**Chronic rhinitis in South Africa: Update 2013**

R J Green, PhD, Dip Allergol (SA); M Hockman, FCS (SA) (ORL); R Friedman, FCS (SA) (ORL); M Davis, FC Paed (SA); M McDonald, MB ChB, Dip Allergol (SA); R Seedat, FCS (SA) (ORL); C Els, FC Paed (SA), Dip Allergol (SA), Cert Pulm (Paed) (SA); M Levin, PhD, Dip Allergol (SA); P Potter, MD; C Feldman, PhD, DSc

1 Department of Paediatrics and Child Health, University of Pretoria, South Africa
2 Department of ENT Surgery, Netcare Linksfield Clinic, Johannesburg, South Africa
3 Mediclinic Sandton, Johannesburg, South Africa
4 Department of Paediatrics, Netcare Linksfield Clinic, Johannesburg, South Africa
5 Department of Otorhinolaryngology, University of the Free State, South Africa
6 Department of Paediatric Pulmonology and Allergy, Linksfield Clinic, Johannesburg, South Africa
7 Department of Paediatrics and Adolescent Health, University of Cape Town, South Africa
8 Department of Medicine, University of Cape Town, South Africa
9 Division of Pulmonology, Department of Internal Medicine, University of the Witwatersrand, Johannesburg, South Africa


Endorsed by the Allergy Society of South Africa.

Corresponding author: R J Green (robin.green@up.ac.za)

The term rhinitis implies inflammation of the lining of the nose. Characteristic symptoms are a blocked nose, anterior and posterior rhinorrhea, sneezing and itching. Not all cases of chronic rhinitis have an allergic basis. Chronic non-allergic rhinitis is defined as a condition where ongoing rhinitic symptoms are present for many months (as for persistent allergic rhinitis) but there is no IgE basis. Many common conditions may present as chronic rhinitis, which will need to be investigated and managed on their own merits. Not all cases of chronic rhinitis respond to allergic rhinitis therapy; continued attempts to manage chronic rhinitis as allergic rhinitis may be hampered by pathophysiological conditions where other specific therapy may be required. Chronic rhinitis impacts on patient quality of life, and therefore therapy is important. Managing patients with chronic rhinitis requires attention to patient education in order to achieve the maximal therapeutic benefit of medication. This update is intended to provide clinicians with a sound basis for management of a common condition.

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1. **Introduction**
   The South African Allergic Rhinitis Working Group (SAARWG) met on 6 April 2013 to discuss and review important concepts in allergic rhinitis diagnosis and management. The theme of that meeting, and this update, is to remind clinicians that all patients with rhinitis may not have allergic rhinitis (AR) specifically. The reason is twofold: (i) patients with chronic rhinitis (CR) may have one of a number of conditions that are more significant and may herald more sinister diagnoses, and (ii) many forms of chronic rhinitis may not respond as well to standard allergic rhinitis therapy. This review will focus specifically on the differential diagnosis of AR and the management of these alternative conditions.

2. **Definitions**
   The term ‘rhinitis’ implies inflammation of the lining of the nose. The characteristic symptoms are a blocked nose, anterior and posterior rhinorrhea, sneezing and itching. Most patients with AR have an IgE or type I allergic basis, and the Allergic Rhinitis and its Impact on Asthma (ARIA) Working Group has classified allergic rhinitis into 4 groups based on symptom duration and symptom severity (Fig. 1). This classification has become important for South Africa, because where grass pollen is a major allergen (such as across the Highveld) the disease is usually persistent over several months and usually moderate to severe in nature. In contrast, chronic non-allergic rhinitis, by definition, is a condition where ongoing rhinitic symptoms are present for many months (as for persistent AR) but where there is no IgE basis. A long list of conditions may present as CR (Table 1).

3. **Prevalence of CR**
   South Africa was fortunate enough to be represented in the International Study of Asthma and Allergies in Childhood (ISAAC). Two centres (Cape Town and Polokwane) participated in this study of the epidemiology of allergic rhinitis. In Phase I of the ISAAC Study, conducted in 1995, questioning of 13–14-year-old subjects reported that the prevalence of AR was 30.4% in Cape Town. By Phase II of the study in 2003, the prevalence had gone up to 38.5%. In addition, that study revealed that AR’s impact on quality of life was becoming more significant. However, the major problem with these data is that although the subjects’ condition was labelled as AR, no testing for allergy was performed. This raises a concern about the above epidemiological definition of AR and its prevalence.

   It is clear that when subjects are questioned on the presence of nasal symptoms, a significantly higher rate of symptoms is reported than for true AR. For example, in one study, although 48% of subjects reported chronic nasal symptoms, only 14.9% had true AR with a positive skin prick test (SPT). This study emphasises that the term AR should not be used unless there is either a positive allergy test (either SPT or ImmunoCAP) or a clear history of symptoms triggered by specific allergens, possibly with a seasonal variation. If such evidence of allergy
is not present, then the condition should be labelled as CR and the conditions listed in Table 1 should always be considered.

Another important consideration in defining AR is that a positive allergy test does not always confirm AR in isolation. Specific IgE may be a pointer to AR but specific symptoms need to be present before the diagnosis is made. Laboratory tests to confirm the diagnosis of AR should be selected based on careful history-taking, rather than applying a large panel of allergy tests.

In children the allergic component of CR may be more frequent than in adults.

