# Allergic rhinitis

by Dr Adrian Morris

**In this article, the author offers readers an insight into allergic rhinitis and its various manifestations as well as current treatment options.**

## Extent of the problem

Seasonal allergic rhino-conjunctivitis (SAR) due to pollen exposure is the most common allergic disorder and affects 15% the general population (and up to 50% of adolescents). Perennial allergic rhinitis (PAR) persists all year and causes symptoms of a 'permanent cold'. Although often trivialised, untreated allergic rhinitis can cause a significant adverse impact on quality of life and investigators find that it is often more debilitating than asthma.

In 2001, new rhinitis nomenclature[2] proposed by the 'Allergic Rhinitis and its Impact on Asthma' (ARIA) working group of the WHO superseded the traditional Seasonal or Perennial classification of Allergic Rhinitis. ARIA divides Allergic Rhinitis into Intermittent (less than four days per week or less than four weeks duration) and Persistent (more than 4 days per week and over four weeks in duration).

**About the author**

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Intermittent and Persistent Allergic Rhinitis are further sub-divided into Mild (minimal symptoms) or Moderate/ Severe (troublesome symptoms, sleep disturbance and impairment of daily activities).

Seasonal symptoms with pollen exposure include intense itching of the nose, eyes, palate, ears and throat with repetitive bouts of sneezing, profuse watery nose and tearing. Occasionally allergen-induced wheezing may occur in the form of Hay Asthma. The seasonal allergens include tree pollens (Oak, Plane, Acacia and Olive) in early spring (August and September), followed by grass pollens (Timothy, Rye and Bermuda) from September to January. Weed pollens (Plantain and Cosmos) and mould spores (Alternaria, Cladosporium and Aspergillus) predominate in autumn but tend to be less problematic. Perennial rhinitis symptoms include chronic nasal blockage, sinus congestion, post nasal drip, headaches and fatigue related to chronic house dust mite and pet exposure (cat, dog and other furry pets).

## Basics of treatment

***Antihistamines*:** Regular use of antihistamines throughout the pollen season is effective especially if treatment is commenced early in the season. Non-sedating longer-acting antihistamines include fexofenadine, levocetirizine and desloratidine, while other

less-sedating antihistamines include cetirizine, acrivastine, mizolastine, ebastine and loratidine. Older antihistamines such as promethazine readily cross the blood-brain barrier and cause significant sedation and cognitive impairment although certain individuals seem to tolerate them well. Promethazine and chlorphenamine remain readily accessible and cheap options and still form the bulk of non-prescription OTC hay fever medication. Topical antihistamines such as azelastine come in eye droplet and nasal spray formulations.

***Nasal steroid sprays***: Budesonide, beclomethasone, fluticasone, triamcinolone, flunisolide and mometasone are the mainstay of chronic treatment and when used regularly are most effective for reversing nasal inflammation and congestion as seen in persistent (or perennial) allergic rhinitis. These sprays can be used safely for prolonged periods, do not cause oro-pharyngeal thrush, but can induce nose bleeds and irritation if the propellant is directed at the nasal septum. Steroid nose drops such as betamethasone and fluticasone nasules are very effective for short-term use, but may have systemic effects if used for prolonged periods.

***Cromones*:** Sodium cromoglycate eye and nose drops which have been available since the 1970s are most effective in children with pollen induced rhino-conjunctivitis and have an excellent safety record, but must be used four times a day. Nedocromil sodium eye drops may be used twice daily. Although more expensive, the new mast cell stabiliser/antihistamine eye drop Olopatadine seems highly therapeutic when used twice daily.

Decongestants: Ephedrine, zylometazoline and oxymetazoline when used topically for short periods (less than 10 days) will reduce nasal blockage and facilitate better penetration of topical steroid nose sprays. Rebound congestion is always a concern, if used continuously. Oral decongestants should be used with caution in hypertension, diabetes, glaucoma and prostatism.

