



Education

Asthma

What is asthma?

Asthma is a lung condition that causes wheezing, coughing, and shortness of breath. It is caused by inflammation (swelling) of the lining of the airways in your lungs. Asthma is a chronic condition, which means you may have it the rest of your life.

You may start coughing or wheezing when you breathe in irritants or something you are allergic to. Cold air, chemicals, perfume, and smoke are examples of irritants. Examples of things you might be allergic to, called allergens, are dust, pollen, molds, and animal dander. A viral respiratory infection might also bring on an asthma attack.

Some people have coughing or wheezing only during or after physical activity. This is called exercise-induced asthma.

Asthma may be mild, moderate, or severe. An asthma attack may last a few minutes or for days. Attacks can happen anywhere and at any time. Severe asthma attacks can be fatal. It is very important to get prompt treatment for asthma attacks and to learn to manage your asthma so you can live a healthy, active life.

About 12 million Americans have asthma, and the number of people who have asthma is increasing worldwide.

How does it occur?

If you have asthma, the airways in your lungs are always somewhat inflamed, even when you do not have any symptoms. When your airways are exposed to irritants or allergens, the airways become more swollen and make more mucus. The tiny muscles in the walls of the airways contract. These reactions cause the airway openings to become smaller, making it harder for air to move in and out. Wheezing is the sound of air moving through the narrowed air passages. The extra mucus in the airways causes coughing.

Some of the factors that may increase the risk of developing asthma are:

- low birth weight
- having one or both parents with asthma
- exposure to secondhand smoke or a lot of environmental pollutants (for example, in a large city)
- on-the-job exposure to chemicals used in the manufacturing industry, farming, and hairdressing
- obesity.

What are the symptoms?

Symptoms are:

- wheezing (a high-pitched whistling sound when you breathe in or out)
- coughing
- shortness of breath
- chest tightness.

How is it diagnosed?

Your health care provider will ask about your history of breathing problems. You will have a physical exam. You may have one or more breathing tests. You may be tested before and after taking medicine to see how your symptoms respond to medicine.

A single attack of wheezing does not mean you have asthma. Some infections and chemicals can cause wheezing that lasts for a short time and then does not happen again. Before deciding whether you have asthma, your health care provider may want to see if you have another attack of wheezing.

How is it treated?

The goal of treatment is to allow you to live a normal, active life. Treatment will probably include prescribed medicines and the removal of obvious allergy-causing substances or irritants from your home.

Two types of medicines are used to control asthma: (1) quick-acting medicines called bronchodilators and (2) preventive medicines.

Quick-acting bronchodilators (rescue medicines)

Albuterol is the generic name of the most widely used quick-acting bronchodilator. Bronchodilators relax the muscles in the airways. When the muscles are relaxed, the airways become larger, so there is more space for air to move in and out. You take this medicine by inhaling it when you first begin to have symptoms. You breathe it into your lungs as you spray it into your mouth. If you have asthma attacks often, you should always carry a bronchodilator with you to use when you begin to wheeze. If you have exercise-induced asthma, you should use the medicine before exercise to prevent wheezing.

Preventive medicines

Several types of medicines help prevent asthma. These medicines are now considered the best and safest way to control asthma. They help reduce the inflammation in your airways. They do not stop attacks of wheezing once the wheezing starts. You must use a quick-acting bronchodilator (rescue medicine), such as albuterol, when you are wheezing.

The goals of preventive medicines are to:

- prevent asthma attacks
- prevent chronic asthma symptoms, such as shortness of breath
- allow you to live a fully active life, including sports activities.

The medicines used most often for prevention are:

- a long-acting, inhaled bronchodilator called salmeterol (Serevent) used 2 times a day
- inhaled steroids, such as Azmacort and Flovent, used 1 to 4 times a day.
- zafirlukast (Accolate), zileuton (Zyflo), or montelukast (Singulair) pills taken daily.

Other preventive medicines include:

- theophylline, a pill often taken at bedtime to prevent nighttime wheezing
- cromolyn or nedocromil, inhaled 3 to 4 times a day.

