Asthma and Atopy in Children & Young People (CYP)

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In this article Lisa discusses the management of asthma and atopy in children and young people focusing on perennial and allergic rhinitis, it's impact on asthma and top tips for reducing symptoms and improving control.

Asthma is characterised by inflammation of the airways and includes symptoms of wheeze, cough, breathlessness, and a tight chest. It is the most common long-term condition in children, affecting 1.1 million in the United Kingdom (UK), this is approximately 3 children in every classroom. Atopy refers to the genetic disposition to develop allergic reactions such as eczema and allergic rhinitis, atopic children are at an increased risk of developing asthma.

There is a strong link between asthma and allergy, and we must manage both conditions to reduce the burden on children and their families. Around 90% of children and 60% of adults with asthma are estimated to be sensitive to at least one allergen. Allergic asthma is the most common phenotype in children and young people therefore it is essential that we educate CYP and families on the connection between asthma and allergy, and the importance of treating both conditions.

Worsening asthma control can be caused by exposure to allergens, particularly if these are not identified or understood by the child or family. Educating patients on recognising their triggers is a cost-effective and relatively easy process for clinicians to cover in the annual review reducing the need for pharmacological interventions.

The most common causes of allergic reactions in asthma are

- Tree and grass pollen
- House dust mite
- Pet dander

Common symptoms of allergy include

- Wheezing
- Sneezing
- Blocked nose
- Itchy eyes, lips, throat, and mouth
- Swelling
- Rashes or hives
- Sinus Pain

Perennial rhinitis is triggered by indoor allergens including pets, house dust mites and mould spores, this can be worse during the winter months as more time is spent indoors. Seasonal rhinitis is triggered by grass, tree and weed pollen this can make spring and summer months challenging as children want to play outside with friends or family.[1] Children and Young People with perennial and seasonal rhinitis may have symptoms all year round which worsen during allergy season.

Allergic Rhinitis (hayfever) is a common condition affecting around 10-15% of children and young people in the UK and is very closely linked with asthma.[2] Allergic Rhinitis can lead to poor quality of life for those children and young people affected due to feelings of low self-esteem and embarrassment. Poor asthma control and allergic rhinitis can also impact a young person's academic performance due to symptoms, fatigue and poor concentration.

Following the principle of 'one airway, airway, one disease' and including allergy management during asthma assessment and review can improve overall control.[3] Healthcare professionals should ensure that before new treatments are initiated, they have checked adherence, inhaler technique and trigger avoidance.[4]

Trigger awareness is a simple and important part of annual reviews. Remember this will be individual to each patient to avoidance/reduced exposure.

Non-Pharmacological Management

It is estimated that asthma-related hospital admissions could be reduced by 45% by reducing exposure to allergens.[5] If it is possible to avoid the allergen then it can be very effective if not simple measures to avoid allergens include,

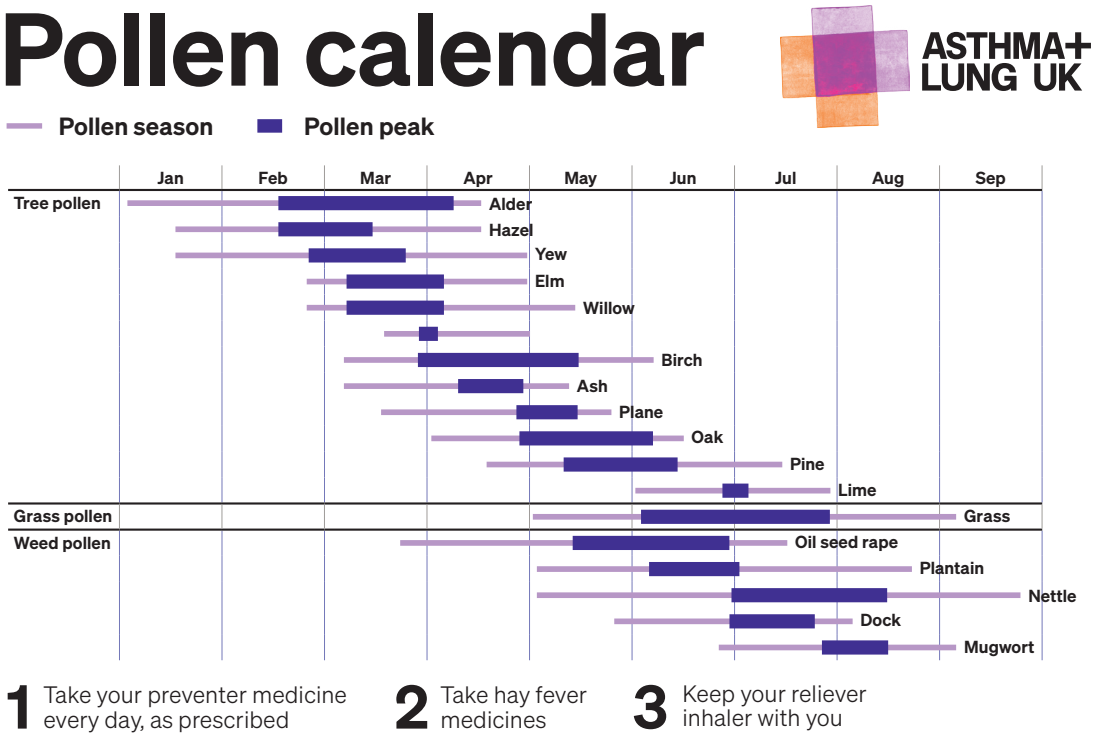
- Keeping windows closed during peak pollen season
- Avoiding exposure to pets
- Avoiding exposure to cigarette smoke or vapes
- Using hypoallergenic pillow and mattress protectors
- Wearing sunglasses
- Applying ointment to the nose when outdoors
- Damp dusting.
- Consider replacing carpets with hard flooring where possible, if not then regular hoovering of carpets.
- Limiting soft furnishings such as cushions and throw overs

