



Asthma Symptoms in Children

Common asthma symptoms in children include:

- Coughing, particularly at night
- Wheezing
- Difficulty breathing
- Chest pain, tightness or discomfort
- Avoiding or losing interest in sports or physical activities

Some children have few day-to-day symptoms, but have severe asthma attacks now and then. Other children have mild symptoms or symptoms that get worse at certain times. You may notice that your child's asthma symptoms get worse at night, with activity, when your child has a cold, or with triggers such as cigarette smoke or seasonal allergies.

Asthma emergencies

Severe asthma attacks can be life-threatening and require a trip to the emergency room. Signs and symptoms of an asthma emergency in children include:

- Significant trouble breathing
- Persistent coughing or wheezing
- No improvement even after using a quick-relief inhaler, such as albuterol
- Leaning forward in a sitting position to breathe
- Being unable to speak without gasping
- Peak flow meter readings in the red zone

Tests to diagnose and monitor asthma

For children 6 years of age and older, doctors can diagnose and monitor asthma with the same tests used for adults. They measure how much air your child can quickly exhale, an indication of how well the lungs are working. Younger children generally can't perform these lung function (Spirometry) tests. Your child's doctor may be able to check for inflammation in your child's airways with a test that measures levels of nitric oxide gas in the breath. In general, higher levels of nitric oxide mean your child's lungs aren't working as well as they should be, and asthma isn't under control.

Using a peak flow meter

The doctor may give your child a portable, hand-held device (peak flow meter) to measure how well his or her lungs are working. A peak flow meter measures how much air your child can quickly exhale. Low readings indicate worsening asthma. You and your child may notice low peak flow readings before symptoms become apparent. This will help you recognize when to adjust treatment to prevent an asthma flare-up. If your child's asthma symptoms are severe, your family doctor or pediatrician may refer your child to see an asthma specialist.

The doctor will want your child to take just the right amount and type of medication needed to control his or her asthma. This will help prevent side effects. Based on your record of how well your child's current medications seem to control signs and symptoms, your child's doctor may "step up" treatment to a higher dose or add another type of medication. If your child's asthma is well controlled, the doctor may "step down" treatment by reducing your child's medications. This is known as the stepwise approach to asthma treatment. Certain medications aren't specifically approved for use in children by the Food and Drug Administration, but the doctor may prescribe them based on his or her judgment of what's likely to work best for your child.

Long-term control medications

Known as maintenance medications, these are generally taken every day on a long-term basis to control persistent asthma. These medications may be used seasonally if your child's asthma symptoms become worse during certain times of the year. Types of long-term control medications include:

- **Inhaled corticosteroids.** These are the most common long-term control medications for asthma. These anti-inflammatory drugs include fluticasone (Flovent), budesonide (Pulmicort), triamcinolone (Azmacort), flunisolide (Aerobid), beclomethasone (Qvar), mometasone (Asmanex) and ciclesonide (Alvesco).
- **Leukotriene modifiers.** These include montelukast (Singulair), zafirlukast (Accolate) and zileuton (Zyflo). They are considered a secondary addition to treatment with inhaled corticosteroids. In rare cases, these medications have been linked to psychological reactions such as agitation, aggression, hallucinations, depression and suicidal thinking. Seek medical advice right away if your child has any unusual psychological reaction.
- **Combination inhalers.** These medications contain an inhaled corticosteroid plus a long-acting beta agonist (LABA). They include Advair (fluticasone and salmeterol), Symbicort (budesonide and formoterol) and Dulera (mometasone and formoterol). In some situations, long-acting beta agonists have been linked to severe asthma attacks. LABA medications should only be given to children when they are combined with a corticosteroid in a combination inhaler. This reduces the risk of a severe asthma attack.
- **Theophylline.** This is a daily pill that opens the airways (bronchodilator). Theophylline is not used as often now as in past years.

Quick-relief 'rescue' medications

These medications—called short-acting bronchodilators—provide immediate relief of asthma symptoms and last four to six hours. Albuterol is the most commonly used short-acting bronchodilator for asthma. Others include pirbuterol and levalbuterol. Although these medications work quickly, they can't keep your child's symptoms from coming back. If your child has frequent or severe symptoms, he or she will need to take a long-term control medication such as an inhaled corticosteroid.

