

Children's of Alabama

Guide to Asthma

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www.ChildrensAL.org/asthma • Patient Health and Safety Information



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Asthma Basics

What is asthma?

- Asthma is an inflammatory lung disease that is common in both children and adults. Asthma is a chronic disease* (long-term). It often runs in families, especially those with eczema, allergies or asthma.
- Having asthma causes:
 - airway muscles to tighten.
 - increased inflammation and swelling in the airways.
 - a build-up of mucus.
 - airways to become swollen, tight, and narrow making it hard to breathe.

What are symptoms of asthma?

- Symptoms of asthma are what your child feels when the airways are swollen and narrow.
- Common symptoms:
 - coughing (often worse at night)
 - chest tightness
 - wheezing
 - symptoms with exercise (coughing or difficulty breathing)

Your child may have more asthma symptoms when sick with a respiratory illness (ex: common cold) or when exposed to something in the environment that triggers his/her asthma. **These more severe episodes are called asthma flare-ups***. You will have to adjust your child's asthma medicines during these times and may need to see your child's doctor to help manage these flare-ups.

There are 2 main types of asthma: Persistent Asthma and Intermittent Asthma

Persistent Asthma: Children have more frequent symptoms and asthma flare-ups. This is caused by increased airway inflammation (swelling) and narrowing that is present every day.

Intermittent Asthma: Children have few symptoms because they only have rare times of airway swelling and narrowing.

Less airway swelling and narrowing = fewer symptoms and better asthma control

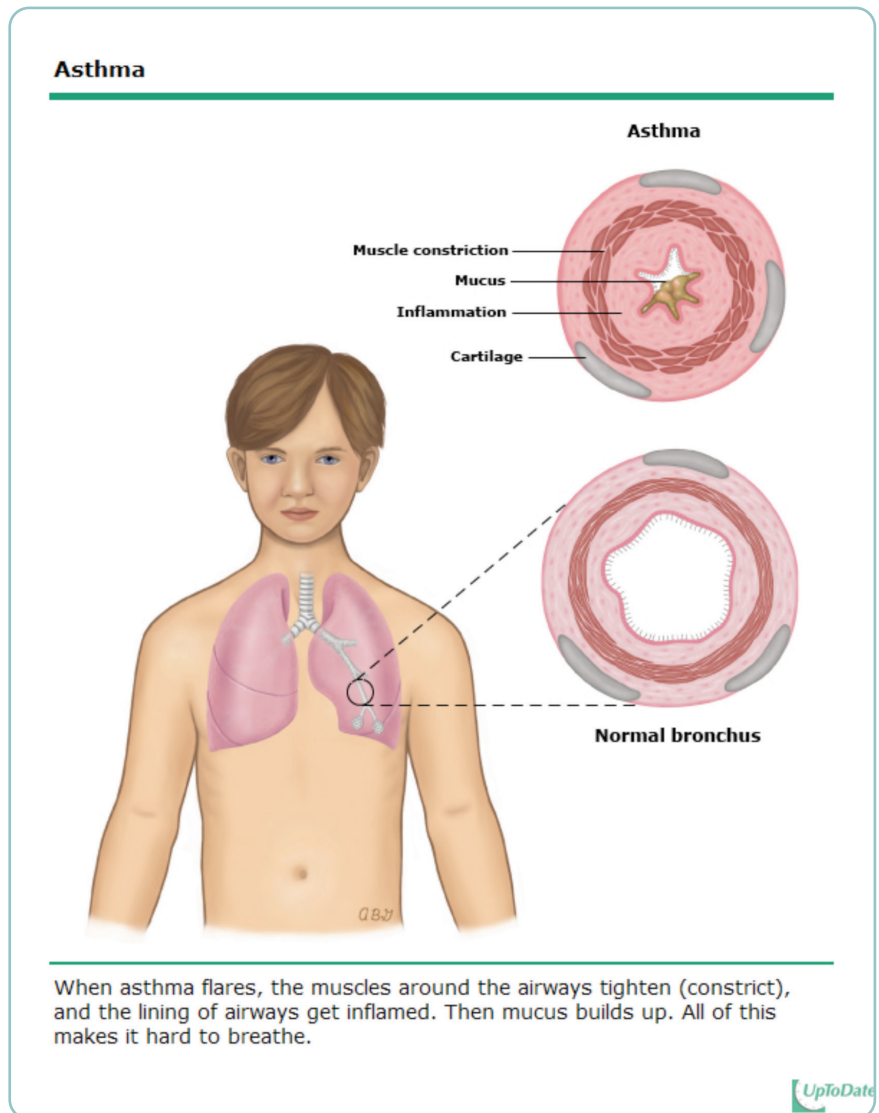
All * throughout this book indicate to see glossary (page 12).

