Visit us at:
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01322 619 898

Your quick guide to:
Childhood Asthma & Wheeze

Symptoms

Asthma causes a range of breathing problems. These include wheezing, feeling of tightness in the lungs/chest and a cough (often in the night or early morning).

The most serious of these is known as an 'asthma attack' where the sufferer struggles to breathe. An asthma attack needs to be treated promptly and if you have prescribed medication for asthma and it is not working, you must seek immediate medical help.

Symptoms are often caused by inflammation and narrowing of the small airways in the lungs, making it difficult to get air in/out of the lungs. Children with asthma often find it's harder to breathe out than breathe in. The narrowing of the airways is also responsible for the tight chest, wheezy breathing and coughing that children with asthma experience, particularly at night.

Asthma symptoms may not be present every day: many children, especially those of preschool age, only have symptoms when there is a trigger such as a cough or cold. Nowadays, such children are not diagnosed with asthma but 'wheezing', as at least half will grow out of their wheezing as they become older. In other children there is inflammation in the airways which needs treatment every day. So it important to always keep rescue medication to hand and where possible avoid triggers wherever possible.

7-10 per cent of school children who experience asthmatic attacks may suffer from allergies, which trigger their asthma.

Asthma is a common condition, affecting more than one million children in the UK. Things that can trigger asthma include pollen, animals/ pets, house dust mite, viral and chest infection, cigarette smoke, other environmental irritants and cold weather. In some children, exercise, changes in air temperature and stress can also provoke wheezy episodes.

Many children with asthma also have allergies. In these children, their asthma can be controlled not just by treating the symptoms but also by tackling the allergic cause. If symptoms persist or are occur in the hay fever season, then discuss with your GP if a referral to an allergist is appropriate for allergy testing and management.

If you have any concerns about your child and their breathing always seek further medical advice, and take note if the child begins to complain when exercising, coughs at night or if their symptoms change due to cold air or changes in the weather so you can discuss this with your GP or practice/ asthma nurse.

Diagnosis

Asthma may be diagnosed using a symptom history; in older children, tests such as peak flow (which measures how effectively the lungs are working) can also be helpful. Allergy skin prick tests, blood tests, chest x-ray and simple lung function tests (all dependent upon age of the child) may also be carried out to aid diagnosis.

Treatments

Asthma treatment depends upon the individual. Most children are treated with an inhaler. There are two types, one is called a 'reliever' (used to make it easier to breathe) and one is called a 'preventer' (taken every day, even when you are well, to help the stop the inflammation in the airways). Often, both types are needed at different times. Inhalers come in a variety of colours and shapes and some people call them 'pumps' or 'puffers'.

Most children and even adults with asthma are given 'spacers' as they help ensure that the medicine gets to the lungs. This is particularly important with 'preventer' medicines.

If asthma symptoms become worse even though you may be using the reliever inhaler, or do not seem to be well controlled, it is important to get further

Key facts:

Preventers are used to reduce the inflamed areas of the lungs and to prevent the symptoms of asthma occurring

7-10% of school children who **experience asthmatic attacks may suffer from allergies**, which trigger their asthma

Asthma treatment depends upon the individual. **Most children are treated with an inhaler.**

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medical advice. Often, the technique used to give the inhaler may need checking, or additional medications (such as short courses of steroids) needed.

It is important that reliever inhalers (usually blue) are always carried with your child and are easily accessible to the child and anyone caring for them. Nebulisers (machines that give can give medication for the lungs) are no longer frequently used in hospitals, as the combination of a normal inhaler with a 'spacer' device is usually just as effective, even when symptoms are particularly severe. Exercise can play an important role in improving asthma symptoms, and together with minimising environmental triggers at home and elsewhere, can make a real difference in management. If you have any concerns about your child and exercise regime it is advisable to check with your treating doctor/nurse about asthma control.

Inhalers

There are different types of inhaler devices, which deliver asthma medication to the airways either in

Treatments

Asthma treatment depends upon the individual. Most children are treated with an inhale dry powdered form, or as an aerosol form with a propellant.

Most commonly, **preventers** are used to reduce the inflamed areas of the lungs and to prevent the symptoms of asthma occurring. They contain steroid medication to be inhaled usually once or twice a day, and work as a long term treatment to control asthma. **Relievers** (bronchodilators) are used to provide immediate relief from the symptoms of asthma when they develop. These inhalers work by opening up the airways to allow more air into the lungs and make breathing easier. They do not help reduce inflammation or prevent symptoms from occurring in the future. Some medicines work as both a preventer and a reliever.

How to use

Remember that preventers will take a few days to work. Once your child has been established on preventer medication, he/she should only have to use a reliever inhaler occasionally or if their asthma symptoms are becoming unstable.

