

## Patient and Family Education

This teaching sheet contains general information only. Talk with your child's doctor or a member of your child's healthcare team about specific care of your child.

### What is asthma?

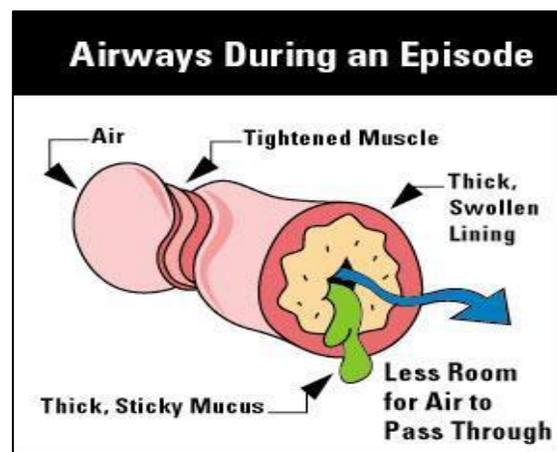
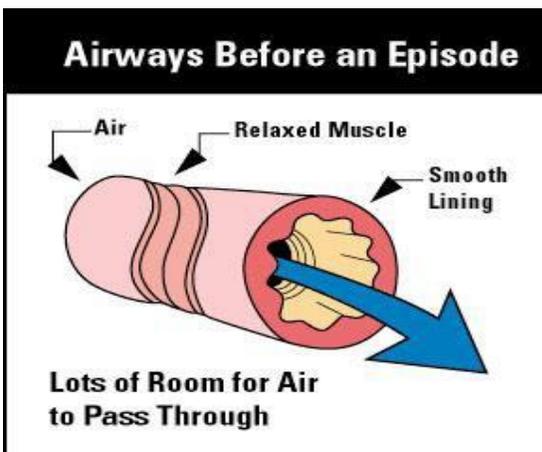
- Asthma is a common lung condition. Most of the time, children who have asthma feel OK, but during an asthma attack, it becomes harder to breathe. An asthma attack is also known as an asthma episode.
- Asthma is chronic, which means it can last a lifetime. Many children with asthma can get better as they get older. There is no cure for asthma, but it can be controlled.

### What happens during an asthma attack?

Three things happen in the airways of the lungs during an asthma attack:

1. The airways get swollen. Doctors call this inflammation. People with asthma have sensitive airways. They always have a little inflammation, even when they are not having an attack.
2. Thick mucus fills up the airways.
3. The muscles that wrap around the airways squeeze tight.

These 3 things can cause coughing, a tight feeling in the chest, shortness of breath, wheezing or labored breathing (working much harder to breathe). Wheezing is the sound caused by trying to breathe through the narrowed airways.



In case of an urgent concern or emergency, call 911 or go to the nearest emergency department right away.

# Asthma basics, continued

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## Early warning signs

Most asthma attacks start slowly, and you may notice small changes in your child beforehand. These changes are called **early warning signs**. You can often stop an attack or make it less severe if you start treatment when you see early warning signs. Talk with your doctor about what you should do when your child has early warning signs. Some common warning signs are:

- Mild coughing
- Itchy or sore throat
- Runny or stuffy nose
- Itchy or watery eyes
- Headache
- Tiredness or irritability
- Chest tightness
- Wheezing
- Shortness of breath

## What causes asthma attacks?

Asthma attacks usually start when something bothers the airways. These things are called “**triggers**”. Every child’s triggers are different. Try to reduce your child’s triggers as much as possible.

Some common triggers and tips to help avoid them are:

- **Smoke** from cigarettes, pipes, cigars, e-cigarettes, grills, fireplaces and burning wood. Do not allow anyone to smoke near your child or in your house or car - even when your child is not there.
- **Colds, flu and sinus and ear infections.** Make sure your child gets the flu vaccine each year. Cleaning your hands well with soap and water or an alcohol-based gel or foam is the best way to help prevent colds and infections.
- **Strong odors** from sprays, perfumes, cleaning products and other things. Do not spray these items when your child is in the room.
- **Air pollution.** Spend less time outside when the smog level is high, especially on hot summer days.
- **Exercise or sports.** Your child may need to take asthma medicine before being active, though being active is still important. Talk with your doctor about how to help avoid asthma attacks with activity.
- **Allergens**, such as dust, pollen, mold, insect droppings and animals with fur or feathers. Keep your home clean and free of pests. Your child may or may not have allergies to these. Talk with your doctor about this.
- **Strong emotions**, such as anger or excitement. Your child cannot avoid these emotions, but be aware that they can trigger an asthma attack.
- **Weather**, such as rain, wind, cold temperatures or sudden changes. Have your child wear a scarf over his mouth and nose on cold, dry days.

## What is a metered dose inhaler (MDI) and spacer?

An MDI, or inhaler, is a device that contains asthma medicine. It delivers the medicine into the lungs. The MDI needs to be used in a certain way or it will not work.

A spacer, or holding chamber, is a plastic tube with a mask or mouthpiece that connects to the MDI. The spacer helps more of the medicine get into the lungs where it can help your child.

