

## Asthma

Asthma is common. The typical symptoms are wheeze, cough, and shortness of breath. Symptoms can range from mild to severe. Asthma cannot be 'cured', but treatment is usually effective. Many people use an inhaler each day to prevent symptoms from developing.

### What is asthma and who gets it?

Asthma is a condition that affects the airways (bronchi) of the lungs. The airways become narrower than normal, which causes the typical symptoms.

Asthma can start at any age, but it most commonly starts in childhood. At least 1 in 10 children, and 1 in 20 adults have asthma. Asthma runs in some families, but many people with asthma have no other family members affected.

### What are the symptoms of untreated asthma?

The common symptoms are cough and wheeze. You may also become breathless, and develop a feeling of chest tightness. Symptoms can range from mild to severe between different people, and at different times in the same person.

#### Mild symptoms

Some people just develop mild symptoms from time to time. For example, you may develop a mild wheeze during a cough, cold, chest infection, in the hay fever season, or when you exercise. For most of the time you have no symptoms. A child with mild asthma may have an irritating cough each night, but is often fine during the day.

#### Moderate symptoms

If you have untreated moderate asthma, you typically have bouts of wheezing and coughing from time to time. Sometimes you become breathless. You may have spells, sometimes long spells, without symptoms. However, it is likely that, without treatment, you are wheezy for some of the time on most days. Symptoms are typically worse at night or first thing in the morning. Young children may not have typical symptoms. It may be difficult to tell the difference between asthma and recurring viral chest infections in young children.

#### Severe symptoms

A severe attack of asthma causes bad wheezing, a 'tight' chest, and difficulty in breathing. Severe symptoms may develop from time to time if you normally have moderate symptoms. Occasionally, severe symptoms develop 'out of the blue' in some people who normally have just mild symptoms.

## What causes asthma?

Asthma is caused by inflammation in the airways. The inflammation irritates the muscles around the airways, and causes them to squeeze (constrict). This causes narrowing of the airways. It is then more difficult for air to get in and out of the lungs. This leads to wheezing and breathlessness. The inflammation also causes extra mucus to be made which causes cough and further obstruction to airflow. It is not known why the inflammation occurs.

## What can make asthma symptoms worse?

Asthma symptoms may flare up from time to time. There is often no apparent reason why symptoms flare up. However, some people find that symptoms are triggered, or made worse in certain situations. Some people *only* have symptoms when exposed to a 'trigger'. Things that may trigger asthma symptoms include the following.

- **Infections.** Particularly colds, coughs, and chest infections.
- **Pollens and moulds.** The hay fever season is a common time for asthma to get worse.
- **Exercise.** Some people only develop symptoms when they exercise. However, **sport and exercise are generally good if you have asthma.** You can take a dose of medicine from an inhaler before exercise to prevent symptoms from developing.
- **Certain medicines.** For example, about 1 in 50 people with asthma are allergic to aspirin which can trigger symptoms. Other medicines that may cause asthma symptoms include: anti-inflammatory painkillers, and beta-blockers such as propranolol, atenolol, or timolol. This includes beta-blocker eye-drops used to treat glaucoma.
- **Emotion.** Asthma is not due to 'nerves', but such things as stress, emotional upset, or laughing may trigger symptoms.
- **Allergies to animals.** Such as pet cats, dogs, and horses.
- **Certain fumes and chemicals.** For example, cigarette smoke and pollution. The increase in air pollution may be a reason why asthma is becoming more common.
- **House dust mite.** This is a tiny creature that lives in mattresses and other fabrics around the home.
- **Certain foods.** This is uncommon, and food is not thought to be a trigger in most cases.

## How is asthma diagnosed?

Sometimes symptoms are typical, and the diagnosis is easily made by a doctor. A peak flow meter (see below) may be advised to help confirm that symptoms are due to asthma. Sometimes a test called spirometry may be done to confirm the diagnosis. This involves breathing into a machine that measures the rate and volume of airflow in and out of your lungs.

## What is the the peak flow meter?

The peak flow meter is a small device that you blow into. A doctor or nurse will show you how. It measures the speed of air that you can blow out of your lungs. No matter how strong you are, if your airways are narrowed, your peak flow reading will be lower than expected for your age, size, and sex. If you have untreated asthma, then typically you will have low peak flow

readings, and also very variable readings. Peak flow readings in the morning are usually lower than the evening.

You may be asked to keep a diary of peak flow readings if there is doubt about whether you have asthma. Asthma is usually confirmed if you have low and variable peak flow readings over several days. Peak flow readings improve when the narrowed airways are opened up with treatment. Regular peak flow readings can be used to help assess how well treatment is working.

### **What are the treatments for asthma?**

Modern treatments are usually good at easing and preventing symptoms. With treatment, most people with asthma lead a normal life, including school, work, and sport. Most people with asthma are treated with inhalers. Tablets or liquid medicines are only sometimes needed.

#### **Inhalers**

Inhalers deliver a small dose of medicine directly to the airways. The dose is sufficient to treat the airways, but the amount that gets into the rest of your body is so small that side effects are unlikely or minor. There are a variety of inhaler devices, and different ones suit different people. A doctor or nurse will advise on the different types. Treatment commonly consists of:

- a *reliever inhaler* which you take 'as required', and in many cases
- a *preventer inhaler* which you take every day.

