

Asthma

There are 20 million Americans living with Asthma according to the Asthma and Allergy Foundation of America (AAFA)

- What is asthma?
- What are the symptoms of asthma?
- How is asthma diagnosed?
- What causes an asthma attack?
- What kinds of medications will my child be prescribed if he has asthma?
- What does an asthma management plan look like?

What is asthma?

Asthma is a chronic lung disease of the tubes that carry air to the lungs. The tubes of the lungs become irritated, swollen, and inflamed. When this happens, the tubes narrow making it harder for air to move through the lungs. This makes breathing more difficult. Around 20 million Americans have asthma (Asthma and Allergy Foundation of America).

What are symptoms of asthma?

- Coughing
- Wheezing
- Shortness of breath
- Rapid breathing
- Chest tightness
- Symptoms are sometimes worse at night and in the morning

How is asthma diagnosed?

This information can be found at the AAFA.

- **Personal and medical history:** Your doctor will ask if your child has been coughing, wheezing, or having difficulty breathing. If your child has been coughing, wheezing, or had difficulty breathing your doctor will ask when this happens (does it happen more often at night, in the morning, after exercise, etc.). Your doctor may ask you if your child has any allergies or eczema (a skin rash that causes dryness, itchiness, and redness). Your doctor may also ask if anyone in your family has a history of asthma.
- **Tests:** Your doctor may perform some tests on your child to see how well they breathe. They are called lung function tests. Two examples of lung function tests are spirometry and peak airflow.
 - Spirometry: Your child will be asked to breathe into a mouth piece that is connected to a small plastic device called a spirometer. The device will help the doctor see how much air is going in and out of the lungs. It will also show much force your child has when breathing out.
 - Peak Airflow: Your child will breathe as hard and as fast as possible into a hand-held device called a peak flow meter. Sometimes, doctors will give this device to families to take home so they can monitor how the child is doing.
 - If your doctor thinks your child may have asthma he/she will give your child some asthma medication and perform the test again. If your child does better on the test, they may be diagnosed with asthma.
- **Trigger test:** another way to diagnose asthma is to have your child inhale something that will trigger a reaction. If your child does not have a reaction, they will not be diagnosed with asthma. If your child does have a reaction, they may be diagnosed with asthma.
- **X-rays** of your child's chest and sinuses may also be taken

- **Allergy test:** Once your child has been diagnosed with asthma, your doctor may give your child an allergy test. This will help you understand what your child is allergic to so you can help prevent your child's asthma from becoming worse.

What causes an asthma attack?

This information can be found at the Centers for Disease Control (CDC)

- Not all children are allergic to the following things.
- **Environmental Tobacco Smoke** (secondhand smoke). Parents, friends, and relatives of children with asthma should not smoke near children with asthma or in the child's home or car.
- **Dust mites.** Using mattress covers, pillow case covers can help minimize effects of dust mites. Items that can make dust mite problems worse are stuffed animals, down-filled pillows or comforters, and clutter.
- **Outdoor air pollution.** If the news states there is a high pollution level, spend little time outdoors.
- **Cockroaches.** The droppings of cockroaches can trigger an asthma attack. Take care to keep your kitchen free of crumbs and vacuum/sweep areas that cockroaches are attracted to every 2 to 3 days. If you have a difficult time getting rid of them, you might consider hiring an exterminator.
- **Pets.** Furry pets can often trigger an asthma attack. If your child is allergic to your pet, you will need to find another home for the pet. If you would like to keep your pet, make sure the pet does not go into the child's room, bathe the pet once a week, keep the pet outside as much as possible, and vacuum/sweep your home regularly. If you visit a family member or friend who has a pet, talk with them about your child's allergy before hand and discuss ways your friend/family member can help and always bring your child's asthma medication.

- **Mold.** The best way to deal with mold in your home is to use a dehumidifier. Fix any water leaks in your home to prevent mold from growing.
- **Food**
- **Drugs**
- **Non-allergies** can also cause an asthma attack such as viruses, exercise, emotional stress, high humidity and climate changes.

What kinds of medications will my child be prescribed if he has asthma?

There are three different types of medication your child may be prescribed.

