction in score relating to a decrease in the severity of symptoms.
Modelling potential acute and post-acute burden of COVID-19 under the Australian border re-opening plan (Angeles et al)	<i>BMC Public Health</i>	Authors develop a model by which to estimate the potential acute and post-acute COVID-19 burden using disability-adjusted life years (DALYs) associated with the re-opening of Australian borders and the easing of other public health measures, with particular attention to longer-term, post-acute consequences and the potential impact of permanent functional impairment following COVID-19. Mortality was responsible for 72-74% of the total base case COVID-19 burden. Long COVID and post-

		intensive care syndrome accounted for at least 19 and 3% of the total base case DALYs respectively. When included in the analysis, potential permanent impairment could contribute to 51-55% of total DALYs lost.
COVCOG 2: Cognitive and Memory Deficits in Long COVID: A Second Publication From the COVID and Cognition Study (Guo et al)	<i>Front Aging Neurosci</i>	Authors in study assess this sample on tests of memory, language, and executive function. They hypothesize that performance on “objective” cognitive tests will reflect self-reported cognitive symptoms and that some symptom profiles may be more predictive of cognitive performance than others, perhaps giving some information about the mechanism. They found a consistent pattern of memory deficits in those that had experienced the COVID-19 infection, with deficits increasing with the severity of self-reported ongoing symptoms. Fatigue/mixed symptoms during the initial illness and ongoing neurological symptoms were predictive of cognitive performance.
Pulmonary and Renal Long COVID at Two-year Revisit (Guo et al)	<i>Research Square prepub</i>	Authors performed proteomic and metabolomic analyses of 991 blood and urine specimens from 144 COVID-19 patients with comprehensive clinical data and up to 763 days of follow up. Data showed that the lungs and kidneys are the most vulnerable organs in long COVID patients. Study depicts the longitudinal clinical and molecular landscape of COVID-19 with up to two-year follow-up and presents a method to predict pulmonary and renal long COVID.
Respiratory symptoms and radiological findings in post-acute COVID-19 syndrome (Jutant et al)	<i>ERJ Open Res</i>	In the COMEBAC (Consultation Multi-Expertise de Bicêtre Après COVID-19) cohort study, 478 hospital survivors were evaluated by telephone 4 months after hospital discharge, and 177 who had been hospitalised in an intensive care unit (ICU) or presented relevant symptoms underwent an ambulatory evaluation. New-onset dyspnoea and mild fibrotic lesions were frequent at 4 months, but the association of new-onset dyspnoea, fibrotic lesions and low D (LCO) was rare.
Coding Long COVID: Characterizing a new disease through an ICD-10 lens (Pfaff et al)	<i>medRxiv</i>	Authors leverage the largest publicly available HIPAA-limited dataset about patients with COVID-19 in the US to examine the heterogeneity of adoption and use of U09.9, the ICD-10-CM code for “Post COVID-19 condition, unspecified.” Results include a characterization of common diagnostics, treatment-oriented procedures, and medications associated with U09.9-coded patients, which give us insight into current practice patterns around Long COVID. They established the diagnoses most commonly co-occurring with U09.9, and algorithmically clustered them into three major categories: cardiopulmonary, neurological, and metabolic.
Clinical features, therapeutic outcomes and recovery period of long COVID (Takakura et al)	<i>Research Square prepub</i>	Study aimed to characterize the clinical features of long COVID, by surveying 286 patients who received care in our outpatient clinic for long COVID from May 2021 through December 2021. Results show median number of symptoms was 2.8. Most frequent symptoms were respiratory manifestations (52.1%), followed by fatigue (51.4%). Respiratory symptoms, fatigue, and headache/arthritis were major complaints in the initial phase, whereas hair loss was a major complaint in the late phase, suggesting that the chief complaint of patients with long COVID may vary temporally. The best treatment outcome was observed for pulmonary symptoms, and hair loss had the worst outcome. Smoking habit was an independent risk factor for slowing the recovery period from long COVID.
Persistent COVID-19 symptoms in a community study of 606,434 people in England	<i>Nat Commun</i>	Authors use data from rounds 3–5 of the REACT-2 study (n = 508,707; September 2020 – February 2021), a representative community survey of adults in England, and replication data from round 6 (n = 97,717; May 2021) to estimate the prevalence and identify predictors of persistent

