

The management of allergic rhinitis symptoms in the pharmacy

ARIA IN THE PHARMACY

ALLERGIC RHINITIS AND ITS IMPACT ON ASTHMA

POCKET GUIDE

Jean Bousquet, Chair
Paul van Cauwenberge, Co-Chair

Nikolai Khaltaev

Christine Bond
Hélène Bousquet
G Walter Canonica
Peter Howarth
Marek Kowalski
Jean Marc Leder
Richard F. Lockey
Eli O. Meltzer
Robert Naclerio
Kristof Nekam
Maria Pia Orru
David Price
F Estelle F Simons
Mary Teresi
Erkka Valovirta
Antonio M. Vignola
Dennis Williams
Alan Wright

PREFACE

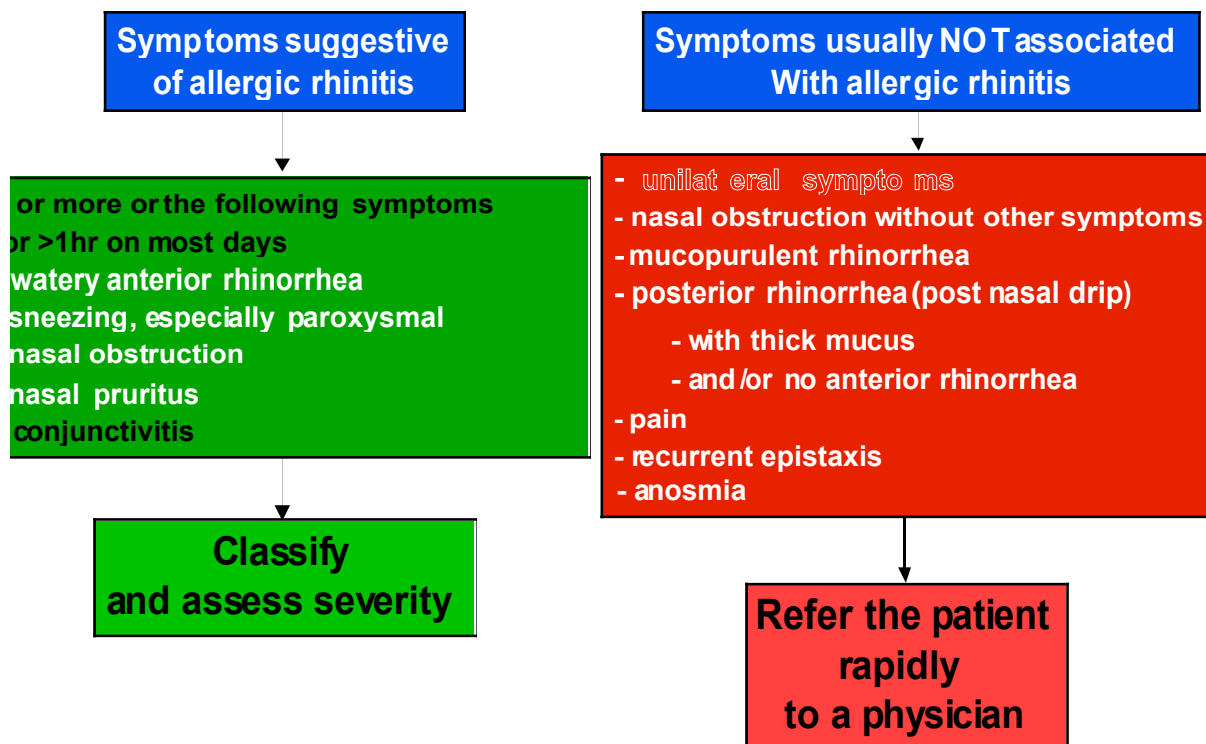
- Allergic rhinitis is **clinically defined** as a symptomatic disorder of the nose induced, after allergen exposure, by an IgE-mediated inflammation of the membranes lining the nose.
- Allergic rhinitis represents a **global health problem** affecting at least 10 to 25 % of the population. Although it is not usually a severe disease, it alters the social life of patients and affects school performance and work productivity.
- **Asthma and rhinitis** are common co-morbidities suggesting the concept of "one airway, one disease".
- New knowledge on the mechanisms underlying allergic inflammation of the airways has resulted in better therapeutic strategies.
- The ARIA initiative has been developed in collaboration with WHO to be a state-of-the-art for the physicians and health care workers. A special guide has been developed for the pharmacist:.
- As trusted healthcare professionals, pharmacists are well placed to identify symptoms of allergic rhinitis and recommend appropriate treatment.. This guide provides a practical, step-by-step approach to aid pharmacists in advising patients:
 - in recognising allergic rhinitis, and assessing its severity
 - in understanding the effect of treatment on rhinitis and co-morbidities,
 - in determining whether management in the pharmacy is appropriate,
 - in initiating an appropriate treatment and monitoring plan,
 - and proposing appropriate preventive measures.
- This guide should:
 - increase collaboration between pharmacists, physicians and other health care professionals,
 - reduce the burden incurred by allergic rhinitis and its co-morbidities,
 - aid in the identification of undiagnosed or uncontrolled asthma,
 - and to improve cost-effectiveness in the management of allergic rhinitis.

