Asthma

A Parent's Guide

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Contents

This booklet is part of a series on asthma. It endeavours to help parents gain a better understanding regarding asthma. It is not intended as a complete textbook on asthma. You should contact your doctor for any further information.

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Childhood Asthma

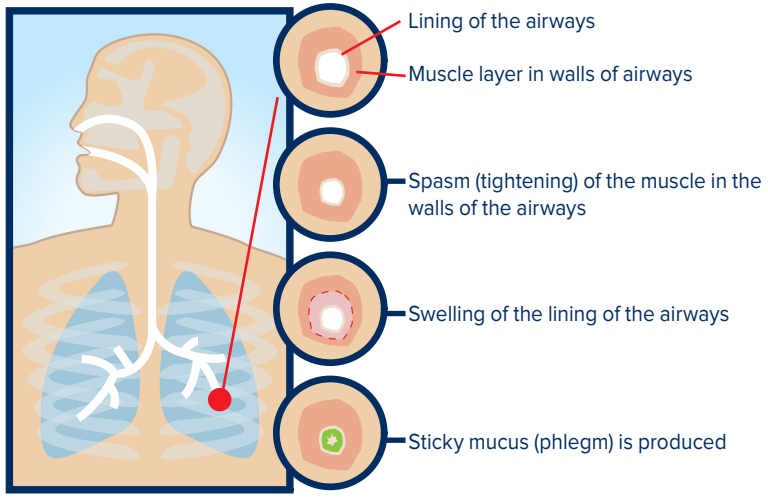
Asthma is no longer on the increase. The rate of rise in asthma appears to have reached a plateau. Ireland has one of the highest rates of asthma in Europe and is currently ranked fourth highest in the world for asthma prevalence. As many as 470,000 Irish people have asthma and 1 in 5 Irish children will have asthmatic symptoms at some point in childhood.

It can be frightening to discover that your child has asthma, however, it is reassuring to know that asthma can be well controlled with the appropriate medications. We hope that this booklet will answer most of the questions you might have.

What is asthma?

The lungs consist of a series of tiny branching tubes called airways, which carry air in and out of little air sacs (alveoli), exchanging oxygen for carbon dioxide. The airways (or bronchial tubes) have muscles within their walls and a lining layer (see diagram). In asthma, the airways become more narrow than normal and it is more difficult for air to pass into the lungs, and for used air to be exhaled.
The sensation is like breathing in and out through a straw.

- The muscle layer tightens around the airways.
- The lining layer becomes swollen and inflamed.
- The airways make more mucus than usual.



Symptoms

1. Cough: after exercise and/or at night.
   A cough may be the only symptom of asthma.
2. Wheeze: whistling sound heard most often when breathing out.
3. Shortness of breath and complaints of tightness in the chest.
4. Lack of stamina during sport/exertion. Complaints of tiredness.
5. In severe attacks: laboured breathing, blue discolouration of the lips/tongue.

Causes

The exact cause of asthma is as yet unknown. We do know however, that asthma can run in families along with other allergic conditions such as hay fever, allergic conjunctivitis (itchy eyes) or eczema. Outdoor pollution, although not proven to be a cause of asthma, can make symptoms worse. We also know that smoking during pregnancy and passive smoking can increase symptoms in babies and children.

How is asthma diagnosed?

Asthma can be difficult to diagnose in young children.
A diagnosis is usually made on a pattern of symptoms over a period of time. A breathing test (peak flow or pulmonary function test) may be carried out on older children, or sometimes a bronchial challenge test is required. This will usually be performed by a technician in a pulmonary function laboratory.

Unfortunately there is no simple blood, breathing or x-ray test that can reliably diagnose asthma. Often small children are given a trial of medication when asthma is suspected.

It may take several visits to your doctor before the diagnosis is made.

Managing asthma

Asthma cannot be cured but symptoms can be successfully controlled by avoidance of known triggers and medication. It is very important that your child's controller medications are taken regularly.

Trigger Factors

In asthma the inflamed airways are more irritable that normal.
As a result they are quick to narrow in response to various stimuli:

Virus infections: head colds, sore throats and flu.

Fumes: tobacco smoke, fire smoke, paint, perfumes and air pollution.

Exercise, excitement, upset and worry.

Allergies e.g. house dust mite.

Pets and pollens.

Weather: cold air, damp conditions and fog.

