Identifying and managing allergic rhinitis in the asthma population

Development Group—Scadding, Holmes, Ryan, and Williams

This management algorithm was developed by a multidisciplinary expert panel: Scadding et al with the support of an educational grant from Mylan. See end of algorithm for full disclaimer.

Patient with asthma comes for asthma review

Ask questions to discover potential insidious symptoms of allergic rhinitis:
- Have you noticed any problems with your nose?
- Is your nose blocked?
- Do you snore?
- Do you think your sense of smell is impaired?
- Do you have hay fever or experience persistent colds?
- Do you experience a running nose, blocked nose, sneezing, and/or itching?
- Are your eyes affected?

Exit algorithm

Is it worse at different times of the year or is it the same all year round?
Are you on treatment now?
Ask patient to score nasal symptom severity from 0 to 10[5A]

<5
Advise on avoidance of relevant allergens, tobacco smoke and other pollutants, and use of nasal saline
Continue current treatment (if sedating AH being used, switch to non-sedating) or advise patient to purchase OTC treatment,[1–3] such as non-sedating AH or INS spray

Check asthma symptoms at every review

5–10
Advise on avoidance of relevant allergens, tobacco smoke and other pollutants, and use of nasal saline
Patient has uncontrolled AR so needs a step up therapy. Prescribe INS or azelastine hydrochloride + fluticasone
Advise on good technique, importance of concordance and when to expect improvement
Book a review with same nurse/GP 2–4 weeks later[2–4]

Review after 2–4 weeks (video/email/phone)
- Confirm patient has taken treatment properly[2–6]
- Ask patient to score nasal symptom severity from 0 to 10[5A]

<5
Step down to or continue on once-daily non-systemically bioavailable INS[5B]

5–7
Switch to INS/AH combination if on INS alone, or consider add-on therapy according to guidelines[6]

8–10
Consider referral to ENT specialist or allergist

Review after 2–4 weeks according to practice availability

Allergic rhinitis is controlled
Review in 6–12 months

Treatment control lost
Step up again or consider referral if on maximal therapy

AH=antihistamine; AR=allergic rhinitis; ENT=ear, nose, and throat; INS=intranasal corticosteroid; OTC=over-the-counter
[1] Visual analogue scale is a scoring system that allows easy measurement of symptoms (0 = not at all bothersome; 10 = extremely bothersome)

The suggestions in this algorithm are informed by evidence-based guidance.
One airway disease

- Allergic rhinitis (AR) is a common comorbidity in >80% of patients with asthma but is frequently undertreated and underdiagnosed.  
- AR is an independent risk factor for developing asthma, and increases the risk of a patient’s asthma being poorly controlled.  
- Treating AR can improve patient’s asthma symptoms and reduce the odds of asthma-related emergency department visits and hospitalisations.  
- Respiratory symptoms thought to be caused by asthma (coughing, wheezing, and breathlessness) may sometimes be solely caused by AR.  

Top tips for patients

Seasonal AR

- Allergens are usually tree pollen (spring), grass pollen (end of spring/beginning of summer), or weeds (early spring to late autumn).  
- Allergen avoidance strategies can help reduce symptoms, such as minimising outdoor activity, wearing wraparound sunglasses, shutting windows in cars and buildings, using nasal filters, avoiding drying clothes outside when the pollen count is high, and showering and washing hair after pollen exposure.  
- Patients should start using treatment two weeks before they normally experience symptoms and stop at the end of the season.  
- The Met Office pollen forecast (for the UK) can help with timings of when there is high to very high pollen count (see useful resources).  
- Pollen food syndrome affects some people with hay fever. Symptoms of itching and/or swelling of the lips, tongue, and mouth and/or throat may be experienced on eating some fruits, vegetables, or nuts, such as apples, because of the cross-reactivity between these foods and pollens, such as birch tree pollen.

Non-pharmacological interventions

- Nasal douching with saline may help reduce the severity of symptoms.  
- Allergen barrier balms that are applied around the nostrils may reduce the amount of pollen entering the airways and may reduce symptoms.

