

How to Help Your Child With Asthma



One out of 10 children in the United States has asthma. In fact, asthma is one of the main reasons children are admitted to the hospital and miss school. The number of children with asthma has increased in the last 20 years. There also has been a rise in the number of children who have died of asthma. As a parent, you need to know about asthma symptoms and how to tell if your child's asthma is getting worse. Your child's pediatrician can help you and your child learn what asthma is and how to prevent and treat asthma symptoms. Prevention and early treatment of asthma may help reduce the number of days your child is absent from school or in the hospital.

What is asthma?

Asthma is a chronic disease of the tubes that carry air to the lungs. These "airways" become narrow and their linings become swollen, irritated, and inflamed. Children with asthma can be sensitive to irritants including colds and other viral infections, cigarette smoke, cold air, and particles or chemicals in the air. Allergies to dust, animals, pollens, and molds can also be irritants.

Recognizing asthma

It is important to know the first signs that your child's airways are narrowing. For younger children, *first signs* of airway narrowing may include the following:

- Coughing at night
- Fast breathing or trouble breathing that causes your child to use extra muscles in the neck, abdomen, and chest to help "push" air out
- Noisy breathing or difficulty exhaling (wheezing)
- Refusing to participate in physical activities with peers

A cough may be the first and sometimes the only asthma symptom. Symptoms of asthma can be different for each person. They can appear quickly or develop slowly. Some children have symptoms of asthma often enough that they have to take medication every day. Other children may just need medication once in a while.

For children over 5 or 6 years of age, you can measure the amount of air they can breathe with the use of a simple device called a *peak flow meter*.

The peak flow meter will help you measure the flow of air from your child's lungs so that you can tell if the airways are narrowed. Your pediatrician can show you and your child how to use a peak flow meter and how to find out your child's "personal best" peak flow rate. You can use the peak flow meter on a regular basis to see when your child's asthma is getting worse and how well treatment is working. For additional information, see the section on peak flow rate meters in this brochure.

What to do if your child has symptoms of asthma

If your child has symptoms of asthma, talk to your pediatrician about how to control them. Controlling asthma symptoms will help your child feel better, be able to run and play normally, and take part in sports and other physical activi-

ties. Your pediatrician will help you learn what triggers your child's asthma so that you and your child can reduce or eliminate asthma attacks at home, child care, or school.

Be sure to ask your pediatrician for a written asthma action plan that includes advice about the following:

- How to prevent or reduce asthma symptoms
- How to recognize asthma symptoms and look for worsening of asthma symptoms
- What treatment should be given first
- What to do if the symptoms get worse
- What to do in an emergency

Asthma and children under 5 years of age

Studies show that as many as 80% of children with asthma develop symptoms before age 5. However, it can be difficult to diagnose a child of this age with asthma. In many young children, what may seem to be asthma symptoms are often respiratory infections caused by viruses.

Any sign or symptoms of asthma in an infant or child should be closely monitored by you and your child's pediatrician. The type of treatment will vary depending on your child's age, size, and symptoms. Whatever treatment you and your pediatrician decide is best, make sure any adult who cares for your child is informed and instructed about how and when to give your child his medicine.

Asthma triggers

Certain things cause, or trigger, asthma "attacks" or make asthma worse. Some of the asthma triggers are

1. Infections of the airways
 - Viral infections of the nose and throat
 - Other infections, such as pneumonia or sinus infections
2. Irritants in the environment (outside or indoor air you breathe)
 - Cigarette and other smoke
 - Air pollution
 - Cold air, dry air
 - Sudden changes in the weather
3. Things your child may be allergic to (allergens)
 - Animal dander
 - Pollens
 - Mold
 - House dust mites
 - Cockroaches
4. Exercise
5. Emotional stress

What medications are used to treat asthma?

There are different kinds of asthma medications. Your pediatrician will choose the best medications for your child and talk to you about when to use them. Some of these medications are used daily. Others are used only during asthma attacks. There are two groups of asthma medications—long-term control and quick relief.

1. Long-term Control (Prevention): When the airway becomes inflamed, it can cause swelling and pain. Use of long-term control or prevention drugs is one way to help reduce or prevent these symptoms.

2. Quick Relief (Rescue): Bronchodilators relax muscles so they can open up narrowed airways. These drugs help relieve the feeling of tightness in the chest, wheezing, and breathlessness.

These drugs are usually inhaled in an aerosol (mist) form, but also can be given by injection. Aerosol or dry powder forms can be delivered by an inhaler directly into the mouth.

The dry powder form cannot be used by younger children. The aerosol form can be used by younger children, but they may need to use a tube called a spacer to increase the efficiency of the aerosol. Younger children may also use a mask or might find a nebulizer or compressor easier to use.

If you have difficulty paying for the costs of medications, supplies, and services that your child needs, ask your pediatrician about programs that may be able to help you.

How can I tell if my child's asthma is not being controlled?

The following are signs that current treatment may not be effective. Talk to your pediatrician if any of the following occur:

- Symptoms such as coughing, wheezing, chest tightness, and shortness of breath occur more frequently (especially at night, even waking the child from sleep).
- Large changes in peak flow rate measurements occur (more than 20% change between morning and evening measurements).
- Medications do not seem to help your child's cough or breathing problems.
- Your child's asthma attacks last longer and do not easily improve with treatment.
- Your child's asthma attacks quickly become severe.
- You frequently have to take your child to your pediatrician or the hospital emergency room for treatment of acute asthma.