What type of asthma does my child have?

- Your child's doctor can diagnose your child with intermittent or persistent asthma based on your child's symptoms, how frequent they are, and how often your child is having flare-ups.
- Some doctors will also perform spirometry* (a breathing test) to help with the diagnosis.
- Having this diagnosis helps guide which medicines are right for your child.

What is the goal of asthma treatment?

- The goal of asthma treatment is to decrease airway swelling and narrowing so that your child has fewer symptoms and flare-ups.
- There is no cure for asthma, but there are great ways to control it.



What are the key steps to reach this goal?

- Your child should have regular visits (every 3-6 months) with their doctor to guide treatment and medicine choices. This is needed because asthma is a chronic disease that changes over time and your child's medicines may need to be increased or decreased.
- Working with your child's doctor to learn your child's asthma triggers (things that cause increased asthma symptoms) and learning how to avoid them.

What does well-controlled asthma look like?

Well-controlled asthma means your child is:

- symptom-free most of the time and not needing frequent quick-relief medicine.
- able to exercise and play like other children.
- sleeping through the night.
- not missing school or work due to frequent asthma flare-ups.



Asthma Medicines

What medicines are used to treat asthma?

Asthma can be well-controlled with the right medicines. Asthma medicines are safe and work well for children. Asthma medicines are not addictive and your child will not become dependent on them.

Most asthma medicines are inhaled into the lungs. Inhaled medicines require correct breathing techniques for the medicines to reach the lungs and work. It is helpful to bring asthma medicines and spacers to doctor visits to make sure your child is on the right medicines and able to use them correctly.

There are two main types of asthma medicines:

1. **Quick-Relief Medicine***: sometimes called rescue or emergency medicine. Everyone with asthma needs quick-relief medicine available at all times.
2. **Controller Medicine***: sometimes called preventive medicine. Anyone with persistent asthma needs controller medicine daily.

Quick-Relief Medicine opens the airways within minutes to stop asthma symptoms. It relaxes the muscles in the airways when they become tight and narrow, but it wears off in a few hours. As the medicine wears off, the symptoms may come back. This is because quick-relief medicine does not treat the airway swelling that is causing the airway muscles to become tight and narrow. Quick-relief medicine is used during flare-ups (ex: respiratory illness) or when exposed to triggers that cause asthma symptoms. During an asthma flare-up, these medicines can be used every 4 hours.

Some children also need quick-relief medicine to “pre-treat”* before exercise or active play. This should allow exercise or play without any asthma symptoms.

See page 9 for pictures of quick-relief medicines.



Controller Medicine(s) are anti-inflammatory medicine(s) taken daily that decrease airway swelling to prevent asthma symptoms and reduce the frequency of flare-ups. **All patients with persistent asthma need a controller medicine(s).** Continue controller medicine(s) even on days when there are no symptoms of asthma. Stopping controller medicine(s) often causes the airway swelling and narrowing to return and symptoms to increase.

The most effective controller medicine(s) are **inhaled steroids**. Controller medicine(s) are used long-term and are taken **every day** to decrease the swelling in the airways so that asthma is in good control.

Continue daily use of controller medicine(s) even during flare-ups and add quick-relief medicine. Controller medicine(s) are usually dispensed with enough medicine to last 1 month, so they should be refilled every 30 days.

Controller medicine(s) come in different styles of inhalers* and different strengths. See page 9 for pictures of controller medicines. It is recommended to rinse the mouth and spit after using controller medicine(s). If using a spacer with face mask you should wipe your child's face.

- **Quick-Relief Medicine** should be used only when needed to stop asthma symptoms or to "pre-treat" prior to exercise/play. All children with asthma need quick-relief medicine with them at all times.
- **Controller Medicine(s)** are taken every day to prevent asthma symptoms and reduce flare-ups. All children with persistent asthma need these medicine(s) every day.

What type of asthma medicines does my child need?

