

# Asthma

## What is asthma?

Asthma, also called bronchial asthma, is a disease that affects your lungs. It's a chronic (ongoing) condition, meaning it doesn't go away and needs ongoing medical management.

Asthma affects more than 25 million people in the U.S. currently. This total includes more than 5 million children. Asthma can be life-threatening if you don't get treatment.

## What is an asthma attack?

When you breathe normally, muscles around your airways are relaxed, letting air move easily and quietly. During an asthma attack, three things can happen:

- **Bronchospasm:** The muscles around the airways constrict (tighten). When they tighten, it makes your airways narrow. Air cannot flow freely through constricted airways.
- **Inflammation:** The lining of your airways becomes swollen. Swollen airways don't let as much air in or out of your lungs.
- **Mucus production:** During the attack, your body creates more mucus. This thick mucus clogs airways.

When your airways get tighter, you make a sound called wheezing when you breathe, a noise your airways make when you breathe out. You might also hear an asthma attack called an exacerbation or a flare-up. It's the term for when your asthma isn't controlled.

## What types of asthma are there?

Asthma is broken down into types based on the cause and the severity of symptoms. Healthcare providers identify asthma as:

- **Intermittent:** This type of asthma comes and goes so you can feel normal in between asthma flares.
- **Persistent:** Persistent asthma means you have symptoms much of the time. Symptoms can be mild, moderate or severe. Healthcare providers base asthma severity on how often you have symptoms. They also consider how well you can do things during an attack.

Asthma has multiple causes:

- Allergic: Some people's [allergies](#) can cause an asthma attack. Allergens include things like molds, pollens and pet dander.
- Non-allergic: Outside factors can cause asthma to flare up. Exercise, stress, illness and weather may cause a flare.

Asthma can also be:

- Adult-onset: This type of asthma starts after the age of 18.
- Pediatric: Also called [childhood asthma](#), this type of asthma often begins before the age of 5, and can occur in infants and toddlers. Children may outgrow asthma. You should make sure that you discuss it with your provider before you decide whether your child needs to have an inhaler available in case they have an asthma attack. Your child's healthcare provider can help you understand the risks.

In addition, there are these types of asthma:

- Exercise-induced asthma: This type is triggered by exercise and is also called exercise-induced bronchospasm.
- Occupational asthma: This type of asthma happens primarily to people who work around irritating substances.
- Asthma-COPD overlap syndrome (ACOS): This type happens when you have both asthma and [chronic obstructive pulmonary disease \(COPD\)](#). Both diseases make it difficult to breathe.

## Who can get asthma?

Anyone can develop asthma at any age. People with allergies or people exposed to tobacco smoke are more likely to develop asthma. This includes [secondhand smoke](#) (exposure to someone else who is smoking) and thirdhand smoke (exposure to clothing or surfaces in places where someone has smoked).

Statistics show that people assigned female at birth tend to have asthma more than people assigned male at birth. Asthma affects Black people more frequently than other races.

## Symptoms and Causes

Neha Solanki, MD shares what causes asthma and if patients can outgrow it.

### What causes asthma?

Researchers don't know why some people have asthma while others don't. But certain factors present a higher risk:

- Allergies: Having allergies can raise your risk of developing asthma.

- Environmental factors: People can develop asthma after exposure to things that irritate the airways. These substances include allergens, toxins, fumes and second- or third-hand smoke. These can be especially harmful to infants and young children whose immune systems haven't finished developing.
- Genetics: If your family has a history of asthma or allergic diseases, you have a higher risk of developing the disease.
- Respiratory infections: Certain [respiratory infections](#), such as [respiratory syncytial virus \(RSV\)](#), can damage young children's developing lungs.

## What are common asthma attack triggers?

You can have an asthma attack if you come in contact with substances that irritate you. Healthcare providers call these substances "triggers." Knowing what triggers your asthma makes it easier to avoid asthma attacks.

For some people, a trigger can bring on an attack right away. For other people, or at other times, an attack may start hours or days later.

Triggers can be different for each person. But some common triggers include:

- Air pollution: Many things outside can cause an asthma attack. Air pollution includes factory emissions, car exhaust, wildfire smoke and more.
- Dust mites: You can't see these bugs, but they are in our homes. If you have a [dust mite allergy](#), this can cause an asthma attack.
- Exercise: For some people, exercising can cause an attack.
- Mold: Damp places can spawn mold, which can cause problems if you have asthma. You don't even have to be allergic to mold to have an attack.
- Pests: Cockroaches, mice and other household pests can cause asthma attacks.
- Pets: Your pets can cause asthma attacks. If you're allergic to pet dander (dried skin flakes), breathing in the dander can irritate your airways.
- Tobacco smoke: If you or someone in your home smokes, you have a higher risk of developing asthma. You should never smoke in enclosed places like the car or home, and the best solution is to [quit smoking](#). Your provider can help.
- Strong chemicals or smells. These things can trigger attacks in some people.
- Certain occupational exposures. You can be exposed to many things at your job, including cleaning products, dust from flour or wood, or other chemicals. These can all be triggers if you have asthma.

## What are the signs and symptoms of asthma?

People with asthma usually have obvious symptoms. These signs and symptoms resemble many respiratory infections:

- Chest tightness, pain or pressure.
- [Coughing](#) (especially at night).
- [Shortness of breath](#).
- [Wheezing](#).