This document is a guide. It is not intended to be a mandatory standard of care document for individual countries. It is provided as a basis for pharmacists and their staff to develop relevant local standards of care for their patients..

Recognising allergic rhinitis in the pharmacy

1- Recognising allergic rhinitis and differentiating allergy from other causes including infection

- Some patients who present at the pharmacy will have had allergic rhinitis previously diagnosed by a physician, others will have made an appropriate self-diagnosis, some will not have any diagnosis of rhinitis or may even have an incorrect diagnosis (e.g. a viral infection, cold).
- Allergic rhinitis presents with symptoms similar to those of a number of other conditions and may be confused with a viral infection such as the common cold and with chronic sinusitis.
- The presence of nasal itching, rhinorrhea, sneezing, and eye symptoms usually are consistent with allergic rhinitis



2- Assessing the severity of allergic rhinitis

A recent classification of allergic rhinitis (intermittent or persistent) has replaced the previous classification of seasonal and perennial forms.

Intermittent • ≤ 4 days per week • <u>or</u> ≤ 4 weeks	Persistent • > 4 days per week • <u>and</u> > 4 weeks
Mild normal sleep & no impairment of daily activities, sport, leisure & normal work and school & no troublesome symptoms	Moderate-severe <i>one or more items</i> • abnormal sleep • impairment of daily activities, sport, leisure • impairment of work and school activities • troublesome symptoms

3- Management by pharmacists or referral to physician

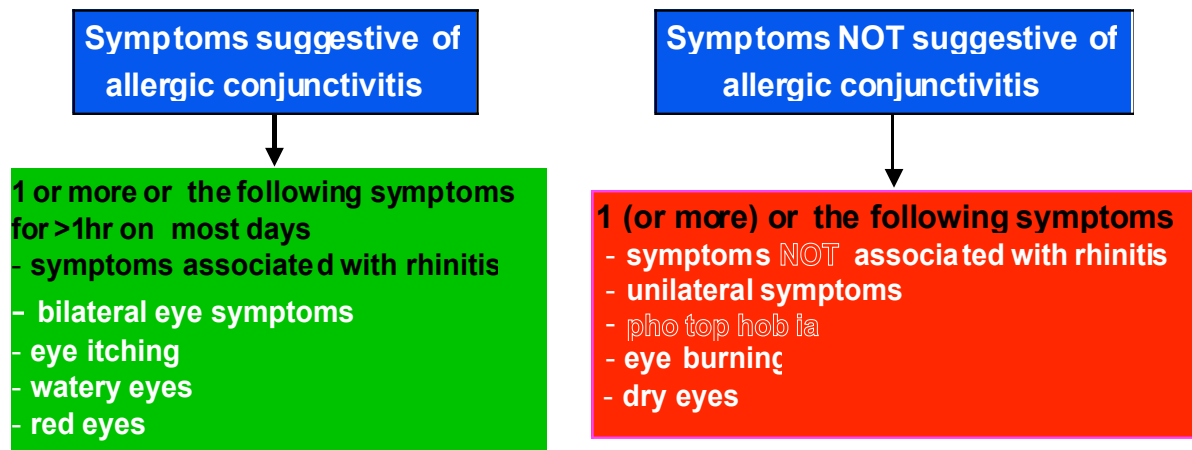
- Referral to a physician should be considered in cases where:
 - persistent, moderate to severe symptoms of rhinitis are present, (although initial treatment might be provided by a pharmacist whilst waiting to see a physician),
 - symptoms are suggestive of undiagnosed asthma or uncontrolled asthma in patients with a diagnosis of asthma (e.g., wheezing or shortness of breath),
 - symptoms of infection (mucopurulent discharge, sore throat, myalgia, asthenia, fever) are reported,
 - subjects whose symptoms do not respond to initial pharmacy management within 2 to 4 weeks,
 - bothersome side effects are experienced.
- Referral to a physician is also advisable during pregnancy, because some medications should be administered with caution.
- Management by a physician is also appropriate for children under 12, because of difficulties in establishing the diagnosis, and selecting the proper medications to avoid side effects, and the frequent off-label use of medicines in this age group.