Intermittent Asthma:
needs Quick-Relief Medicine

Persistent Asthma:
needs Controller Medicine(s) plus
Quick-Relief Medicine



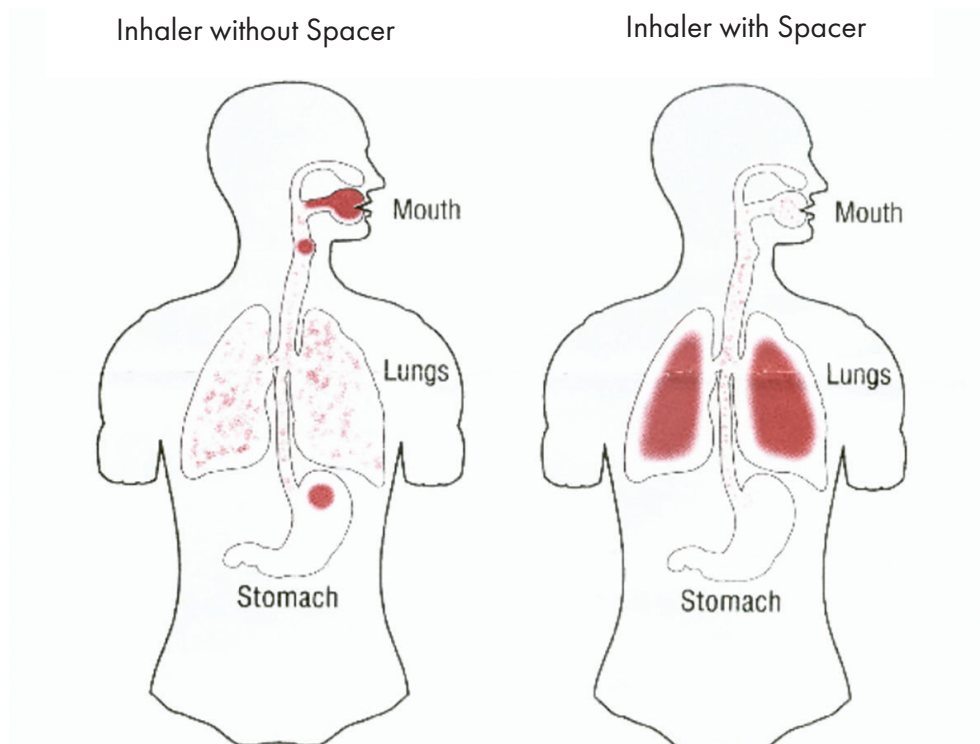


Spacers

How does my child use inhaled medicine?

- Spacers are tubes that guide medicines from inhalers to the lungs.
- Do not spray more than one puff of the inhaler into the spacer at a time.
- For all spacers and inhalers there are preparation (priming*) and cleaning instructions.
- The same spacer can be used with different inhalers.

Spacers are not routinely covered by all insurance plans and may be costly to replace. Keep them in a safe place.



**Benefits of using a Spacer/Chamber Device to
improve medicine delivery to the lungs**

Using a Spacer with a Facemask (under 8 years old)

1. Stand up tall (if an infant hold in a sitting position).
2. Remove the mouthpiece cover from the inhaler.
3. Shake the inhaler 4 to 5 times.
4. Insert the inhaler into the spacer.
5. Seal the mask over the child's mouth and nose and hold in place.
6. Press down once on the inhaler to release one puff of medicine.
7. Continue to hold the mask sealed on the face while the child breathes 6 normal breaths.
8. Remove the mask and wait 1 minute to allow medicine to reach the lungs.
9. Repeat these steps for each additional puff of medicine needed for a dose.



Using a Spacer with a Mouthpiece (8 years and older)



1. Stand up tall and look straight ahead.
2. Remove the mouthpiece cover from the inhaler.
3. Shake the inhaler 4 to 5 times.
4. Insert the inhaler into the spacer.
5. Breathe out fully.
6. Place the mouthpiece over the tongue and seal lips snugly around the mouthpiece and hold in place.
7. Press down once on the inhaler to release one puff of medicine.
8. Take a slow, deep breath in over 3-5 seconds from the mouthpiece and remove the mouthpiece from your mouth.
9. Hold your breath for 10 seconds after inhaling.
10. Wait 1 minute to allow medicine to reach the lungs.
11. Repeat these steps for each additional puff of medicine needed for a dose.