(Whitaker et al)		symptoms lasting 12 weeks or more; and unsupervised learning to cluster individuals by reported symptoms. At 12 weeks in rounds 3–5, 37.7% experienced at least one symptom, falling to 21.6% in round 6. Female sex, increasing age, obesity, smoking, vaping, hospitalisation with COVID-19, deprivation, and being a healthcare worker are associated with higher probability of persistent symptoms in rounds 3–5, and Asian ethnicity with lower probability.
Detection of Male Hypogonadism in Patients with Post COVID-19 Condition (Yamamoto et al)	<i>J Clin Med</i>	Authors set up an outpatient clinic specializing in long COVID in February 2021 and have been investigating post COVID-19 condition. A retrospective analysis was performed for 39 male patients in whom serum free testosterone (FT) levels were measured out of 61 male patients who visited the clinic. Among the 39 patients, 19 patients (48.7%) met the criteria for late-onset hypogonadism. Symptoms including general fatigue, anxiety, cough and hair loss were more frequent in LOH group than in non-LOH group. Blood hemoglobin level was slightly, but significantly, lower in the LOH group. Serum level of FT was positively correlated with levels of blood hemoglobin and serum total protein and albumin in total population, whereas these interrelationships were blurred in LOH group.
SingStrong-A singing and breathing retraining intervention for respiratory and other common symptoms of long COVID: A pilot study (Cahalan et al)	<i>Can J Respir Ther</i>	Study evaluated a breathing retraining and singing programme to address common long COVID symptoms in 21 participants who completed at least 10 classes. Participants showed significant pre-post-intervention improvements in all breathlessness symptoms, fatigue, usual activities, and pain/disability.
Clustering analysis reveals different profiles associating long-term post-COVID symptoms, COVID-19 symptoms at hospital admission and previous medical co-morbidities in previously hospitalized COVID-19 survivors (Fernández-de-Las-Peñas et al)	<i>Infection</i>	Aim was to identify subgroups of COVID-19 survivors exhibiting long-term post-COVID symptoms according to clinical/hospitalization data by using cluster analysis in order to foresee the illness progress and facilitate subsequent prognosis. Anxiety/depressive levels and sleep quality were assessed with the Hospital Anxiety and Depression Scale and Pittsburgh Sleep Quality Index, respectively. Cluster analysis was used to identify groupings of COVID-19 patients without introducing any previous assumptions, yielding three different clusters associating post-COVID symptoms with acute COVID-19 symptoms at hospital admission. The identified subgrouping may reflect different mechanisms which should be considered in therapeutic interventions.
Reduced Cell Surface Levels of C-C Chemokine Receptor 5 and Immunosuppression in Long Coronavirus Disease 2019 Syndrome (Gaylis et al)	<i>Clin Infect Dis</i>	In an exploratory trial treating "long COVID" with the CCR5-binding antibody leronlimab, authors observed significantly increased blood cell surface CCR5 in treated symptomatic responders but not in nonresponders or placebo-treated participants. These findings suggest an unexpected mechanism of abnormal immune downmodulation in some persons that is normalized by leronlimab.
[A new challenge: post-COVID syndrome in teenagers] (Perrin et al)	<i>Rev Med Suisse</i>	In this specialized consultation for pediatric post-COVID syndrome, authors offer a global and multidisciplinary follow-up to patients and their families, supporting them progressively resuming physical and mental activity, and pursuing school attendance to avoid dropout.

<p>Persistent Lung Injury and Prothrombotic State in Long COVID (Xiang et al)</p>	<p><i>Front Immunol</i></p>	<p>Aim of study is to investigate the basis of pulmonary susceptibility during sequelae and the possibility that prothrombotic states may influence long-term pulmonary symptoms of COVID-19. Considering the important role of microthrombus and arteriovenous thrombus in the process of pulmonary functional lesions to organic lesions, authors further study the possibility that prothrombotic states, including pulmonary vascular endothelial cell activation and hypercoagulability, may affect long-term pulmonary symptoms in long COVID. Early use of combined anticoagulant and antiplatelet therapy is a promising approach to reduce the incidence of pulmonary sequelae.</p>
<p>The Relationship between Physical Activity and Long COVID: A Cross-Sectional Study (Wright et al)</p>	<p><i>Int J Environ Res</i></p>	<p>The relationship between long COVID symptoms and physical activity (PA) levels are unclear. In this cross-sectional study, authors examined this association, and the advice that individuals with LC received on PA. New Zealand physical activity questionnaire short form (NZPAQ-SF) was adapted to capture current and pre-COVID-19 PA levels and activities of daily living (ADLs). Participants reported how PA affected their symptoms, and what PA advice they had received; 477 participants completed the survey. Participants reported the effect of PA on LC symptoms as: worsened (74.84%), improved (0.84%), mixed effect (20.96%), or no effect (28.72%). Research is needed to understand how to safely return to PA without worsening LC symptoms.</p>

*Note: Content may have been published prior to this scan period but was only available through applying our search strategies during this period.

