



Asthma

What is Asthma?

Asthma is a chronic illness of the lungs caused by inflammation of the bronchial tubes (airways) and spasm (closing) of the muscles that encircle these tubes. This results in symptoms of shortness of breath, wheezing, coughing, chest tightness, and production of phlegm.

Asthma is a common disease, affecting one out of every 14 people. The frequency and severity is increasing. It is usually an inherited condition and often begins in childhood. Many of these children will eventually outgrow it. People with asthma often have allergies (hay fever or eczema), which can cause or worsen their asthma. When asthma first develops in adulthood, allergies are less likely.

Diagnosis and Monitoring

There is no perfect test for asthma, but a pulmonary function test (PFT, which is a measure of lung function while breathing into a tube) is helpful. For home monitoring, a mini-version of PFT called a peak flow meter is a very simple testing device and should be used for most asthmatics.

Treatment

Asthma treatment works best with regular use of maintenance (controller) medication and prompt use of additional (reliever) medicine when needed for worsening symptoms. When asthma is not treated adequately, permanent scarring of the airways can develop and asthma symptoms can be harder to treat. This damage results from the inflammation of asthma. The goals of treatment are to have **daytime symptoms less than 2 times per week, nighttime symptoms less than 2 times per month**, and peak flow readings of 80% or more than your personal best (see below about peak flow readings).

Controller Medicines

Most people with asthma take two kinds of medicines. One kind is called *controller medicine*. These medicines help control the inflammation so you feel and breathe better. They prevent your airways from reacting to what triggers your asthma. Controller medicines work only if you take them every day as you are instructed, no matter how well you are feeling. They take at least 2 days, sometimes up to 2 weeks, to help asthma symptoms. They will not help an acute asthma attack.

These are controller medicines:

- Aerobid®, Asmanex®, Azmacort®, Flovent®, Pulmicort®, QVAR®, (inhaled steroids)
- Serevent®, Foradil® (inhaled long-acting beta agonist)
- Advair® (combination of Serevent® and Flovent®)
- Accolate®, Singulair®, Zyflo® (leukotriene receptor inhibitors, tablets)
- Intal®, Tilade® (inhaled anti-inflammatory)
- Slo-bid®, Theo-Dur®, Theo-24® (long-acting theophylline tablets)



Reliever Medicines

Another kind of asthma medicine is *reliever medicine* (also called rescue medicine). These medicines, also called bronchodilators, dilate the muscles of the airways (make them bigger) and make it easier for you to breathe. These inhaled medicines are used for relief when you are coughing or wheezing, or when your chest feels tight. This may be the only medicine needed for very mild asthma.

These are reliever medicines:

- Inhaled short-acting beta-agonists: albuterol (Proventil®, Ventolin®), pirbuterol (Maxair®), metaproterenol (Alupent®), or levalbuterol (Xopenex®) – works within 15-20 minutes. Primatene mist® (over-the-counter) is in this class but causes more side effects than the prescription products. These drugs can cause you to feel jittery with a rapid heart beat, but it's usually brief and mild. Xopenex® lessens those particular side effects.
- Inhaled anticholinergic: Ipratropium (Atrovent®)
- Oral Steroids: Prednisone, prednisolone (Medrol®, Prelone®, Pediapred®) – works within a few hours. They are actually anti-inflammatory, not bronchodilators, but work quickly enough to be considered a reliever.

How you can control your asthma

1. Avoid, or try to control exposure to, anything that you know triggers your asthma or makes it worse. These triggers may include:
 - Air pollution, tobacco smoke, perfume, cleaning agents or other irritants
 - Allergens such as pet dander, pollen, dust, and mold
 - Infections (avoid people with colds and get a flu shot each year)
 - Stress or strong emotions
2. Take your controller medicines *every* day. Most of the controller medicines need to be taken once or twice daily.
3. If you have symptoms of asthma more than twice a week or if you wake up during the night with symptoms of asthma more than twice a month, your asthma is not under control. Ask your health care provider to help you get your asthma under control. Then, do your part and take your medicines regularly.

A Word About the Safety of Steroids

Many people have heard negative things about “steroids.” The steroids we use for asthma are cortisone hormones made normally in the body but used in higher doses to control the inflammation of asthma. They are not the “body-builder” steroids. They can cause problems when used as pills or shots long term, but they are generally safe when used as pills short term or by inhaler. High-dose inhaled steroids and chronic use of oral steroids can interfere with the growth of children; this should be monitored.

Use of Inhaler Devices

Most asthma medicines are used by inhaler, which puts more of the medicine where it needs to go in the lungs and less in the bloodstream. It is very important that you learn to use your inhaler correctly. Spacer devices that attach to the inhaler make it easier to get all the medication into your lungs. There are other kinds of devices for those who have difficulty using an inhaler, including children (nebulizers, dry powder inhalers, etc.), so please ask us if you need help.



Peak Flow Meters

These inexpensive devices are easy to use. Children can use them by the age of 6, sometimes 5. They provide us with a measurement of your asthma control, and they can predict an asthma attack 1-2 days before your symptoms start. Monitor your peak flow every day to obtain your personal best. Write down your readings along with any symptoms so you will see patterns. Your health care provider will help you develop an action plan of medicine to add when your peak flow goes too low.

The Safety of Reliever Medicines

Reliever inhalers (beta-agonists like albuterol) are generally safe but have been hazardous when overused. When you have a worsening of your asthma symptoms, by all means, use your reliever inhaler, but this means that you may need an increase in your controller medicines. If you are using your reliever inhaler more than 3 times per day, you should call us for advice. Remember that our goal is always to have your asthma controlled with controller medicines. If your asthma was perfectly controlled, one canister of rescue inhaler would last for one year. If you are refilling more than 2-3 canisters per year, make an appointment to discuss your controller medicines.

Exercise-Induced Asthma

For some people, exercise is the only trigger for their asthma. This is called exercise-induced bronchospasm. There are medicines that are effective for this condition. We encourage you to be as active as you would like to be and use the medicine to control your symptoms.

Asthma is a variable illness. The more you can learn to manage your symptoms and medicines, the better your asthma will be controlled and the healthier you will feel. Most asthmatics should see their health care provider at least every 6 months to update their treatment.

Other Resources

Asthma and Allergy Foundation of America (AAFA) 1-800-7-ASTHMA; www.aafa.org

American Academy of Allergy, Asthma and Immunology (AAAAI) 1-800-822-2762

www.aaaai.org

American Academy of Pediatrics (AAP) 1-847-228-5005; www.aap.org

American College of Allergy, Asthma & Immunology (ACAAI) 1-800-842-7777;

<http://www.acaai.org/public/>

American Lung Association (ALA) 1-800-LUNG USA; www.lungusa.org

National Jewish Medical and Research Center 1-800-222-LUNG; www.nationaljewish.org