4. Climate change, urban air pollution and CR

We live in a dynamic environment, with rising average temperature and increasing anthropogenic greenhouse gases, which may increase the generation of pollen-producing plant species. Increased levels of pollutants such as carbon dioxide, ozone and nitrogen dioxide enhance the allergic response, and pollutants may induce their own form of irritant rhinitis. Changes in vegetation biomes, as a result of climate change, are likely to cause changes in outdoor pollen and fungal allergens. Changes in the climate are expected to alter the presentation, seasonality and epidemiology of allergic rhinitis and other allergic respiratory diseases in future.

5. Impact of rhinitis on South Africans

In light of the statement above that most epidemiological studies of AR are in fact studies of CR, there are valuable lessons to be learned from studies of the impact of rhinitis on quality of life. Many South African studies have suggested that CR impacts significantly on patient quality of life and the major effect is impaired sleep. Trivialising CR as a minor, non-life-threatening illness promotes the idea that CR does not affect patients significantly. However, CR may result in significant co-morbidity, presenteeism and absenteeism from work and school.
6. Local allergic rhinitis

Recently, local allergic rhinitis (LAR) has been recognised as a condition.\(^{16}\) In LAR, patients report typical allergy-induced rhinitic symptoms but all IgE-based allergy testing is negative. IgE is produced locally in response to allergens in the nose, but not systemically.\(^{16}\) Only provocation testing diagnoses the problem; however, these tests are not widely available and only a limited number of allergens can be tested. However, patients with this condition do respond to the usual treatments for AR (including antihistamines and intranasal steroids).

7. Treating CR

Antibiotics must not be used for a ‘cold’.\(^{17}\) Upper respiratory tract infections are usually viral, and antibiotic use in this condition only leads to the evolution of resistant flora.

Previous SAARWG guidelines have discussed the therapeutic modalities for AR in depth.\(^{18,19}\) Topical use of corticosteroids remains the drug of choice, although antihistamines appear to be more acceptable for the treatment of young children and are effective. Allergen immunotherapy is an important therapeutic option.

Aspirin-induced respiratory disease is a condition where sensitivity to non-steroidal anti-inflammatory drugs leads to asthma, nasal symptoms and polyposis. Therapy involves specific aspirin desensitisation and avoidance of Cox-I inhibitors. Montelukast is a useful therapeutic option for some patients.\(^{20}\)

Therapy of non-allergic, so-called ‘vasomotor’ rhinitis is difficult. There is no standard therapy which always works. Some patients respond to intranasal corticosteroids,\(^{21}\) and other therapies that may work in selected patients are topical anticholinergics\(^{22}\) and occasional use of topical decongestants. However, the benefit of topical decongestants often leads to the overuse of this form of therapy, which may lead to rebound or rhinitis medicamentosa.

8. Surgical intervention for CR

A number of anatomical abnormalities of the nose and sinuses may cause rhinitis symptoms and many may co-exist with AR. Thus at some stage in the medical management and investigation of CR, where therapy is ineffective, the patient should be evaluated for anatomical abnormalities, including septal deviation, nasal polyposis and tumours of the nose and sinuses. Referral to a specialist and radiological imaging may be necessary.

Every patient who experiences chronic snoring must be investigated for CR and have the condition managed adequately. If the snoring

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<tr>
<th>Table 2. Recommendations for action in treating chronic rhinitis (CR)</th>
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<tr>
<td>• Consider CR as a multifactorial condition of which AR is only one cause</td>
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<td>• Long-term studies of change in prevalence of CR in relation to climate change are needed</td>
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<td>• The AR Essential Drug List (EDL) for South Africa should be updated to reflect safe and effective therapy – sedating antihistamine therapy must not be recommended</td>
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<td>• Medical aid organisations must be encouraged to allow therapy for CR to be paid for through chronic benefits</td>
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<td>• Medication should be tailored to individual patients</td>
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<td>• Patient education for CR is very important</td>
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<th>Table 3. World Anti-Doping Agency (WADA): Chronic rhinitis (CR) drugs that are permitted and not permitted in sport</th>
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<td><strong>Treatment</strong></td>
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<td>Antihistamines</td>
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<td>Antileukotrienes</td>
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<td>Oral steroids</td>
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<td>Topical steroids</td>
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<td>Oral beta-2 agonists</td>
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<tr>
<td>Inhaled salbutamol, formoterol or salmeterol</td>
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<td>Ephedrine methylephedrine</td>
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<td>Pseudoephedrine</td>
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<td>Immunotherapy</td>
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continues, they should be evaluated and managed for adenoidal hypertrophy. This is particularly important in children, who are at risk of developing right-sided heart failure and cor pulmonale.

9. New international guidelines on CR/AR

Doctors in South Africa have regularly updated AR guidelines for local application. The previous revision of the ARIA guideline has suggested 10 areas that require global applicability of ARIA and have unmet needs.

Recent South African guidelines have addressed some of these issues. There are, however, some areas, especially for CR, that still require attention (Table 2).

10. Sport and CR

Competitive sportsmen may experience significant rhinitic symptoms and require that their symptoms be managed. There are, however, some areas, especially for CR, that still require attention (Table 2).

11. Doctor and patient education for CR

Patients with CR must be educated about their condition and therapy. Clinical studies indicate that only 31% of patients are regularly shown how to use nasal sprays. There is good evidence from international and local studies that patients are frustrated by CR – education helps to allay fears and concerns, and improves medication compliance.

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References