Health Basics

Asthma

What is asthma?

Asthma is a chronic lung condition that causes the airways to narrow and inflame, making it harder to breathe. Currently, an estimated 25 million people are living with asthma in the United States, and nearly 6 million of those affected are children. There are four levels of asthma: intermittent, mild persistent, moderate persistent and severe persistent.

According to the Asthma and Allergy Foundation of America, an individual with intermittent asthma experiences symptoms less than twice each week and wakes up less than two nights each month due to asthma symptoms. Symptoms of mild persistent asthma happen more than twice each week and can wake an individual three to four nights every month. Those with moderate persistent asthma experience symptoms every day and interrupted sleep one or more nights each week. Severe persistent asthma symptoms flare up multiple times during the day and night and interfere with slumber daily.

Triggers for asthma include exercise, respiratory illness, irritants and periods of intense emotions. Allergic asthma is the most common form of asthma and affects about 60 percent of those with the chronic disease when they inhale allergens (substances that cause allergies) such as dust mites, pet dander, pollen and mold.

What are the symptoms of asthma?

Asthma symptoms can range from mild to severe. Mild attacks are more common and may be short in duration once treated. Although less common, severe episodes can last hours or days and may require immediate medical attention.

Common symptoms of asthma include the following:

- Shortness of breath
- Difficulty breathing
- Wheezing
- Chest tightness or pain.

Symptoms of a severe asthma attack include:

- Severe wheezing when breathing in and out
- Persistent coughing, especially in the morning and at night, during exercise or when laughing
- Very rapid breathing
- Tightening neck and chest muscle (retractions)
- Difficulty talking
- Pale, sweaty face
- Blue lips or fingernails
- Worsening symptoms despite use of medication.

What are the risk factors for asthma?

Risk factors that can lead to asthma include:

- Gender: According to experts, childhood asthma occurs more in boys than girls. However, around age 20, both women and men have the same chances of developing asthma. And at age 40, more women than men suffer from the respiratory illness.
- Family history: Individuals with a parent who has asthma are three to six times more likely to develop the chronic condition than someone with a parent who doesn't have the illness.
- Viral respiratory infections: Children who experience severe viral respiratory infections, such as the cold or flu, are more likely to develop chronic asthma.
- Allergies: Allergic conditions, such as eczema or hay fever, increase an individual's chance of having asthma.
- Occupational exposures: Susceptibility to certain elements in the workplace can precipitate asthma symptoms. What's more, exposure to certain chemical fumes and vapors, dust from industrial substances, and wood and molds can also cause the initial development of asthma.
- Smoking: Cigarette smoke is associated with a higher risk for developing asthma. In addition, children whose mothers' smoked during pregnancy or who have been exposed to secondhand smoke are more likely to have asthma.
- Environment: Exposure to exhaust fumes and other types of urban contaminants can increase a

person’s chance of developing asthma. (Findings suggest that those who grew up or live in densely populated metropolitan areas are at higher risk for asthma.) Additionally, sulfur dioxide, nitrogen oxide, cold temperatures and high humidity may trigger asthma in susceptible individuals.

- Obesity: Studies show that children and adults who are overweight or obese are at greater risk for asthma, use more meds, experience worse symptoms and find it more difficult to control the illness than those of a healthier weight.

How is asthma diagnosed?

Doctors will first assess an individual’s personal and medical history to check for asthma. If a physician suspects that an individual may have asthma, he or she will conduct a physical examination. These exams may include lung function tests, which measure breathing.

A spirometry is often the first test doctors perform on patients with symptoms of asthma. Patients breathe into a spirometer, a device that measures the amount of air breathed in and out as well as its rate of flow. Peak airflow tests use a peak flow meter to measure the rate at which someone can force air out of his or her lungs. An additional exam uses provocation tests where a doctor uses known asthma triggers to try to generate a mild reaction.

Because lung tests are harder to perform on young children, doctors may instead prescribe asthma medication for about four to six weeks to see whether the drug helps reduce a child’s asthma-like symptoms. If symptoms improve or resolve, it’s a sign that a child may have asthma.

How is asthma treated?

Although asthma is incurable, treatments for long-term control and quick-relief or rescue medications are available.

Long-term control inhalable medicines are usually prescribed to keep a patient’s asthma in check on a daily basis and to prevent asthma attacks. Corticosteroids, long-acting beta agonists and combination inhalers are the most commonly dispensed. In addition, doctors recommend oral meds such as leukotriene modifiers and theophylline, both of which relieve asthma symptoms for long periods.

For rapid, short-term symptom relief during asthma attacks, rescue medications include oral and intravenous corticosteroids, inhaled short-acting betaagonists and anticholinergic agents, such as ipratropium, which relaxes the airways and is sometimes used to treat asthma attacks.

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