



Managing Your Asthma



Asthma and Allergy
Foundation of America

Asthma affects more than 27 million people in the U.S.

It is a long-term disease that causes your airways to become swollen and inflamed. Airway swelling can lead to trouble breathing, coughing, chest tightness or discomfort, and wheezing (a whistling sound when you breathe out). There is no cure for asthma, but it can be managed. The best way to manage asthma is to avoid triggers, take medicines to prevent symptoms, and prepare to treat asthma episodes if they occur. The Asthma and Allergy Foundation of America's (AAFA) website, aafa.org, has a lot of information to help you learn more about asthma.



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New Diagnosis of Asthma

Learning you have asthma can be overwhelming at first. It is a chronic (long-term) disease that affects many aspects of everyday life. If you have been diagnosed with asthma, you may be filled with many questions and concerns. Your health care team is a great resource. Sometimes, you may need help with everyday life with asthma.

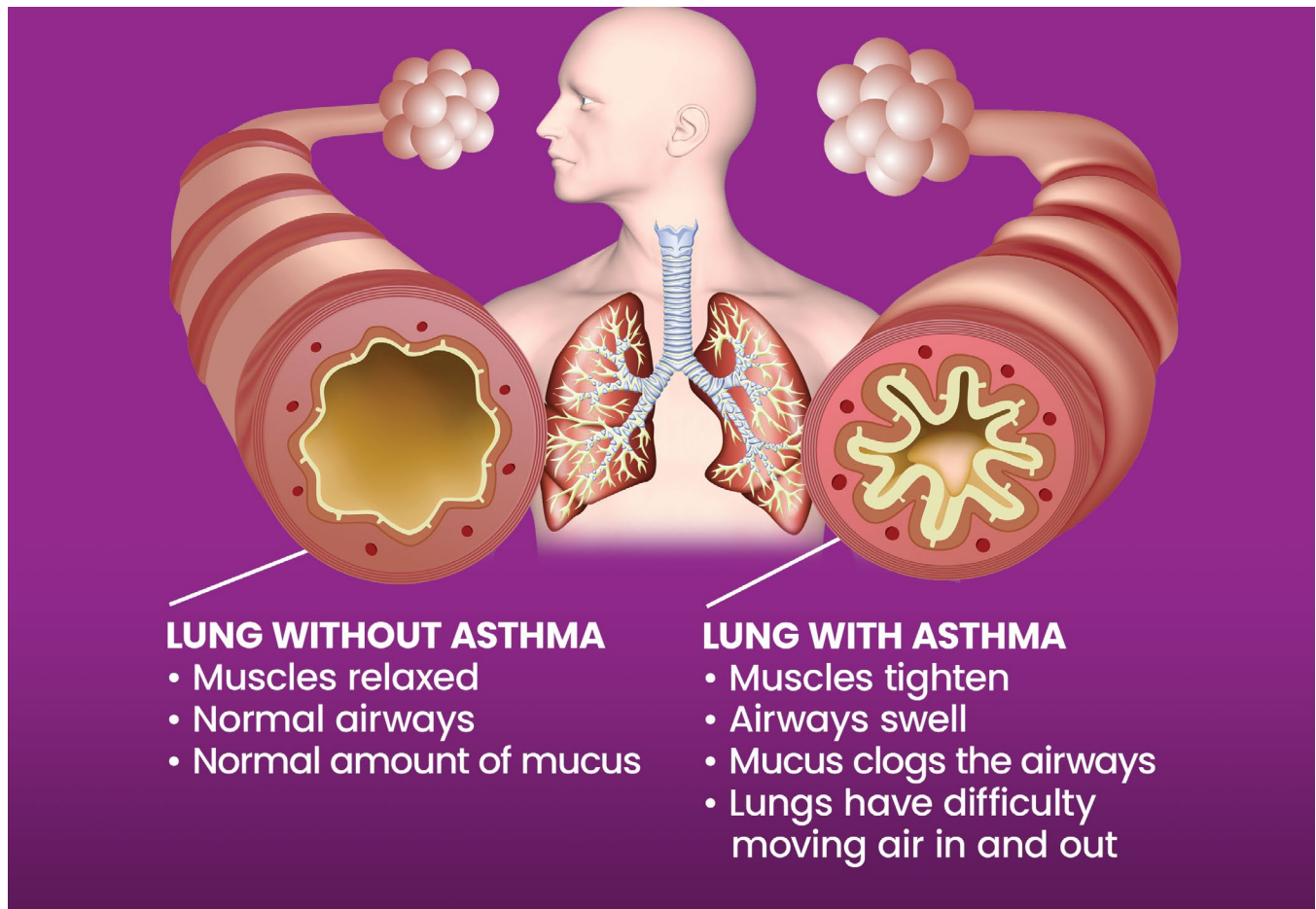
The goal of AAFA's resources and online support community is to support you in the daily management of asthma. Through education and empowerment, our community gives you the tools, resources, and emotional support you need to get on a path toward improved health and quality of life.