Asthma Action Plan

Child's Name: _____ Date: _____

Doctor's Name: _____ Phone: _____

Doctor's Signature (if required): _____

Please bring all Medicines and Spacer to Office Visit.

Green Zone

Child is well.

Take these controller medicines every day, sick or well.

Child has all of these:

- Breathing is good
- No cough or wheeze
- Can play or exercise



1. _____
2. _____
3. _____
4. _____

If your child has symptoms with exercise, use quick-relief medicine with spacer ____ puffs 15 minutes before play.

Yellow Zone

Child is not well.

Continue controller medicines and add quick-relief medicine.

Child has any of these:

- Cough
- Wheezing
- Chest is tight or hurts
- Short of breath
- Symptoms disturb sleep



COUGH



WHEEZE



TIGHT
CHEST



WAKE UP
AT NIGHT

Take quick-relief medicine (albuterol) ____ puffs OR 1 vial nebulizer treatment every 4 hours.

If child is not better after ____ days in yellow zone OR if child's symptoms are worsening, call your doctor.

Red Zone

Child has severe symptoms.

Give quick-relief medicine right away!

Child has any of these:

- Struggling to breathe
- Rib or neck muscles pulling
- Nostrils flare open
- Can't walk or talk well

Take quick-relief medicine (albuterol) ____ puffs OR 1 vial nebulizer treatment and repeat in 20 minutes.

If child is better, call the doctor for further care instructions.

If child is worsening or not better after 2nd treatment, go to the closest emergency room or call 911.



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Asthma Medicine Pictorial

| Quick-Relief Medicines | Controller Medicines |
|---|---|
|  Ventolin™ (Albuterol Sulfate) |  Flovent HFA™ |
|  Proventil™ (Albuterol Sulfate) |  Alvesco™ |
|  ProAir® RespiClick (Albuterol Sulfate) |  Asmanex HFA™ |
|  ProAir™ (Albuterol Sulfate) |  Dulera™ |
|  Symbicort™ (Budesonide/Formoterol) |  Advair HFA™ |
|  Advair Diskus™ |  Xopenex™ (Levalbuterol) |
|  Qvar Redihaler™ |  Asmanex™ Twisthaler |
|  Plumicort Flexhaler™ |  Xopenex™ (Levalbuterol) for Nebulizer |
|  Albuterol for Nebulizer |  Budesonide (Pulmicort™) for Nebulizer |
| Spacers: |  Spiriva Respimat™ |
|  |  Breo Ellipta™ |

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Asthma Triggers

Asthma Triggers are things that make asthma flare-up.

Below is a list of the most common triggers.

Work with your child's doctor to identify specific triggers for your child.

