



Patient Information

Understanding Asthma

Asthma is a disease that makes breathing difficult. When a person has asthma, certain triggers narrow the airways that lead to the lungs, causing that person to cough, wheeze, or become short of breath for periods, called asthma attacks, which can be either brief or long lasting. More than 17 million Americans have asthma and, every year, close to two million require emergency department treatment for an attack. There is no cure for asthma, but if you take certain precautions and use proper treatments, you can keep asthma under control.

There are two major types of asthma: *extrinsic* (ek-**strin**-zik), in which symptoms are triggered by breathing in something to which you're allergic (for example, dust, mold, or pollen), and *intrinsic* (in-**trin**-zik), in which symptoms are not associated with allergy but triggered by such factors as exercise, cold air, dry air, stress, smoke, or other irritants. The extrinsic form is more common, but some people have both.

Regardless of what brings on an asthma attack, the body's response and the symptoms caused by that response are very similar. First, the airways become irritated. This increases blood flow to airway walls, causing them to become inflamed, or swollen. The inflamed tissues produce an excessive amount of mucus, which becomes sticky and clogs the smaller air passages. Muscles surrounding the airways tighten, further narrowing them.

Although inflammation is a healing process and part of the body's normal

response to injury, the inflammation of asthma doesn't go away completely on its own. This causes attacks to recur and, over time, may lead to a permanent thickening of the airway walls and narrowing of the airways.

How do I know if I'm at risk?

Asthma tends to run in families, so if one or both of your parents had the disease, you're more likely to develop it. A personal or family history of such allergic conditions as hay fever or *eczema* (**egg**-zuh-mah) also raises your risk, as does frequent exposure to such irritants as cigarette smoke, industrial fumes, household sprays, paint, or gasoline.

What are the warning signs?

Signs and symptoms of asthma differ from person to person and even vary for the same person, depending on the severity of the attack. Early warnings may include a frequent cough (especially at night or with exercise), shortness of breath, chest tightness, or wheezing. If you regularly experience any of these symptoms, see a doctor about it right away. If asthma is the cause of your breathing difficulty, your doctor can prescribe a medication to lessen the frequency of the attacks and to help you control symptoms once an attack is underway.

If asthma symptoms are allowed to progress, they make it difficult to perform normal daily activities and can even become life threatening. Late, severe symptoms include coughing that won't stop, inability to catch your breath, chest

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pain or pressure, tightened neck and chest muscles, breathlessness while talking, feelings of panic, and blue-tinged lips or fingernails. If you develop any of these, seek emergency treatment immediately.

What tests do I need?

To diagnose asthma, your doctor will need to ask about your personal and medical history, perform a physical examination, and conduct at least one lung function test. One of the most common of these uses a device called a *spirometer* (*spy-rham*-eht-er) to measure and record the amount of air you're able to breathe in and out and the rate at which it flows. Another uses a peak flow meter to measure the rate at which you can force air out of your lungs. Lung function tests are often performed before and after you inhale a medication known as a *bronchodilator* (*bron-koe-die*-late-uhr), which relaxes the muscles around your airways, allowing them to expand so you can breathe more easily. If your lung function improves noticeably after you've used the bronchodilator, there's a good chance that you have asthma.

To rule out conditions other than asthma, your doctor may suggest that you have a chest or sinus x-ray; an examination of your *sputum* (*spewt*-um), or respiratory discharge; and allergy tests.

How can I avoid problems?

The best way to prevent symptoms is to follow the asthma management plan you and your doctor develop. This will likely involve identifying and avoiding your asthma triggers, taking your medications as prescribed, monitoring your asthma symptoms, and seeing your doctor if your symptoms worsen.

If you've had allergy tests, they might have helped you identify some triggers, such as dust or mold. But keeping notes about where you are and what you're doing when asthma symptoms develop can help you recognize such intrinsic triggers as exercise or emotional upset.

To monitor your asthma symptoms, your doctor may prescribe a peak flow meter for home use. This can help you assess your lung function daily, allowing you to detect the narrowing of airways long before you develop symptoms.

How is it treated?

Most people with asthma are given at least two types of medications: one taken on a regular basis to provide long-term control (typically, an inhaled steroid) and one to provide rapid relief after symptoms have developed (often, an inhaled bronchodilator). Depending on the type of asthma you have and its triggers, your doctor may prescribe other inhaled medications and perhaps pills or liquids.

Be sure you understand how to use your inhalers and all prescribed medications—and use them exactly as prescribed. If you have any doubts, ask your doctor or nurse to observe your inhalation technique. And don't be afraid to ask questions about specific medications. The more you understand about how they work, the more likely you are to use them correctly. ●

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