The pollen calendar (figure 1) can help support when to initiate treatment as this should be before symptoms start. Patients should be encouraged to start antihistamines BEFORE symptoms - most take 4-6 hours to have optimum efficacy. Providing information can prevent a delay in starting treatments.

Nasal rinsing with a saline solution is a cheap and easy-to-perform treatment that may reduce symptoms and the need for further pharmacological treatments.[7]

If patient has hayfever, encourage them to start antihistamine and nasal spray earlier in the year.

Figure 1. Pollen Calendar[6] https://www.asthmaandlung.org.uk/pollen-calendar



Pharmacological Management

This condition is often self-managed with over-the-counter medications. Support from healthcare professionals can improve outcomes for children and young people.

Antihistamines are the recommended first-line treatment for allergic rhinitis, these may be oral, intranasal, or ocular. Cetirizine or Loratadine are the first choice for treating children, daily treatment is recommended, and it should be started weeks before symptoms are expected.

Start antihistamines BEFORE symptoms - most take 4-6hrs to have optimum efficacy

Intranasal corticosteroids reduce inflammation in the nose decreasing swelling and congestion, they are effective in treating allergic rhinitis. They are generally safe to use in children when used as directed by their healthcare professional. It is, however, important that the opportunity to discuss concerns with parents is taken and sufficient information provided. All intranasal steroids are effective, but drug bioavailability varies; mometasone and fluticasone have the lowest systemic bioavailability (2) – this is an important consideration for children taking other steroids, e.g. for asthma and/or eczema (1).

Nasal steroids can improve both rhinitis and asthma control

A combination of oral antihistamines and intranasal corticosteroids may be required to achieve optimum control.

Nasal spray technique is as important as inhaler technique so patients must be educated on how to use it properly. There are different brands of nasal spray, and they are all held and used in slightly different ways to help the absorption and reduce side effects, so it is important to check the instructions as well as using the Asthma and Lung UK demonstration videos.

Ensure both inhaler technique and nasal spray technique are checked when first prescribed and at annual or post attack reviews. You can also send a link to the Asthma and Lung UK videos as a reminder, but this does not replace a face-to-face check.

Triggers must be identified to avoid worsening asthma control. All patients with asthma should have a written personalised asthma action plan (PAAP) which includes their current treatment plan and known triggers. The National Review of Asthma Deaths (2014)[8] found that despite knowing that atopy can lead to poor asthma control, only 51% of patients had their triggers identified or documented.

Ensure Patients PAAP is updated with any new treatments or identified triggers https://shop.asthmaandlung.org.uk/collections/health-advice-resources/

Steroids can be used to treat several health conditions in children including asthma, rhinitis and eczema. 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. If a child is on steroids for a continued period, they may need a steroid information card that notes the steroid dosage, when the treatment was started, and what condition they are being treated for. An increased steroid load can lead to adrenal suppression, this can be minimised by increased awareness and early recognition.[9] Healthcare professionals must review regularly to ensure the lowest dose of inhaled corticosteroids to achieve maximum control.

If on ICS and nasal steroid and topical steroid for atopic eczema then overall intake of corticosteroids systemically needs to be monitored. You will also need to consider if a steroid information card is needed.

Anaphylaxis is a severe allergic reaction that can be life-threatening if not treated promptly. Common triggers for anaphylaxis include food allergies, insect stings, and certain medications. Patients with asthma and a food allergy are at an increased risk of anaphylaxis these children are also more likely to have severe asthma.[10] In cases of severe allergic reactions, carrying an epinephrine auto-injector is essential for immediate treatment. Patients will also need an Allergy Action Plan in addition to their PAAP. Paediatric Allergy Action Plans can be found using this QR code

TOP TIP

Consideration of management if patient has anaphylaxis too, ensure the patient has an in date auto injector.

For more information on asthma and allergic rhinitis visit our website via the following QR code, which features a range of tools and resources including webinars, documents and podcasts.

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