Your child's asthma is not under control if he or she often needs to use a quick-relief inhaler. Relying on a quick-relief inhaler to control symptoms puts your child at risk for a severe asthma attack and is a sign that your child needs to see the doctor about making treatment changes. Track the use of quick-relief medications, and share the information with your child's doctor at every visit.

Immunotherapy for allergy-induced asthma

Allergy-desensitization shots (immunotherapy) may help if your child has allergic asthma that can't be easily controlled by avoiding asthma triggers. Your child will begin with skin tests to determine which allergy-causing substances (allergens) may trigger asthma symptoms. Once your child's asthma triggers are identified, he or she will get a series of injections containing small doses of those allergens. Your son or daughter will probably need injections once a week for a few months, then once a month for a period of three to five years. Your child's allergic reactions and asthma symptoms should gradually diminish.

Medication delivery devices

Most asthma medications are given with a device that allows a child to breathe medication directly into the lungs. Your child's medication may be delivered with one of these devices:

- **Metered dose inhaler.** Small hand-held devices, metered dose inhalers are a common delivery method for asthma medication. To make sure your child gets the correct dose, he or she may also need a hollow tube (spacer) that attaches to the inhaler.
- **Dry powder inhalers.** For certain asthma medications, your child may have a dry powder inhaler. This device requires a deep, rapid inhalation to get the full dose of medication.
- **Nebulizer.** A nebulizer turns medications into a fine mist your child breathes in through a face mask. Nebulizers can deliver larger doses of medications into the lungs than inhalers can. Young children often need to use a nebulizer because it's difficult or impossible for them to use other inhaler devices.

Learn about asthma

A critical part of managing your child's asthma is learning exactly what steps to take on a daily, weekly, monthly and yearly basis. It's also important that you understand the purpose of each part of tracking symptoms and adjusting treatment. You, your child and caretakers need to:

- Understand the different types of medications for asthma and how they work
- Learn to recognize and record signs and symptoms of worsening asthma

- Know what to do when your child's asthma gets worse

Track symptoms with a written plan

A written asthma action plan is an important tool to let you know how well treatment is working, based on your child's symptoms. With your child's doctor, create a written asthma plan that outlines the steps needed to manage your child's asthma. You and your child's caretakers, including baby sitters, teachers and coaches, should have a copy of the plan. The plan can help you and your child:

- Track how often your child has asthma flare-ups (exacerbations)
- Judge how well medications are controlling symptoms
- Note any medication side effects
- Check how well your child's lungs are working with a peak flow meter
- Measure how much your child's symptoms affect daily activities such as play, sleep and sports
- Adjust medications when symptoms get worse
- Recognize when to see a doctor or seek emergency care

Many asthma plans use a "stoplight" system of green, yellow and red zones that correspond to worsening symptoms. This system can help you quickly determine asthma severity and identify signs of an asthma attack. Some asthma plans use a symptoms questionnaire called the Asthma Control Test to measure asthma severity over the past month.

Make changes and see the doctor when necessary

Effective asthma treatment requires tracking how well medications are working on an ongoing basis—and knowing what to do when they're not working. You—and your child, when he or she is old enough—need to:

- Work with the doctor to determine what types and doses of medications are most effective
- Adjust medications according to the asthma action plan you worked out with your child's doctor
- Watch for side effects such as irritability, shaking or trouble sleeping, and report them to the doctor

Control asthma triggers

Taking steps to help your child avoid triggers is an important part of controlling asthma. Asthma triggers vary from child to child. Work with your child's doctor to identify triggers and steps you can take to help your child avoid them. Common asthma triggers include:

- Colds or other respiratory infections
- Allergens such as dust mites or pollen
- Pet dander
- Exercise
- Cold weather
- Cigarette smoke and other irritants in the air
- Severe heartburn (gastroesophageal reflux or GERD)

The key to asthma control: Stick to the plan

Following and updating your child's asthma action plan is the key to keeping asthma under control. Carefully track your child's asthma symptoms, and make medication changes as soon as they're needed. If you act quickly, your child is less likely to have a severe attack, and he or she won't need as much medication to control symptoms. With careful asthma management, your child should be able to avoid flare-ups and minimize disruptions caused by asthma.

For more information about this subject please check:

The Center for Disease Control at www.cdc.gov/

The American Academy of Pediatrics at www.aap.org