In addition to using a quick-acting bronchodilator when you have asthma attacks, you may need to combine different types of preventive medicines for the best control of your wheezing. You need to work closely with your health care provider to find the treatment right for you. Make sure you understand how to use each of your medicines. Some are quick-acting and meant to be used when you have an asthma attack. Others are slow acting and help prevent attacks but do not help when you are having an attack.

Inhalers

Make sure you know how to use your inhaler correctly. Read the directions that come with your inhaler. Most inhalers work best if you hold them 2 inches in front of your mouth when you spray. If you close your mouth around the inhaler, the medicine will get stuck in your mouth and less medicine will get to your lungs. If it is hard for you to

hold the inhaler in the right position, ask your health care provider for a spacer tube. You can put one end of the spacer in your mouth and attach the inhaler to the other end. This allows you to breathe in slowly and fully and to inhale more of the asthma medicine. Ask your pharmacist how you can know when your inhaler is empty so you can avoid getting caught without medicine.

Peak flow meter

Your breathing ability can change from day to day. For example, illness or seasonal allergies may make your airways more inflamed than usual. Your health care provider may prescribe a peak flow meter. You can use the peak flow meter to measure how well you are breathing. It can help you and your health care provider to know when you might need to increase your dosage of medicine to prevent severe attacks of wheezing.

How long will the effects last?

Asthma is a chronic condition, even though you might not have any symptoms for decades. Asthma is more common in children than adults. People who had asthma as children often have no symptoms once they become adults, but the symptoms may come back later in life. Asthma that develops for the first time in mid- or late life usually continues to be a problem for the rest of your life.

How can I take care of myself?

Depending on your specific allergies, these guidelines may help keep allergens and irritants out of your home:

- Put mattresses in allergen-proof covers.
- Put pillows in allergen-proof covers or wash them once a week in hot water (at least 130° F).
- Wash bedding in hot water once a week.
- Wash and thoroughly dry pillows once a month.
- Avoid using a vaporizer or humidifier unless it is thoroughly cleaned regularly to remove mold. Keep the humidity in the house to less than 50%. Dehumidifiers can be purchased to take moisture out of the air if you live in a humid climate.
- It is best not to have pets. If you do have a pet, have your pet bathed weekly. You should also vacuum your floors often and thoroughly and use a HEPA (high efficiency particulate arresting) air filter on your home furnace.
- Stay indoors when the humidity or pollen count is high.
- Use air conditioning instead of open windows to cool your home.
- Do not use attic fans.
- Avoid cigarette smoke.
- Avoid vapors from harsh chemicals, such as bleach.

You should also:

- Take your medicines exactly as prescribed. If you have problems understanding how to take your medicines, ask your provider to write down your medicine instructions. You may also want to make a chart that shows how often you need to take each of your medicines every day. Once you become used to the schedule, you won't need the chart any more.
- See your health care provider for regular checkups as often as recommended.
- Ask your provider if it is okay for you to take aspirin. Some people with asthma are allergic to aspirin and it causes them to wheeze. Aspirin is more likely to cause problems than other anti-inflammatory medicines, such as ibuprofen or naproxen, but sometimes they can cause wheezing, too.
- Get a flu vaccine every October.

Many people with asthma have symptoms of a stomach problem called gastroesophageal reflux disease, or GERD. When you have GERD, stomach acid flows backward into the throat, irritating the upper airway. This is sometimes called acid reflux, or acid indigestion. GERD can cause an increase in asthma symptoms, particularly nighttime symptoms. Some of the things you can do to help prevent or relieve symptoms of GERD are:

- Lose weight if you are overweight.
 - Avoid foods, and other substances that seem to cause heartburn.
 - Avoid alcohol.
 - Raise the head of your bed when you sleep or lie down.
 - Do not eat for at least 2 hours before you go to bed.
 - Eat smaller, more frequent meals.
 - Avoid tight clothes and belts.
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- Do not smoke.

If you have any symptoms of GERD, talk to your health care provider about it. Your provider may prescribe a medicine that reduces the acid in your stomach to help relieve GERD and asthma symptoms.

Asthma can be a life-threatening condition. If your medicines do not seem to be working to keep you breathing comfortably, contact your health care provider. If you are having an asthma attack and using your albuterol inhaler has not relieved your symptoms, you must get medical care right away. This may mean going to the emergency room or calling 911.

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