CONDITION

Long COVID

Long COVID is a group of health problems that continue or begin after a COVID-19 infection.

WHAT IT IS
Persistent or new health problems after COVID-19

BODY SYSTEM
Multiple systems, including lungs, heart, brain, and digestion

MAIN SYMPTOMS
Fatigue, breathlessness, brain fog, symptoms after activity

WHAT CAUSES IT
Coronavirus infection; several biological mechanisms under study

HOW IT IS DIAGNOSED
No confirming test; clinical assessment and exclusion of alternatives

MAIN TREATMENT
Symptom-based care, energy management, and tailored rehabilitation

CAN IT BE CURED?
Sometimes - symptoms can resolve over time

IS IT AN EMERGENCY?
Sometimes - new chest pain or severe breathing trouble

LONG-TERM OUTLOOK
Many improve, while some remain limited for years

Overview

Long COVID is a group of symptoms and health problems that continue or appear after infection with the virus that causes COVID-19. It can affect many parts of the body and is sometimes called post-COVID-19 condition.

There is no single worldwide definition. In general, the term describes problems that last for months rather than the usual recovery period. The World Health Organization defines post-COVID-19 condition as symptoms that usually start within three months of infection, last at least two months, and are not better explained by another diagnosis.

Long COVID can follow severe, mild, or apparently symptom-free COVID-19. A positive test from the original infection is not always available or required. Adults and children can both be affected.

Long COVID matters because it can interfere with work, education, exercise, relationships, and everyday tasks. Some people have one main symptom. Others have several symptoms that improve, return, or change over time.

Symptoms

Long COVID does not look the same in everyone. Symptoms may be continuous or come and go.

Common symptoms include:

Some people develop post-exertional malaise , also called post-exertional symptom exacerbation. This means symptoms become worse after physical, mental, emotional, or social activity. The worsening may not begin until hours or a day later, and recovery can take days or longer. Activities that were once easy, such as shopping or having a long conversation, may trigger it.

Some people feel lightheaded, weak, or unusually aware of their heartbeat when standing. This is called orthostatic intolerance . A related condition, postural orthostatic tachycardia syndrome, or POTS, causes an excessive rise in heart rate while upright.

Symptoms such as chest pain, fainting, or breathlessness can also have other causes. They should not automatically be assumed to be Long COVID.

- Severe tiredness that is not fully relieved by rest
- Difficulty thinking, concentrating, or remembering, often called "brain fog"
- Shortness of breath, cough, or chest discomfort
- Changes in smell or taste
- Headache, dizziness, or a racing heartbeat
- Muscle or joint pain
- Poor or unrefreshing sleep
- Stomach pain, nausea, diarrhea, or reduced appetite
- Anxiety, low mood, or symptoms of post-traumatic stress

Causes and risk factors

Long COVID begins after infection with SARS-CoV-2, the virus that causes COVID-19.

Researchers have not found one cause that explains every case.

Possible mechanisms include an immune system that remains activated, problems with small blood vessels, changes in the nervous system, reactivation of other viruses, and viral material remaining in parts of the body. Different mechanisms may be involved in different people.

Long COVID can occur after any level of acute illness. It is more likely after severe COVID-19, but many affected people were not admitted to hospital.

Research has linked a higher risk with repeated infections and some existing health conditions. Women appear to be affected more often than men in many studies. However, risk factors cannot predict with certainty who will develop Long COVID.

Symptoms are real even when standard blood tests or scans are normal. Normal results do not show that symptoms are imagined or unimportant.

Diagnosis

There is no blood test, scan, or other test that confirms Long COVID by itself. Diagnosis is based on your symptoms, their timing in relation to COVID-19, their effect on daily life, and whether another condition could explain them.

You do not always need proof of a previous positive COVID-19 test. Testing was not available to everyone earlier in the pandemic, and some infections were never detected. Antibody tests cannot reliably prove or exclude every previous infection.

An assessment may include questions about:

A physical examination may include oxygen level, heart rate, blood pressure, breathing, and strength. Heart rate and blood pressure may be checked while lying down and standing if upright symptoms are present.

Tests are chosen according to your symptoms. They may include blood tests, an electrocardiogram to check the heart's electrical activity, breathing tests, or imaging. These tests look for complications and other possible causes, such as anemia, thyroid problems, asthma, heart disease, or a sleep disorder.

Assessment can begin before symptoms have lasted three months. You do not need to wait for a formal Long COVID definition if symptoms are concerning or affecting daily life.

- The original infection and when symptoms began
- Which activities worsen symptoms
- Sleep, mood, memory, and concentration

- Medicines and existing health conditions
- How symptoms affect work, education, mobility, and self-care

Treatment and management

There is no single treatment that cures every form of Long COVID. Care is based on your symptoms, abilities, priorities, and any other condition found during assessment.

A care plan may involve:

Energy management is often called pacing . It involves planning and adjusting physical, mental, and social activity to reduce symptom flare-ups. Keeping a simple record of activity and symptoms may help identify delayed triggers.

