

## **Childhood Asthma**

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Asthma is a chronic inflammatory disorder of the airways that causes recurrent episodes of wheezing, breathlessness, chest tightness, and cough, particularly at night and in the early morning. Asthma is the most common chronic disease of childhood and the prevalence of asthma has shown increasing rates since the 1980's.

The Center for Disease Control's (CDC) National Center for Health Statistics shows that 4.8 million children are affected with asthma. It is estimated that there are 10 million school days missed each year due to asthma and that childhood asthma is a major cause of parental work absenteeism. An estimated 1.6 billion dollars per year (excluding medication costs) is spent to care for children with asthma.

Several theories have been proposed to explain the increased frequency of asthma in all age groups. The most interesting of these was published in a 2003 Pediatric Allergy Immunology article which suggested that improved hygiene resulting in less exposure to infectious viruses and bacteria caused an imbalance in the normal immune response. Other possible causes that have been mentioned are more premature infants surviving with chronic lung disease, congenitally small lungs due to maternal cigarette smoking and increased awareness of asthma by patients and physicians.

Various factors seem to trigger an asthma attack, including viruses, cigarette smoke exposure, exercise, allergen exposure, breathing cold, dry air, aspirin, and acid reflux from the stomach. Environmental tobacco smoke is a major cause of asthma symptoms in children. This increases asthma symptoms and the need for medications. Increased air pollution levels can precipitate asthma symptoms and increase emergency department visits and hospitalizations.

For allergy sufferers, it is very important to be evaluated by an Allergy specialist and to have skin testing to identify allergens that can be potentially avoided, such as certain foods and indoor/outdoor allergens. Exercise intolerance is also a very common and often frustrating problem in school age children. Asthma is more common in African-Americans of all ages and boys of all races. Asthma is more common in urban children (compared to rural) and is more prevalent in the southern United States. It is more common in children of poor socioeconomic status.

The National Asthma Education and Prevention Program has set forth guidelines for us as physicians to diagnose, classify, and manage children and adults with asthma. Recognition by the pediatrician and rapid treatment is of utmost importance. Education should start at the time of diagnosis and continue with each patient visit.

Asthma patients are classified as mild intermittent (symptoms less than 2 times per week), mild persistent (symptoms greater than 2 times per week but less than once daily), moderate persistent (daily symptoms), and severe persistent (continual symptoms.) Treatment can consist of many different

variations including a short course of steroids, inhaled steroids, and inhaled beta 2 agonists such as albuterol. We are very fortunate to have new medications that limit the effect of certain inflammatory components produced by our own bodies when exposed to the trigger agents.

The goals of therapy are preventing chronic and troublesome symptoms, maintaining “normal” pulmonary function and activity levels for the patient, preventing recurrent asthma attacks and thus minimizing the need for emergency department visits and hospitalizations. Careful observation of your child’s symptoms, early intervention, and good communication with your child’s physician makes living with asthma easier. Although it is rare to “grow out” of asthma, most adolescents and adults who experienced frequent attacks as children have milder and less frequent symptoms.

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