4- Asthma co-morbidity

- Allergic rhinitis and asthma often co-exist. Allergic rhinitis is regarded as a risk factor for the development of asthma
- In patients with asthma rhinitis may be associated with a poor control of the disease.
- Patients with persistent rhinitis should be questioned for symptoms of asthma.
- Patients with asthma should be questioned for symptoms of rhinitis.

5- Conjunctivitis

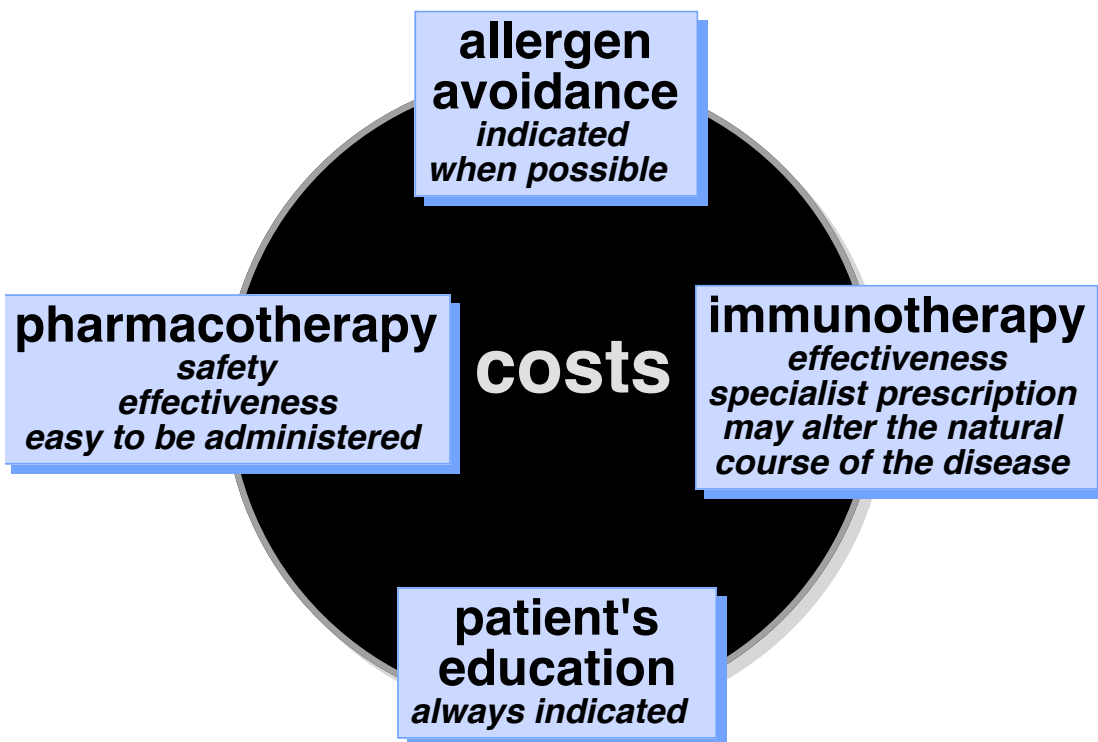
- Eye symptoms are common in patients suffering from allergic rhinitis, however, they do not exist in all patients with rhinitis .
- The presence of conjunctivitis should always be considered.
- On the other hand, conjunctivitis is not always induced by allergic triggers
- Photophobia (light sensitivity) is an important symptom to be noted and, if present, needs a physician evaluation. Eye itching is common in allergic conjunctivitis. In contrast, eye burning is rarely a sign of allergic conjunctivitis.



Management of allergic rhinitis

The management of allergic rhinitis is evidenced-based and includes:

- **allergen avoidance**
 - Most allergen avoidance studies have dealt with asthma symptoms and very few have studied rhinitis symptoms. A single intervention may be insufficient to control symptoms of rhinitis or asthma.
 - However, allergen avoidance, including house mites, should be an integral part of a management strategy.
 - More data are needed to fully appreciate the value of allergen avoidance.
- **medications (pharmacological treatment).**
 - Pharmacologic treatment should take into account efficacy, safety and cost-effectiveness of medications, patient's preference and the objective of treatment, severity of the disease as well as the presence of co-morbidities
 - Medications used for rhinitis are most commonly administered intranasally or orally.
 - The efficacy of medications may differ between patients
 - Many medications used in the treatment of allergic rhinitis are available without a medical prescription although there is a large disparity between countries.
 - Non-sedating H1 oral antihistamines are recommended because of their considerably lower incidence of side effects compared to sedating antihistamines. Patients may not always perceive sedation and mental impairment.
 - Intra-nasal corticosteroids are the most effective treatment of allergic rhinitis, in particular in severe disease or when nasal obstruction predominates. They are safe but some patients prefer oral drugs.
 - Common treatments currently available for allergic rhinitis (including prescription-only medicines) are listed below and pharmacists are able to advise patients on both prescribed and OTC medications.
- **specific immunotherapy.** Allergen specific vaccination is the practice of administering gradually increasing quantities of an allergen extract to an allergic subject to ameliorate the symptoms associated with the subsequent exposure to the causative allergen. The efficacy of injection and sub-lingual immunotherapy using inhalant allergens to treat allergic rhinitis and asthma is evidence-based when optimally administered. Standardised therapeutic vaccines which are available for the most common allergens are favoured
- **education.**



