

What is post-COVID-19 or long COVID?

Post-COVID-19, also known as long COVID, describes the symptoms that arise in some people in the weeks or months following a SARS-CoV-2 infection. A range of symptoms have been reported in both adults and children, with variation in the duration of symptoms and clinical history. Post-COVID-19 symptoms may be experienced by people who had either mild, moderate or severe COVID-19. Some symptoms subside gradually with self-directed care alone, while other symptoms may require care from a health professional, and new symptoms may arise over time.

The term 'Post-COVID-19' can be used to describe two things:

1. The ongoing symptoms that a person may have after the acute infection has passed;

AND/OR

2. Post-COVID-19 condition/syndrome/post-acute COVID-19 sequelae. The World Health Organization (WHO) defines post-COVID-19 condition as occurring 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.

The most commonly used clinical definitions were developed by the WHO and the National Institute of Health Care and Excellence (NICE UK) and the Taskforce supports both these definitions of post-COVID-19.

What are common post-COVID-19 symptoms?

Post-COVID-19 can feature differently in different people. It can include one symptom, or clusters of symptoms. More than 200 symptoms have been described in the literature. The most common are:

- Fatigue
- Shortness of breath
- Cognitive dysfunction

There are also secondary symptoms such as anxiety, which may arise as a result of the primary symptoms. Symptoms may fluctuate or relapse over time. The following groups of symptoms have been reported commonly by people with post-COVID-19:

Respiratory symptoms

- Breathlessness
- Cough

Cardiovascular symptoms

- Chest tightness
- Chest pain
- Palpitations

Generalised symptoms

- Fatigue
- Fever
- Pain
- Reduced activity and functional level
- Reduced nutritional status and weight loss

Neurological symptoms

- Cognitive impairment ('brain fog', loss of concentration or memory issues)
- Headache
- Sleep disturbance
- Peripheral neuropathy symptoms (pins and needles and numbness)
- Dizziness
- Delirium (in older populations)
- Mobility impairment
- Visual disturbance

Gastrointestinal symptoms

- Abdominal pain
- Nausea and vomiting
- Diarrhoea
- Weight loss and reduced appetite

Musculoskeletal symptoms

- Joint pain
- Muscle pain

Ear, nose and throat symptoms

- Tinnitus
- Earache
- Sore throat
- Dizziness
- Loss of taste and/or smell
- Nasal congestion

Dermatological symptoms

- Skin rashes
- Hair loss

Psychological symptoms (indicating depression, anxiety or posttraumatic stress disorder)

- Low mood
- Anxiety
- Intrusive memories
- Re-experiencing
- other psychological symptoms

Patients who received care for COVID-19 in ICU may also experience symptoms of post-intensive care syndrome. Post-intensive care syndrome refers to one or more of the following symptoms that people experience following care in ICU:

- anxiety, depression,
- cognitive impairment, memory loss,
- muscle weakness, dysphagia and reduced quality of life.



Who is most at risk of post-COVID-19?

Post COVID-19 symptoms are reported more frequently in:

- People who are not up-to-date with vaccination
- People who have had more severe symptoms in the acute phase
- Women
- People with comorbid conditions such as diabetes, hypertension and obesity.

What causes post-COVID-19?

There are a number of theories and emerging data about what may cause post-COVID-19. For instance:

- Some studies have found that a high viral load during the acute infection can lead to post-COVID-19 symptoms. This may be by causing damage to individual organs during the acute infection, with symptoms arising following the acute infection.
- In addition, the initial infection may trigger persistent inflammation or an auto-immune response that also can lead to symptoms following the acute infection.

What do we know about treatment approaches for post-COVID-19?

While there is now quite a lot of research describing post-COVID-19 symptoms, we still don't have very good evidence about what works to improve symptoms in people with long COVID.

