

Asthma



What is asthma?

Asthma is a long-term (chronic) lung disease. The airways react to triggers (allergens and irritants). This makes it hard to breathe. With exposure to triggers, changes can occur, such as:

- The airways become swollen and inflamed.
- The muscles around the airways tighten.
- More mucus is made.

All of these changes make the airways narrow. This makes it hard for air to go out of the lungs. And fresh oxygen can't get into the body.

What causes asthma?

Experts don't know the exact cause of asthma. They believe it's partly inherited. The environment, infections, and chemicals released by the body also play a role.

Exercise causes symptoms in many people with asthma. Symptoms can occur during exercise. They can also occur right after exercise. In some people, stress or strong feelings can cause symptoms.

All of these may be asthma triggers:

Allergens

- Pollens (trees, grasses, and weeds)
- Mold
- Pets
- Dust and dust mites
- Cockroaches
- Mice

Respiratory problem

- Nasal allergies
- Sinus infections
- The flu
- Viral infections, including the common cold

Irritants

- Strong odors from perfumes, cleaners, cooking, paints, and varnishes
- Chemicals (gases, fumes)
- Air pollution
- Changing weather (temperature, barometric pressure, humidity, and strong winds)
- Smoke (tobacco-inhaled or secondhand)
- E-cigarettes

Medicines

- Aspirin
- NSAIDs (nonsteroidal anti-inflammatory drugs), such as ibuprofen
- Beta blockers

Other conditions

- GERD (gastroesophageal reflux)
- Sleep apnea
- Overweight
- Depression

Other

- Exercise, especially in cold weather
- Strong feelings that go along with laughing or crying

Who is at risk for asthma?

It's most common in:

- Children and teens ages 5 to 17
- People living in cities

Other factors include:

- Personal or family history of asthma or allergies
- Exposure to secondhand tobacco smoke
- Children with a family history of asthma
- Children who have allergies or atopic dermatitis
- Children exposed to secondhand and tobacco smoke
- Living in areas with high levels of environmental air pollution

What are the symptoms of asthma?

Symptoms include:

- Trouble breathing or shortness of breath
- Chest tightness
- Wheezing or a whistling sound when breathing
- Coughing
- Breathing becomes harder and may hurt
- Talking and sleeping may be harder with severe symptoms

How is asthma diagnosed?

Your healthcare provider will ask about your health history. They will give you a physical exam. You will also have other tests. An important test is spirometry.

A spirometer is a device used to find out how well the lungs are working. It measures the amount and speed of air breathed out. Spirometry is typically done only in children over the age of 6 and adults.

You may have other tests. These are done to check for conditions, such as allergies.

How is asthma treated?

Treatment will depend on your symptoms, age, and general health. It will also depend on how severe the condition is.

There is no cure for asthma. It can often be controlled by staying away from triggers. And by taking medicines as prescribed by your healthcare provider.

Watching for symptoms and taking early action is a key part of asthma care. So is knowing what to do if symptoms get worse. Experts advise making an Asthma Action Plan with your provider. Also educate your family and close friends the plan. This will help them provide correct asthma care if you are ill and can't care for yourself.

Medicines for asthma

The 2 types of asthma medicines are long-term control and short-term (quick-relief) medicines. Long-term control medicines are often taken every day. They help prevent symptoms. Quick-relief medicines calm asthma symptoms fast. But they only last for a short time. You may take either type of medicine alone. Some people take both.

Your healthcare provider should regularly check and adjust your medicines as needed.

Long-term control medicines

At first, it may take a few weeks for long-term control medicines to work. You must take these medicines every day. These medicines include:

- Anti-inflammatory medicines. These reduce or prevent airway swelling.
- Bronchodilators. These relax muscles around the airways.
- Leukotriene modifiers. These block the action of chemicals called leukotrienes. These are chemicals that cause airways to be inflamed and narrowed.
- Biologic therapy. There are some newer medicines for people with asthma that isn't well-controlled despite inhaler therapy. These target the inflammatory cells in the body that start the asthma reaction. These medicines include anti-IL4, Anti-IL5, and anti-IgE medicines. They are often given by shot (injection) or infusion.

Quick-relief medicines

Quick-relief medicines work fast to relax the muscles around the airways. But the relief only lasts about 2 to 3 hours.

These medicines may include:

- Inhaled short-acting beta2-agonists. These help relax muscles around the airways.
- Inhaled anticholinergics. These block a chemical in the body called acetylcholine. This chemical contracts the muscles. It also causes more mucus in the airways.

Inhalation devices for asthma

Inhaled medicines go right to the lungs. They have fewer side effects than medicines taken by mouth. Inhaled medicines may be anti-inflammatory or bronchodilating. Or they may be both. The devices used are:

- Metered-dose inhaler (MDI). This is the most common type of inhaler. It uses a chemical to push the medicine out of the inhaler. MDIs are held in front of or put into the mouth. Then the medicine is

released in puffs. Or they may be used with a spacer device.