What Happens During an Asthma Episode

During normal breathing, the airways to the lungs are fully open. This allows air to move in and out of the lungs freely. Asthma causes the airways to change in the following ways:

- The airway branches leading to the lungs become overly reactive and more sensitive to all kinds of asthma triggers
- The linings of the airways swell and become inflamed
- Mucus clogs the airways
- Muscles tighten around the airways (bronchospasm)
- The lungs have difficulty moving air out (airflow obstruction)

These changes narrow and irritate the airways, which can cause coughing, wheezing, and chest tightness or pain. Breathing can also become hard and stressful, like trying to breathe through a straw stuffed with cotton.



Symptoms

When you have asthma, you generally have airway inflammation that is long lasting and needs to be managed. An asthma episode or attack can happen at any time. Mild symptoms may only last a few minutes, while more severe asthma symptoms can last hours or days.

Common symptoms of asthma include:



Coughing



Wheezing (a whistling, squeaky sound when you breathe)



Shortness of breath



Rapid breathing



Chest tightness or pain

Symptom Zones



Asthma symptoms are divided into zones. These zones help you know when to use your asthma medicines or get emergency help. Use the colors of a traffic light to help you know which zone you are in. Your doctor will give you an Asthma Action Plan that will list each zone, symptoms for each zone, and what medicine to take in each zone.



GO Zone
(Green)

Your breathing is good with no cough, wheezing, or chest tightness. You can work, play, and sleep through the night.

ACTION: Take your control or preventive medicine as directed (if prescribed). You want to be in the Green/Go Zone as much as possible. When you are in the Green/Go Zone, your asthma plan is working!





CAUTION Zone (Yellow)

You are coughing, wheezing, have chest tightness or pain, and/or shortness of breath. You will also be in this zone if you have trouble breathing after you've been exposed to a known trigger or if you have trouble breathing when you have a cold or respiratory illness.

Early Warning Signs of Asthma

You may be able to tell when an asthma episode is about to happen before you have trouble breathing. The key to controlling your asthma is taking your medicine at the earliest sign that your asthma is getting worse.

Make a list of your early warning signs so you can treat future asthma episodes before symptoms get worse. Talk with your doctor about what to do when you notice these signs. They may have you follow the Yellow/Caution Zone treatment on your Asthma Action Plan. In this zone, your doctor may have you take a quick-relief medicine like albuterol or a combination controller and reliever medicine.

Some common early warnings signs of asthma include:

- Changes in breathing
- Change in mucus (sputum)
- Runny/stuffy/congested nose
- Itchy neck or chin
- Dark circles under the eyes
- Itchy/watery eyes
- Paleness
- Restlessness
- Not sleeping well
- Feeling tired or weak

A peak flow meter may help detect narrowing in your airways hours or days before you feel symptoms.

ACTION: Take your asthma medicines at the first sign of these symptoms. If your symptoms don't get better, call your doctor. If you are in the Yellow/Caution Zone two or more times per week, it is a sign your asthma is not controlled.