Responses to commonly asked questions

- Medications are for the relief of symptoms and have no long-lasting effect when stopped. Therefore, in persistent disease, maintenance treatment is required.
- Tachyphylaxis does not usually occur with prolonged treatment except for intranasal decongestants. Continuous treatment with other medications is effective.
- Most medications recommended in this guideline do not have significant long-term side effects and can be administered for prolonged periods.

- **Alternative and complementary medicine** (e.g. homeopathy, herbal medicines, acupuncture) is increasingly used for the treatment of rhinitis. Although the definite proof of their efficacy is not evidenced based. Herbal medicine can induce pharmacologic interactions with medications used in the treatment of allergic rhinitis or other illnesses
- **Surgery** may be used as an adjunctive intervention in a few highly selected patients.
- It is recommended to propose a strategy combining the treatment of both the upper and lower airway disease in terms of efficacy and safety.
- Follow-up is required in patients with persistent rhinitis and severe intermittent rhinitis.

Stepwise approach for the treatment of allergic rhinitis according to ARIA

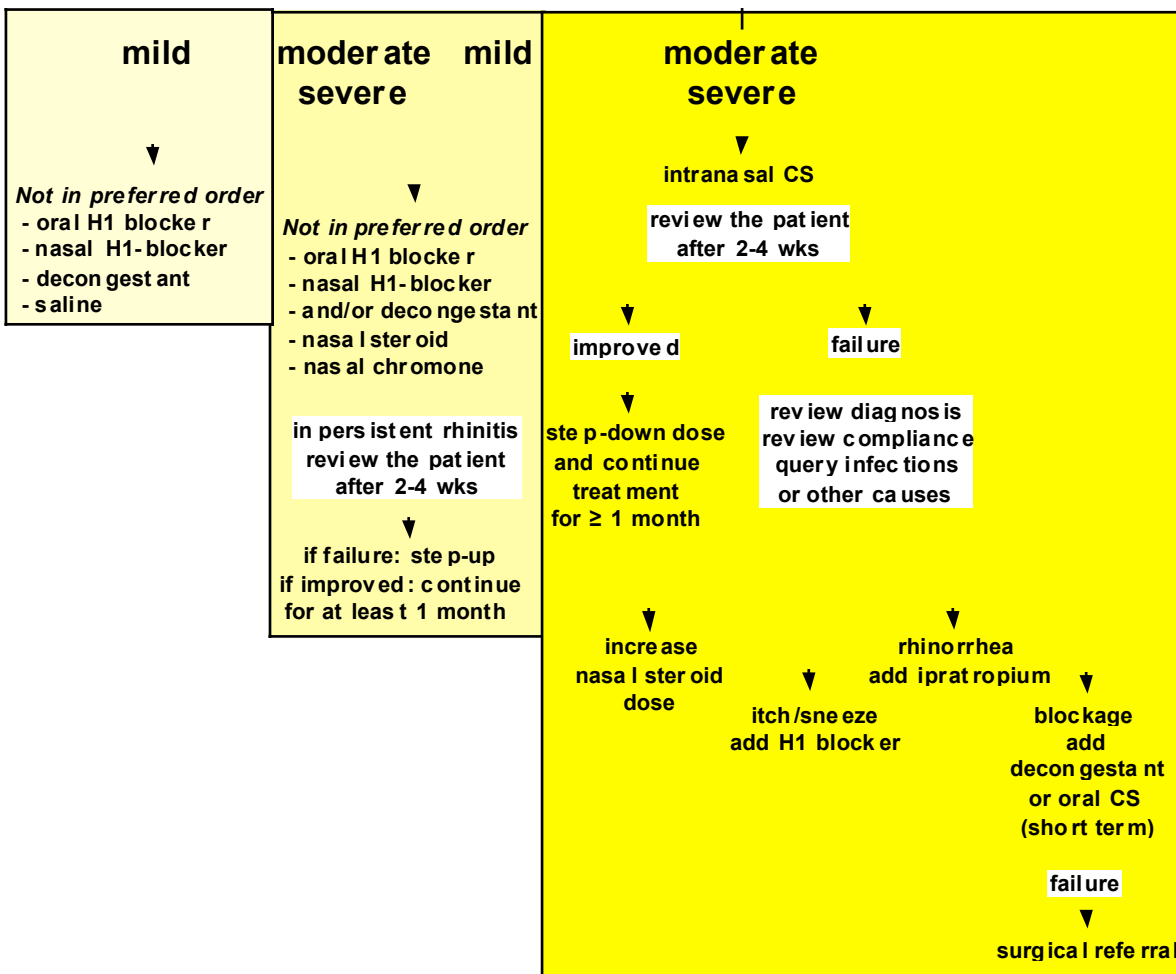
Diagnosis of allergic rhinitis

(history ± skin prick tests or serum specific IgE)

Allergen avoidance

▼
Intermittent symptoms

▼
Persistent symptoms



consider specific immunotherapy

If conjunctivitis
 add
 oral H1-blocker
 or ocular H1-blocker
 or ocular cromone
 (or saline)

Medications available for treatment of allergic rhinitis (including prescription-only medicines).

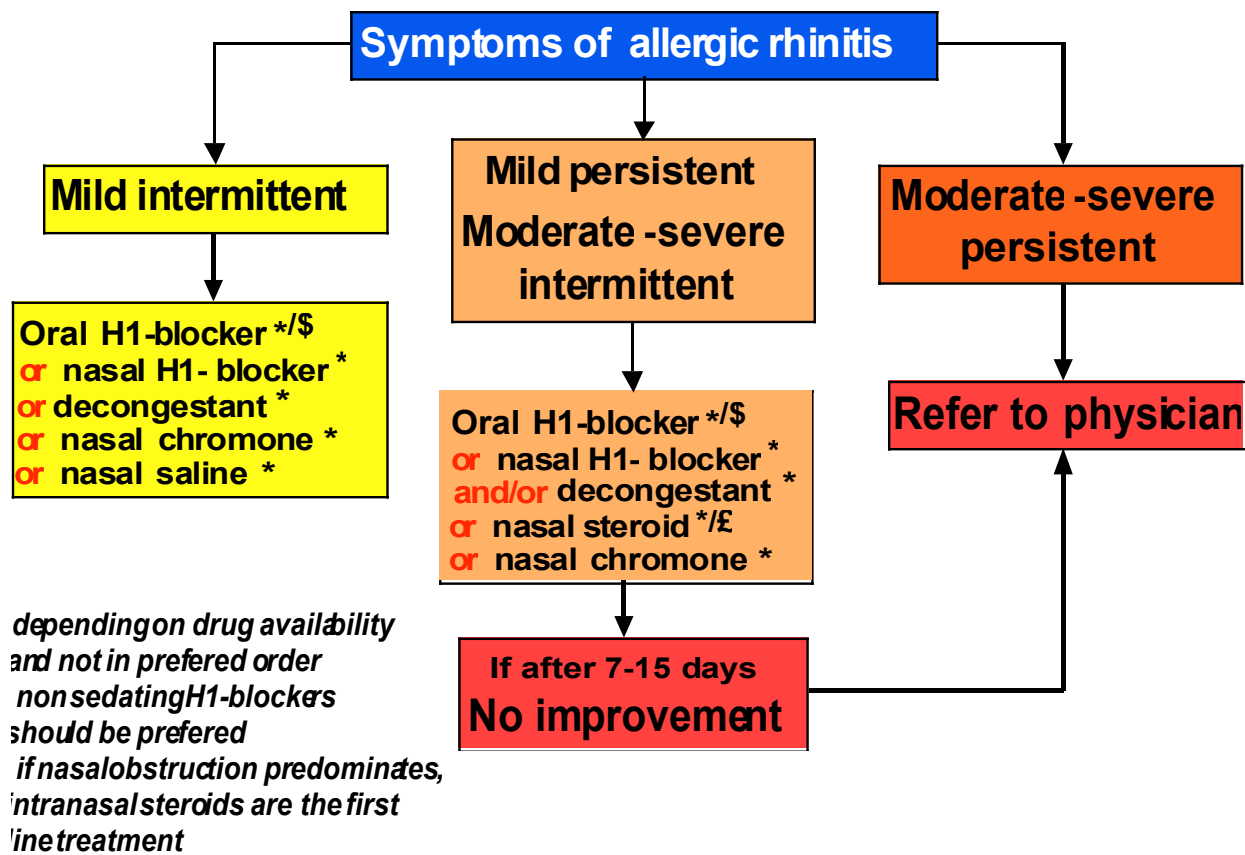
Classification	Generic names	Mechanism of action	Side effects	Comments
Oral H₁ antihistamines	<p>2nd generation acrivastine azelastine cetirizine desloratadine ebastine fexofenadine levocetirizine loratadine mizolastine</p> <p>1st generation chlorpheniramine clemastine diphenhydramine hydroxyzine ketotifen mequitazine oxatamide others</p> <p>Cardiotoxic astemizole terfenadine</p>	<ul style="list-style-type: none"> - blockage of H₁ receptor - some anti-allergic activity - new generation medications can be used once daily - no development of tachyphylaxis 	<p>2nd generation</p> <ul style="list-style-type: none"> - no sedation for most medications - no anti-cholinergic effect - no cardiotoxicity - acrivastine has sedative effects - oral azelastine may induce sedation and has a bitter taste <p>1st generation</p> <ul style="list-style-type: none"> - sedation