House dust mites
These are microscopic creatures that feed off human skin scales and thrive very well in warm humid atmospheres. Some simple measures can help reduce the number of dust mites:

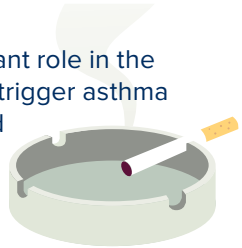
1. Bed linen should be washed weekly at 60 degrees celsius. Special covers, which fully enclose the mattress, duvet and pillows are available. They prevent the dust mites from getting through.
2. Eliminate or reduce all books and soft toys from the bedroom as they attract the dust mite.
3. Vacuum carpets and soft furnishings twice weekly.
4. Toys: wash furry toys frequently.
5. Ventilate the house well.
6. Flooring: shallow pile carpet or sheer surface floors are preferable e.g. wood or lino.
7. Dust: damp dust all surfaces regularly.

Pets
Dogs and cats are not generally encouraged for children with asthma. Cats tend to produce more symptoms than dogs. If there is already a pet in the home it is best kept outdoors. Pets should never be allowed in the bedroom.

It should be noted that it may take 6 months for cat allergen to be fully eliminated from the house after the cat has been removed.

Viral Infections
Viruses are one of the most common trigger factors for children with asthma. Viruses are common and avoiding them can be very difficult, especially if a child attends crèche/pre-school. Where possible, try to avoid exposure where there are people with known colds/coughs etc.

Fumes
Very high levels of traffic emissions may play an important role in the development of asthma. Tobacco smoke exposure can trigger asthma symptoms and maternal smoking in pregnancy can lead to increase wheeze in infants.



Pollen
Be aware of high pollen counts. There are very effective hay fever treatments available to alleviate the discomfort of symptoms. Discuss these with your doctor or pharmacist if you have symptoms.

If the pollen count is high:
- Keep windows in the house and car closed.
- Wear sunglasses if appropriate.
- Wash your hands and face when you come indoors.
- Avoid drying clothes outside and/or shake well before bringing inside.

Mould
Symptoms of asthma can be triggered by the presence of mould/ mildew spores found in damp housing conditions. Avoid condensation in the house. Air the house well every day and avoid drying clothes on radiators.

Food
It is rare for foods to trigger asthma symptoms unless they occur as part of an anaphylactic reaction which occurs with foods such as nuts, shellfish, kiwi and egg.

Exercise
Teachers should be informed if your child has asthma. Ensure that there is always a reliever available for use at school. Many teachers will be willing to supervise the administration of medication, however schools vary in their policies on asthma medication. A booklet for teachers on asthma is available form the Asthma Society of Ireland.

1. Children should warm up properly before sports.
2. Wear a scarf around the nose and mouth when exercising outdoors on cold dry days.
3. Swimming is usually a very good form of exercise for asthmatics because the air is warm and moist. However very occasionally chlorine can cause symptoms to worsen.
4. It is useful to give the child their reliever 15 minutes before planned exercise.

It is obviously very important that children with asthma lead a normal life and participate in sports and exercise. It is reassuring to know that many famous and successful sports stars have asthma.

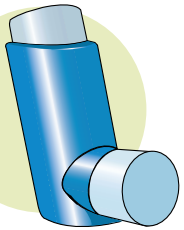
Medical treatment of asthma

The following are the main forms of asthma management

- Relievers: bronchodilators
- Controllers: inhaled steroids
- Combinations: inhaled steroid and a long acting reliever together in one inhaler
- Leukotriene receptor antagonists (LTRA)
- Xolair
- Oral Steroids

Relievers

Relievers (bronchodilators) are commonly referred to as the 'blue inhaler' and should be taken when your child has asthma symptoms.



They work by relaxing the muscles surrounding the airways and allowing them to open up.

They can be:

- Short- acting (act quickly and for a short time)
- Long- acting (work over 12 hours and usually used in combination with inhaled steroids)

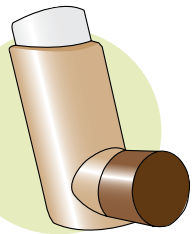
Long acting relievers are taken in the morning and at night. Short acting relievers are usually taken on an as needed basis or before exercise. All relievers are best taken by inhalation.

If you need your reliever inhaler for symptom relief more than 2 times per week or more than one canister per year, consult with your doctor.

The most common side effect of the reliever inhaler is a fast heartbeat and a hand tremor. These effects are occasionally felt at the beginning of the treatment or with overuse. Examples of short acting relievers are Bricanyl®, Ventolin®, Salamol® and Atrovent®.