DANGER Zone (Red)

Asthma may lead to a medical emergency. You are in the Red/Danger Zone if you have any of the following symptoms:*

- Asthma is getting worse quickly
- Quick-relief medicine is not helping
- Fast breathing with chest retractions (skin sucks in between or around the chest plate and/or rib bones when inhaling)
- Cyanosis, a tissue color change on mucus membranes (tongue, lips, and around the eyes) and fingertips or nail beds – the color appears grayish or whitish on darker skin tones and bluish on lighter skin tones
- Rapid movement of nostrils (more common in children)
- Ribs or stomach moving in and out deeply and rapidly (more common in children)
- Expanded chest that does not deflate when you exhale
- Infants with asthma who fail to respond to or recognize parents
- Trouble speaking

***Infants and children may have different emergency signs and symptoms than adults.**

ACTION: ACT NOW! Take your quick-relief medicines and **CALL YOUR DOCTOR or 911 RIGHT AWAY**. Follow up with your doctor within two days of an emergency visit or hospital stay.

Asthma Diagnosis

Other conditions have similar symptoms to asthma. It is important to get the right diagnosis so you can find a treatment plan that controls your symptoms and improves your health.

History and Body Check

Bring notes to your appointment to help answer your doctor's questions about your medical history and symptoms. This also includes all previous medical conditions. A personal or family history of allergies or eczema increases your chance of asthma. Be ready to talk about the medicines you take and your lifestyle. Tell your doctor about any home or work exposure to environmental factors that can worsen asthma. For example, these might include animal dander, pollen, dust, and tobacco smoke. The doctor may also ask if you get chest symptoms when you have a head cold.

Your doctor may do a physical exam to find out if you have asthma and will look at your ears, eyes, nose, throat, skin, chest, and lungs. This exam may include a lung function test to detect how well you exhale air from your lungs. You may also need an X-ray of your lungs or sinuses.

Lung Function Tests Used to Diagnose and/or Monitor Asthma

To confirm asthma, your doctor may have you take one or more lung function tests. These tests measure your breathing. Some lung function tests are done before and after inhaling a medicine known as a bronchodilator [brahn-ko-DIE-ah-lay-tor]. Bronchodilators open your airways. If your lung function improves a lot after taking this medicine, it is likely you have asthma. But a negative test does not always rule out asthma. Your doctor may also prescribe a trial with asthma medicines to see if it helps.

Spirometry

This is the recommended test to confirm asthma. It is also used to monitor it. During this test, you take a deep breath and blow out forcefully into a mouthpiece that's connected to a spirometer [speh-RAH-meh-ter]. The spirometer measures the amount of air you're able to breathe in and out and its rate of flow.

Fractional exhaled nitric oxide (FeNO) Test

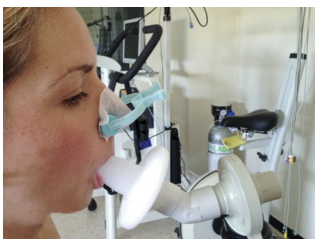
A FeNO test measures the amount of a gas called nitric oxide in your breath. This test helps doctors tell if and how much inflammation you have in your airways. It can also help find out if your asthma treatment is working. FeNO test results are used with other tools to tell how well your asthma is controlled and severity. This test is not recommended to predict asthma in children under 5 years old.

Trigger tests

If your other test results are normal, your doctor may use known asthma triggers to try to provoke a mild reaction. If you have asthma, you will react to lower doses of the trigger than people without asthma.

Peak airflow

A peak flow meter is a small, handheld device that measures the amount of air you can forcefully blow out of your lungs and how fast you can do it. Some people use a peak flow meter to monitor their asthma. When your airways are inflamed, it can be very hard to breathe a lot of air out of your lungs quickly. If your peak flow reading is low, then this could mean your airways are inflamed and you're having an asthma episode even if you don't feel any symptoms. But if you have symptoms and your peak flow meter reading is normal, you should assume you are having an asthma episode.