- Ask your child’s doctor to teach you and your child how to use the inhaler if one is prescribed. Ask when it should be used and when it needs to be refilled.
- **Make sure the inhaler has medicine. It may be out of medicine and just have the propellant**

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left, even if it still:  
– Puffs when you press it or shake it

## Asthma basics, continued

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- Feels like there is something inside.

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## Asthma basics, continued

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- Know how many puffs (doses) are in the inhaler.
  - Check the counter on the inhaler before each treatment.
  - If the inhaler does not have a counter, ask your child each day if he used any of the medicine.
  - Count the number of puffs used, and write it down. Keep a log each day.
  - Get a new inhaler when doses get low.
  - Check the inhaler expiration date, and replace it when needed.
- If your child has used an MDI in the past, the spray may feel softer, warmer and taste different now. A new propellant that is safer for the environment may cause these changes.

### How to use an MDI with a mouthpiece and with a mask

Teach your child these steps for using an MDI:

1. Wash your hands well with soap and water for at least 20 seconds.
2. Stand up, or sit up straight.
3. Take off the cap, and shake the inhaler. If it is a new inhaler or has not been used for several days, read the manufacturer instructions for how to prime the inhaler.
4. Hold the inhaler as taught by your respiratory therapist, nurse or doctor.
5. Breathe out all the way.
6. Slowly start to breathe in while pressing down on the inhaler at the same time. Breathe in slowly and deeply to fill the lungs.
7. Hold the breath for 5 to 10 seconds.
8. If your child is to take more than 1 puff, allow 1 minute between puffs. Shake the MDI before each puff.
9. Rinse the mouth after using any inhaled steroid medicine.

### Should my child use a spacer or holding chamber?

Yes - using a spacer or holding chamber is **the best way** to use an MDI. They help more medicine reach the airways so that it can work better. Ask your doctor about using a spacer if your child does not use one.



Spacer or holding chamber with mouthpiece



Spacer or holding chamber with mask

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# Asthma basics, continued

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## How can I tell when my child is having trouble breathing?

If you notice any of these signs, it means your child is having an asthma attack. Follow your Asthma Action Plan. If you do not have one, call your child's doctor **right away**.

- Coughing or wheezing
- Chest tightness
- Less playful than normal or hard to wake up
- Trouble catching his breath
  - An older child may sit hunched over or be unable to speak a full sentence without stopping to take a breath.
  - A baby may have a softer cry than normal and may not be able to suck on a pacifier or bottle well.
- The skin between the ribs and around the collarbones pulls in with each breath. This is called retractions.
- The nose may open wider than normal, like a bull's nose, with each breath.
- Breathing faster than normal
  - To find out if your child has a normal breathing rate, count breaths when he is calm or sleeping.
  - Normal breathing rates are:
    - Birth to 1 year - 30 to 40 breaths in 1 minute
    - 1 to 8 years - 24 to 30 breaths in 1 minute
    - 9 years and older - 16 to 24 breaths in 1 minute

**If your child has a blue, purple or pale gray color to the lips, gums or fingernails, call 911 RIGHT AWAY. This is an emergency.**

## What else do I need to know?

- Ask your child's doctor for a written Asthma Action Plan. Share the plan with your child's school, childcare center and others who care for your child.
- Remain calm during an asthma attack. Reassure your child, and follow his asthma plan.
- Take a class to learn more about how to manage asthma.
- Call the doctor if your child seems to need his MDI more often than it was prescribed.
- Ensure that your child always has **fast, easy access to his rescue medicine at all times** - at home, at school and at play.
  - Be prepared. No one knows when an asthma attack will happen.
  - Rescue asthma medicines, such as albuterol, help to open the airways. These medicines provide fast relief of asthma symptoms, such as coughing, wheezing and breathing problems.
  - Make sure the inhaler **always** has medicine in it. Replace it as needed.
- Talk with your child's doctor about how to better control your child's asthma. Asthma may not be well controlled if your child:
  - Needs to use rescue medicine for asthma symptoms more than 2 times in 1 week.
  - Wakes at night with asthma symptoms more than 2 times in 1 month.
  - Needs a refill of his rescue inhaler more than 2 times in 1 year.
- Learning how to help prevent and treat asthma attacks can help your child:
  - Think of himself as healthy, rather than sick.
  - Take part in school, play and physical activities.

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## Asthma basics, continued

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### Where can I learn more about asthma?

Visit [choa.org/asthma](http://choa.org/asthma) to learn more about asthma.

For more details, you may visit these websites:

- [www.nhlbi.nih.gov](http://www.nhlbi.nih.gov)
- [www.allergyasthmanetwork.org](http://www.allergyasthmanetwork.org)
- [www.aafa.org](http://www.aafa.org)
- [www.lungusa.org](http://www.lungusa.org)

*Children's Healthcare of Atlanta has not reviewed all of the sites listed as resources and does not make any representations regarding their content or accuracy. Children's Healthcare of Atlanta does not recommend or endorse any particular products, services or the content or use of any third party websites, or make any determination that such products, services or websites are necessary or appropriate for you or for the use in rendering care to patients. Children's Healthcare of Atlanta is not responsible for the content of any of the above- referenced sites or any sites linked to these Sites. Use of the links provided on this or other sites is at your sole risk.*

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