is common and may not be perceived - potentiation of impairment induced by alcohol - anti-cholinergic effect may occur 	<ul style="list-style-type: none"> - 2nd generation oral H₁-antihistamines are preferred for their favourable efficacy/safety ratio and pharmacokinetics - 2nd generation medications can be used once daily - rapidly effective (less than 1 hour) on nasal and ocular symptoms - poorly effective on nasal congestion - cardiotoxic medications should be avoided
Local H₁ antihistamines (intranasal, ocular)	azelastine levocabastine olopatadine	<ul style="list-style-type: none"> - blockage of H₁ receptor - some anti-allergic activity for azelastine 	<ul style="list-style-type: none"> - minor local side effects - azelastine: bitter taste and sedation in some individuals 	<ul style="list-style-type: none"> - rapidly effective (< 30 mins) on nasal or ocular symptoms
Intranasal glucocorticosteroids	beclomethasone budesonide ciclesonide fluticasone flunisolide mometasone triamcinolone	<ul style="list-style-type: none"> - reduce nasal hyperreactivity - potently reduce nasal inflammation 	<ul style="list-style-type: none"> - minor local side effects - wide margin for systemic side effects - growth concerns raised by BDP in young children - in young children, consider the combination of intranasal and inhaled medications 	<ul style="list-style-type: none"> - the most effective pharmacological treatment of allergic rhinitis - effective on nasal congestion - effect on smell - effect observed after 7-8 hrs but maximal effect up to 2 weeks
Local chromones (intranasal, ocular)	sodium cromoglycate nedocromil	<ul style="list-style-type: none"> - poorly known 	<ul style="list-style-type: none"> - minor local side effects 	<ul style="list-style-type: none"> - intraocular cromones are effective - intranasal cromones less effective than other therapies; their effect is short-lasting - overall excellent safety
Oral decongestants	ephedrine phenylephrine phenylpropanolamine pseudoephedrine <i>others</i>	<ul style="list-style-type: none"> - sympathomimetic medications - relieve symptoms of nasal congestion 	<ul style="list-style-type: none"> - hypertension - palpitations - restlessness - agitation - tremor - insomnia - headache - dry mucous membranes - urinary retention - exacerbation of glaucoma or thyrotoxicosis 	<ul style="list-style-type: none"> - use oral decongestants with caution in patients with other disease - oral H₁-antihistamine/decongestant combination products may be more effective than either product alone but side effects are combined