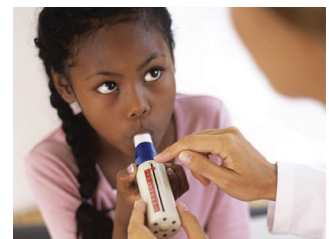
Spirometry



Trigger tests



Fractional exhaled nitric oxide (FeNO)



Peak airflow

Different Levels of Asthma

There are four levels of asthma. Your asthma level is based on your lung function and how often you have symptoms. Your doctor will ask you questions about how often you have symptoms and wake up at night from coughing or trouble breathing. They might also ask how often you have trouble doing normal activities or use a quick-relief inhaler.

1

Intermittent Asthma

You have symptoms less than twice a week and wake up less than two nights a month.

2

Mild Persistent

You have symptoms two or more days a week and wake up three to four nights a month.

3

Moderate Persistent Asthma

You have symptoms at least every day and wake up one or more nights a week.

4

Severe Persistent Asthma

You have symptoms during the day and wake up every night due to asthma.



Diagnosing Asthma in Infants and Children

Infants and toddlers have much smaller airways than older children and adults. In fact, these airways are so small that even small blockages caused by viral infections, tight airways, or mucus can make breathing hard for the child.

A child has a higher risk of developing asthma if:

- They have a parent with asthma or allergies
- They have an allergic condition (like allergies or eczema)
- They get sick with a severe respiratory infection (such as RSV)
- Their mother smoked during pregnancy
- They are exposed to harmful levels of air pollution

Diagnosing asthma in children under 5 is a little different from adults. Children this age are not usually given a breathing test. Instead, the doctor will ask about certain signs and symptoms. They may prescribe a bronchodilator if they think your child might have asthma. If the bronchodilator helps reduce your child's symptoms, that is a sign your child may have asthma.



Managing Asthma

There is no cure for asthma, but it can be controlled with an asthma management plan. This plan involves different strategies. Asthma is a very individual disease, so how you approach it can be a bit different from someone else. Your asthma management plan should include these four parts that are tailored for you:

- Managing your asthma triggers
- Taking your asthma medicines as prescribed
- Following an Asthma Action Plan and recognizing early signs
- Knowing what to do when your asthma gets worse



Asthma Triggers

If you have asthma, your airways are sensitive to things that may not bother other people. These things are called triggers. They vary from person to person. If you have asthma, it is important to keep track of things that make it worse. This could take a bit of detective work because symptoms do not always happen right after exposure. Delayed asthma episodes may occur depending on the type of trigger and how sensitive a person is to it. The most common asthma triggers include:



Allergens: Allergens (substances that cause allergies) can trigger asthma. This is called allergic asthma. It is best to avoid or limit contact with known allergens to cut down or prevent asthma episodes. Common allergens that trigger asthma symptoms include dust mites, pollen, molds, and animals (pets, rodents, cockroaches). Talk with your doctor about treatments that can help prevent allergy symptoms.



Respiratory illness: Respiratory illnesses include the common cold, flu, RSV, and other infections. These common illnesses can cause inflammation and narrowing of your airways. These changes could trigger asthma symptoms.



Exercise: Exercise and other activities that make you breathe harder can affect your asthma, especially in cold air. Exercise-induced bronchoconstriction (EIB) is when airways become tight and inflamed during physical activity. This can happen to people with or without asthma. Symptoms may start five to 10 minutes after you finish exercising. If symptoms appear sooner than this, it usually means you need to adjust your medicine. With proper asthma treatment, you do not need to limit your physical activity.



Irritants in the air: Irritants in the environment can bother inflamed, sensitive airways. Examples include smoke from cigarettes, air pollution, wood fires, charcoal grills, strong fumes, dust, and chemicals.



Weather: Dry wind, thunderstorms, cold air, or sudden changes in weather can sometimes bring on an asthma episode.



Gastroesophageal reflux disease (GERD): GERD is when acid comes up from the stomach. It is not clear why, but GERD can make asthma worse in both adults and children. Some people can have stomach acid come up without having symptoms of heartburn or they can taste of stomach contents and may not be aware of this as a trigger.



Feeling and expressing strong emotions: When you feel strong emotions, such as anger, fear, excitement, and laughter, your breathing changes. They may cause wheezing or other asthma symptoms if you have asthma.

