

# Pocket Guide **ASTHMA** in children

For parents and carers

Developed by EUFOREA Expert Teams  
based on international guidelines



# Childhood asthma guide for families and non-specialists

Helping children breathe more easily through proper diagnosis, treatment, and care.

## What is childhood asthma?

Asthma is a common long-term condition in children that causes inflammation (swelling) in the airways, leading to wheezing, coughing, shortness of breath, and chest tightness.

It is often linked to allergies or viral infections and may be accompanied by other conditions, such as eczema (dry, itchy, red, and flaky skin), hay fever (also called "allergic rhinitis"), and/or food allergy.

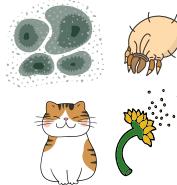


## Why asthma happens?

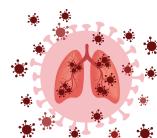
The following factors can increase the risk of developing asthma or contribute to asthma becoming worse.



**Genetics:** If a parent (especially the mother) has asthma, the child is at greater risk. If both parents have asthma, the risk of respiratory diseases in the child is almost 70%.



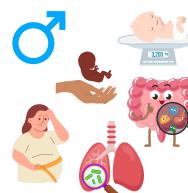
**Allergies:** Common triggers include pollen, pets, dust mites, and moulds.



**Viruses:** Cold and flu viruses can start or worsen asthma.



**Environmental factors:** Pollution, cigarette smoke (also vaping), certain dusts, and poor indoor air quality contribute to asthma.



**Other factors that may increase the risk of developing asthma:** Premature birth, male sex at birth, low birth weight, caesarean section (c-section), obesity (having more body fat than is considered healthy), and gut/lung bacteria imbalance.

## How to recognise asthma in children?

**Common signs** (especially frequent at night, during colds, and/or exercise)



A whistling or wheezing sound when breathing out.



Coughing (especially while sleeping, exercising, being exposed to cold air, or during viral infections)



Trouble breathing or shortness of breath



Chest tightness



Tiredness and less energy for play or physical activities

## Key clues in a child's history



- Frequent colds that 'go to the chest'
- Allergies or eczema
- Symptoms after/under exercise (child prefers to avoid intensive effort), cold drinks, or laughing
- Symptoms that come and go, and which seem to be brought on by exposure to cold air, pets, dust mites, pollen, smoke, and so on.

### Wheezing is not always asthma!



Some young children wheeze during colds but outgrow it.

Asthma is more likely when wheezing happens

- Without a cold
- After the age of 5
- When it improves with asthma medication and comes back when treatment stops

# Diagnosing asthma

Doctors use a combination of:



## Medical history



## Physical examination



**Response to treatment** (especially to medicines in an inhaler that the child breathes into the lungs to reduce swelling in the airways. Also called "inhaled corticosteroids" or "ICS")



## Breathing tests (from about age 5+)



**Allergy tests** (such as a skin prick test or an allergy blood test. The blood tests measure the level of a specific antibody, called immunoglobulin E (IgE), in the blood. High levels often mean the body is overreacting to allergens, which can result in allergic reactions.)



**Biomarkers to assess inflammation** (Biomarkers are measurable signs that tell you something about your child's health). When talking about biomarkers of inflammation, your doctor might look at:

- blood eosinophils (a type of white blood cell that is raised in allergic reactions)
- fractional exhaled nitric oxide (also called "FeNO", a simple breath test that measures the amount of inflammation in your child's breath)



# Triggers and treatable traits



Asthma comes in many different forms, such as allergic, non-allergic, or the viral wheeze type. They can vary in triggers and in their response to specific treatments.

