

Long COVID

Long COVID is the persistence of symptoms 12 weeks or more from a SARS-CoV-2 (COVID-19) viral infection. About 5-10 percent of people in Australia contacting acute COVID-19 infections experience prolonged symptoms that are not explained by any other condition. There is growing evidence that the risk of long COVID has been lower with the Omicron wave compared to earlier variants.

Early identification is important; however, there are currently no known specific treatments for long COVID. Optimising existing or newly diagnosed conditions will benefit those with long COVID.

Definition

The World Health Organization defines long COVID as a “condition that 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.”

Some people may have prolonged acute symptoms for an extended period of time. This is not the same as long COVID.

Risk factors

Known risk factors for long COVID include:

- Older age
- Severe acute COVID disease (requiring hospitalisation)
- More than five acute symptoms
- Female gender
- Comorbid disease, including diabetes, hypertension, obesity, COPD and asthma
- History of cancer

Obesity and smoking increase the risk of developing long COVID.

Symptoms

Long COVID symptoms can affect almost any part of the body. There are over 200 different long COVID symptoms. Symptoms may be constant or fluctuate, and be mild or severe.

Fatigue, dyspnoea, persistent cough, headache, myalgia and cognitive dysfunction are common long COVID symptoms. Fatigue may be physical such as after activity, mental or cognitive ('brain fog') or social (after social interactions).

Other symptoms may include worsening mental health, insomnia, and 'brain fog'. 'Brain fog' is common, with complaints of executive dysfunction (difficulty maintaining concentration and performing complex tasks), and problems with attention, working memory and word-finding difficulties. Post-exertional malaise and exercise intolerance are common.

Less common symptoms include loss of smell or taste, sore throat, sneezing, tinnitus, visual disturbances, skin rashes and hair loss.

Symptoms of postural orthostatic tachycardia syndrome (POTS) have been recognised now. This autonomic dysfunction presents as an abnormal increase in heart rate after standing up. It is also associated with lightheadedness, palpitations and fatigue.

Ongoing inflammation can lead to a progressive decline in kidney function over many months. COVID-19 has been linked to the development of new onset diabetes and exacerbation of pre-diabetes.

Red flag symptoms, requiring immediate medical attention include:

- acute deterioration in cognitive function
- chest discomfort, tightness or pain
- breathlessness (dyspnoea) at rest
- syncope
- suicidal ideation

Assessment

Extensive investigations tests may be required in some to confirm the diagnosis. These may include electrolytes, full blood count, iron studies, kidney and liver function tests, vitamin D, and thyroid studies. In those with dyspnoea or chest pain, an ECG and chest x-ray, creatine kinase, troponin and D-dimer tests may be necessary. Other assessments can help track common symptoms, including:

- mMRC dyspnoea scale (breathlessness severity)
- FACIT-F scale (fatigue severity)
- MOCA (cognitive impairment)
- HADS (mood)
- Epworth Sleepiness Score (hypersomnolence)

Management

Two vaccination doses could reduce the risk of long COVID. Vaccination may also be effective in preventing long COVID in people who have already had COVID-19. Early use within 5 days of onset of infection of oral antivirals (Paxlovid, Lagevrio) protects against long COVID.

Fatigue is a very common symptom at 3 months and requires a multifaceted approach to management. Energy conservation is an effective way to manage fatigue. Referral to allied health professionals including physiotherapists, psychologists, occupational therapist and dietitians may be required. Pharmacists can conduct a residential medication management review (RMMR).

Changes to sleep patterns may occur with long COVID. Sleep hygiene measures should be targeted to the particular sleep problem; whether, difficulty falling asleep, waking up throughout the night, waking up and not being able to get back to sleep, or waking up and not feeling refreshed. Melatonin may help with sleep disturbances.

Long COVID is an inflammatory condition that may cause muscle pain or weakness. Paracetamol or non-steroidal anti-inflammatory drugs (NSAIDs) may help, depending on other underlying conditions or drug interactions.

Cognitive dysfunction occurs in almost 30% of people with long COVID. Cognitive screening with (Mini Mental State Examination) MMSE or (Montreal Cognitive Assessment) MoCA tools may be indicated, and useful to compare to pre-infection cognitive status. A medication review may identify any medications known to affect cognition ie anticholinergic agents.

Breathlessness or dyspnoea affects about 25% of people with long COVID. Lung function tests (spirometry) may be necessary in people with pre-existing conditions such as asthma or COPD, or if symptoms persist. Pulmonary rehabilitation programs can be helpful with breathing exercises and pacing. Pacing skills and management of breathlessness will help with the distress of breathlessness. Relaxation techniques, paced breathing, and purse lip breathing are all useful interventions. Sitting forward or resting against a chair or on a table can reduce the effort of breathing.

A persistent cough may be wet or dry. Adequate hydration and drink warm honey can help a dry cough. Cough suppressants may be helpful, noting that all pholcodine cough suppressants have recently been withdrawn from the market.

Cardiovascular symptoms such as chest pain, heart palpitations or autonomic dysfunction may require referral to a cardiologist. Beta-blockers and increasing salt intake may be used for POTS.

Probiotics may help gastrointestinal symptoms.

Mood disorders occur in about 1 in 10 patients with long COVID. A Mental Health Care Plan and supportive counselling with psychologists should be considered.

Long-term management

Many people experiencing long COVID will have a slow reduction of symptoms over time, generally between 3 and 6 months. Symptom diaries may be supportive in the early stages. Natural recovery occurs in up to 80% of those who have had COVID. Long COVID should be treated as a chronic disease, with appropriate medication management and lifestyle interventions.

References

- Australian Institute of Health and Welfare (2022) Long COVID in Australia – a review of the literature.*
- WHO (World Health Organization) (2021) Coronavirus disease (COVID-19): post COVID-19 condition.*
- Long COVID: major findings, mechanisms and recommendations. Nature, January 2023.*

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