Classification	Generic names	Mechanism of action	Side effects	Comments
Intranasal decongestants	epinephrine naphazoline oxymethazoline phenylephrine tetrahydrozoline xylo-methazoline <i>others</i>	- sympathomimetic medication - relieve symptoms of nasal congestion	- same side effects as oral decongestants but less intense - rhinitis medicamentosa (a rebound phenomena occurring with prolonged use > 10 days)	- act more rapidly and more effectively than oral decongestants - limit duration of treatment to < 10 days to avoid rhinitis medicamentosa
Intranasal anticholinergics	ipratropium	- anticholinergics block almost exclusively anterior watery rhinorrhea	- minor local side effects - almost no systemic anticholinergic activity	- effective in allergic and non-allergic patients with rhinorrhea
Antileukotrienes	montelukast pranlukast zafirlukast	- block CystLT receptor	- well tolerated	- more data needed to position these medications
Oral/IM glucocorticosteroids	betamethasone deflazacort dexamethasone hydrocortisone methylprednisolone prednisolone prednisone triamcinolone	- potentially reduce nasal inflammation - reduce nasal hyperreactivity	- systemic side effects common, in particular with IM medications - depot injections may cause local tissue atrophy	- when possible, intranasal glucocorticosteroids should replace oral or IM medications - however, a short course of oral glucocorticosteroids may be needed with severe symptoms

A pharmacy protocol for treating allergic rhinitis

With recent changes in the regulatory status of some medications for allergic rhinitis symptoms, pharmacists may recommend more therapies which are available without prescription. The use of these medications, are likely to result in cost savings for both patient and health care professional ; The involvement of the pharmacist in the overall management of the patient is also likely to reduce risks of overdosing and drug interactions.

