CONDITION

Coronavirus

Coronavirus, or COVID-19, is a respiratory infection caused by the SARS-CoV-2 virus.

WHAT IT IS
Respiratory infection that can affect the whole body

BODY SYSTEM
Lungs and airways; sometimes multiple organs

MAIN SYMPTOMS
Fever, cough, tiredness, sore throat

WHAT CAUSES IT
Infection with the SARS-CoV-2 virus

HOW IT IS DIAGNOSED
Rapid antigen or laboratory molecular testing

MAIN TREATMENT
Supportive care, early antivirals, and hospital care when severe

CAN IT BE CURED?
Sometimes - acute infection clears, but long COVID may persist

IS IT AN EMERGENCY?
Sometimes - severe breathlessness or confusion needs emergency care

LONG-TERM OUTLOOK
Most recover, while some develop lasting symptoms or organ damage

Overview

Coronavirus usually means COVID-19, an infection caused by the SARS-CoV-2 virus. Coronaviruses are a larger family of viruses, but this article focuses on COVID-19.

COVID-19 mainly affects the nose, throat, airways, and lungs. It can also affect blood vessels, the heart, brain, kidneys, digestive system, and other organs. Illness ranges from no symptoms to severe breathing problems.

Most people recover without hospital treatment. Serious illness is more likely in older adults, people with certain health conditions or weakened immune systems, and people who are not up to date with recommended vaccination.

Some people continue to have symptoms after the initial infection. This is called long COVID or post-COVID condition and can occur even after a mild infection.

The virus changes over time, so advice about testing, staying home, masks, and returning to normal activities may change. Follow current local guidance.

Symptoms

Symptoms can begin a few days after exposure, although timing varies. Some people have no noticeable symptoms but can still pass on the virus.

Common symptoms include:

These symptoms overlap with influenza, the common cold, and other respiratory infections. Symptoms alone cannot reliably identify COVID-19.

A cough and tiredness may continue after other symptoms improve and do not always mean you are still infectious. Infectiousness depends on factors including the time since symptoms started, illness severity, and immune health.

Long COVID may cause tiredness, shortness of breath, difficulty concentrating, sleep problems, altered smell or taste, headaches, dizziness, or a racing heartbeat. Symptoms can fluctuate or worsen after physical or mental effort.

- Fever or chills
- Cough, sore throat, or a blocked or runny nose
- Tiredness, headache, or muscle aches
- Shortness of breath
- A new change in smell or taste
- Nausea, vomiting, diarrhoea, or reduced appetite

Causes and risk factors

COVID-19 is caused by SARS-CoV-2. It spreads mainly through droplets and smaller airborne particles released when an infected person breathes, speaks, coughs, or sneezes.

Spread is more likely during close or prolonged indoor contact, especially with poor ventilation. Infection from touching a contaminated surface and then the face is possible but is not considered the main route.

Anyone can become infected. Factors linked with severe illness include:

Previous infection or vaccination can reduce the risk of severe illness but does not provide complete protection. Reinfection is possible because immunity can decrease and the virus can

change.

- Older age
- A weakened immune system
- Pregnancy
- Obesity
- Chronic heart, lung, kidney, or liver conditions
- Diabetes
- Some disabilities and neurological conditions
- Not being up to date with recommended vaccination

Diagnosis

COVID-19 is diagnosed using a test that detects the virus or parts of it.

A rapid antigen test can be used at home or in a healthcare setting. A positive result is usually reliable when the test is used correctly. A single negative result may not rule out infection, particularly early in the illness. Follow the instructions about repeating the test.

A molecular test, such as PCR or another nucleic acid amplification test, detects the virus's genetic material. These tests are generally more sensitive and are usually processed by a laboratory or testing service.

Testing is particularly important if you have a higher risk of severe illness because antiviral treatment works best when started early. It can also guide decisions about contact with vulnerable people.

If symptoms are significant, a healthcare professional may check your oxygen level, breathing, and heart rate. Chest imaging and blood tests are generally used when severe illness or complications are suspected.

Treatment and management

Mild COVID-19 can often be managed at home with rest, fluids, and treatment for fever or discomfort. Follow the directions on non-prescription medicines. Check whether they are suitable if you are pregnant, have another medical condition, or take regular medicines.

Antibiotics like amoxicillin or doxycycline do not treat COVID-19 because they work against

bacteria, not viruses. They may be prescribed if a separate bacterial infection is suspected or confirmed.

Prescription antivirals like acyclovir or oseltamivir can reduce the risk of severe illness in eligible people. Options may include nirmatrelvir with ritonavir, remdesivir, and, in limited circumstances, molnupiravir. Availability and eligibility vary by country.

Antivirals must be started soon after symptoms begin. Some interact with common medicines or are unsuitable for certain people. Do not stop a regular medicine or take another person's antiviral treatment without professional advice.

Hospital treatment may include oxygen, fluids, antivirals, medicines to reduce harmful inflammation, and treatment for blood clots. A breathing machine may be needed in critical illness. Steroids such as dexamethasone can help some people who need oxygen but are not routine treatment for mild COVID-19 at home.