- Nebulizer. This device sprays a fine mist of medicine. This is done through a mask using air under pressure, or an ultrasonic machine. A mouthpiece or mask is connected to a machine by plastic tubing to deliver medicine.
- Dry powder or rotary inhaler. These inhalers deliver powdered medicine as you breathe.

Living with asthma

Staying away from triggers is key in managing asthma. Triggers are specific to the individual and may include such things as allergens, irritants, other health problems, exercise, medicines, and strong emotions. The following can help you limit your exposure:

Allergies

- Dust. Dust is the most common year-round allergen. The allergy is caused by tiny dust mites. Dust mites are found in mattresses, carpets, and fabric-covered (upholstered) furniture, such as sofas and chairs. They live best in warm, humid conditions. It's important to limit your exposure. Keep your living area as clean as possible by vacuuming and dusting on a weekly basis. Keep the use of carpets to a minimum and take extra care in the bedroom. Put dust mite covers on your mattress, box spring, and pillows.
- Pollens. You may be allergic to pollen. If so, during pollen season keep all car and house windows closed. Use air conditioning if possible. If you have been outside, shower, wash your hair, and change clothes when you go inside.
- Pets. Pets that have fur or feathers often cause allergies. If you have pets, try not to touch them. If you do pet or handle them, wash your hands afterward. Keep pets off your furniture, bed, and out of your bedroom. Have someone brush and bathe your pet often.
- Mold and mildew. These can trigger asthma. When outside, stay away from damp, shady areas. Use exhaust fans when cooking or bathing. Keep indoor humidity below 45%. And drain and clean your dehumidifier often.

Exercise

Exercise is a common asthma trigger. But don't limit sports or exercise unless a healthcare provider tells you to. Exercise is good for your health and lungs. Swimming, golf, and karate are good choices if you have asthma. Always warm up before exercise. And cool down after. Ask your provider about using your quick-relief medicine before starting exercise. Keep a log of what types of exercise trigger asthma problems and talk with your provider about possible ways to manage your symptoms.

Irritants

If you smoke, quit. This is hard to do, but your healthcare provider can help provide resources to aid your success. Also don't use e-cigarettes.

Stay away from secondhand and thirdhand smoke. Thirdhand smoke means the chemicals in tobacco smoke that stay on surfaces. Don't let people smoke in your car or in your home.

Also, stay away from other types of smoke. Don't use wood stoves or kerosene heaters. If you live in an area with air pollution, stay indoors during bad air days and wear a mask if you have to go outside. Also stay away from strong perfumes, cleaning products, fresh paint, and other things with strong odors.

Medicines

Some medicines can make asthma symptoms worse. These medicines include aspirin, NSAIDs (nonsteroidal anti-inflammatory drugs), and beta-blockers. Talk with your healthcare provider about your asthma history and medicine use.

Other health problems

Some health problems can make it harder to control asthma. These include:

- Respiratory infections, such as colds and the flu
- GERD (gastroesophageal reflux) and heartburn
- Being overweight
- Sleep apnea
- Depression

Work with your healthcare provider to treat any of these problems.

Strong emotions

The strong feelings that go with laughing and crying can trigger asthma symptoms. Stress and anxiety can also trigger asthma. If you are having trouble with stress and strong emotions, speak with your healthcare provider.

How daily issues affect your health

Many things in your daily life impact your health. This can include transportation, money problems, housing, access to food, and childcare. If you can't get to medical appointments, you may not get the care you need. When money is tight, it may be hard to pay for medicines. And living far from a grocery store can make it hard to buy healthy food.

If you have concerns in any of these or other areas, talk with your healthcare team. They may know of local resources to help you. Or they may have a staff person who can help.

Key points about asthma

- Asthma is a long-term (chronic) lung disease.
- Triggers irritate sensitive airways. This makes it hard to breathe.
- Staying away from triggers is an important part of treatment.
- Long-term medicines control symptoms. They are taken every day, even when you feel well.
- Rescue medicines provide quick symptom relief. But they are short-term.
- An Asthma Action Plan can help patients and family members take appropriate, timely steps to control symptoms.

Next steps

Tips to help you get the most from a visit to your healthcare provider:

- Know the reason for your visit and what you want to happen.

- Before your visit, write down questions you want answered.
- Bring someone with you to help you ask questions and remember what your provider tells you.
- At the visit, write down the name of a new diagnosis, and any new medicines, treatments, or tests. Also write down any new instructions your provider gives you.
- Know why a new medicine or treatment is prescribed, and how it will help you. Also know what the side effects are.
- Ask if your condition can be treated in other ways.
- Know why a test or procedure is recommended and what the results could mean.
- Know what to expect if you do not take the medicine or have the test or procedure.
- If you have a follow-up appointment, write down the date, time, and purpose for that visit.
- Know how you can contact your provider if you have questions.

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