Controllers

Preventers (inhaled steroids) are commonly referred to as the 'brown inhaler'. They reduce the inflammation and swelling in the lining of the airways. They do not provide immediate relief from symptoms however they play a very important role in preventing symptoms.

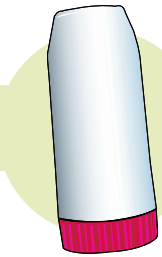


They need to be taken every day in order to be effective, and must not be stopped even when your child is feeling well.

Some take 2 weeks to become fully effective. If your preventer is working correctly, you should not need to use your reliever regularly. Examples of preventers are Pulmicort®, Becotide®, Flixotide® and Beclazone®.

Combinations

These inhalers contain both the inhaled preventer (reducing inflammation) and a long acting reliever (open airways for 12 hours).



These medications are taken regularly and ensure a simple and effective treatment regime.

Examples are Symbicort® and Seretide®.

Leukotriene receptor antagonists

These are medications that reduce inflammation and spasm in the airways. They are available in tablet form, which can be chewable, or in granules for smaller children.

Xolair

Xolair® is an anti-allergy treatment reserved for severely affected patients, usually receiving large amounts of treatment including long term oral steroids. It is usually prescribed by Hospital Specialists.

Oral steroids

In situations where asthma becomes worse your child may need a course of steroid tablets. Short courses of oral steroids rarely cause side effects. They are very effective at bringing asthma under control and can prevent hospitalisation.

Side effects of asthma medications

Asthma drugs are well tolerated and have an excellent safety record. The most common side effect of the **relievers** is a fast heartbeat, hyperactive behaviour and a hand tremor. These effects are occasionally felt at the beginning of the treatment or with overuse. These side effects are more pronounced when using formulations.

Parents often worry about inhaled steroids and confuse them with oral steroids. In fact **inhaled steroids** are very well tolerated.

Side effects of **inhaled steroids** may include localised effects such as hoarseness, sore throat, and occasionally oral thrush. These are usually avoided by mouth rinsing, or teeth washing after inhalation. In the case where facemasks are being used, the child's face must also be cleaned. Inappropriate or unsupervised long term treatment with high doses of inhaled steroids may affect growth. However, they are perfectly safe when used in licenced doses and supervised at an asthma clinic or by your GP.

Complementary therapy

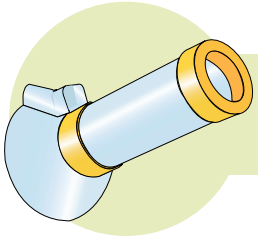
There is very little evidence to suggest that any form of alternative/ complementary treatments help improve asthma symptoms.
Eg: Buteyko, reflexology, homeopathy, acupuncture.

It is **very important** to continue to give your child their prescribed medications and to inform your doctor should you be considering this form of treatment.

Inhaler devices and your child

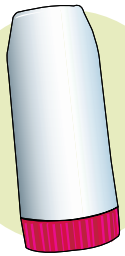
Generally medication in asthma is given through an inhaler. This ensures much smaller doses and that the treatment goes directly to the lungs.

The inhaler device your doctor recommends will depend on your child's age and their ability to use it well. It is important to ask questions and to be confident on how to use your child's inhaler to administer the prescribed medications. Your doctor or practice nurse will demonstrate how to use the device chosen for your child. There is also a DVD available from the Asthma Society of Ireland on 'How to use your inhaler correctly', or visit www.asthmasociety.ie for demonstrations online.



Infants
- Aerosol inhaler with either Aerochamber or Babyhaler with mask

Pre-school children (2-4 years)
- Aerosol inhaler with large volume spacer e.g. Volumatic, Aerochamber or Babyhaler



School age children (4 years +)
- Dry powder inhaler e.g. Turbohaler, Diskus
- Aerosol with large volume spacer e.g. Volumatic, Aerochamber or Babyhaler
- Breath activated inhaler e.g. Easi-Breathe, Autohaler

Tips for giving your child their inhaler

– How to make it easier:
- In the case of small children and infants, make it fun i.e. singing favourite songs, counting to 10 etc.
- Praise and Encouragement
- Patience – give the child a chance to get used to their new inhaler
- Try to make as little fuss as possible. Smile and stay relaxed while your child is taking their inhaler
- Make it part of their routine
- If taking the inhaler through a spacer device, your child may wish to 'decorate' their device with their favourite character's stickers/pictures
- If in doubt your doctor, practice nurse, or pharmacist will be eager to advise

Nebulisers

Nebulisers are machines, which deliver a greater dose of the medication to the lungs. Nebulisers are rarely needed in well-controlled asthmatics and are usually seen only in emergency situations or where a child is unable to use a spacer device.