Increase activity gradually during recovery. If activity causes a delayed flare of exhaustion, pain, or thinking problems, repeatedly pushing through may worsen symptoms. Long COVID care may include energy management, breathing support, rehabilitation, or treatment for specific symptoms.

Complications

Pneumonia is a main complication. It causes inflammation in the lungs and can reduce the oxygen reaching the blood.

Other possible complications include:

A rare complication in children is multisystem inflammatory syndrome in children, or MIS-C. It causes inflammation in several organs and usually develops after the initial infection.

Complications are more common after severe COVID-19, but some can follow an initially mild illness. New chest pain, worsening breathlessness, fainting, confusion, or one-sided weakness should not be treated as a normal part of recovery.

- Blood clots in the lungs, legs, brain, or other organs
- Inflammation of the heart or its surrounding lining
- Kidney, liver, or nervous system injury
- Secondary bacterial or fungal infection
- Severe body-wide inflammation
- Long COVID

Prevention

COVID-19 cannot always be prevented, but several measures reduce the risk of infection or severe illness.

Vaccination lowers the risk of severe COVID-19, hospital admission, and death. Recommendations differ according to age, health, vaccination history, and local policy.

The virus spreads more easily in crowded, poorly ventilated indoor spaces. Opening windows, improving mechanical ventilation, meeting outdoors, or using air filtration can reduce virus levels in shared air.

A well-fitting, high-quality mask adds protection, especially in crowded indoor places, during high community spread, or around someone at greater risk of severe illness.

If you have respiratory symptoms or test positive, avoid close contact with others while you may be infectious. Follow local advice about staying home and returning to work, school, or social activities. Take extra care around older or medically vulnerable people.

Cover coughs and sneezes and wash your hands. Cleaning surfaces is generally less important than clean air and avoiding close exposure.

Living with it and what to expect

Many people improve within days or a few weeks. Tiredness, cough, reduced stamina, or changes in smell and taste may last longer. Recovery can fluctuate.

Return to activity gradually. Sleep, regular food and fluids, and a manageable routine can support recovery. If exertion causes symptoms to worsen hours later or the next day, reduce your activity and discuss the pattern at follow-up.

Long COVID is generally considered when symptoms continue for months and are not better explained by another condition. There is no single test. Assessment may include blood tests, heart or lung checks, and tests for other causes of tiredness, breathlessness, or concentration problems.

Some people improve over time, while others have symptoms that fluctuate for months or years. Treatment focuses on individual symptoms and their effect on daily life. Work or school adjustments, planned rest, and rehabilitation may help.

Arrange routine follow-up if symptoms continue to affect sleep, work, school, mobility, or self-care. Follow-up is also important after hospital treatment or if a long-term condition has become harder to control.

When to get medical help

Seek prompt medical advice if you test positive or develop symptoms and have a higher risk of severe illness. Early contact matters because antivirals have a limited starting window.

Arrange routine medical follow-up if:

Seek urgent medical help for worsening shortness of breath, dehydration, persistent fever with deterioration, new palpitations, or other concerning symptoms. Interpret a home oxygen reading alongside symptoms and personal medical advice because home devices can be inaccurate.

Call emergency services for:

Do not drive yourself if you are severely unwell.

- Symptoms are not improving as expected
- Cough, tiredness, breathlessness, or altered smell persists
- Symptoms repeatedly worsen after activity
- Recovery affects work, school, sleep, or daily care
- A child develops ongoing fever, rash, red eyes, stomach pain, or unusual tiredness after COVID-19
- Severe difficulty breathing or inability to speak comfortably
- New pressure or pain in the chest
- Blue, grey, or unusually pale lips, skin, or nail beds
- New confusion, collapse, or difficulty waking
- Signs of stroke, such as facial drooping or one-sided weakness

Common questions

How long does coronavirus last?

Many mild infections improve within several days to a few weeks. Cough, tiredness, or reduced stamina may last longer. Symptoms continuing for months may be assessed as long COVID.

Can I have COVID-19 if my home test is negative?

Yes. A test can be negative early in the infection or when virus levels are low. Follow the instructions about repeating it, and consider professional testing if the result will affect treatment or important contact decisions.

Can I catch coronavirus more than once?

Yes. Protection decreases over time, and new variants can partly escape previous immunity. Earlier infection may still help protect against severe illness.

When am I no longer contagious?

People are often most infectious around the start of symptoms, but this varies. Severe illness and a weakened immune system can prolong infectiousness. Follow local guidance and take added precautions around vulnerable people while recovering.

Does losing my sense of smell mean I have COVID-19?

A change in smell or taste can occur with COVID-19, other respiratory infections, or nasal problems. Testing is the best way to check for a current COVID-19 infection.

Is long COVID permanent?

Not always. Some people improve gradually, while others have persistent or changing symptoms. No test can predict an individual course, but ongoing symptoms can be assessed and managed.

Sources

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