In the absence of this evidence, the Taskforce has developed the following key principles of care:

- Keep an open mind about the symptoms that the patient is presenting with; it is important to validate the patient's experience of their symptoms and give the patient or their carer information about the symptoms and potential management options.
- While we do not have evidence-based interventions specifically for post-COVID-19, clinicians can draw on the extensive knowledge and general principles that they have developed for managing similar conditions (chronic disease, respiratory disease, pain, mental health) and use that to manage post-COVID-19.
- Sometimes patients will be able to self-manage their symptoms, but other times you may need to refer the patient to allied health or a range of other health professionals or to a post-COVID-19 clinic. Consider the patient's ability to access this care when planning to refer them.
- Begin the recovery journey early. Don't wait until 12 weeks has passed before beginning treatment or referring your patient on, if you think that they would benefit from the treatment. One potential avenue for treatment is rehabilitation. We know that physical exercise for instance, may be helpful for some patients but not for all. Take a cautious approach regarding the return to physical activity, referral for rehabilitation by an exercise physiologist or physiotherapist.

For some patients, clinicians may wish to highlight that the recovery journey may take months or longer but that the GP can provide them with the care and coordination that they might require.

For many patients, the impact of post-COVID-19 on their ability to work and earn a living or go to school is significant. Some patients may benefit from their GP's advocacy with their patient's workplace to find adjusted duties that can help the person recover and stay at work.

How is post-COVID-19 diagnosed in general practice?

Currently there is no specific recommended test or tool to diagnose post-COVID-19. However, there are three essential elements to consider:

1. Confirmation or likelihood that the individual has had COVID-19.
2. Review of symptoms and their impact on everyday functioning.
3. Rule out other possible diagnoses that have similar symptoms to COVID-19 or if symptoms are related to comorbidities that may be exacerbated by COVID-19.



Does vaccination help with treating post-COVID-19?

COVID-19 vaccination may offer some protection against post-COVID-19 as described below:

- Vaccination prior to COVID-19 infection may help by reducing the severity of COVID-19, thereby reducing the risk of post-COVID-19. This is based on a number of observational studies that have found a lower symptom burden in people who have been vaccinated.
- Vaccination after an acute infection may also help to relieve symptoms of post-COVID-19. This is also based on observational studies that have found greater improvement in post-COVID-19 symptoms in people who were vaccinated after an acute infection than those who remained unvaccinated.

We await further data to demonstrate the influence of vaccination on post-COVID-19.

What is the impact of Omicron and other recent strains on risk of post-COVID-19?

Recent data from the UK (Office of National statistics) indicate that about 30% of people who had the omicron variant also report post-COVID symptoms. This is very early data.

What do we know about repeat infections?

There isn't yet good data to determine whether people are more or less likely to get post-COVID with repeat infections, or if the symptoms are better or worse.

Do children get post-COVID-19?

Children can get post-COVID-19 but are less likely to do so than adults. The most frequently reported symptoms in children are tiredness and headaches.

How does post-COVID-19 compare to myalgic encephalomyelitis/ chronic fatigue syndrome (ME/CFS)?

Although there are some similarities in the presentation post-COVID-19 and ME/CFS, further research is required to understand the underlying disease mechanisms of both conditions.

What evidence is available for post-COVID-19?

Currently, there is very limited evidence to provide recommendations for the treatment of post-COVID-19.

The next steps for evidence in the post-COVID-19 space include understanding:

- the underlying pathology and mechanisms of disease
- Prevention measures
- Useful interventions and their accessibility

What are post-COVID-19 clinics and how can they be accessed?

Post-COVID-19 clinics are not widely available in Australia. Existing post-COVID-19 clinics are often associated with a hospital and consist of multidisciplinary care providers, including rehabilitation and some provide mental health care. Your Primary Health Network can identify post-COVID-19 clinics that may be suitable for patient referral. The RACGP website provides a list of current post-COVID-19 clinics in Victoria [here](#).

Further resources

- [RACGP Patient resource: Managing post-COVID-19 symptoms](#)
- [WHO Post-COVID Q&A](#)
- [NICE UK COVID-19 rapid guideline: managing the long-term effects of COVID-19](#)
- [Post-COVID-19 clinics in Victoria](#)

