

# Long COVID in Adults

A summary of guidance for **diagnosing, and assessing and treating common potentially modifiable symptoms of long COVID**, based on a series of papers by Drs. Kieran Quinn, Fahad Razak and Angela M. Cheung published in the **CMAJ** (Canadian Medical Association Journal) on January 17, 2023.

## Diagnosing

- Symptoms that linger beyond 3 months of a probable or confirmed COVID infection, which last at least 2 months and cannot be explained by an alternative diagnosis (WHO case definition)
- 15% of adults in Canada with suspected or confirmed infection affected (about 1.4 million people):
  - ✓ females more likely than males
  - ✓ high global prevalence early in the pandemic (43%) – 54% among those admitted to hospital versus 34% for those not admitted; prevalence may be significantly lower now due to high vaccination rates, therapies and less virulent variants, resulting in less severe disease overall
- Systemic with several contributory mechanisms, including cellular damage, persistent inflammation or viremia, autoimmunity and a procoagulant state
- Affects most organ systems in the body
  - ✓ substantial effects on daily well-being and functioning
  - ✓ more than 100 symptoms reported
  - ✓ female sex may be independent risk factor
  - ✓ common potentially modifiable symptoms: fatigue, anxiety and depression, dyspnea, sleep disturbances, palpitations
- Many have lingering symptoms that limit daily activities

## Assessing and Treating Common Potentially Modifiable Symptoms

### **Fatigue and Post-exertional Malaise**

- **ASSESS:** Assess fatigue (most common symptom in long COVID)
  - ✓ assess for frequency, severity, duration, impact, and alleviating and exacerbating factors (physical, cognitive and psychological), sleep hygiene and effect on daily activities
  - ✓ rule out other causes by a comprehensive history, physical exam and routine bloodwork
- **TREAT:** Fatigue and post-exertional malaise: titrated structured activity and energy conservation strategies
  - ✓ structured and symptom-guided return to activity program tailored to severity of fatigue
  - ✓ '4Ps' framework – pacing, prioritizing or postponing activities, positioning, i.e., modifying activities to make them easier to perform, and planning

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## **Anxiety and Depression**

- **ASSESS:** Screen for symptoms of anxiety and depression (common in long COVID)
  - ✓ validate psychological experience
  - ✓ explore isolation, stress and underlying drivers of psychological symptoms
- **TREAT:** Mental health complications (anxiety, depression and posttraumatic stress disorder are among the most common mental health manifestations of long COVID): guideline-directed use of psychosocial interventions and medications

## **Dyspnea**

- **ASSESS:** Assess dyspnea on exertion – explore physical exam and oxygen saturation monitoring during a walk test
  - ✓ dyspnea may be due to weak respiratory muscles and cardiac or noncardiac diseases in people with normoxia and mild acute illness
  - ✓ limited routine investigations, pulmonary function and natriuretic peptide tests to differentiate people with post-viral reactive airway disease from weak respiratory muscles and cardiac disease
  - ✓ for more severe dyspnea requiring specific investigations, such as chest radiograph, echocardiography and a 6-minute walk test
- **TREAT:** Dyspnea: breathing exercises, body positioning and pulmonary rehabilitation
  - ✓ for mild dyspnea, pursed lip or deep breathing exercises may improve symptoms
  - ✓ persistent hypoxemia is not a common manifestation of long COVID

## **Sleep Disturbances**

- **ASSESS:** Explore sleep pattern, duration, quality, frequency of awakenings and whether patient feels refreshed after waking
  - ✓ special attention to use of alcohol, cannabis, caffeine and sleep medications
  - ✓ severe acute illness may warrant a sleep study – need for supplemental oxygen owing to nocturnal hypoxemia reported in 6.6% of people admitted to hospital 60 days after acute COVID-19, which may persist beyond 90 days
- **TREAT:** counselling on sleep hygiene, relaxation techniques and stimulus control
  - ✓ may be a result of COVID infection or the negative effects of the pandemic
  - ✓ can be managed using cognitive behavioural therapy or one of the following medications available in Canada: eszopiclone, zolpidem or doxepin

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## Palpitations

- **ASSESS:** Investigate palpitations – including orthostatic vital signs and a 12-lead electrocardiogram
  - ✓ cardiac dysautonomia has been associated with long COVID
  - ✓ postural orthostatic tachycardia syndrome can be diagnosed with orthostatic vital signs and 10-minute stand test
  - ✓ holter monitoring may help distinguish inappropriate sinus tachycardia (the most common arrhythmia associated with long COVID) from other arrhythmias
- **TREAT:** Palpitations and tachycardia with particular causes: treat according to specific existing guidelines
  - ✓ current recommendations for treatment of inappropriate sinus tachycardia and postural orthostatic tachycardia syndrome include behavioural modifications, oral fluids, salt, compression stockings, beta blockers, ivabradine and midodrine

## Sources:

- *Diagnosing post-COVID-19 condition (long COVID) in adults*  
[www.cmaj.ca/lookup/doi/10.1503/cmaj.220818](http://www.cmaj.ca/lookup/doi/10.1503/cmaj.220818)
- *Assessing common and potentially modifiable symptoms of post-COVID-19 condition (long COVID) in adults*  
[www.cmaj.ca/lookup/doi/10.1503/cmaj.220823](http://www.cmaj.ca/lookup/doi/10.1503/cmaj.220823)
- *Treating common and potentially modifiable symptoms of post-COVID-19 condition (long COVID) in adults*  
[www.cmaj.ca/lookup/doi/10.1503/cmaj.220824](http://www.cmaj.ca/lookup/doi/10.1503/cmaj.220824)