

## Origins of Asthma

### What Is Asthma?

**A**sthma 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. In patients with asthma, the airways are always irritated and inflamed, even though symptoms are not always present. The degree and severity of airway inflammation varies over time.

Children with asthma can have symptoms start or worsen when they are exposed to many indoor substances such as

- Dust and dust mites
- Cockroaches
- Animals such as cats and dogs
- Molds
- Secondhand cigarette smoke

Children with asthma may also be sensitive to colds and other viral infections, cold air, and particles or chemicals in the air. Ongoing exposures to these substances will not only worsen asthma symptoms, but also continue to aggravate airway inflammation.

Inflammation of the airways causes them to be oversensitive and “twitchy,” often called “hyperreactive.” When the airways are hyperreactive, they can go into spasms, causing blockage and symptoms of wheezing, chest tightness, and shortness of breath.

### Who Gets Asthma?

Asthma is a common condition in childhood. In the United States, 10% to 15% of children in grade school have or have had asthma. It can cause a lot of sickness and result in hospital stays and even death. The number of children with asthma is increasing, and the amount of illness due to asthma may also be increasing in some parts of the country. The reasons for these increases are not exactly known; however, outdoor air pollution and increased exposure to allergens are not likely causes.

Recent studies suggest that how often and how early a child is exposed to certain infections and animals can influence the development of asthma. For example, children who come from large families, live with pets, or spend a considerable amount of time in child care in the first year of life are less likely to develop asthma. This early exposure to common allergens may actually protect against the development of asthma.

Studies have also shown that a child’s exposure to infections early in life can determine whether he develops allergies or asthma. Some infections seem to decrease the risk of developing asthma, whereas one infection, respiratory syncytial virus, increases the risk.

## **How Is Asthma Treated?**

Any child who has asthma symptoms more than twice per week should be treated. One of the most important treatments of asthma is to control the underlying inflammation of the airways. This can be done with medications or by avoiding environmental factors that cause or aggravate airway inflammation.

Knowing the causes and triggers for asthma can allow families to reduce or avoid these triggers and reduce ongoing airway inflammation and hyperreactivity. This can reduce the severity and frequency of asthma symptoms and, hopefully, the need for as much asthma medication.

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™



Copyright © 2003