Your healthcare professional will often recommend using a spacer device with the inhaler. This is because: It can be tricky coordinating breathing with pushing the inhaler; spacers allow the medicine to be given independently of activating the inhaler.

The spacer also allows more of the medicine to enter the lungs (which may mean your child needs less medicine overall, which can reduce side effects). Many hospitals now use spacers for asthma attacks, rather than nebulisers, for this reason.

A spacer device fits over the end of the inhaler so that when the inhaler is released the medication stays in the spacer for the child to breathe it in. Ask your doctor or nurse how to look after and clean the spacer. Mild asthma symptoms can be controlled with the use of an inhaler with minimal disruption to daily activities. It is important to ensure that both you and your child understand how to use the inhaler (and spacer) correctly, otherwise insufficient medication may be given and the treatment might not work. For babies and young children, a face mask is usually provided to use with the spacer. You can get your baby/child to be more co-operative when using these devices by distracting them whilst administering and also by letting them role play with dolls, etc. If you are concerned that your child is having difficulty in using their inhaler and may not be inhaling the medication properly, check with your doctor or nurse. The nurse may ask your child to demonstrate how they take their treatment by using a dummy inhaler. The nurse can then discuss technique and any improvements that need to be made.

Children find some inhaler devices easier to use than others so it may be worth trying out alternative devices. Your asthma or practice nurse will be able to help. Sometimes it is a case of trying different inhalers to see which type suits your child's needs best.

Make sure any medication is taken as prescribed and on a regular basis. As children get older and more independent, you may need to give them gentle reminders. (It may be useful to explain that if medicine is not taken regularly as prescribed then asthma symptoms can start to flare up, so preventers need to be taken even when your child is feeling well).

Always call your GP if you think your child's symptoms are becoming worse and they are using their reliever inhaler more than usual (more than three to four times a week). A stepwise approach is prescribed where the use of medication may be stepped up or down according to need.

Nebulisers

Nebulisers are sometimes used to treat emergency situations where asthma has become out of control. They used to be used in children experiencing a particularly severe attack of asthma, but research has shown that inhalers used with a spacer are as effective as nebulisers in delivering medicine. Nebulisers continue to be used by ambulance crews, some GPs and in A&E departments, as they allow oxygen to be given at the same time. However, a hospital may use an inhaler with spacer instead as doing so may allow the child to be discharged from hospital sooner.

Steroids

Many preventer inhalers are steroid based: there is now excellent evidence that using low dose inhaled steroids does not cause other health problems, such as affecting growth.

Many people worry when steroids are mentioned as a treatment option because of stories they may have heard in the media, particularly related to anabolic steroid abuse in sports. These, however,

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are not the same steroids that are used for asthma. When used as directed by a health professional, steroids have an important role to play in treating a range of ailments, including allergies.

The steroids used for the treatment of allergies are corticosteroids, and are almost identical to the natural hormone cortisol, which is produced by the body's adrenal glands. As with any medication, it is important to follow the dosage as prescribed by a health practitioner, as over-use can be harmful.

A patient using steroids should be monitored carefully and receive regular check-ups. However, low doses of steroids can be given very safely. It has been seen that many children's lives have been saved through the use of steroids in allergy management, for instance, through the use of asthma inhalers.

Steroids work by reducing inflammation. In the case of asthma, when a patient uses an inhaler, steroids are taken directly to the lungs, thereby directly treating the area that is affected by the allergy. The steroids then reduce the swelling of the airways which is the underlying problem in asthma. Also, some allergic responses involve a second (late phase) reaction after the initial allergic reaction. Steroids, unlike antihistamines, can reduce the symptoms of these late phase reactions, by limiting the activity of the cells responsible for releasing further chemicals in the body. In this way steroids not only reduce inflammation, but they can also stop an ongoing allergic reaction.

Sometimes, it may be necessary for your child to have a short course of steroids by mouth if they are experiencing a flare up of asthma symptoms which are not controlled by inhalers. However, doctors do not prescribe systemic steroids for children unless absolutely necessary. If these are prescribed for your child, you can be sure that it is part of vital treatment and should, for a short time, become part of your treatment regime. It is important that you follow the prescribers' instructions and do not stop steroids suddenly.

A follow-up with your GP or asthma clinic is necessary to ensure your child is well recovered and the asthma is being well controlled.

If your child is on steroids for a continued period they may be given a steroid information card which notes the steroid dosage, when the treatment was started, and what condition they are being treated for.

It is important to mention that your child is on steroids to any healthcare professional who may treat your child. This should be done not only when your child is unwell, but also when healthy, but receiving other treatments such as vaccinations. Equally, you should report any signs of your child feeling unwell, and notify anyone else who may treat your child that they are currently taking a course of steroids.