#### *Reliever inhalers (usually blue or grey).*

The medicine in reliever inhalers relaxes the muscle in the airways. This makes the airways open wider, and symptoms quickly ease. These medicines are also called 'bronchodilators' as they dilate (widen) the airways. There are several different reliever medicines, for example, salbutamol and terbutaline. They come in various brand names. However, the ideal aim of treatment is to *prevent* symptoms from developing. Therefore, if you often need a reliever inhaler (once a day or more), then you should take a 'preventer' inhaler.

#### *Preventer inhalers (usually brown, orange, or red).*

The medicine in preventer inhalers is usually a steroid. There are various brands. Steroids work by reducing the inflammation in the airways. Sodium cromoglycate is another medicine that is sometimes used in preventer inhalers for children. It is not often used in adults as it tends to be less effective than steroid inhalers.

The steroid medicine in a preventer inhaler takes 7-14 days to build up its effect. So it will not give any immediate relief of symptoms. But, after a week or so of treatment, the inflammation in the airways is reduced, and symptoms have often gone, or are much better. It can take up to 6 weeks for maximum benefit. You should keep taking a preventer inhaler every day to keep symptoms away, even when you are well. The 'reliever inhaler' should then not be needed very often (if at all).

For most benefit, you should learn to use your inhalers correctly. See your practice nurse or doctor if you are not sure if you are using your inhaler properly.

#### **Tablets or liquid medicines to open up the airways**

Tablets or liquids are sometimes prescribed which contain similar medicines to those in the

reliever inhalers. Most people do not need these, as inhalers usually work well, and cause less side effects. In a small number of cases, a tablet or liquid is prescribed *in addition* to inhalers if symptoms are not fully eased.

### **Steroid tablets**

A short course of steroid tablets (such as prednisolone) is sometimes needed to control bad attacks of asthma. Steroid tablets are good at reducing the inflammation in the airways. For example, a bad attack may occur during a cold or chest infection.

Some people worry about taking steroid tablets. However, a short course of steroid tablets (for a week or so) usually works very well, and has few side effects. Most of the side effects of steroids occur if you take them for a long time (more than several months), or if you take frequent short courses of high doses.

### **What are the dosages of treatment?**

Everyone is different. The correct dose of a preventer inhaler is the lowest dose that prevents symptoms. A doctor may prescribe a high dose of a preventer inhaler at first, to quickly "get on top of symptoms". When symptoms are well controlled, the dose may then be reduced by a little every few weeks. The aim is to find the lowest regular dose that keeps symptoms away.

Some people with asthma put up with symptoms. They may think that it is normal to still have some symptoms even when they are on treatment. A common example is a night time cough which can cause disturbed sleep. Tell your doctor or nurse if your symptoms are not fully controlled. Symptoms can usually be controlled and prevented by adjusting the dose of your inhalers.

### **A 'typical' treatment plan**

A common treatment plan for a 'typical' person with moderate asthma is:

- A preventer inhaler (usually a steroid inhaler), taken each morning and at bedtime. This usually prevents symptoms throughout the day and night.
- A reliever inhaler may be needed now and then if breakthrough symptoms occur. This is commonly when you have a cough or cold.
- The dose of the preventer inhaler may need to be increased if you have a cough or cold.
- If exercise or sport causes symptoms, then a dose of a reliever inhaler just before the exercise usually prevents symptoms.

At first, adjusting doses of inhalers is usually done on the advice of a doctor or nurse. In time, you may agree a 'self management plan' with your doctor or nurse. This means that you learn to make adjustments to the dose of your inhalers or other treatments, depending on your symptoms and peak flow readings.

### **Does asthma get better?**

There is no once and for all cure. However, about half of the children who develop asthma 'grow out of it' by the time they are adults. For many adults, asthma is variable with some good spells and some spells that are not so good. Some people are worse in the winter months, and

some worse in the hayfever season. Although not curable, asthma is treatable. Stepping up the treatment for bad spells will often keep symptoms under control.

### Some other general points about asthma

- **You should not smoke.** Smoking can make asthma worse. Children with asthma will benefit from a smoke-free home too, as 'passive' smoking can make asthma worse.
- **See a doctor or nurse if symptoms are not fully controlled**, or if they are getting worse. For example:
  - if a night time cough or wheeze is troublesome.
  - if sport is being affected by symptoms.
  - if your peak flow readings are lower than normal.
  - if you need a reliever inhaler more often than usual.

An adjustment in inhaler timings or doses may control these symptoms.

- **See a doctor urgently if you develop severe symptoms** that are not eased by a reliever inhaler. In particular, if you have difficulty talking due to shortness of breath.
- **You should have an influenza immunisation every autumn** (the annual 'flu jab'). Flu tends to be more serious if you have asthma.

### Further help

#### *National Asthma Campaign*

Providence House, Providence Place , London, N1 0NT

Asthma Helpline: 0845 7 01 02 03 Web: [www.asthma.org.uk](http://www.asthma.org.uk)

The National Asthma Campaign is the independent UK charity dedicated to conquering asthma. It funds research, offers help and advice, and campaigns for a better deal for people with asthma.