## Basic allergic rhinitis treatment

Oral antihistamines
Topical nasal steroids
Topical decongestants (< 10 days)
Emergency oral steroid

Non-allergic watery rhinorrhoea responds well to the anti-cholinergic nasal spray Ipratropium bromide.

## Refractory patients

'Steroidophobia' is a major stumbling block for treatment with nasal steroids. Patients need a careful explanation as to how important continued low dose nasal application is to maintain symptom control.

A short course of oral steroids, perhaps 20mg prednisone daily in adults for five days will usually unblock even the most resistant nose and give good symptom relief whilst antihistamines and inhaled steroids get to work. This regime is particularly useful at examination time or for 'special events' such as weddings. However, depot injectable steroids (although very effective) should be discouraged for fear of causing unpredictable systemic side-effects.

Commencing regular antihistamine medication up to four weeks before the pollen season has been shown to improve symptom control significantly in refractory hay fever.

Grass pollen and house-dust mite specific desensitisation immunotherapy (SIT) is the only potentially curative treatment for severe allergic rhinitis which does not respond to medication. Treatment usually spans three years and newer sublingual droplet preparations seem as therapeutic as the injectable vaccines. Disappointingly, this curative treatment has still not received the 'green light' from the Medicines Control Council in the South Africa. The therapy can be arranged by the GP or specialist on a 'named-patient basis' by contacting the local supplier Laboratory Specialities (Johannesburg). Xolair (omulazemab) the new monoclonal anti-IgE antibody preparation is an IgE specific therapy for severe asthma and rhinitis, but needs to be given by injection and is very costly and as such is unlikely to become a first-line treatment option.

Aspirin intolerant individuals with a combination of allergic rhinitis, nasal polyposis and co-existent asthma usually benefit from adding a leukotriene receptor antagonist medication such as Montelukast or Zafirlukast to the treatment regime.

## Treatment resistance

The main impediment to treatment and the cause of sub-optimal allergic rhino-conjunctivitis symptom control is the resistance many patients have to long-term use of their prescribed nasal sprays and antihistamines. Patients usually fail to use regular doses of medication and as soon as symptoms improve, they allow the treatment to lapse only to become symptomatic again. Uncontrolled allergic rhinitis will adversely affect asthma making chest symptoms more difficult to control. Patients need constant reinforcement of the safety and efficacy of their prescribed allergy treatment and chronic medication.

Alternative or complementary treatments remain extremely popular with the public who experiment with remedies

## Non-pharma-cological measures

Allergy testing to identify allergen

Simple pollen avoidance measures (saline douche, "Vaseline", remaining indoors)

House dust and pet avoid-ance (removal pets, non-feather bedding, HEPA vacuum, removal carpets, occlusive covers bedding, damp dusting)

including dilute homeopathic extracts of red onion (allium), eyebright (euphrasia), Sabadilla and herbal treatments such as Butterbur and Sambucos. Another popular remedy is to consume 'local' honey for one month prior to the pollen season. This has been advocated as a form of natural immunotherapy (but never confirmed in any studies). The most extensively investigated of these alternative treatments is Butterbur (petadolex) which has been shown to be as effective as many antihistamines.

Simple non-pharmacological and avoidance measures do help. For example in hay fever, a simple saline nasal douche or lavage is effective. Saline nose sprays (Sterimar) and douching help flush pollen grains off the nasal mucosa. While a little Vaseline (petroleum jelly) applied on a cotton bud to the lower nostrils acts as a soothing and protective barrier. Wrap-around sunglasses are helpful and occasionally a face and nose mask may be necessary. Monitoring of pollen forecasts and remaining indoors during mid morning and early evening (when pollen counts peak) will help. Additional prophylactic antihistamine medication may need to be taken on days when pollen counts are excessively high. When travelling by car, be sure to close the windows and use the air conditioner to filter out pollen.

