

What is asthma?

Asthma is a chronic (long-term) disease of the lungs. It inflames and narrows the airways. These are tubes that carry air into and out of your lungs. It most often starts in childhood, but can affect people of all ages.

The airways of people who have asthma are extra sensitive to the things they're allergic to (allergens). They are also sensitive to certain substances that can be inhaled through the air.

Asthma symptoms start when irritants cause the lining of the airways to become inflamed (swollen) and narrow. The muscles around the airways can then spasm (contract rapidly). This causes the airways to narrow even more. When the lining of the airways is inflamed, it produces more mucus. The mucus clogs the airways and further blocks the flow of air. When these symptoms are severe and not easily controlled, it's called an "asthma attack."

Symptoms of asthma

An asthma "flare up," or attack, happens when excess mucus causes your air tubes to swell and tighten. Asthma attacks can be mild, moderate, or severe. Symptoms of an asthma attack include the following:

- **Coughing.** Coughing from asthma is usually worse early in the morning and at night. This can lead to problems sleeping.
- **Tightness in the chest.** You may feel breathless and like something is squeezing your chest.
- **Wheezing.** A hoarse, squeaky, musical, or whistling sound when you breathe.
- **Coughing with mucus.**

Severe asthma attacks can be life threatening. Call your doctor right away if you experience any or all of the following issues. He or she may want you to seek emergency care right away.

- Your rescue medicine doesn't relieve your symptoms.
- Your fingernails or lips turn gray or blue.
- You have trouble walking or talking.
- You have extreme difficulty breathing.
- Your neck, chest, or ribs are pulled in with each breath.
- Your nostrils flare when you breathe.
- Your heartbeat or pulse is very fast.

What causes asthma?

An exact cause of asthma has not been determined. Scientists and researchers think that genetic and environmental causes lead to asthma. These may include:

- One or both parents have asthma.
- A genetic history of allergies in the family.

- Having certain respiratory infections during childhood.
- Contact with allergens or infections during infancy and early childhood, when the immune system is still developing.

Many things can cause your asthma to flare up, including:

- allergies
- viral infections (such as a cold) and sinus infections
- tobacco
- air pollutants (such as wood smoke)
- cold air
- exercise
- perfume or chemical fumes
- heartburn.

For some people, strong emotions or stress can trigger an asthma attack. Pay attention to the way these things affect your asthma. Work with your doctor to figure out which things bother your asthma.

How is asthma diagnosed?

Your doctor will ask you for your medical history, especially any family history of allergies and asthma. Keep a record of your asthma symptoms and when and how often they occur. Your doctor will want to know what seems to trigger and worsen your symptoms.

He or she will perform a physical exam. They will listen to your breathing and look for signs of allergies and asthma. These can include wheezing, swollen nasal passages, and allergic skin conditions (such as eczema).

They will conduct a spirometry test. You will breathe into a machine called a spirometer to see how well your lungs work. It records the amount of air and how quickly you breathe in and out. Your doctor may need to perform other tests, such as:

- Allergy testing.
- Tests to rule out other conditions with symptoms similar to asthma. These could include [sleep apnea](#) or reflux disease.
- Chest X-ray or EKG (electrocardiogram) to make sure there is nothing else in your lungs (a disease or foreign object) that is causing the symptoms.

Can asthma be prevented or avoided?

Asthma cannot be prevented, and there is no cure. You can help avoid asthma attacks by avoiding the triggers that can start an asthma attack. Examples of common allergens and irritants include:

- air pollution

- dust
- mold
- pollen
- tobacco smoke
- pet dander
- exercise
- changes in temperature
- certain foods
- sulfite (food preservative in red wine, beer, salad bars, dehydrated soups, and other foods)
- heartburn
- strong emotions (such as crying or laughing)
- perfume
- colds and viruses.

Asthma treatment

Your doctor will work with you to create an action plan to control your asthma. The plan will include recognizing your symptoms and avoiding your asthma triggers. It will give guidance on taking medicines properly. Your plan will help you track your level and control and know when to seek emergency care when needed.

Your doctor may have you use a peak flow meter to track your symptoms. A peak flow meter is a handheld device that measures your peak expiratory flow rate (PEFR). This is how fast you can blow air out of your lungs. Measuring your peak flow regularly can help you tell whether your asthma is getting worse.

Asthma medicines are divided into two groups: controller medicines (to prevent attacks) and rescue medicines (to treat attacks). Your doctor will talk to you about these medicines and what to do if you have an asthma attack. Ask your doctor for written instructions about how to take your medicines. The following are examples of medicines most commonly used by people who have asthma:

Controller Medicines

- inhaled corticosteroids
- combination inhalers
- leukotriene modifiers.

Quick-Relief Medicines

- albuterol, pirbuterol, levalbuterol, or bitolterol
- ipratropium
- oral steroids (prednisone, prednisolone).

Living with asthma

With the treatments available today, most people who have asthma are able to manage the disease. They may have few symptoms. They can live normal, active lives and sleep through the night without interruption from asthma.

Treating symptoms when you first notice them is important. This will help prevent them causing a severe asthma attack. Severe asthma attacks may require emergency care. They can be fatal.

Resources

[American College of Allergy, Asthma and Immunology, Asthma](#)

[National Heart, Lung and Blood Institute, Asthma Action Plan](#)