Asthma and Rhinitis

A high percentage of people with asthma also experience symptoms of rhinitis.

Rhinitis is an inflammation of the lining of the nose.
Symptoms may include:

- Sneezing
- Itchy, blocked or runny nose
- Itchy throat, mouth and inner ear
- Headaches
- Loss of concentration
- Feeling generally unwell
- It can feel like a common cold but lasts much longer

Treatments can include antihistamines, and nasal preparations – consult your pharmacist or doctor

Knowing when your child's asthma becomes worse?

As all caregivers know, it is easy to tell when your child is not 100%.

When your child's asthma is getting worse and you know the signs to look for, symptoms can be quick and simple to manage. Here are some simple tell-tale signs that will help you spot when your child's asthma is getting worse:

- Coughing or wheezing when they get up in the morning or during the night
- Opting out of exercise or not exercising as much as they normally would
- Requesting to use their blue reliever more than normal

If you think your child's asthma is getting worse, give your doctor or nurse a call.

The future for asthma

Asthma can be successfully managed with regular medications and environmental measures. Fortunately, as many as two thirds of childhood asthma sufferers will grow out of their symptoms. Of the remainder, a significant proportion will improve and require less medications.

Occasionally asthma symptoms resolve in the teenage years only to reoccur in later adulthood. At present we have no accurate way of predicting who will and who will not outgrow their asthma. Asthma remains the subject of constant research and study.

Asthma attack – how can you help?

Asthma attacks can be very frightening so it is important to familiarise yourself with some simple steps to avoid panic should it occur to your child. Don't be afraid to call for help should you feel you need it. After your child's asthma attack is over, you should contact your doctor or nurse to have your child's medication reviewed.

For advice on emergency relief from an asthma attack, check out **The Five Minute Rule** on the back of this booklet. The Five Minute Rule has been developed by the Asthma Society of Ireland and a number of Respiratory Consultants in Ireland.

Notes:

Medication Plan

You have been prescribed _____.

Take this _____ in the morning and _____ in the evening.

If you need extra relief take _____ puff of _____

when you need it.

Contact _____ on phone number _____

if you need more advice.

Useful numbers for you

ASTHMA SOCIETY OF IRELAND

www.asthmasociety.ie
Phone: 1850 44 54 64

Your Doctor or Nurse

Phone: _____

_____

Other booklets available:

- A guide to COPD
- A guide to Asthma
- Asthma, Peak Flow Chart Booklet

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About the author

Dr Peter Greally MD, FRCPI, FRCPCH, DCH graduated from UCD in 1984. He began practice in Paediatrics in 1985 having trained at Dublin, London & Pittsburgh. He has been a member of the Academic Staff in Trinity College Dublin since 1994 and a Consultant Paediatrician also since 1994.

Dr Greally specialises in Children's Respiratory and Allergic Disorders. He works at the National Children's Hospital, Tallaght, Dublin 24, Our Lady's Hospital for Sick Children, Dublin 12 and has a private clinic at Suite 12, Charlemont Clinic, Dublin 2.

He is a Board Member and former Medical Chairperson of Asthma Society of Ireland, a Past Member Board of Governors AMNCH Tallaght, Past Chairman, Division of Paediatrics, AMNCH, Tallaght. He is also Past Secretary of the Irish Paediatric Association.

Dr Greally, is currently a Member of the following: Medical & Scientific Committee Cystic Fibrosis Association of Ireland, Board Member of the Cystic Fibrosis Registry of Ireland, Member of the Irish Thoracic Society (ITS), Founder member of the Paediatric subgroup ITS, Fellow College of Paediatrics and Member of the American Thoracic Society- (Allergy & Immunology Assembly Member).

You can contact Dr Greally by email at dora.daly@amnch.ie or by phone in the Charlemont clinic on 01-414-2188.

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The Five Minute Rule

For emergency relief from an asthma attack

- Make sure the blue reliever is taken immediately
- Get your child to sit down and loosen any tight clothing
- Do not put your arm around your child
- Encourage them to breathe slowly and calmly
- Stay calm and reassure your child

If there is no immediate improvement continue to take the reliever inhaler every minute for five minutes or until symptoms improve: two puffs if MDI/evohaler or one puff if turbohaler

If symptoms do not improve in five minutes, or if you are in doubt, call 999 or a doctor urgently

- Continue to give reliever inhaler until help arrives or symptoms improve
- Take your child's treatment details to the hospital or accident and emergency department.

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