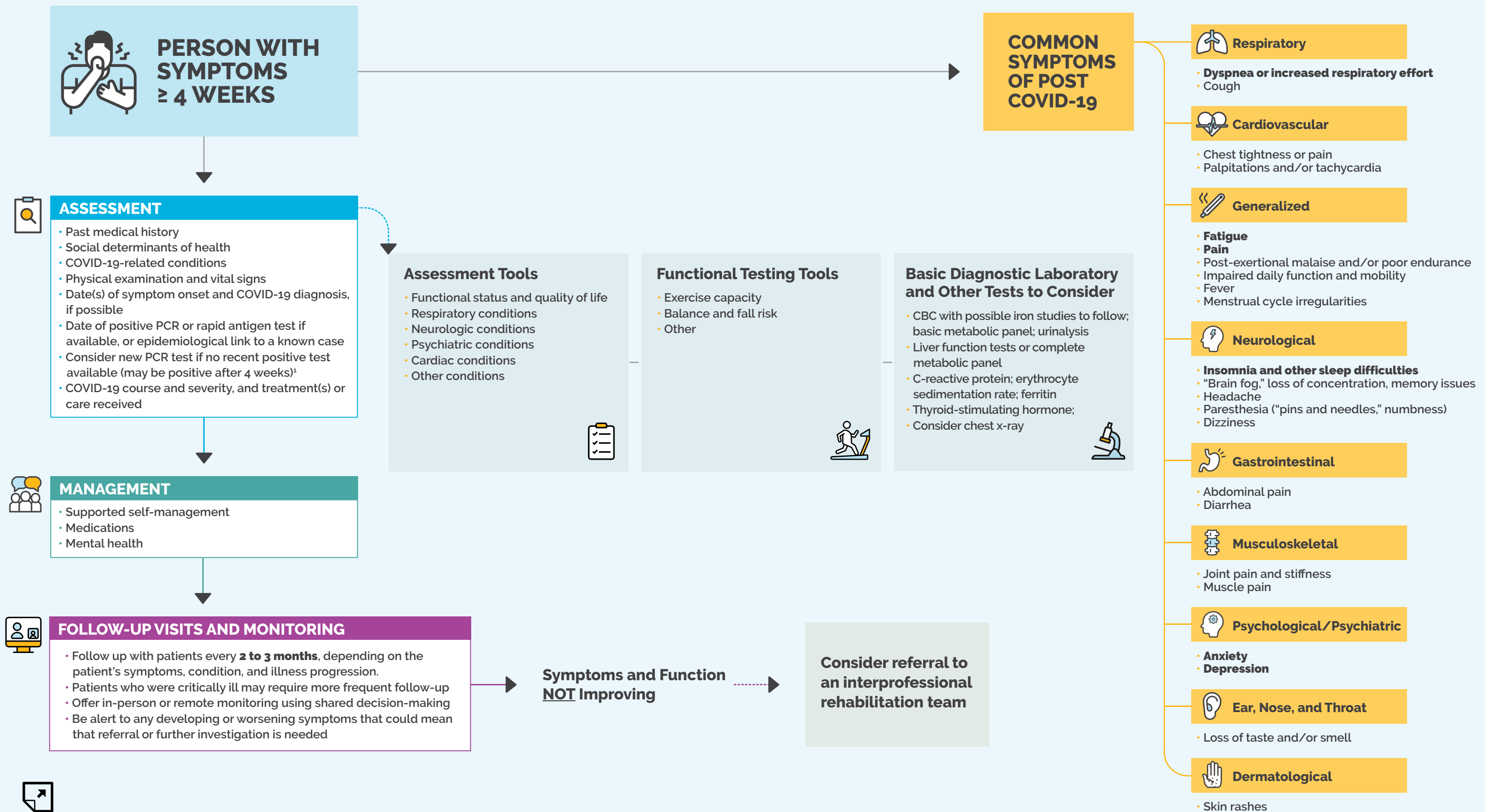


# Post COVID-19 Condition: Guidance for Primary Care



# Assessment and Management of the Post-COVID-19 Condition

Content adapted from Centers for Disease Control and Prevention Interim Guidance<sup>2</sup>



## Background

Many post-COVID-19 conditions can be diagnosed and managed by primary care providers. This document provides information about the diagnosis, assessment, management, and referral of adults with symptoms related to the post-COVID-19 condition. More than 200 symptoms, signs, and laboratory parameters have been identified for the post-COVID-19 condition.<sup>3</sup> The most common include fatigue, shortness of breath, pain, sleep disturbances, anxiety, and depression.