With asthma, you may not have all of these symptoms with every flare. You can have different symptoms and signs at different times with chronic asthma. Also, symptoms can change between asthma attacks.

## Diagnosis and Tests

### How do healthcare providers diagnose asthma?

Your healthcare provider will review your medical history, including information about your parents and siblings. Your provider will also ask you about your symptoms. Your provider will need to know any history of allergies, [eczema](#) (a bumpy rash caused by allergies) and other lung diseases.

Your provider may order [spirometry](#). This test measures airflow through your lungs and is used to diagnose and monitor your progress with treatment. Your healthcare provider may order [a chest X-ray](#), blood test or skin test.

## Management and Treatment

### What asthma treatment options are there?

You have options to help manage your asthma. Your healthcare provider may prescribe medications to control symptoms. These include:

- Bronchodilators: These medicines relax the muscles around your airways. The relaxed muscles let the airways move air. They also let mucus move more easily through the airways. These medicines relieve your symptoms when they happen and are used for intermittent and chronic asthma.
- Anti-inflammatory medicines: These medicines reduce swelling and mucus production in your airways. They make it easier for air to enter and exit your lungs. Your healthcare provider may prescribe them to take every day to control or prevent your symptoms of chronic asthma.
- Biologic therapies for asthma: These are used for severe asthma when symptoms persist despite proper inhaler therapy.

You can take asthma medicines in several different ways. You may breathe in the medicines using a [metered-dose inhaler](#), nebulizer or another type of asthma inhaler. Your healthcare provider may prescribe oral medications that you swallow.

## What is asthma control?

The goal of asthma treatment is to control symptoms. Asthma control means you:

- Can do the things you want to do at work and home.
- Have no (or minimal) asthma symptoms.
- Rarely need to use your reliever medicine (rescue inhaler).
- Sleep without asthma interrupting your rest.

## How do you monitor asthma symptoms?

You should keep track of your asthma symptom. It's an important piece of managing the disease. Your healthcare provider may ask to use a [peak flow \(PF\) meter](#). This device measures how fast you can blow air out of your lungs. It can help your provider make adjustments to your medication. It also tells you if your symptoms are getting worse.

## Prevention

### How can I prevent an asthma attack?

If your healthcare provider says you have asthma, you'll need to figure out what triggers an attack. Avoiding the triggers can help you avoid an attack. You can't prevent yourself from getting asthma, though.

## Outlook / Prognosis

### What's the outlook for someone with asthma?

If you have asthma, you can still live a very productive life and participate in sports and other activities. Your healthcare provider can help you manage symptoms, learn your triggers and prevent or manage attacks.

## Living With

### What is an asthma action plan?

Your healthcare provider will work with you to develop an asthma action plan. This plan tells you how and when to use your medicines. It also tells you what to do based on your asthma symptoms and when to seek emergency care. Ask your healthcare provider about anything you don't understand.

### What should I do if I have a severe asthma attack?

If you have a severe asthma attack, you need to get immediate medical care.

The first thing you should do is use your rescue inhaler. A rescue inhaler uses fast-acting medicines to open up your airways. It's different than a maintenance inhaler, which you use every day. You should use the rescue inhaler when symptoms are bothering you and you can use it more frequently if your flare is severe.

If your rescue inhaler doesn't help or you don't have it with you, go to the emergency department if you have:

- Anxiety or panic.
- Bluish fingernails, bluish lips (in light-skinned people) or gray or whitish lips or gums (in dark-skinned people).
- Chest pain or pressure.
- Coughing that won't stop or severe wheezing when you breathe.
- Difficulty talking.
- Pale, sweaty face.
- Very quick or rapid breathing.

## **Additional Common Questions**

### **How do you know if do or don't have asthma?**

You'll need to see a healthcare provider to find out if you have asthma or some other condition. There are other respiratory diseases that make it hard to breathe or cause coughing and wheezing.

### **Can asthma be cured?**

No. Asthma can't be cured, but it can be managed. Children may outgrow asthma as they get older.

### **Why is my asthma worse at night?**

Asthma that gets worse at night is sometimes called nighttime asthma or nocturnal asthma. There are no definite reasons that this happens, but there are some educated guesses. These include:

- The way you sleep: Sleeping on your back can result in mucus dripping into your throat or acid reflux coming back up from your stomach. Also, sleeping on your back puts pressure on your chest and lungs, which makes breathing more difficult. However, lying face down or on your side can put pressure on your lungs.
- Triggers in your bedroom and triggers that happen in the evening: You may find your blankets, sheets and pillows have dust mites, mold or pet hair on

them. If you've been outside in the early evening, you may have brought pollen in with you.

- Medication side effects: Some drugs that treat asthma, such as steroids and montelukast, can affect your sleep.
- Air that's too hot or too cold: Hot air can cause airways to narrow when you breathe in. Cold air is an asthma trigger for some people.
- Lung function changes: Lung function lessens at night as a natural process.
- Asthma is poorly controlled during the day: Symptoms that aren't controlled during the day won't be better at night. It's important to work with your provider to make sure your asthma symptoms are controlled both day and night. Treating nighttime symptoms is very important. Serious asthma attacks, and sometimes deaths, can happen at night.

## **What should I know about COVID-19 and asthma?**

If you have asthma that is moderate-to-severe, or if your asthma symptoms aren't well controlled, you're at greater risk of having to be hospitalized if you get COVID-19. Therefore, you should wear a mask if you go to indoor spaces with other people, get vaccinated and avoid exposure to people who have the virus.