| | Trigger | Notes | Suggestions |
|--------------------------|--|---|---|
| <input type="checkbox"/> | Exercise | All children need to exercise to stay healthy. | <ul style="list-style-type: none"> Take quick-relief medicine before exercise. Warm up before exercise. |
| <input type="checkbox"/> | Respiratory Infections | Colds and flu are the most common triggers in children. | <ul style="list-style-type: none"> Get a flu shot every year. Wash hands often. Do not use over-the-counter cough medicines. |
| <input type="checkbox"/> | Smoke/ Vape (tobacco and wood) | Smoke irritates the airways and causes asthma symptoms. | <ul style="list-style-type: none"> Do not allow smoking in home or car. Smoke can linger on clothes, linens, and furniture. For cessation assistance: call 1-800-784-8669 (1-800-QuitNow) www.quitnowalabama.com. |
| <input type="checkbox"/> | Dust mites | Dust mites are tiny insects (too small to see) that live in mattresses, bedding, carpets, and stuffed animals. All homes have dust mites. | <ul style="list-style-type: none"> Use mattress and pillow covers that block mites. Wash bedding and clothing in hot water weekly. Remove stuffed animals from bedroom. Dust furniture and vacuum floors weekly. Dust and vacuum when your child is not present. Remove carpet, if possible. |
| <input type="checkbox"/> | Emotions | Emotions like laughing, crying, or stress can trigger asthma. | <ul style="list-style-type: none"> Take slow, deep breaths in and out through your nose. Use quick-relief medicine if needed. |
| <input type="checkbox"/> | Indoor temperature/ weather changes | Being too hot or too cold can make asthma flare-up. | <ul style="list-style-type: none"> When it's hot, play outside before noon. When it's cold, wear a scarf or shirt over your mouth when you first go outside. |
| <input type="checkbox"/> | Molds | Molds release spores into the air that can trigger asthma. Molds are present both inside and outside and grow best in areas with a lot of moisture. | <ul style="list-style-type: none"> Indoor: Use fan when cooking or showering. Repair leaky pipes and faucets quickly. Avoid humidifier use. Outdoor: Avoid children raking and playing in wet leaves. |
| <input type="checkbox"/> | Pests (cockroaches, rats and mice) | Small pieces of pests and pest droppings settle in household dust and end up in the air we breathe. | <ul style="list-style-type: none"> Only eat in the kitchen and don't leave food out. Use poison baits or pest plug-ins. Fix plumbing leaks so pests won't have a place to drink. |
| <input type="checkbox"/> | Animals | Animal dander from pets' urine, skin, and saliva can trigger asthma. | <ul style="list-style-type: none"> Keep your child away from these animals. Especially keep pets out of child's bedroom. Wash pets weekly. |
| <input type="checkbox"/> | Pollen | Pollens are particles in the air that come from trees, grass, and weeds. Many people are allergic to these particles. | <ul style="list-style-type: none"> Keep windows closed and use air conditioner. Shower, wash hair, and change clothes after outdoor play. Play outdoors before noon. |
| <input type="checkbox"/> | Strong odors | Cleaning supplies, perfume, hair products, candles, and paints can cause asthma flare-ups. | <ul style="list-style-type: none"> Avoid using perfume or heavily scented products. Only use cleaning supplies and other products with a strong odor when the person with asthma is not present. |

Well-Controlled Asthma



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What is an Asthma Action Plan?

The asthma action plan is a written plan that is developed with your child's doctor to help control asthma. It tells you how to take their asthma medicine(s) and what actions to take when symptoms flare-up or become severe. A sample plan is included in the book and should be completed by your child's doctor. Everyone with asthma should have an asthma action plan.

Well-controlled asthma means your child is:

- symptom-free most of the time and not needing frequent quick-relief medicine.
- able to exercise and play like other children.
- sleeping through the night.
- not missing school or work due to frequent asthma flare-ups.

How can our family help my child have well-controlled asthma?

- See the doctor for an asthma checkup every 3-6 months. Let your child's doctor know how often your child is having asthma symptoms or flare-ups. Bring all their medicines & spacer to the visit.
- If your child is prescribed controller medicine(s), take them every day. It is important to watch your child take their medicines (even older teens) and help them monitor their asthma daily.
- Your child should have quick-relief medicine with them everywhere they go.
- Everyone who cares for your child should know when and how to give his/her medicine.
- Asthma flare-ups can often be managed at home by following the asthma action plan and with the help of your child's doctor. Treating asthma symptoms early and contacting your child's doctor for help can often prevent emergency room (ER) visits and hospitalizations.





Glossary

1. **Airways:** Breathing tubes in the lungs that allow air to flow into and out of the lungs.
2. **Chronic Disease:** A long-term disease that can be managed over time but cannot be cured.
3. **Controller Medicine:** Anti-inflammatory medicine that is used daily to decrease airway swelling. This helps to prevent asthma symptoms and reduce the frequency of flare-ups.
4. **Flare-ups:** Episodes of increased asthma symptoms caused by increased airway swelling, muscle tightening, and increased mucus production.
5. **Inhaler:** A device that contains inhaled medicines. These devices are sometimes called puffers or metered dose inhalers (MDI). Inhalers come in various forms.
6. **Pre-Treat:** Use of quick-relief medicine before exercise or active play to prevent asthma symptoms related to exercise.
7. **Priming:** Spraying puffs of an inhaler into the air before using the inhaler for the first time or after inhaler has not been used for several days. Priming ensures that the medicine has been properly loaded into the device so you will get a correct dose with the first puff. Ask your pharmacist for instructions about the number of priming puffs necessary for your specific inhaler.
8. **Quick-relief Medicine:** Medicine used to quickly relax tightened muscles in the airways during asthma flare-ups to make it easier to breathe.
9. **Spirometry:** Breathing test that measures how much air you can blow out during a few seconds. Because asthma causes swelling and narrowing of the airways, this test is used to show if airway obstruction is present.



Notes



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Notes

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