

ASTHMA

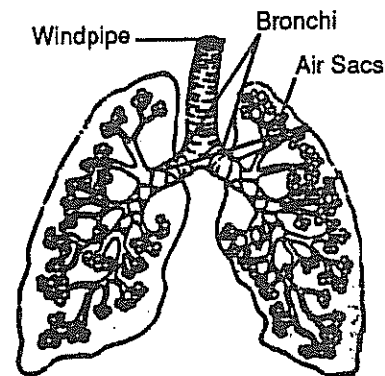
What is it?

Asthma is a long-lasting blockage of the airways which causes wheezing (a whistling sound when breathing). During a severe attack, breathing may become very difficult. Some people have very mild forms of asthma, while for others the disease causes much trouble. About one in every 15 Americans has asthma, so it is a very common problem. Except during attacks, most people with asthma have lungs that are quite normal.

What Causes it?

No one knows why some people get asthma and others don't. People with asthma may have "triggers" which make them wheeze. It is very important for people with asthma to know what may cause their attack, even if they can't know what caused the asthma in the first place.

Allergies are a common trigger for asthma. If your wheezing seems to occur during certain seasons of the year, you may have an allergy trigger. Other triggers are common cold or other infections, exercise, stress, or nervous tension, sudden temperature changes, and breathing cold air. For many people with asthma, all of these things are triggers.



What Happens During An Asthma Attack?

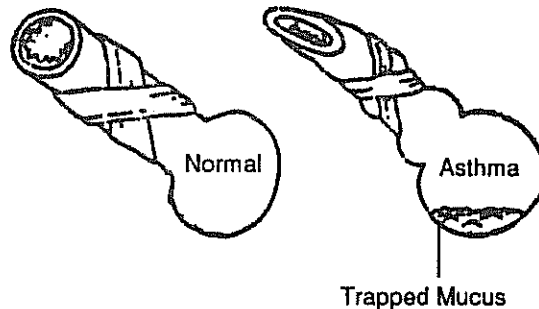
In order to understand what happens during an attack, you must have some idea of what the lungs look like. The lungs can be

thought of as a series of tubes or branches which get smaller and smaller (like a tree). The largest tube, the windpipe (also called the trachea) divides into smaller tubes called bronchi. These bronchi divide into smaller tubes called bronchioles. These very small bronchioles end in tiny air sacs that look like bunches of grapes.

On the outside of all the lung tubes are muscles which circle around the tubes. We cannot control these muscles of our own free will, just like we cannot control the muscles that make us cough or sneeze. On the inside of all the lung tubes is a moist lining coated with a slippery

substance called mucus. This mucus is constantly being pushed upward toward the throat by tiny hairs, called cilia, that have a waving motion.

In the lungs of people who have asthma there are two important differences from the normal lungs you just read about. First, the muscles that surround the lung tubes are very "twitchy", and they tend to tighten down (called spasm). Second, the mucus which lines the tubes is thicker than that which lines normal lung tubes. When the muscles tighten and the mucus gets thick, it is hard for air to get all the way down to the tiny air sacs. People with asthma can feel this and they say their chest feels tight. When the chest gets very tight, it is quite difficult for air to pass and there will be a whistling sound called wheezing.



What Usually Happens With Asthma?

The course that asthma takes depends on many factors such as how old the person was when the asthma began, how severe the asthma is, how allergic he or she is, and whether there are other allergic problems along with the asthma. Some people who have asthma as children will outgrow it, but others will have it all their lives. About 50% of adults with asthma began wheezing as a child.

What Problems May Occur?

Many people with severe asthma suffer with many days of wheezing, have infections often, must miss work or school often, have poor appetites, and don't sleep well. If asthma is severe and prolonged, and if it occurs at a very young age, it may lead to stunted growth. Frequent infections can leave scars on the lungs which cause permanent damage. A few patients may become disabled from changes in the lungs which are permanent. These changes prevent some of their normal daily activities.

What Makes Asthma Worse?

Being around substances you are allergic to (allergens) will make your asthma worse. There are also many factors which might bring on an attack or make an attack worse. These are: weather changes, sudden chilling, breathing cold air, exercise, being too tired, upper respiratory infections, and breathing certain fumes and odors. Feelings like anger, joy, excitement, and frustration may make asthma worse but they are seldom the main cause of an attack.

What Can I Do To Help Myself Get Better?

The most important thing you can do is to learn what triggers your asthma, and then avoid those things. The entire left-hand section of this folder is filled "how-to" of avoiding allergens (called environmental control).

There are other ways you can help to prevent attacks or make them less severe when they do occur. Since there are three major problems in your lungs, the treatment is aimed at these three things.

1. Thick mucus.
2. Twitchy lung muscles.
3. Inflammation.

To help thin the mucus and make it easier for your lungs to get rid of it, **Drink Water!** A bunch of it! Just how much is enough is hard to say. It is probably a lot more than you think. One way to tell if you are getting enough water is to look at your urine. If it is not clear as water, then more fluid is needed, no matter how much you've drunk. You don't have to take your fluid as plain water, either. Things like plain water and gatorade are probably best, but tea, coke, lemonade, popsicles, and jello are okay too. Just make sure you get **plenty** of it! If you get enough water, mucus plugs will not be able to form in your lungs. Therefore, pneumonia and other infections that require being in the hospital will not happen.

As for the twitchy muscles, your doctor will prescribe a drug. Several types of drugs benefit the twitchy muscles and the spasm of the bronchial tubes. Inhaled Beta-2 bronchodilators are used before exercise, allergen exposure and as needed to treat wheezing. Oral Beta-2 drugs and/or oral theophylline may be used.

The inflammation is treated with inhaled corticosteroids and sometimes oral or injected corticosteroids. Cromolyn sodium or Nedocromil may be used to prevent inflammation. Pulmonary function tests or peak flow monitoring can help to determine if asthma is being treated adequately.

What Happens When Asthma Is Treated?

The best way to treat allergic asthma is with allergy treatment which combines many types of therapy. This includes avoiding allergens, proper medical care including medications that are inhaled and those taken by mouth, and, when needed, allergy shots. As many as 80% to 90% of children with allergic asthma will get complete relief or almost complete relief after several years of allergy treatment. With proper care, almost all persons with asthma can live a normal life.

Children obtain a complete recovery from asthma more often than adults. Adults can expect to notice a large decrease in both the number of attacks they have as well as how severe those attacks are. When children receive proper care, they can be saved from many years of asthma attacks, wheezing, infections, and being unable to play or attend school. These are the problems that occur if they go without treatment while waiting to "grow out of it."

Even with the best of care, a small number of children and adults will continue to have severe asthma that is very hard to control.

What To Do When Wheezing Occurs

When Wheezing Begins:

1. Limit your activity
2. Drink **large** amounts of water, and keep it up.
3. Take medicines as directed.

When To Get Worried:

1. Change in color of mucus from clear to white or from white to discolored (yellow, green).
2. Up at night because of shortness of breath.
3. Overusing your inhaler - more often than every 4 hours.