The guidance provided is based on individual medical expert opinion and the best currently available data at that time. Because our understanding of the post-COVID-19 condition is likely to evolve rapidly with ongoing research, clinical guidance will likely change over time.

## Definitions

The post-COVID-19 condition (or long COVID) describes a range of symptoms that can persist for months after severe, mildly symptomatic, or asymptomatic SARS-CoV-2 infection.<sup>3</sup>

## Incidence

Based on the available research, about one in four people diagnosed with COVID-19 experience symptoms beyond the acute illness (4 to 5 weeks after a positive test), and about one in ten experience significant symptoms 12 weeks beyond the acute illness.<sup>4</sup> People who are not hospitalized and who have mild illness can also experience persistent symptoms and the post-COVID-19 condition.<sup>4</sup> It is estimated that 57,000 to 78,000 Ontarians have had or are currently experiencing the post-COVID-19 condition.<sup>3</sup> Vaccination is likely protective against the development of the post-COVID-19 condition.<sup>3</sup> Because the available evidence is limited, more research is needed to determine the true incidence and effects of the post-COVID-19 condition.<sup>5</sup>



## Assessment and Testing

- **Avoid over-investigation: consider a conservative diagnostic approach in the first 4 to 12 weeks following SARS-CoV-2 infection**
- **Currently, no laboratory test can definitively distinguish the post-COVID-19 condition from other conditions.** Any laboratory tests offered should be based on a patient history, physical examination, and clinical findings. For most people, symptom management and a comprehensive rehabilitation plan can be started at the same time as laboratory tests.
- Tailor tests to the person's signs and symptoms to understand if they are likely to have been caused by ongoing symptomatic COVID-19, the post-COVID-19 condition, or a new unrelated diagnosis.
- Conduct a chest x-ray by 12 weeks after diagnosis of acute COVID-19 if the person has not already had one and they have continuing respiratory symptoms. The results of a chest x-ray alone should not determine the need for referral for further care.
- Consider more specialized diagnostic testing for persistent or new respiratory or cardiac concerns in consultation with specialists.



## Selected Assessment Tools

### Functional Status and Quality of Life

- Patient-Reported Outcomes Measurement Information System (PROMIS; e.g., Cognitive Function 4a)
- [Post-COVID-19 Functional Status \(PCFS\) scale](#)
- EQ-5D

### Respiratory Conditions

- [Modified Medical Research Council dyspnea scale](#) (mMRC)

### Neurologic Conditions

- [Montreal Cognitive Assessment](#) (MoCA)
- [COMPASS-31](#) (for dysautonomia)
- Mini Mental State Examination (MMSE)
- [Neurobehavioral Symptom Inventory](#)

### Psychiatric Conditions

- [General Anxiety Disorder-7](#) (GAD-7)
- [PTSD Checklist for DSM-5](#) (PCL-5)
- [Patient Health Questionnaire-g](#) (PHQ-g)
- Impact of Event Scale-Revised (IES-R)
- PTSD Symptom Scale (PSS)
- [Hospital Anxiety and Depression Scale](#) (HADS)

### Other Conditions

- Wood Mental Fatigue Inventory (WMFI)
- [Fatigue Severity Scale](#)
- [Insomnia Severity Index](#) (ISI)
- Connective Tissue Disease Screening Questionnaire



## Functional Testing Tools

### Exercise Capacity

- 1-minute sit-to-stand (STS) test
  - Patient is encouraged to transition from sitting to standing as many times as possible in 1 minute without the use of upper extremities (if possible)
  - A fall in oxygen saturation of  $\geq 5\%$  or below 90% for people without known lung pathology (88% with known lung pathology) is considered abnormal<sup>6</sup>
- 2-minute step test
- 10 Meter Walk Test (10MWT)
- 6-minute walk

### Balance and Fall Risk

- Berg Balance Scale
- [Tinetti Gait and Balance Assessment Tool](#)

### Other

- Tilt-table testing (e.g., for postural orthostatic tachycardia syndrome)
- [Orthostatic heart rate assessment](#)

## Past Medical History

### Conditions that could affect the severity of COVID-19 disease

- Asthma
- Allergies
- Chronic obstructive pulmonary disease
- Interstitial lung disease
- Chronic kidney disease
- Diabetes mellitus
- Obesity
- Sleep disorders
- Previous autoimmune disease
- Mood disorder (e.g., anxiety or depression)
- Trauma and stressor-related disorders (e.g., adjustment disorder or post-traumatic stress disorder)
- Hypertension
- Migraine
- Fibromyalgia or chronic fatigue

## Social Determinants of Health

### Consider the following, and refer to local services where available:

- Social supports and isolation
- Loss of income
- Food insecurity
- Barriers to accessing health care
- Substance use disorder (screen if appropriate)

## Diagnosis of COVID Related Conditions

Consider a broad range of possible post-COVID-19 conditions. These could be present prior to a COVID-19 diagnosis and be unmasked by the disease or caused more directly by SARS-CoV-2 infection.

