CONDITION

Coronavirus (COVID-19) and asthma

COVID-19 can cause breathing symptoms and may trigger an asthma flare in someone with asthma.

WHAT IT IS
COVID-19 infection in someone who has asthma

BODY SYSTEM
Lungs and airways

MAIN SYMPTOMS
Cough, fever, breathlessness, wheeze

WHAT CAUSES IT
SARS-CoV-2 infection alongside sensitive, inflamed airways

HOW IT IS DIAGNOSED
Viral testing; breathing tests assess asthma

MAIN TREATMENT
Asthma medicines, supportive care, and early COVID-19 treatment

CAN IT BE CURED?
Sometimes - COVID clears; asthma usually persists

IS IT AN EMERGENCY?
Sometimes - severe breathing difficulty or low oxygen

LONG-TERM OUTLOOK
Most recover; some have prolonged breathing symptoms

Overview

COVID-19 is an infection caused by the SARS-CoV-2 virus. Asthma is a long-term condition in which the airways become inflamed, sensitive, and sometimes narrowed. Having both can make it difficult to tell whether breathing symptoms come from COVID-19, an asthma flare, or both.

COVID-19 does not always make asthma worse. Many people with asthma recover from COVID-19 without serious breathing problems. However, respiratory infections are a common asthma trigger. COVID-19 can cause coughing, chest tightness, wheezing, or shortness of breath, particularly if asthma is not well controlled.

Moderate or severe asthma may increase the risk of serious COVID-19, although the level of risk differs between people. Age, vaccination history, immune problems, other health

conditions, and how well asthma is controlled also matter.

Keep taking prescribed asthma controller medicines unless your healthcare team tells you to change them. This includes inhaled corticosteroids like budesonide or fluticasone, which reduce inflammation inside the airways. Stopping them suddenly can allow asthma symptoms to worsen.

Symptoms

COVID-19 symptoms range from mild to severe. They may include:

An asthma flare, also called an asthma attack or exacerbation, is more likely to cause wheezing, chest tightness, coughing, and difficulty breathing. Symptoms may improve after using a prescribed quick-relief inhaler. However, improvement after an inhaler does not rule out COVID-19.

Fever, chills, muscle aches, and a sore throat are more suggestive of an infection than asthma alone. COVID-19 does not always cause fever, though, and symptoms cannot confirm the infection without testing.

Some people have few or no symptoms but can still pass the virus to others.

- Cough, sore throat, congestion, or a runny nose
- Fever, chills, tiredness, headache, or muscle aches
- Shortness of breath or chest discomfort
- A change in smell or taste
- Nausea, vomiting, or diarrhoea

Causes and risk factors

COVID-19 spreads mainly through virus-containing particles released into the air when an infected person breathes, speaks, coughs, or sneezes. Infection is more likely after close or prolonged contact, especially in crowded or poorly ventilated indoor spaces.

Asthma does not cause COVID-19. COVID-19 also does not automatically cause asthma. Instead, the infection may irritate already sensitive airways and trigger a flare.

The chance of more serious illness may be higher if you have moderate or severe asthma, poorly controlled symptoms, or a recent history of asthma attacks. Risk can also increase with older age, pregnancy, immune suppression, obesity, smoking, or conditions affecting the heart,

lungs, kidneys, or nervous system.

Using an inhaled corticosteroid like budesonide or fluticasone as prescribed is not considered a reason to stop treatment during COVID-19. Good asthma control helps reduce the chance that an infection will lead to a major flare.

Diagnosis

A viral test can confirm a current COVID-19 infection. Molecular tests, including PCR tests, look for the virus's genetic material. Antigen tests detect viral proteins and usually give faster results.

A negative antigen test may miss an infection, particularly early in the illness. Follow the test instructions about repeating the test. Testing recommendations can change as new tests and virus variants appear.

There is no single test that shows whether breathlessness is caused by COVID-19 or asthma. A healthcare professional may consider your symptoms, temperature, oxygen level, breathing sounds, asthma history, and response to inhaled medicine.

Spirometry measures how much air you can breathe out and how quickly you can do it. It helps assess asthma but may be delayed during an active respiratory infection. Chest imaging or blood tests are not routinely needed for mild illness, but they may be used if pneumonia, low oxygen, or another complication is suspected.

A home pulse oximeter estimates oxygen levels in the blood. It can provide useful information for some people, but readings may be inaccurate because of movement, cold hands, nail products, poor circulation, or device limitations. Symptoms and changes from your usual readings also matter.

Treatment and management

Most mild cases of COVID-19 are managed with rest, fluids, and relief of symptoms. Continue your regular asthma controller treatment and follow your written asthma action plan if you have one.

Use quick-relief medicine exactly as directed in your asthma plan. If you need it more often than expected, it is not lasting as long as usual, or symptoms continue to worsen, seek medical advice.

Some people at increased risk of severe COVID-19 may be offered antiviral treatment. These

medicines work best when started early, and eligibility depends on factors such as age, immune health, other medical conditions, and current medicines. Some antivirals like acyclovir or oseltamivir have important drug interactions, so a clinician or pharmacist needs to review them.

Corticosteroid tablets may be prescribed for a significant asthma flare. They should not be started, stopped, or avoided without appropriate advice. Their role in treating an asthma flare is different from their role in treating COVID-19 itself. Systemic corticosteroids are not routinely used solely for mild COVID-19 in someone who does not need extra oxygen.

A handheld inhaler with a spacer is often preferred when it can deliver the required asthma medicine. Nebulisers turn liquid medicine into a fine mist. They do not create the virus, but using one may spread infectious particles from the person receiving treatment into the surrounding air. If you use a nebuliser at home while infected, follow professional advice about ventilation, cleaning, and keeping away from other people.