Medication

- Explain that treatment will be trialled for two to four weeks to enable diagnosis and assess its effectiveness, but a change in medication or referral may be required on review.  
- Advise patients when to expect improvement in symptoms:  
  - intranasal corticosteroids can take 6–8 hours to begin working and around two weeks to achieve maximal effect.  
  - intranasal antihistamines (AH) (azelastine hydrochloride) have a fast onset of action (15 minutes).  
  - combination azelastine hydrochloride and fluticasone propionate spray clinically improves symptoms days earlier than monotherapy.  
- Explain that treatment is only effective if taken every day as directed.
- Teach patients how to use nasal sprays correctly (see useful resources) and check their technique at each review.  
- Treatment failure is often a result of incorrect technique.
- Warn patients about possible side effects – some patients may experience a bitter taste with azelastine, and epistaxis is a possibility with intranasal steroids.

Considerations for healthcare professionals

Diagnosis

- Questions about AR symptoms should be phrased according to the patient’s level of understanding and linguistic ability.  
- Check which medicines patients have tried previously and whether any were effective.  
- Remember to check patients with AR for asthma symptoms.

Medication

- Patients should not use sedating oral AH, for example, chlorphenamine, hydroxyzine, and promethazine.  
- Intranasal AH are more effective at treating AR symptoms than oral AH.  
- Intranasal steroids are more effective than intranasal AH and also reduce nasal congestion.  
- Intranasal steroids with the lowest systemic bioavailability should be used to reduce the risk of systemic effects (mometasone furoate, fluticasone furoate, and fluticasone propionate).  
- Combination therapy using an intranasal steroid and intranasal AH spray is more effective than monotherapy.  
- Concordance with treatment may be improved by using a simple treatment regimen, such as once-daily treatments or a single device.  
- In exceptional circumstances (for example, the patient’s wedding day), it may be appropriate to
use a short course of oral prednisolone to rapidly alleviate symptoms.

- Injectable steroids (for example, triamcinolone acetonide) should not be used for AR because of a poor risk–benefit profile.

**Monitoring/review**

- A visual analogue scale is a simple scoring system to measure AR symptoms (0 to 10) and show improvement, which can help improve patient concordance with treatment and achieve optimum control.

- Where possible, patients can use the MASK–air app to record daily symptoms, enabling a simple treatment decision after two to four weeks trial of treatment based on changes to the patient’s score.

- The two to four week review can be carried out by phone, email, or video consultation.

- Check patient’s asthma symptoms at review. If they improve with successful AR treatment, asthma medications might need stepping down and monitoring.

**Children**

- Mometasone is licensed for use in children ≥3 years.

- Combination intranasal steroid and intranasal antihistamine treatment is not licensed in children under 12 years.

**Useful resources**

- How to use nasal spray: www.asthma.org.uk/advice/inhaler-videos/nasal-spray/

- BSACI. How to apply a nasal spray: www.bsaci.org/_literature_121182/How_to_use_a_nasal_spray

- How to do nasal douching: www.youtube.com/watch?v=GW2PiOFhFtY


- Allergy UK factsheet on hay fever: www.allergyuk.org/information-and-advice/conditions-and-symptoms/11-hay-fever-allergic-rhinitis

- MASK-air app: www.mask-air.com/


[C] Not currently recommended due to COVID-19.

**References**


**About this management algorithm**

**Disclaimer:** Guidelines identified a need for clinical guidance in a specific area and approached Mylan for an educational grant to support this work. This algorithm was developed by Guidelines, and the Chair and members of the working group were chosen and convened by Guidelines. The content is independent of and not influenced by Mylan, who checked the final document for technical accuracy and to ensure compliance with regulations. The views and opinions of the contributors are not necessarily those of Mylan, or of Guidelines, its publisher, advisers, or advertisers. No part of this publication may be reproduced in any form without the permission of the publisher.

**Group members:** Dr Glenis Scadding, Honorary Consultant Physician in Allergy and Rhinology at the Royal National Throat, Nose and Ear Hospital, and Honorary Senior Lecturer at University College London. Dr Steve Holmes, GP and GP trainer, Shiplton Mallet, Associate Postgraduate Dean [HEE South West], Education lead for PCRS and member of the IPCRG Education Committee, Respiratory Clinical Lead for Somerset CCG. Dr Dermot Ryan, Honorary Clinical Research Fellow, University of Edinburgh, Member of ARIA, General Practitioner, Nottingham, and Mr Andrew Williams, Allergy Nurse Freelance educator, writer, and adviser. Current Honorary Allergy Nurse Specialist at Broomfield NHS Hospital.

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