Based on the above considerations, a recommended pharmacy protocol for managing allergic rhinitis is proposed

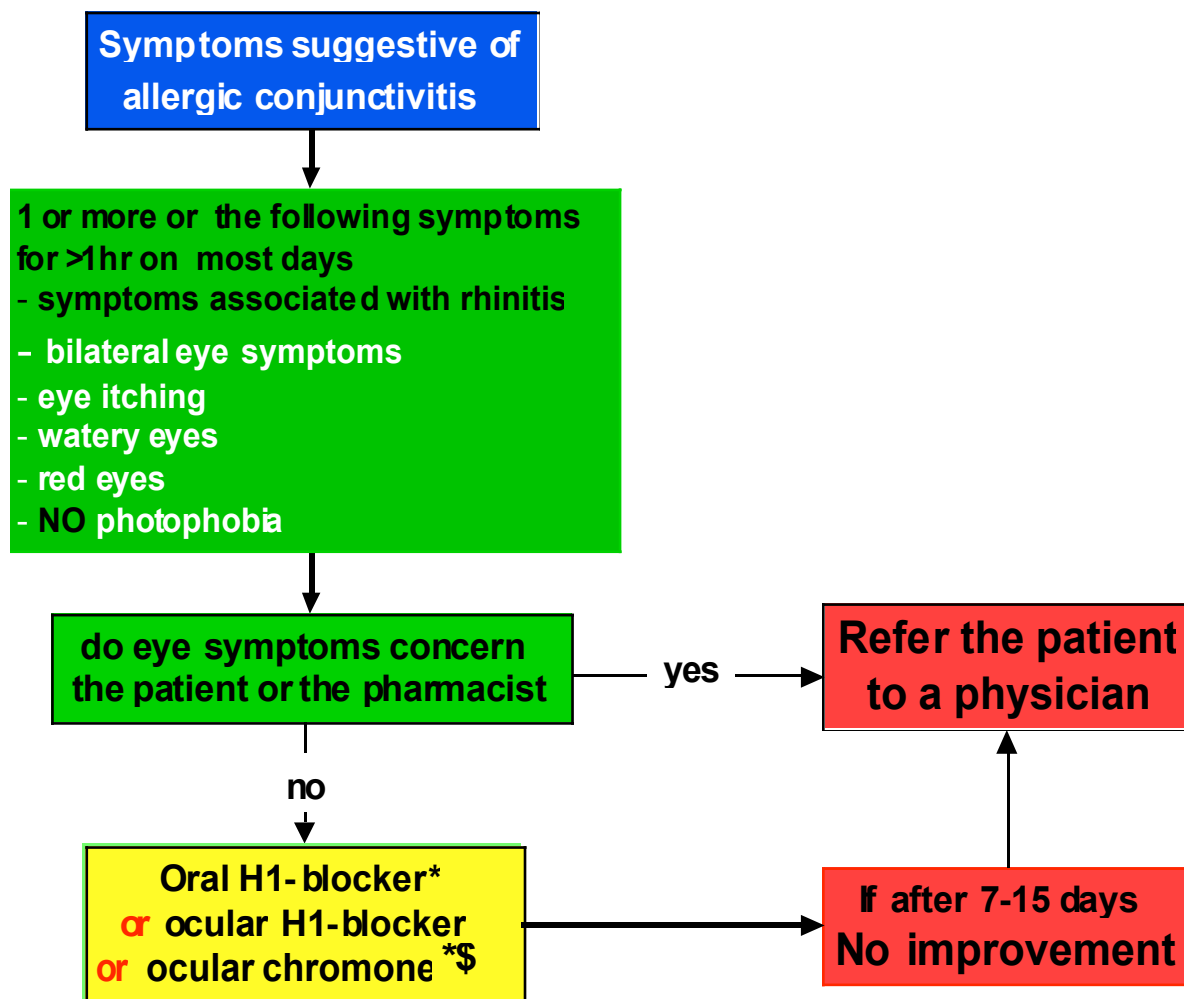


Allergic rhinitis, like other chronic diseases, requires monitoring for:

- improvement of symptoms and quality-of-life,
- assessment of safety of OTC and prescribed medications,
- need for referral to a physician,
- need to discontinue or reinstate medications,

A pharmacy protocol for treating **ocular symptoms**

- With the exception of nasal decongestants and anticholinergics, all the major treatments discussed above are effective against the ocular symptoms of allergic rhinitis. Sodium cromoglycate, nedocromil sodium, NAAGA and H1-antihistamines (azelastine, levocabastine, ketotifen, olopatadine) are also available as eye drops. Intranasal glucocorticosteroids have shown some effect in eye symptoms associated with allergic rhinitis .
- Intraocular glucocorticosteroids are effective, but because of known side effects should only be prescribed and monitored by eye care professionals.