Mild, moderate, and severe asthma symptoms

It is important to learn to recognize when your child's asthma symptoms are getting worse or becoming severe. At times your child's airways may become more irritated and narrowed. If this happens, your child may suddenly start to cough, have difficulty breathing, or sense a gradual worsening of asthma symptoms. This is usually called an asthma "attack." During asthma attacks, the airways are more obstructed and the air flow is decreased. Your child's treatment is based on the severity of asthma symptoms and the degree of airway obstruction.

Signs of mild, moderate, or severe asthma attacks are described below. Discuss your child's specific symptoms with your pediatrician to decide which category best describes your child's symptoms. Knowing how severe your child's symptoms are will help you and your pediatrician decide on the best possible treatment plan for your child.

Signs indicating that your child may be having a MILD asthma attack are

- Breathing is mildly difficult.
- Breathing is slightly faster than usual.
- Speaking in complete sentences is still easily done.
- Mild complaints of wheezing, coughing, shortness of breath, or tightness in the chest.
- Peak flow rate is 80% to 100% of the child's personal best.
- No "drawing in" of muscles between the ribs is noticeable.
- Awareness of surroundings is normal and the child is alert.

Signs indicating that your child may be having a MODERATE asthma attack are

- Breathing is moderately difficult.
- Breathing is faster than usual.
- Speaking is affected because of difficulty breathing (phrases or partial sentences are spoken).
- Moderate complaints of wheezing, coughing, shortness of breath, or tightness in the chest.
- Peak flow rate is 60% to 80% of the child's personal best.
- Slight to moderate "drawing in" of muscles between the ribs is necessary to breathe.
- Awareness of surroundings is normal, and the child is alert.

Signs indicating that your child may be having a SEVERE asthma attack are

- Breathing is extremely difficult.
- Breathing is very fast or very slow with a lot of distress (labored breathing).
- Speaking is affected because of difficulty breathing (single words or short sentences are spoken).
- Severe complaints of wheezing, coughing, shortness of breath, or tightness in the chest.
- Peak flow rate is less than 60% of the child's personal best.
- "Drawing in" of the neck, abdomen, and chest muscles is needed in order to breathe. Level of awareness has decreased (child may be drowsy, anxious, or irritable).

Where can I learn more about asthma?

For more information, contact the following organizations:

American Lung Association
800/LUNG USA (800/586-4872)
Call for the office nearest you.
Web site: www.lungusa.org

Asthma and Allergy Foundation of America
1125 15th St NW, Suite 502
Washington, DC 20005
800/7-ASTHMA (800/727-8462)

National Heart, Lung, and Blood Institute (NHLBI)
9000 Rockville Pike
Bethesda, MD 20892
301/951-3260
Web site: www.nhlbi.nih.gov/

Peak flow rate meters

The peak flow meter measures the amount of air flow in the airways (breathing tubes). The peak flow rate is the rate of air flowing through the breathing tubes when a person blows air out as quickly and forcefully as possible into the peak flow meter. There are many kinds of peak flow meters. The same peak flow meter should be used every time to make sure the changes in air flow are measured correctly. Peak flow rate measurements help determine if the airway is closing or opening up.

Peak flow rates *decrease* (the numbers on the scale go down) when your child's asthma is getting worse or is out of control. Peak flow rates *increase* (the numbers on the scale go up) when the asthma treatment is working and the airways are opening up. The use of peak flow rate measurements will help you recognize when your child's airway is narrowing, so asthma treatment can be started early. Peak flow rates can also help you identify some of the "triggers" for your child's asthma so they can be avoided.

There are differences in peak flow rate measurements at different times of the day. Measuring your child's peak flow rate twice a day or more shows you how much your child's peak flow rate changes throughout the day. Children of different sizes and ages have different peak flow rate measurements.

How to measure peak flow rate

1. Have your child stand, take a deep breath, and fill her lungs with air.
2. Have your child blow into the peak flow meter as fast and as hard as possible.
3. Read the number on the peak flow meter scale, and write down the number on a piece of paper.
4. Measure the peak flow rate again, and write down the numbers (Measure the peak flow rate a total of three times.)
5. At a time when your child is able to do her best, draw a circle around the best (highest) of the three measurements. This is your child's "personal best" peak flow rate. This value may need to be changed periodically as your child grows or improves or both.

Your child's peak flow rate

Fill in the following information, and keep it for future reference.

Your pediatrician suggests you measure your child's peak flow rate

_____ twice daily, morning and evening

_____ or

_____ at the time of asthma symptoms

Your child's **personal best** peak flow rate is _____

Your child's GREEN (safety) asthma zone is _____
(90% or more of personal best peak flow rate)

Your child's YELLOW (caution) asthma zone is _____
(70% to 90% of personal best peak flow rate)

Your child's RED (danger) asthma zone is _____
(less than 70% of personal best peak flow rate)

The information contained in this publication should not be used as a substitute for the medical care and advice of your pediatrician. There may be variations in treatment that your pediatrician may recommend based on individual facts and circumstances.

From your doctor

American Academy
of Pediatrics



The American Academy of Pediatrics is an organization of 57,000 primary care pediatricians, pediatric medical subspecialists, and pediatric surgical specialists dedicated to the health, safety, and well-being of infants, children, adolescents, and young adults.
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