Some less common triggers for asthma include:



Food: Some foods can trigger asthma symptoms, especially foods that have sulfites. Also, if you're allergic to a food, your asthma can make the allergic reaction worse.



Medicines: If you are sensitive to certain drugs, like NSAIDS (non-steroidal anti-inflammatory drugs – such as aspirin, ibuprofen, and naproxen) you may find that your asthma worsens after taking them. Some heart medicines, such as beta blockers, can also make asthma harder to control.

Discuss your triggers with your doctor so you can find trends and plan ways to help you manage them. You may need to consider multiple ways to avoid a trigger. For instance, if you're allergic to dust mites, consider putting a **CERTIFIED asthma & allergy friendly®** cover around your pillow and mattress, vacuuming with a HEPA-filtered vacuum, dusting with a damp cloth once per week, and keeping humidity levels in your home between 30% and 50%.



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& Allergy
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Asthma Treatment

When you are diagnosed with asthma, your doctor may prescribe a mix of different asthma medicines. These are based on how severe your symptoms are and how often they happen.

Infants or toddlers can use most of the same medicines that are used for older children and adults. However, the dosage may be lower and the way the child takes it is different.

Most doctors will aim to prescribe the least amount of medicine necessary to control your asthma. Over time, you may need to step up or step down your treatment depending on how well your asthma is controlled. Work with your health care providers to develop an asthma care management plan.

Types of Asthma Devices

Most asthma medicines are taken through an inhaler (puffer). Inhalers allow medicine to go directly into your lungs. There are four types of inhalers: metered dose inhaler (MDI), dry powdered inhaler (DPI), aerosol breath-actuated inhaler, and soft mist inhaler.

Inhalers work well when used correctly, but many people do not use them right. For example, the metered dose inhalers are “press-and-breathe” devices. They can be hard to coordinate and use. They are best used with a spacer or valved-holding chamber. These devices attach to MDIs and make them easier to use. They also help more medicine reach your lungs.

You can also ask your health care provider to prescribe a DPI, breath actuated inhaler, or soft mist inhaler. These devices require less coordination than MDIs and can be more user-friendly. But some people still have trouble using them, especially younger children, older adults, and people with severe lung disease. If this is the case, your doctor may prescribe a nebulizer. A nebulizer is a machine with tubing that takes liquid medicine and turns it into a mist you inhale.

Some other asthma medicines are in the form of pills or shots.

Any time you are prescribed a new medicine, be sure to ask your doctor or nurse to show you how to use the medicine.



What Is a Spacer or Holding Chamber?

A spacer is a plastic tube you attach to your inhaler to add space between the mouth and the MDI (press-and-breathe inhaler). This lets the medicine break into smaller droplets so you can inhale more. A valved holding chamber adds a one-way valve to the mouthpiece of the spacer. It traps and holds the medicine, giving you time to breathe all of the medicine in. Spacers and chambers come in many designs for adults and children. Your health insurance may cover much of the cost. Some kinds of spacers work better with certain MDIs. Talk with your doctor about the right spacer or holding chamber for you. Do not use a spacer or holding chamber with a dry powder or a breath actuated inhaler.

Different Types of Asthma Medicine

Asthma medicines are an important part of asthma management. They help treat and prevent your asthma symptoms. There are three main classes of asthma medicine: quick-relief, controller, and combination quick-relief and controller.

Quick-Relief

Quick-relief medicines help relieve asthma symptoms when they happen. These medicines act fast to relax tight muscles around your airways. This allows the airways to open up for a short time so air can flow through them.

You usually inhale quick-relief medicines through an inhaler or nebulizer. Most quick-relief inhalers and nebulizer treatments have one medicine in them. But some quick-relief treatments have two different medicines. Some have two medicines that relax the muscles around the airways. Others have one medicine that relaxes tight airway muscles and another one that reduces swelling and excess mucus inside the airways. **You should take your quick-relief medicine when you have asthma symptoms.** If you use this medicine more than two days a week, talk with your doctor about your asthma control. You may need to make changes to your treatment plan.



