Post COVID-19 Condition: Guidance for Primary Care

PERSON WITH SYMPTOMS ≥ 4 WEEKS

ASSESSMENT
- Past medical history
- Social determinants of health
- COVID-19-related conditions
- Physical examination and vital signs
- Date(s) of symptom onset and COVID-19 diagnosis, if possible
- Consider new PCR test if no recent positive test available (may be positive after 4 weeks)
- COVID-19 course and severity, and treatment(s) or care received

FUNCTIONAL TESTING TOOLS
- Exercise capacity
- Balance and fall risk
- Other

FUNCTIONAL STATUS AND QUALITY OF LIFE
- Respiratory conditions
- Cardiac conditions
- Other conditions

ASSESSMENT TOOLS
- Basic diagnostic laboratory and other tests to consider
  - CBC with possible iron studies to follow; basic metabolic panel; urinalysis
  - Liver function tests or complete metabolic panel
  - C-reactive protein; erythrocyte sedimentation rate; ferritin
  - Thyroid-stimulating hormone; TSH
  - Consider chest x-ray

MANAGEMENT
- Supported self-management
- Medications
- Mental health

FOLLOW-UP VISITS AND MONITORING
- Follow up with patients every 2 to 3 months, depending on the patient’s symptoms, condition, and illness progression.
- Patients who were critically ill may require more frequent follow-up.
- Offer in-person or remote monitoring using shared decision-making.
- Be alert to any developing or worsening symptoms that could mean that referral or further investigation is needed.

COMMON SYMPTOMS OF POST COVID-19
- Respiratory
  - Dyspnea or increased respiratory effort
  - Cough
- Cardiovascular
  - Chest tightness or pain
  - Palpitations and/or tachycardia
- Generalized
  - Fatigue
  - Pain
  - Post-exertional malaise and/or poor endurance
  - Impaired daily function and mobility
  - Fever
  - Menstrual cycle irregularities
- Neurological
  - Insomnia and other sleep difficulties
  - “Brain fog,” loss of concentration, memory issues
  - Headache
  - Paresthesia (“pins and needles,” numbness)
  - Dizziness
- Gastrointestinal
  - Abdominal pain
  - Diarrhea
- Musculoskeletal
  - Joint pain and stiffness
  - Muscle pain
- Psychological/Psychiatric
  - Anxiety
  - Depression
- Ear, Nose, and Throat
  - Loss of taste and/or smell
- Dermatological
  - Skin rashes

Consider referral to an interprofessional rehabilitation team

Symptoms and Function NOT Improving

See next page for more information

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Assessment and Management of the Post-COVID-19 Condition

Content adapted from Centers for Disease Control and Prevention Interim Guidance

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. 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.

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. People who are not hospitalized and who have mild illness can also experience persistent symptoms and the post-COVID-19 condition. It is estimated that 57,000 to 78,000 Ontarians have had or are currently experiencing the post-COVID-19 condition. Vaccination is likely protective against the development of the post-COVID-19 condition. Because the available evidence is limited, more research is needed to determine the true incidence and effects of the post-COVID-19 condition.

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)
• EQ-5D

Respiratory Conditions
• Modified Medical Research Council dyspnea scale (mMRC)

Neurologic Conditions
• Montreal Cognitive Assessment (MoCA)
• Mini Mental State Examination (MMSE)

Psychiatric Conditions
• General Anxiety Disorder (GAD-7)
• Patient Health Questionnaire-9 (PHQ-9)
• PTSD Symptom Scale (PSS)

Screen for Posttraumatic Stress Symptoms (SPTSS)
• PTSD Checklist for DSM-5 (PCL-5)
• Impact of Event Scale-Revised (IES-R)
• Hospital Anxiety and Depression Scale (HADS)

PTSD Symptom Scale (PSS)

Other Conditions
• Wood Mental Fatigue Inventory (WMFI)
• Fatigue Severity Scale

Functional Testing Tools

Exercise Capacity
• 1-minute sit-to-stand (STS) 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, hyperthyroidism
- Neurologic: transient ischemic attack or stroke, ophthalmic 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
- Urogenital: 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, 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
- 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
- Rehabilitation 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, College Family Medicine)
- Rehabilitation for Clients with Post COVID-19 Condition (Canadian Physiotherapy Association)

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