Do not rely on unproven supplements or replace prescribed asthma treatment with complementary remedies.

Complications

COVID-19 can trigger an asthma flare. A severe flare may require urgent treatment, oxygen, or hospital care.

COVID-19 can also cause pneumonia, in which infection and inflammation affect the air sacs in the lungs. This can lower blood oxygen and make breathing harder. Blood clots, heart problems, and inflammation affecting other organs are less common but recognised complications of serious COVID-19.

Some people have symptoms that continue or develop after the initial infection. This is often called long COVID or post-COVID-19 condition. Symptoms can include fatigue, breathlessness, cough, difficulty concentrating, altered smell, and reduced ability to exercise.

Persistent breathing symptoms do not always mean that asthma has permanently worsened. They may come from slow recovery, altered breathing patterns, reduced fitness, asthma, or another condition. An assessment can help identify the likely cause.

Prevention

You cannot completely remove the chance of catching COVID-19, but you can reduce it. Staying up to date with recommended COVID-19 vaccination lowers the risk of severe illness,

although it does not prevent every infection.

Other practical measures include:

Keep asthma well controlled by taking prescribed controller medicine, using correct inhaler technique, and avoiding known asthma triggers where possible. This does not prevent COVID-19, but it gives your airways a better starting point if you become infected.

If you have COVID-19, staying away from others while you are most likely to be infectious helps protect people around you. Follow current local public health advice because recommendations can change.

- Improving indoor ventilation and choosing outdoor gatherings when practical
- Avoiding close contact with people who are currently unwell
- Wearing a well-fitting mask in higher-risk crowded settings
- Washing your hands and covering coughs and sneezes
- Testing when you have symptoms or after relevant exposure

Living with it and what to expect

For many people, the main COVID-19 symptoms improve over days to a few weeks. Asthma symptoms may temporarily become more noticeable during the infection or recovery period. You may need to follow the flare-up steps in your asthma action plan.

Return to usual activity gradually. Cough, tiredness, or reduced stamina can continue after other symptoms settle. Pushing through marked breathlessness or exhaustion may delay recovery.

Once the infection has passed, many people return to their previous level of asthma control. COVID-19 does not mean that asthma will inevitably become more severe. Some people, however, need a review because coughing, wheezing, or breathlessness continues.

Arrange routine follow-up if your asthma symptoms are becoming more frequent, you are waking at night, exercise is harder, or you are using quick-relief medicine more often. A review may include inhaler technique, adherence, breathing tests, and consideration of other causes.

Symptoms lasting for weeks or months may need assessment for long COVID, uncontrolled asthma, or another lung or heart problem. Recovery is not always steady; better and worse days can occur.

When to get medical help

Seek prompt medical advice if you have COVID-19 symptoms and may qualify for early antiviral treatment. Do not wait for symptoms to become severe, because these medicines have a limited treatment window.

Contact a healthcare service promptly if:

Call emergency services for severe difficulty breathing, an inability to speak in full sentences, blue, grey, or unusually pale lips or skin, new confusion, difficulty waking, collapse, or persistent chest pain or pressure. Treat a severe asthma attack as an emergency, especially when quick-relief medicine is not helping.

Do not delay emergency care while trying to arrange a COVID-19 test.

- Your breathing is getting worse rather than improving
- Your quick-relief inhaler is needed more often than your plan allows
- Wheezing or chest tightness keeps returning after relief medicine
- Fever or other symptoms improve and then return
- You have persistent breathlessness, cough, or fatigue after the infection
- Home oxygen readings are below your advised range or are steadily falling

Common questions

Does asthma make COVID-19 more dangerous?

Not for everyone. Moderate or severe asthma may increase the risk of hospital admission or serious illness. Your age, asthma control, immune health, vaccination history, and other medical conditions also affect risk.

Should I stop my steroid inhaler if I have COVID-19?

No, not unless a healthcare professional specifically tells you to stop. Inhaled corticosteroids like budesonide or fluticasone control airway inflammation. Stopping them can increase the risk of an asthma flare.

How can I tell an asthma attack from COVID-19?

Wheezing and chest tightness are common with asthma, while fever, sore throat, chills, and muscle aches suggest infection. Both can cause cough and breathlessness, and they can occur together. Testing helps identify COVID-19, but worsening breathing still needs attention whatever the result.

Can I use my nebuliser while I have COVID-19?

You may still need prescribed nebulised medicine. Because treatment may spread infectious particles into the nearby air, use it away from other people and follow advice on ventilation and cleaning. Do not delay essential asthma treatment because of this concern.

Can COVID-19 permanently worsen asthma?

Many people return to their previous asthma control after recovery. Some have prolonged cough or breathlessness, which may reflect uncontrolled asthma, long COVID, reduced fitness, or another problem. Persistent symptoms should be assessed rather than assumed to be permanent.

Can I exercise while recovering?

Light activity may be reasonable once fever has settled and you feel able, but increase it gradually. Stop and seek advice if activity causes significant chest pain, faintness, unusual breathlessness, or a marked return of symptoms.

Sources

- Centers for Disease Control and Prevention: People with Certain Medical Conditions and COVID-19
- Centers for Disease Control and Prevention: Testing for COVID-19
- Centers for Disease Control and Prevention: Types of COVID-19 Treatment
- Global Initiative for Asthma: Global Strategy for Asthma Management and Prevention, 2025
- National Institute for Health and Care Excellence: COVID-19 rapid guideline-managing COVID-19, NG191
- World Health Organization: Post COVID-19 condition)