When used in large doses over long periods of time, steroids can affect growth. However, only the lowest dose needed to control symptoms is prescribed for people with asthma. Side effects from the use of steroids in allergy management are rare, and are well understood. If you have any concerns about the effect that steroid treatment may be having on your child then go back and ask your prescribing specialist or GP.

Anti-Leukotrienes

Leukotrienes are chemicals released by the immune system that cause swelling and secretion, and can cause allergy symptoms to persist. Anti-leukotrienes work by reducing inflammation and mucus production, and work in a similar way to steroids, but with fewer side effects. These drugs have often been used as add-on treatments alongside treatments for asthma and rhinitis, or when skin rashes have been caused by food allergy. However, they are now being used more often as a first choice in treating asthma, and to reduce the frequency of asthma attacks on the airways.

Important notes

- Always carry your inhaler with you and your child. Even from a young age a child can be trained to know that the inhaler must go with them whenever they go out.
- Have a specific place in the house for the inhaler, where everyone knows it is kept, and always keep it there. Then, if your child needs the medicine, both you and they know where the medication is. Make sure this place is easily accessible, but out of reach of other young children.
- Your child should have an individualised Asthma Management Plan where all information and treatment guidelines are recorded. Sometimes it is necessary to take an inhaler before sport or on other occasions (e.g. if a cold or hay fever symptoms make the asthma worse), so this should also be recorded on your child's management plan. Likewise, make sure school are aware of this.
- Your child may be asked to keep a peak flow diary. It can be useful to know your child's normal peak f low meter reading. These meters record how much air your child is able to blow out of their lungs. (They are prescribed via your GP, but are not usually used for children under five years of age.) The readings vary from child to child, and in some children can be used to provide an early warning before symptoms occur.
- Make sure you take your child to their asthma review clinic (this may be at the hospital or GP surgery). It is important that your healthcare professionals are able to monitor your child's symptoms or look out for any problem areas such as side effects, as well as advise you on new treatments and the latest research.
- You should discuss the need for flu vaccination with your treating doctor. The nasal flu vaccine may work even

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better than the injected flu vaccine and as it is a given as a nose spray, there are no needles! It is suitable for almost all children with well-controlled asthma, and is also safe in children with egg allergy (including those with previous anaphylaxis to egg). The flu vaccine needs to be given every year.

- Make sure you have a spare inhaler in case one runs out or your child loses one.
- Make sure anyone caring for your child (teacher, childminder, relatives or friends' parents) knows about your child's asthma and understands how to treat it.
- The inhaler should always accompany your child, even when going to the sports field. If your child is young then you can ask the teacher to take the labelled inhaler with them if the class is away from their usual environment.
- If your child is at nursery school or with a childminder it is worth checking to find out if they are familiar with the use of inhalers, and providing them with information about asthma. Allergy UK can help to provide training information; call the helpline for details.
- Anyone caring for your child must have your updated telephone contact details and any other information which you consider to be important (such as triggers and things to avoid). For help with training needs please contact the Allergy UK helpline.
- Always label your child's inhaler and consider a protective bag/cover if they are old enough to carry the inhaler themselves. Many children keep them in their pencil cases, and some companies specialise in small carriers which can be age appropriate and look fashionable etc.
- If you are going away on holiday, make sure you have adequate medication to last, or take a spare prescription with you.

Self help

- Try to avoid triggers which could make your child's asthma symptoms worse (e.g. animal hair) and note down any new ones to discuss with your doctor.
- Do not smoke around your child or allow your child to stay in smoky surroundings.
- Exercise can play an important part for your child. Swimming and sport should be encouraged as long as your child's asthma is under control.
- Think about any triggers in holiday areas, such as house dust mite or pets, and take your own barrier covers with you. Request a pet-free place to stay if possible, and make sure you give details to any holiday club staff about your child's condition.

Emergency care

If your child's asthma is becoming out of control, emergency care may be required. Make sure that you know from your doctor what steps to take during an asthma attack. This could include the use of more reliever medication than normal and encouraging the child to adopt a good position, i.e. sitting with arms leaning on a table which will help to 'open up the airway'.

Make sure any clothing is loosened to allow the child to be comfortable. If your child has a normal reliever (Salbutal / "Ventolin"), then give them 10 puffs of the medicine VIA A SPACER, one puff every 4-6 breaths. Try to remain calm with your child and allow them to rest until they feel better. If there is no improvement after a few minutes, and your child's condition appears to be worsening or you are concerned in any way, then call an ambulance.

You should always seek urgent medical advice day or night if asthma symptoms are not controlled.

After any asthma attack or if you feel that your child's symptoms are not so well controlled it is important to review your child's treatment with your GP and you should book an appointment.

Clinical contributions:

Allergy UK Clinical Team

Amena Warner, Head of Clinical Services

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