- Cardiovascular: myocarditis, heart failure, pericarditis, orthostatic intolerance (e.g., postural orthostatic tachycardia syndrome)
- Pulmonary: interstitial lung disease, reactive airway disease
- Renal: chronic kidney disease
- Dermatologic: alopecia
- Rheumatologic: reactive arthritis, fibromyalgia, connective tissue disease
- Endocrine: diabetes mellitus, hypothyroidism
- Neurologic: transient ischemic attack or stroke, olfactory and gustatory dysfunction, sleep dysregulation, altered cognition, memory impairment, headache, weakness, neuropathy
- Psychiatric: depression, anxiety, post-traumatic stress disorder, psychosis
- Hematologic: pulmonary embolism, arterial thrombosis, venous thromboembolism, other hypercoagulability
- Urologic: incontinence, sexual dysfunction

## Physical Examination and Vital Signs

- Because multiple organ systems may be involved, a thorough physical examination should be completed
- Standard vital signs: blood pressure, heart rate, respiratory rate, pulse oximetry, body temperature, body mass index
- Ambulatory pulse oximetry for people with respiratory symptoms, fatigue, or malaise
- Orthostatic vital signs for people with postural symptoms, dizziness, fatigue, cognitive impairment, or malaise



## Management

### Supported Self-Management

- Advise the person that post-COVID-19 conditions are not yet well understood and that support will continue to be provided as new information emerges
- Develop a comprehensive management plan based on presenting symptoms, underlying medical and psychiatric conditions, personal and social situations, and realistic treatment goals
- A conservative physical rehabilitation plan might be indicated for some people with post-exertional malaise; cautious initiation of exercise and recommendations about pacing may be useful. If there is a risk of falls, advise the person not to exercise alone
- Patient diaries and calendars might be useful for documenting changes in health conditions and symptom severity, and for identifying potential triggers such as exertion (physical and cognitive), foods, menstruation, and treatments or medications
- Symptom-management approaches that have been helpful for other conditions such as myalgic encephalomyelitis/chronic fatigue syndrome, fibromyalgia, post-treatment Lyme disease syndrome, dysautonomia, and mast cell activation syndrome may also benefit some people with the post-COVID-19 condition
- Provide referrals or information about how to access support from other services, including home care, housing, employment, and financial support
- Provide health-promotion education and support (nutrition including vitamin D and B12 intake, physical activity, sleep, stress, chronic disease management)
- Consider referral to a relevant specialist or interprofessional rehabilitation team on the initial visit if symptoms are moderate to severe or worsening

### Medications

- Treat fever as needed; acetaminophen is preferable to NSAIDs because of their cardiovascular risks
- Medications may be helpful for indicated symptoms or illnesses (e.g., headache or anxiety)
- Ask about people's use of supplements, herbal remedies, or other treatments

### Mental Health Supports

- Refer to community mental health services as appropriate
- Consider the mental health needs of caregivers as well

## Referral to Interprofessional Rehabilitation Teams

- Any time from 4 weeks after the onset of acute COVID-19 illness
- A list of post-COVID-19 condition rehabilitation programs in Ontario can be found [here](#).
- The [Post-COVID-19 Functional Status scale](#) can be used to guide referral to interprofessional rehabilitation programs for the post-COVID-19 condition:
  - A PCFS score of 3 or 4
  - A PCFS score of 2, but with symptoms persisting 8 weeks or more after SARS-CoV-2 infection

## Other Resources

- [Rehabilitative Care Alliance Post COVID-19 Condition Resources](#)
- [Answers to Frequently Asked Questions about Long COVID](#) (Ontario College of Family Physicians)
- [Assessment, Monitoring and Management of COVID](#) (care pathway, [Hamilton Family Medicine](#))
- [Rehabilitation for Clients with Post COVID-19 Condition \(Long COVID\)](#) (Canadian Physiotherapy Association)
- [COVID-19 Rapid Guideline: Managing the Long-Term Effects of COVID-19](#) (National Institute for Health and Care Excellence, UK, 2020)

## Patient Resources

- [CANCOV Patient Resources](#) (breath, fatigue, pacing)
- [COVID-19 Resources for Patients and Families](#) (University Health Network)
- [COVID Long-Haulers Canada](#) (Patient support and advocacy group)

## References

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