Pacing is not the same as avoiding all movement. However, repeatedly pushing through post-exertional malaise can worsen symptoms. Fixed increases in exercise may be unsuitable for people whose symptoms reliably flare after activity. Rehabilitation should be flexible, monitored, and reduced or paused if it causes lasting deterioration.

People without post-exertional malaise may benefit from carefully tailored rehabilitation for strength, mobility, or breathing. The starting level should reflect current ability rather than pre-COVID fitness.

Existing medicines may be used to treat particular symptoms or a separate diagnosed condition. No medicine has been shown to cure Long COVID as a whole. Be cautious with supplements or treatments promoted as cures, especially if they are expensive or require stopping established care.

Mental health support can help with the effects of chronic symptoms, uncertainty, and loss of independence. Receiving this support does not mean Long COVID is considered purely psychological.

- Treatment for specific problems, such as pain, sleep disturbance, breathing symptoms, or abnormal heart rate
- Energy management to balance activity and rest
- Rehabilitation adapted to your current limits
- Occupational therapy for everyday tasks and work adjustments
- Support for anxiety, depression, or coping with a prolonged illness
- Referral to a specialist or Long COVID service when needed

Complications

Long COVID can reduce physical stamina, concentration, or the ability to remain upright. This may make employment, education, parenting, and self-care harder.

Poor sleep, pain, and loss of routine can contribute to depression or anxiety. Some people become socially isolated or face financial pressure because they cannot work their usual hours.

Heart, lung, kidney, blood-clotting, or neurological problems can occur after COVID-19 and may exist alongside Long COVID. New or worsening symptoms need assessment rather than being automatically attributed to the condition.

Prevention

Long COVID cannot always be prevented. Any COVID-19 infection can be followed by persistent symptoms.

Reducing the chance of infection also reduces the opportunity for Long COVID to develop. Vaccination lowers the risk but does not remove it completely. Measures such as improving indoor ventilation, avoiding close contact when someone is infectious, and using a well-fitting mask in higher-risk settings can further reduce exposure.

Avoiding reinfection may also matter because a later infection can cause new or worsening symptoms. There is no proven supplement, diet, or recovery routine that guarantees prevention after infection.

Living with it and what to expect

The course of Long COVID is often uneven. Symptoms may improve for a time and then flare after illness, stress, poor sleep, or increased activity. A temporary flare does not always mean the condition is permanently worsening.

Many people improve over months. Some recover fully, while others continue to have symptoms or activity limits for years. It is not yet possible to predict an individual course with certainty.

Planning around available energy can make daily life more manageable. This may include sitting for tasks, taking breaks before exhaustion, dividing activities into smaller steps, or alternating demanding and lighter days.

Work or education adjustments may include reduced hours, remote access, extra rest breaks,

written instructions, or a gradual return. Adjustments should reflect symptoms rather than requiring you to follow a fixed timetable.

Regular follow-up is useful when symptoms are persistent, changing, or affecting daily life. Follow-up can review progress, check for new explanations, and adjust rehabilitation or symptom treatment.

When to get medical help

Arrange a routine medical assessment if symptoms continue after COVID-19, keep returning, or interfere with normal activities. Seek earlier advice if symptoms are worsening, you are losing weight without trying, or you have repeated dizziness, palpitations, sleep problems, or low mood.

Seek urgent medical help for:

These symptoms are not automatically caused by Long COVID and may need emergency assessment.

- New or severe chest pain
- Severe or rapidly worsening trouble breathing
- Fainting, new confusion, or difficulty staying awake
- Blue, grey, or unusually pale lips or skin
- Signs of a stroke, such as facial drooping, arm weakness, or speech difficulty
- Thoughts of suicide or an immediate risk of self-harm

Common questions

How long does Long COVID last?

There is no fixed duration. Some people improve within several months, while others remain affected for years. Recovery may happen in stages rather than as a steady return to health.

Can I have Long COVID if my COVID test was negative?

It is possible. Tests can miss infections, particularly if they are taken too early or late. A clinician will consider the timing of symptoms, possible exposure, and other diagnoses rather than relying only on an old test result.

Is Long COVID contagious?

Long COVID itself is not contagious. It is a condition that follows an infection. Having ongoing symptoms does not usually mean you are still infectious, although a new COVID-19 infection can be contagious.

Should I exercise with Long COVID?

It depends on how your body responds to activity. If activity causes delayed and lasting symptom worsening, pushing through it may be harmful. Activity or rehabilitation should stay within your limits and be adjusted if symptoms flare. People without this pattern may tolerate a gradual, tailored program.

Is brain fog permanent?

Not necessarily. Problems with attention, memory, or word-finding improve for many people, but the timing is unpredictable. Sleep problems, pain, medicines, mood, and other medical conditions can also affect thinking and may be treatable.

Can Long COVID come back after I feel better?

Symptoms can return or worsen after increased activity, another infection, stress, or poor sleep. This is often described as a flare or relapse. A new or unusual symptom still deserves assessment because it may have another cause.

Sources

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