

# Asthma

Children with asthma may have repeated attacks of wheezing, coughing, and difficulty breathing. Besides medications for attacks, some children will need to take medication daily to prevent symptoms. You may receive an asthma action plan, including instructions for treating asthma attacks at home. If your child has a severe attack or one that does not get better with treatment, call our office or go to the emergency room.

During *severe asthma attacks*, you may see your child's chest caving in, ribs sticking out (retractions), belly going up and down, and nostrils flaring. *This is an emergency!* Take your child to the emergency room immediately.

## What is asthma?

Asthma is a chronic disease that involves inflammation (swelling and spasm) of the lung airways, resulting in narrowing of the breathing tubes. This can cause attacks of wheezing (high-pitched sounds coming from the lungs), coughing, and difficult breathing.

The cause of asthma is unknown. It probably involves a combination of inherited and environmental factors. Many factors may trigger asthma attacks, such as colds and other infections, allergies, exercise, tobacco smoke, air pollution, perfumes, and cold or dry air.

Asthma may affect up to 12% of American children, and rates seem to be increasing. About 80% of children with asthma have their first attack before age 6. Childhood asthma is a major health problem, causing frequent emergency room and doctor's office visits and missed school days. However, with proper treatment, few children die from asthma attacks.

- *Wheezing when a child has a cold* is fairly common in young children. Many children with this type of wheezing do not develop asthma.
- *Intermittent asthma* describes asthma attacks that don't happen very often. Your child may need treatment only when attacks occur.
- *Persistent asthma* describes asthma attacks that happen fairly frequently. Your child will probably need daily treatment with some type of asthma control medication.

## What does it look like?

- During asthma attacks, your child may have coughing or wheezing (high-pitched sounds coming from the lungs). Asthma can be subtle—you may not even realize your child is having "attacks."
- Tightness of the chest and shortness of breath may occur, especially in older children.
- Symptoms may be worse at night.
- Coughing and/or wheezing with physical activity.
- Coughing without a cold, especially at night.

## What causes asthma?

Asthma is likely caused by a combination of inherited and environmental factors. Once asthma is present, attacks may be triggered by a wide range of factors, including:

- Colds and other infections.
- Allergens to which your child is sensitive.
- Exercise.
- Anything that irritates the airways, such as tobacco smoke, air pollution, perfumes, and cold or dry air.

## What puts your child at risk for asthma?

- If you or other members of your family have asthma, your child may be at increased risk.
- Allergies.
- Eczema (atopic dermatitis)—a skin rash caused by allergies.
- Episodes of wheezing.
- Tobacco smoke (secondhand smoke).
- Asthma is more common in boys than in girls.
- Asthma tends to be more severe in African-American children.

## Can asthma be prevented?

*To reduce the risk of your child's developing asthma:*

- Don't smoke during or after pregnancy.
- Breast-feed for at least several months after birth.
- Vaccinations do *not* increase the risk of asthma. Your child should receive all regular childhood immunizations. This includes a yearly influenza vaccine ("flu shot"), unless your child is allergic to egg.

*To reduce the risk of asthma attacks:*

- Eliminate or reduce exposure to things that trigger asthma attacks—such as allergens and irritants like cigarette smoke, air pollution, or perfumes.
- Follow your child's Action Plan and other recommended treatments. Prompt home treatment can keep asthma attacks from becoming severe.

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- Get treatment for diseases commonly seen with asthma, such as hay fever (allergic rhinitis) and sinusitis. Get treatment for gastroesophageal reflux disease (GERD), if present.
- Don't let your child play in damp, moldy places (basements, for example).
- Keep household dust under control.
- If you already have a pet, testing may determine if your child is allergic to it.

### What are some possible complications of asthma?

Severe asthma attacks can cause serious complications. These risks are higher if the attack is severe enough to require hospitalization and mechanical ventilation. Teenagers may be at highest risk.



*The following situations are emergencies:*



- Pneumothorax (air leak from the lungs into the chest), which causes very sharp chest pain.
- Severe blockage of the airways, which can lead to respiratory failure. If your child is having difficulty breathing and speaking or is anxious, go to the emergency room immediately.

In the long term, asthma can lead to chronic lung disease. Proper treatment reduces this risk.

### How is asthma treated?

Your child's treatment will depend on the frequency and severity of his or her asthma attacks or symptoms. Depending on their severity, your child may need frequent asthma checkups and tests of lung function.

An Action Plan may be developed if your child's asthma is a significant problem. The plan will tell you how to manage your child's asthma in different situations, including how to handle asthma attacks. Even if attacks are mild, your child may still need treatment.

Your child may receive a peak flow meter. This is a simple device that can tell you how severe an attack is and how treatments are working to keep your child's asthma under control.

- *Intermittent asthma.* If your child has only occasional asthma attacks, he or she will likely receive an inhaler with a "short-acting" beta-agonist drug, such as albuterol. This inhaler helps to open up the breathing tubes. It is used only during asthma attacks. If your child has wheezing and/or coughing several times a week, he or she may have persistent asthma.
- *Persistent asthma.* In addition to a short-acting inhaler, your child will receive a controller medication to prevent

attacks. These anti-inflammatory treatments should be used every day, whether or not your child is having trouble breathing. Drug treatments for persistent asthma may include:

- *Inhaled steroids.* Giving steroids through an inhaler avoids many of the side effects of oral steroids. If used in high doses for a long period, inhaled steroids may temporarily slow your child's growth. However, they probably won't affect his or her final height. Taking inhaled steroids can cause yeast (*Candida*) infections in the mouth. Your child should rinse out the mouth after taking inhaled steroids. These are the most effective inhaled drugs for asthma.
- *Leukotriene inhibitors.* These medications, such as Singulair (generic name: montelukast), prevent the release of substances that cause inflammation. They may help to reduce the dose of inhaled steroid your child requires.
- *Long-acting beta-agonists.* These medications, such as Serevent (generic name: salmeterol), help to keep the breathing tubes open for a longer period.
- *Oral steroids.* If more severe persistent asthma develops or if attacks come back, your child may need to take oral steroids. When used for short periods (5 to 10 days), oral steroids don't reduce growth or have other major side effects.
- *Immunotherapy.* A minority of children with asthma, especially those with difficult-to-control disease, may benefit from "allergy shots." This is helpful only if your child is allergic to specific allergens.



### When should I call your office?

Call our office any time you have questions about your child's asthma care, including:

- If your child develops new or frequent symptoms of asthma.
- If your child's peak flow is in a range considered dangerous.

*The following situations are emergencies.* Take your child directly to the emergency room:

- If your child is having difficulty breathing or speaking or is anxious.
- If your child has an asthma attack that doesn't get better with treatment or gets worse despite treatment.
- If your child has retractions (chest caving in, belly going up and down) or symptoms of pneumothorax (sharp, acute chest pain).