**Treatable traits** are factors that can be improved to help control asthma:



**Poor inhaler technique or non-adherence to medication** (not taking the medication as prescribed by the doctor or pharmacist, either intentionally or unintentionally)



**Exposure to triggers:** smoke/vaping (active and passive), allergens or pollution



**Hay fever** (also called "allergic rhinitis")



**Obesity**



**Acid reflux or heartburn**



**Sleep disordered breathing** (when breathing is abnormal during sleep)



# Managing asthma



## Goals:



No symptoms or asthma attacks



No emergency room visits



Full participation in school



Full participation in sports



Normal lung growth and development



No side effects of drugs

## Treatment strategy



- **Prevention** using inhalers (maintenance therapy with inhaled corticosteroids) and avoidance of known triggers.
- **Reliever medication** should never be used alone.
- **Add-on medications** like long-acting relievers (LABA) or leukotriene receptor antagonists (LTRA) for those not controlled with ICS alone.
- **Allergen avoidance if possible and applicable.**
- **Allergen-specific immunotherapy (AIT)** may reduce disease and alter its course (asthma has to be controlled, and AIT is given by a specialist). For children over 5 years with allergy-driven asthma, it can reduce symptoms long-term.
- **Look for and treat other conditions** – such as allergic rhinitis, which can worsen asthma. Children with asthma and food allergy may need to carry adrenaline to be prepared for treatment of an anaphylactic reaction (severe, and potentially life-threatening allergic reaction).
- **Biologic therapies** may help children with severe asthma not responding to other treatments (specialist referral needed).

## ! IMPORTANT

For children with persistent asthma, **daily use of inhaled corticosteroids (ICS)** is essential to prevent inflammation and attacks.

In children with infrequent symptoms, a doctor may recommend as-needed use of ICS plus relievers. This should be clearly outlined in their asthma action plan.

ICS are the **most important treatment** for childhood asthma. They **reduce inflammation** in the lungs and **prevent serious attacks**. Using bronchodilators (relievers) **without ICS is not safe** and can mask worsening asthma.



Parents often worry about side effects from ICS, including growth reduction.

However, it is important to realise that uncontrolled asthma is more likely to reduce growth than regular ICS, which are safe at **reasonable doses** in long-term use. If you're ever concerned about side effects, talk to your healthcare provider.

## Non-drug support ✓

**Education:** Ideally, every child and parent understands asthma and has a written asthma action plan, which should be shared with schools, caregivers, and sports coaches. This includes knowing what to do in an emergency.

### Apps may be helpful (check page 18)

**Good inhaler use:** Taking your medicines the right way is just as important as taking them regularly. For inhaled asthma treatment to work properly, it needs to reach your lungs.

See instructional video [here](#) or scan the QR code.



### Lifestyle:

- Avoid cigarette smoke and vaping
- Encourage physical activity and regular training in teenagers
- Healthy diet and weight. What is 'normal'? Health is linked to the BMI index



### Environment:

- Try to avoid exposure to allergens as much as possible (find more info [here](#) or scan the above QR code)
- Keep the air clean and well-ventilated, and control humidity

## Other treatment options



**Antibiotics:** Only if there is a clear bacterial infection, such as:

- positive culture results (a medical test that grows germs from a bodily sample to identify them and determine the best treatment),
- and/or elevated C-reactive protein (CRP) level (means there's more inflammation in your body),
- positive rapid antigen test.



**Metered-dose inhalers (MDI):** Inhalers push a specific amount of medication to the lungs. A spacer improves uptake and distribution.



**Nebuliser:** A nebuliser is a machine used to change liquid medication into a vapour that the child can inhale. It may take 5 to 10 minutes.

### When to refer to a specialist



- Severe or difficult-to-control asthma.
- Need for allergen-specific immunotherapy or biologic therapies.
- Unclear diagnosis or concern for other diseases.
- Frequent emergency visits or hospitalisations.

## Living with asthma



### Vaccinations

- Children with asthma should get all routine vaccines.
- An annual influenza shot is highly recommended.
- COVID-19 vaccines should be considered.

### Exercise and activities

- Children with asthma can and should stay active.
- Swimming is especially good for lung health.
- Use relievers before exercise, if needed.
- Avoid very cold or polluted environments.

### School and daily life

- Ensure teachers are aware of asthma action plans.
- Carry reliever medication (combined with ICS) and use if needed.
- Avoid known allergens during visits (such as pets in other homes, cats can be a problem).
- Avoid vaping and tobacco consumption (Your child or people in their surroundings).