COMMENTARIES, LETTERS AND OPINION PIECES (APR 23-MAY 6)

- [Caring for the carers: understanding long COVID in our diverse healthcare workforce \(BMJ\)](#): Healthcare workers may also be more likely than the general population to be affected by long COVID, with a disproportionate burden among ethnic minorities. A wide range of nationally funded research studies have been initiated in the UK to better understand the long term impact of SARS-CoV-2 infection on physical and mental health, and how to enhance the diagnosis and treatment of long COVID. However, these studies have largely, to date, focused on the general population, with a critical gap in research on long COVID among healthcare workers, and ethnic minority groups in particular. Research looking at the prevalence of long COVID among healthcare workers will be vital in generating key recommendations and personalised interventions for addressing social and health inequities.
- [Long COVID: aiming for a consensus \(The Lancet\)](#): There are concerns about differences in terminology, with some public health experts and policy makers avoiding the term long COVID. The use of different terms can raise worries, especially among those with lived experience of the condition who originally coined the term long COVID. Many issues have been raised by patient-researchers and other adopters of the term. One issue is epistemic injustice in medicine, including the poor recognition of patient-led expertise. Patient perspectives emphasise the tradition in medical history that those who first identify and describe a condition, name it. In the case of long COVID, it was people with lived experience of it who brought it to the world's attention and described it via a wide range of methods. The first publication on prolonged symptoms of COVID-19 was authored by patient-researchers with long COVID, later known as the Patient-Led Research Collaborative. Another issue is that the severity, features, and urgency of long COVID—as highlighted by patients—are not fully addressed within the framework of other terms and definitions.

MEDIA HIGHLIGHTS (APR 23-MAY 6)

CANADA

- [Public health agency to assess how many Canadians struggle with long COVID \(Globe and Mail\)](#): Federal agencies are trying to get a handle on how many Canadians may be suffering from long COVID as researchers learn more about the mysterious after-effects of the virus. PHAC and Statistics Canada have launched a survey to try to get a broad idea of how common it is for people to feel lingering effects after COVID-19 infection, which can be difficult to identify and even harder to track. “We probably anticipate that the impact of long COVID is going to be quite substantial,” Dr. Tam said at a media briefing.
- [Racial bias in Canada’s health care system makes diagnosing long COVID even more challenging, experts say \(Globe and Mail\)](#): Black, South Asian and Indigenous people have made up the largest proportions of cases of COVID-19 and COVID-related hospitalizations in many parts of the country, and some researchers theorize that these groups also have higher rates of long COVID. But without a lab test to diagnose the syndrome, and with barriers to treatment among racialized and immigrant communities, advocates worry that studies into long COVID may be leaving out the people who are suffering the most.

GLOBAL

- [The Children Left Behind by Long COVID \(Bloomberg\)](#): Estimates of the number of children who face long-term symptoms are far from precise, but they probably range from 5% to 10% of those infected with the virus, says Daniel Griffin, an infectious diseases expert at Columbia University. Even at the lower end of the estimates, that translates to more than a half-million children of the 13 million so far infected. (Studies of infected adults indicate that an estimated 10% to 30% may have long COVID. There isn’t much known about who gets long COVID or why, which puts it in a frustrating category of mysterious illnesses that occur after infections such as Lyme disease or mononucleosis.
- [COVID Drug Paxlovid Might Also Fight Long COVID \(US News\)](#): A series of case reports from researchers at the University of California, San Francisco (UCSF) shows some success with Paxlovid in treating patients with long COVID. One-third of people infected with the coronavirus are thought to develop symptoms such as fatigue, headaches and brain fog associated with long COVID. Paxlovid has U.S. FDA emergency use authorization to treat COVID-19 patients who are older than 65 or have underlying health conditions such as obesity, diabetes or cancer. The pill includes the antivirals nirmatrelvir and ritonavir.