While for indoor control of house dust mite and pet allergens; if necessary, removal of the offending pet may be essential. Use of special occlusive mattress, pillow and duvet covers help reduce mite allergen exposure as will use of synthetic (non-feature) pillows and duvets. Vacuum cleaners should be equipped with a HEPA micro-filter to arrest aero-allergens.

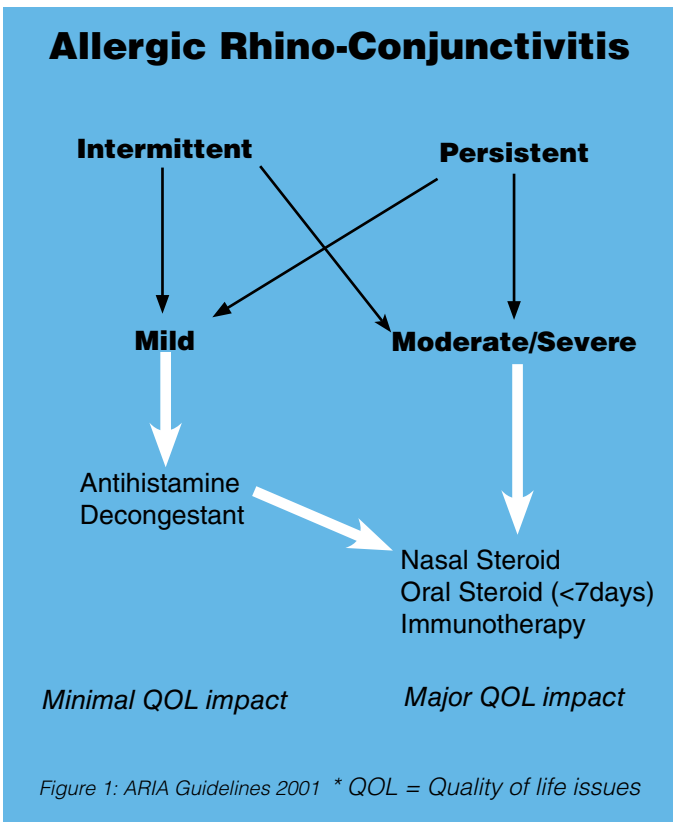


*Figure 1: ARIA Guidelines 2001* * QOL = Quality of life issues*

## Pollen Calendar for South Africa

**August/September:**
Tree pollens
(Oak, Plane, Acacia & Olive)

**September/January:**
Grass pollens
(Rye, Timothy & Bermuda)

**March/April:**
Weed pollens
(Plantain & Cosmos)
and mould spores

Removal of carpeting and clutter from the bedroom and damp dusting all surfaces will further reduce the indoor allergen load. Special air filters and ionisers in the home are usually expensive and not very effective.

## Referral and testing for allergies

Who, what, why and when to refer? The majority of patients can be successfully managed by the Community Pharmacist or GP. ENT Specialist referral is only necessary if symptoms are atypical or fail to respond to standard treatments.

Skin Prick Testing is always helpful and can focus the allergic rhinitis sufferer on specific allergens to avoid, especially house dust mites, pets, pollen and mould spores. RAST testing is readily accessible and specific IgE to aero-allergens can be determined at pathology laboratories using the UniCAP RAST method.

Endoscopic nasal surgery does not usually help rhinitis symptom control unless an anatomical anomaly is exacerbating symptoms, in which case a septoplasty, polypectomy or partial turbinectomy procedures may improve nasal patency.

The key to good allergic rhinitis symptom control remains a combination of nasal steroid sprays and non-sedating antihistamine medication. Both of which should be used continuously throughout the hay fever season or all year for perennial rhinitis.

## Reliable allergy testing to identify allergen

*"know thy allergen"*

Skin Prick Testing (SPT) to common inhalants
RAST testing of blood at pathology laboratories

***Recommended reading and websites***

1. Mygind N., Essential Rhinitis 2nd ed Blackwell 1995
2. The ARIA Guidelines. J Allergy Clin. Immunology 2001;108 (5): suppl
- Allergy Society of South Africa website: www.allergysa.org