

# ASTHMA

## Patient Information Fact Sheet

### ›What is asthma?

Asthma is a chronic inflammatory condition of the airways. The airways in people with asthma are very sensitive and react to a variety of different stimuli. These reactions cause the airways to narrow or become completely blocked, preventing normal breathing. According to the National Heart, Lung and Blood Institute, asthma affects people of all ages, but it most often starts in childhood. In the United States, more than 25 million people are known to have asthma. Nearly 7 million of these people are children.

Asthma that is related to allergies (atopic asthma) often starts in childhood. The tendency to develop asthma runs in families and the chances of a child developing asthma are higher if both parents suffer from it. There is also a link between eczema, hay fever, and asthma and often children will have a combination of these conditions. Some children will grow out of asthma while others will not. Asthma can also be triggered by other factors that are not allergies. This type of asthma usually occurs in adults.

### ›What are the symptoms of asthma?

The symptoms of asthma are caused by narrowing of the airways and usually manifest as a wheezing sound as air is forced through restricted airways. Additionally, mucus production may irritate the airways and cause coughing. The muscles of the airways contract in response to certain triggers such as inhaling cigarette smoke or exercising. In addition, the lining of the airways becomes red and inflamed and produces sticky mucus, further restricting the function of the airways. The chest will feel tight and breathing becomes difficult. Asthma symptoms may be mild and relieved fairly quickly with medication or they may be severe requiring urgent medical attention.

### ›What causes asthma?

Asthma can be triggered by many different things. It is important for the child or person with asthma to learn which things commonly trigger their asthma and then try to avoid them.

- Colds and other viral infections are among the most common triggers for asthma. Some children may only get asthma symptoms when they have an infection.
- House-dust mites are more likely to affect older children and adults.
- Allergy to pets such as cats and dogs is common, particularly in children.
- Cigarette smoke significantly increases breathing problems in people with asthma. People with asthma should not smoke, and studies have proved that children whose mothers smoke are more likely to develop asthma.
- In some people asthma is triggered by exercise. This is known as exercise-induced asthma.
- Stress or strong emotions such as excitement or anger can also trigger asthma attacks in some children and adults.
- Hormonal changes in women, such as pregnancy, can affect asthma.
- Poor air quality and pollen in the air often affect asthma sufferers, as can cold, windy weather.

### ›How is asthma treated?

There are two main types of treatment: short-acting medicine that relieves asthma during an attack (**bronchodilators**) and longer acting or preventative medicine that helps to stop symptoms from occurring (eg, **inhaled steroids**). Treatment can be given in various forms. Usually, the first treatment your doctor will prescribe is an inhaler that can be used during an attack to relax the muscles and widen the airways, or to prevent symptoms occurring when a known trigger is present, such as before exercise. The inhaler will contain a type of bronchodilator called a **beta-agonist**. Short-acting beta-agonists include **albuterol** and **terbutaline**. There are various types of inhaler devices available, including accuhalers, clickhalers and turbuhalers. If you are using an inhaler containing a short-acting beta-agonist more than three times a week, a steroid inhaler will usually be added to your treatment.

Steroid inhalers act as a preventative by reducing the sensitivity of the airways to triggers. They also reduce inflammation and mucus production when symptoms do occur. Steroids such as **beclomethasone** (Qvar), **budesonide** (Pulmicort Flexhaler), **ciclesonide** (Alvesco), **fluticasone** (Flovent HFA), and **mometasone** (Dulera) need to be taken on a regular basis to be effective in reducing asthma symptoms. These steroids are corticosteroids, those produced naturally in the body, and not anabolic steroids, the type associated with body building.

Long-acting beta-agonists such as **formoterol** (Foradil Aerolizer) and **salmeterol** (Serevent Diskus) may be used for longer control while exercising or to relieve symptoms overnight. These will usually be added to therapy if treatment with an inhaled steroid plus a short-acting beta-agonist is not sufficient.

Other drugs that may be added to therapy to control asthma include **aminophylline**, **theophylline** (Theo-24) and **oral beta-agonists** (tablets, capsules or syrup). **Montelukast** (Singulair) and **zafirlukast** (Accolate) tablets are anti-inflammatory medicines that can be given as additional therapy if inhalers are not sufficient. **Omalizumab** (Xolair) is an injectable medicine that may be added to therapy in suitable patients. If the asthma becomes fairly severe, a short course of steroid tablets may be prescribed. These will contain a drug called **prednisone**.

A **peak flow meter** is a device that measures how well your lungs can expel air. Your doctor will explain how to use it. The device will give you a peak expiratory flow rate (PEFR) score. PEFR scores vary according to age, sex, and height. You will probably be given a chart on which to record your PEFR score at different times of the day before the inhalers are used. The PEFR scores will indicate how well your asthma treatment is working and will help your doctor to monitor how your asthma is being controlled. They will be useful if a new treatment is given.

### ›Self-help measures

- Always ensure that you have sufficient supplies of medication, particularly if you are traveling. A spare inhaler is a good idea in case you lose one.
- Take preventative medicine regularly to allow it to work effectively.

- Exercise may trigger asthma but this should not prevent you from exercising, as most symptoms can be controlled with the correct preventative medicine. However, you should check with a healthcare provider first. Swimming and yoga are particularly good for people with asthma.
- Moving will not relieve asthma symptoms as air quality is not the only trigger and there are people affected by asthma even in the least polluted areas of the United States.
- Try to avoid trigger factors such as cigarette smoke or furry household pets.
- House-dust mites are a common trigger and live in house dust. Covers can be applied to mattresses, blankets, and pillows; wash soft toys regularly. Additionally, putting them in the freezer for 24 hours will kill any mites. Vacuum all carpets regularly; linoleum or tiled floors may be more suitable; damp dusting of surfaces can keep dust levels down.
- Some people may have a food allergy, which can increase symptoms. Your doctor can refer you for tests if a food allergy is suspected.

➤ **Further information:**

National Heart, Lung and Blood Institute: [www.nhlbi.nih.gov/health/health-topics/topics/asthma/](http://www.nhlbi.nih.gov/health/health-topics/topics/asthma/)

American Lung Association: [www.lungusa.org/lung-disease/asthma/](http://www.lungusa.org/lung-disease/asthma/)

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