Controller

Controller medicines reduce swelling and excess mucus inside the airways. They work slowly over time. You may need to take them every day for best results. There are different kinds of controller medicines, and they can be taken through inhalers, nebulizers, tablets, shots, or infusions.

Inhaled corticosteroids (ICS) are one of the most common types of asthma controllers. They are the most effective long-term control medicines

available. You breathe ICS into your lungs through an inhaler or nebulizer device.

Sometimes asthma controllers have both an ICS and other medicines that relax tight muscles around the airways. The other medicines are like quick-relievers, but they do not work as fast. Asthma controllers that have two medicines in them are called combination medicines.



Combination Controller and Quick-Relief

Some combination medicines can be used as both a controller and quick-relief medicine. This is known as Single Maintenance and Reliever Therapy (SMART). The advantage of SMART is that only one inhaler is used instead of two.

Systemic corticosteroids are often called “steroids” and may be needed for the emergency treatment of asthma attacks that don’t respond to other asthma medicines. They are sometimes used as long-term control for some people with severe asthma. They may be delivered as pills, liquid, intravenous (IV) infusion, or injection. They are absorbed into the whole body (system wide). Systemic corticosteroids have serious long-term side effects compared to inhaled corticosteroids. If you use systemic corticosteroids (like prednisone) two or more times per year, it is a sign your asthma is not controlled. Because of the significant side effects of systemic steroids, other treatment options may offer a better solution.

The difference between these asthma treatments can be confusing. It is important to understand what each treatment does and how they help your asthma. Always take your medicines as directed by your doctor and follow your Asthma Action Plan.

Following Your Asthma Action Plan and Tracking Your Asthma



Your asthma management plan should include an Asthma Action Plan. You and your doctor will decide on this plan together.

An Asthma Action Plan has three zones on it: **Green/Go Zone**, **Yellow/Caution Zone**, and **Red/Danger Zone**. Each zone will tell you what medicines and actions to take according to your symptoms.

The goal is for your asthma to be well-controlled. Your Asthma Action Plan can help you meet that goal. Keep it in a place you can easily find it to refer to when you have symptoms.

How to Know if Your Asthma Is Under Control

A good way to know if your asthma is not well-controlled is by remembering the number two. Your asthma is not well-controlled if:



You have asthma symptoms **more than two** times a week



You use your quick-relief medicine **more than two** times a week



You wake up from asthma **more than two** times a month



You use oral corticosteroids to treat your asthma **two or more** times per year

If you experience any of the signs above, talk with your doctor.

If your asthma is not well-controlled, your daily activities may be limited. You may miss work or school. You may increase your chances of having complications from a respiratory infection. And you may be at greater risk of going to the emergency room, staying in the hospital, or even dying from asthma.

What to Do When Your Asthma Gets Worse

Keep your Asthma Action Plan handy so you know what to do if your asthma symptoms get worse.

You may have times when your asthma flares up. This can happen when you are exposed to asthma triggers or when you have a respiratory illness, such as the flu or a cold. When this happens, you will be in the Yellow/Caution Zone. Follow the instructions for this zone on your Asthma Action Plan and call your doctor.

Other times, you may have an asthma emergency. This is the Red/Danger Zone. **If you have any Red/Danger Zone symptoms after taking medicines as instructed by your doctor, CALL YOUR DOCTOR or 911 RIGHT AWAY.** Go to the hospital or call an ambulance. Follow up with your doctor as soon as possible after your visit.

Resources

AAFA has a lot of information and resources to help you manage your asthma. Visit our website to learn more about living with asthma: **aafa.org**

Some of the resources AAFA provides include:

- AAFA's free online support community: **aafa.org/join**
- Information about asthma treatments: **aafa.org/asthma-treatment**
- What to do if you can't afford your asthma medicines: **aafa.org/asthma-assistance** or call **800-7-ASTHMA**
- Healthier Home Checklist to help you reduce your exposure to allergy and asthma triggers in your home: **aafa.org/healthyhomes**
- Find products to help you create a healthier indoor environment through our **asthma & allergy friendly**® Certification Program: **aafa.org/certified**