

Children and Asthma: The Goal Is Control

The news about children and asthma is both good and bad. Better treatments have banished the stereotype of the asthmatic child—frail and inactive, heavily relying on an inhaler to breathe. Children with asthma are now living active, independent lives.

The Food and Drug Administration (FDA) is working to make sure that the drugs and devices used to treat asthma—a chronic lung disease that inflames and narrows the airways—are safe and effective.

The bad news is that the number of reported cases of asthma in children has been rising. In 2010, there were 7 million children with asthma, 9.4% of Americans under 18, according to the Centers for Disease Control and Prevention, up from 6.5 million, or 8.9%, in 2005.

One reason may be that doctors are diagnosing more kids; illnesses once known as bronchitis or a croupy cough are now being recognized as asthma. Its symptoms may include coughing, wheezing (a whistling sound when you breathe), chest tightness and shortness of breath, according to the National Heart, Lung and Blood Institute (NHLBI).

Uncontrolled asthma can lead to chronic lung disease and a poor quality of life, and may slow growth. Benjamin Ortiz, M.D., a medical officer



Most asthma medicines are inhaled, either through (1) a mask or through a small device called (2) an inhaler. For inhalers, doctors might also prescribe a device called (3) a spacer to help ensure that the right dose of medicine reaches the child’s lungs. And (4) a peak flow meter may be used to help monitor how well a child’s treatment is working.

- Read this article online and watch a photo slideshow:
www.fda.gov/ForConsumers/ConsumerUpdates/ucm306476.htm
- Download a PDF of the NHLBI’s asthma action plan:
www.nhlbi.nih.gov/health/public/lung/asthma/asthma_actplan.pdf

in FDA's Office of Pediatric Therapeutics, recommends that parents work with a pediatrician, and an allergist or pulmonologist (lung specialist) if needed, to develop and follow an asthma action plan that details the treatment options when certain symptoms occur.

"Early intervention results in better health into adulthood," he says.

Knowing the Triggers

"We know what makes asthma worse or better, but don't know the primary cause," Ortiz says. The things that make asthma worse are known as "triggers." They include:

- Season and climate changes
- High levels of air pollutants
- Tobacco smoke
- Mold
- Mites, roaches
- Plant pollen
- Pet dander
- Strong scents, like perfumes

In addition, certain factors may increase a child's risk of developing asthma:

- Family history of asthma
- Multiple episodes of wheezing before age 2
- Living in crowded housing
- A family member who smokes
- Obesity
- Early development of allergies or eczema

Treatment: Not One-Size-Fits-All

What makes asthma better? While asthma is never "cured," a variety of FDA-approved medications can help manage symptoms.

- For quick relief of severe symptoms, doctors will prescribe "rescue" medications, such as albuterol, which open up the bronchial tubes in the lungs. "The goal is not to use it, but have it available—at home, school, camp—just in case," says Anthony Durmowicz, M.D., a medical officer in the FDA's Center for Drug Evaluation and Research.
- To stabilize chronic and persistent

symptoms, doctors will prescribe "controller" medications. The most common, safe and effective controller medications are the inhaled corticosteroids (ICS). With regular treatment, they improve lung function and prevent symptoms and flare-ups, reducing the need for rescue medications, according to NHLBI.

- Children whose asthma is triggered by airborne allergens (allergy-causing substances), or who cannot or will not use ICSs, might take a type of drug called a leukotriene modifier. These come in tablet and chewable forms, though for many people they tend to be less effective than ICSs, especially for more severe asthma, Ortiz says.
- For more severe cases that are not controlled with ICSs or leukotriene modifiers alone, adding long-acting beta agonists (LABAs) such as salmeterol or formoterol might be recommended. FDA cautions against using LABAs alone without an ICS, and recommends that if one must be used, it should be for the shortest time possible.

Most asthma medications are inhaled. Babies and toddlers use a nebulizer, a machine that delivers liquid medication as a fine mist through a tube attached to a face mask. Older children can use a metered dose inhaler or dry-powder inhaler.

To ensure that the proper dose of medication gets into a child's lungs, doctors might also prescribe a device called a spacer, or holding chamber which attaches to the inhaler. "There are practical advantages to using (spacers) in younger kids—the timing and coordination needed to use an inhaler is hard for them," Durmowicz says. Once the child can use the inhaler comfortably, it's no longer as critical, he adds. Clinical trials have shown that "the relative dose delivered to the lungs with and without the spacer is the same."

Health care providers also might


recommend the use of a peak-flow meter to check how well a child's asthma is controlled by treatment over time. Peak flow meters measure the amount of air the child expels from the lungs.

The type and combination of medications and devices a doctor prescribes depends on severity, frequency of symptom flare-ups, the child's age, activity schedule and sometimes cost.


Adolescence is Challenging

In adolescence, Durmowicz says, childhood symptoms might disappear, but they are likely to return or be different. When they disappear, teens might think they no longer need to pack medicines when they travel, or keep them at school.

Other pitfalls include less parental supervision, and reluctance to be seen by their peers taking medicine. Doctors can help with a medication schedule that allows for privacy. Also, dry powder inhalers may be small enough to tuck in a pocket or purse and use discreetly.

Ortiz says that following prescribed treatment when symptoms are present—at any age—is crucial, telling parents, "Your child will lead a normal life if their asthma is well controlled." 

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