### Monitoring and follow-up

Regular follow-up (every 6-12 months) helps:

- Adjust treatment as children grow.
- Monitor symptoms, lung function, and side effects.
- Check growth, weight, and medication use.

## Tests during follow-up

- Symptom questionnaires for tracking control.
- Older children may additionally use a peak flow meter at home to track lung function and recognise early signs of worsening.
- Spirometry (a breathing test that measures how much air the child can blow out of their lungs and how fast they can do it) for lung function (where possible).
- FeNO to check lung inflammation (where possible).

## Hope for remission

Some children "grow out" of asthma or go into remission (no symptoms, no medications). This is more likely if your child:

- has mild asthma
- has fewer triggers or allergies
- is not exposed to smoking
- controlled their asthma well early on
- was given allergen-specific immunotherapy (AIT) appropriately

Subsequent relapse can happen in late teens or middle age.

## Final Words for Families

- Asthma is manageable. With proper care and treatment, your child can live a full, active life.
- Inhaled corticosteroids are the foundation of treatment. They control inflammation and prevent serious attacks. They are safe at reasonable doses.
- Relievers are for symptoms, not a cure. Always use them alongside inhaled corticosteroids
- Be informed, involved, and supported.



## Important recommendations



### Participation and engagement:

Awareness and appropriate asthma (self)management enable the majority of asthmatic children and adolescents to be involved in diverse activities without problems. If your child has a severe food allergy, it is important that they stay away from that food and keep an adrenaline pen with them at all times.



### Exercise:

Children with asthma can participate in many kinds of sports as long as their asthma is well-controlled. Being active helps asthmatics stay fit and maintain a healthy weight. Sport activities can strengthen breathing muscles to help the lungs work better and avoid panting while performing exercise.



### Pet keeping:

If your child is allergic to pets and has symptoms when around them, it's best not to keep those pets at home.

If your child needs to visit friends or relatives who have the pet, have your child use their inhaler or take a non-sedating antihistamine (medicine that helps reduce allergy symptoms) 30 to 60 minutes before the visit. If your child's symptoms get worse, they may need to avoid contact with the pet completely.



### **Parental smoking:**

Parental smoking is harmful for parents, children, and carers, especially if they are asthmatic, and should be strictly avoided indoors. As parents are role models for their children, parents of asthmatic children should ask their doctors to help them stop smoking.



### **Swimming:**

All children need to learn to swim. Swimming is a good sport for asthmatics. Sea water is preferable as some children are intolerant of chemicals, such as chlorine. Swimming pool water can also be disinfected with ozone or lower concentrations of chloramine, which are preferable for children with sensitive airways.



### **Vaccination:**

Asthmatic children have a slightly impaired response to viruses, especially rhinovirus, influenza, and RSV (Respiratory Syncytial Virus - a common respiratory virus). Therefore, children and adolescents with asthma should be vaccinated according to national guidelines.

## List of abbreviations

AIT	Allergen Immunotherapy
FeNO	Fractional exhaled Nitric Oxide
ICS	Inhaled Corticosteroids
LABA	Long-Acting Beta-Agonist
LTRA	Leukotriene Receptor Antagonist

### **\*List of suggested apps (page 11):**

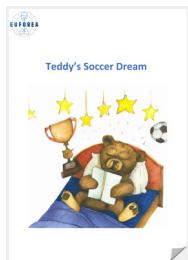
## Asthma Hub

## MySpira Asthma (from Allergy UK)

## Other resources



Learn more about how asthma is diagnosed! Click [here](#) or scan the QR code for examples.



A new book from EUFOREA helps children better understand life with asthma.

Click [here](#) or scan the QR code to download it for free!



## Notes

# Vision

EUFOREA is an international non-profit organisation forming an alliance of all stakeholders dedicated to reducing the prevalence and burden of chronic respiratory diseases through the implementation of optimal patient care via education, research, and advocacy.

# Mission

Based on its medical and scientific core competency, EUFOREA offers a platform to introduce innovation and education in healthcare, leading to optimal patient care.

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