1. **Long-term medications.** This type of medication will be taken regularly to control chronic symptoms and to prevent asthma episodes. It can be taken either through inhaling it or by taking a pill.
2. **Quick-relief medications.** This medication is taken when needed. It is used to treat or prevent an asthma attack. It is usually taken by inhaling it.
3. **Allergy medication.** This can be taken as needed or regularly depending on how severe your child's allergies are. Antihistamines are common as well as immunotherapy. Immunotherapy is when small doses of the allergen are injected regularly until your child has become less sensitive to the allergen.

What does an asthma management plan look like?

This information has been adapted from the AAFA.

1. **Identify and minimize contact with your asthma triggers.** Avoiding triggers is the best way to reduce your child's need for medication and to prevent asthma episodes. But first, you have to learn what those triggers are. Any time your child has an asthma episode, think about where he/she was and what your child was doing in the past day or so. Answer questions like these in a diary or on your calendar:

- Was he/she making a bed or vacuuming?
- Was he/she near an animal? Cigarette smoke?
- Did he/she have a cold or other infection?
- Was he/she running, playing or exercising?
- Was he/she upset, excited or tired?

Discuss your notes with your doctor to look for trends. As you identify your child's triggers, talk about which ones can be avoided, and how to best avoid them. For instance, if you are allergic to dust mites you should put an airtight cover around your pillow and mattress. You may also want to discuss with your physician how immunotherapy might help to prevent allergy symptoms.

An allergy test would be another option to figure out what your child's triggers are.

2. **Take your medications as prescribed.** Asthma medicines are usually inhaled through a machine called a nebulizer, through a small device called a metered dose inhaler (also called an inhaler, puffer, or MDI) or through a dry powder inhaler (DPI). For inhalers to work well, your child must use them correctly. But over half of all people who use inhalers don't use them properly. Ask your doctor or nurse to watch you and check your child's technique. If it is still difficult to use, you have two choices. Ask them to recommend a spacer or holding chamber. This device attaches to the inhaler to make it easier to use and to help more medicine reach the lungs. Or, ask about using a "breath-actuated" inhaler, which automatically releases medicine when you inhale.

Unless your child's asthma is very mild, chances are you have prescriptions for at least two different medicines. That can be confusing. The more you understand about what those medicines do and why they help, the more likely you will help your child use them correctly.

Although there are some potential adverse effects from taking asthma medications, the benefit of successfully controlling your child's asthma outweighs this risk. It is important to discuss each of your asthma medications with your physician to learn more about their effects.

3. **Help your child monitor his/her asthma and recognize early signs that it may be worsening.** Asthma episodes almost never occur without warning. Some people feel early symptoms, including: coughing, chest tightness, feeling very tired. But because airways to the lungs narrow slowly, your child may not feel symptoms until your airways are badly blocked. The key to controlling your asthma is taking your medicine at the earliest possible sign of worsening.

There is a simple, pocket-sized device called a peak flow meter that can detect narrowing in your child's airways hours, or even days, before your child feels symptoms. You simply blow into it, as instructed in your doctor's office, to monitor your airways the same way you might use a blood pressure cuff to measure high blood pressure or a thermometer to take your temperature. Peak flow meters come in many shapes and styles. Ask your doctor which is right for you. Your doctor may divide your peak flow numbers into zones (**green** = safe; **yellow** = caution; **red** = emergency) and develop a plan with you. Your peak flow number will help you know:

- Which medicine to take
- How much to take
- When to take it
- When to call your doctor
- When to seek emergency care

The good news is that using your peak flow meter should mean fewer symptoms, fewer calls to the doctor, and fewer hospital visits!

4. **Know what to do when your child's asthma is worsening.** If you understand your child's asthma management plan and follow it, you will know exactly what to do in case of an asthma episode or an emergency. If you have any questions at all, ask your doctor.

References and Resources:

- American Academy of Pediatrics
<http://www.aap.org/healthtopics/asthma.cfm>
- Asthma and Allergy Foundation of America
www.aafa.org
- Centers for Disease Control and Prevention
<http://www.cdc.gov/asthma/faqs.htm>
- MayoClinic <http://www.mayoclinic.com/health/asthma-medications/AP00008>
- National Heart Lung and Blood Institute
http://www.nhlbi.nih.gov/health/dci/Diseases/Asthma/Asthma_WhatIs.html
- www.asthmatreatmentoption.com
- www.gobreathe.com
- www.pediatricasthma.com
- www.singulair.com