POST COVID-19 CONDITION RESOURCES

- **(NEWLY ADDED)** [PASC Guide \(University of Michigan\)](#): A resource for people with PASC/long COVID.
- [Health Education England \(HEE\) e-learning modules: long COVID programme](#)
- [Voices of Long COVID \(US\)](#): Voices of Long Covid campaign features testimonials from a diverse group of people ages 18-29 who are suffering from long-term complications of COVID-19 infection.
- [Dignity Health \(US\)](#): COVID-19 and Chronic Illness Recovery Program based in the U.S. has helped over 2,000 people struggling with COVID long-term effects ("COVID long haulers"). Treatment is exercise-based for lingering or long-term conditions (sequelae) from having the virus.
- [Altea \(Switzerland\)](#): A network for sharing evidence-based information on the long-term effects of COVID-19.
- [Pandemic-Aid Networks](#): Long COVID research library.
- [Post-COVID-19 Functional Status Scale](#): An overview of a patient self-reported scale that helps to support assessment of functional status and recovery after the SARS-CoV-2 infection.
- Ontario College of Family Physicians: [Resources on Post-COVID Condition](#).
- [Agency for Clinical Innovation \(Australia\)](#): Living Evidence - post acute sequelae of COVID-19.
- Pre-populated literature searches: [Long COVID search](#) (LitCovid) and [Long COVID search](#) (NIH)
- [PAHO](#) Webinar Series on Post COVID-19 Condition launched 17 February, 2022, from 10:30 am to 12:30 pm (EST).

- [Body Politic COVID-19 Support Group \(Global\)](#): Housed on the Slack app, group members have access to dozens of different channels, which give space for more personal discussion. Some of the channels include those specifically for medical professionals, parents of children with Covid-19, LGBTQ+ individuals, BIPOC+, and different regions around the world.
- [Patient-Led Research Collaborative \(Global\)](#): Self-organized group of Long COVID patients working on patient-led research around the Long COVID experience.
- [British Heart Foundation \(UK\)](#): UK-based foundation with resources on long COVID.
- [COVID Long Haul \(Canada\)](#): Canada's largest online platform for COVID survivors, their family members and anyone searching for the most up-to-date information about the pandemic. There is a COVID long-haulers [support group](#) and a [Report on Pan-Canadian Long COVID Impact Survey \(PDF\) \(June 2021\)](#)
- [BC ECHO for Post-COVID-19 Recovery \(Canada\)](#): BC ECHO for Post-COVID-19 Recovery is a learning community of specialists and community health-care providers who use case-based learning to improve care for those recovering from [symptoms post-COVID-19](#).
- [Long Covid Support \(UK\)](#): Peer support and advocacy group aiming to facilitate international peer support and campaigning in the UK for recognition, rehabilitation and research into treatments.
- [Long COVID SOS \(UK\)](#): Long-term sufferers formed the LongCovidSOS campaign to put pressure on the UK government to recognise the needs of those with Long Covid, and to raise awareness among the general public and employers.
- [Survivor Corps \(US\)](#): One of the largest and fastest growing grassroots movements connecting, supporting, and mobilizing COVID-19 Survivors to support research. They have a [list](#) of Post-COVID Care Centers (PCC) and a PCCC Best Practices [Guide](#).
- [The Center for Chronic Illness \(US\)](#): Aims to promote well-being and decrease isolation for those impacted by chronic illness through support and education. Their online support groups are professionally-facilitated and offer psychoeducational tools for coping.
- [Blooming Magnolia \(US\)](#): Mission is to empower others by providing a platform to strengthen & protect mental health and support those afflicted with Long-Covid through education and funding of therapeutic research. They have a list of support groups and resources on their website.
- [Long COVID Alliance \(US\)](#): US-based network of patient-advocates, scientists, disease experts, and drug developers who have joined together to leverage their collective knowledge and resources to educate policy makers and accelerate research to transform our understanding of post-viral illness.
- [Long COVID Kids \(UK/US/Canada\)](#): Parent & patient led advocacy & support group based in the UK.
- [Long COVID Physio \(US & UK\)](#): International peer support, education and advocacy group of Physiotherapists living with Long COVID, founded in November 2020 by Physiotherapists living with Long COVID from the UK and US.
- [Patient-Led Research Collaborative \(Global\)](#): Group of Long COVID patients working on patient-led research around the Long COVID experience.
- [CANCOV- Patient resources \(Canada\)](#): CANCOV is a research platform grounded in a prospective longitudinal 1-year cohort study of patients infected with COVID-19.
- [COVID Patient Recovery Alliance \(CPRA\) \(US\)](#): CPRA aims to bring together leaders in business, health care, research, academia, data and analytics, and patient advocacy to develop solutions that coordinate diverse data sources, inform models of care, and ensure adequate payment for long-COVID patients. Their [report](#) outlines recommendations for federal policymakers to promote recovery.
- [British Lung Foundation \(UK\)](#): UK-based charity sharing resources on navigating the NHS, breathlessness support, movement and energy support for long COVID patients.
- [Living with Long COVID \(US\)](#): COVID-19 Long-Haulers and Post-COVID Support Community.

Note: Previous OCSO Post COVID-19 Condition Scans can be found [here](#).