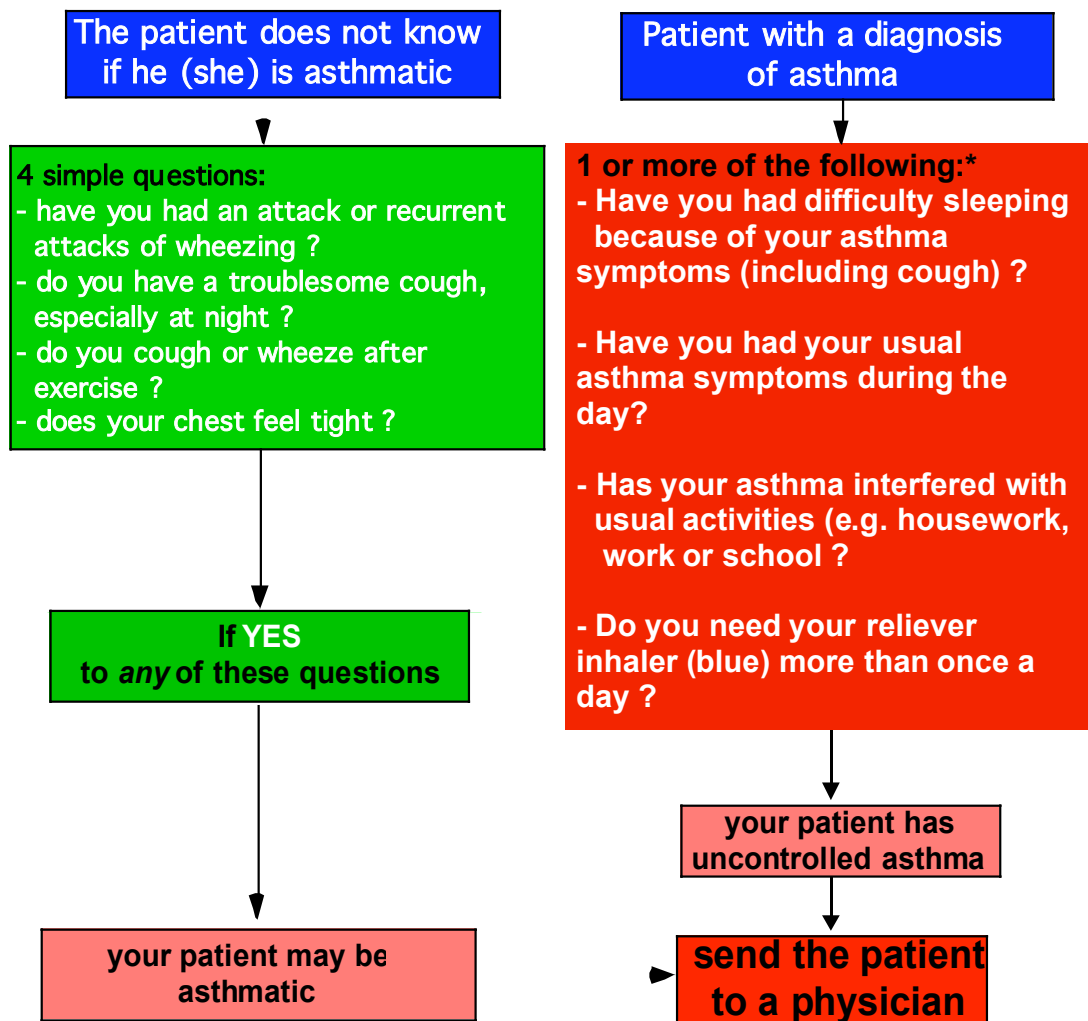
*: depending on drug availability

*: not in preferred order

\$: formulations without preservatives are better tolerated

The management of allergic rhinitis and asthma in the pharmacy

- Asthma may be severe and even life-threatening.
- When pharmacists identify patients with undiagnosed or untreated asthma, or asthma which is not optimally controlled, they should encourage these individuals to obtain appropriate medical care.



*: from the National Asthma Campaign, "conquering asthma"

- The treatment of asthma should follow the recently published GINA guidelines .
- It is important to manage co-morbidity of allergic rhinitis and asthma. Treatment of allergic rhinitis has been associated with improved outcomes from asthma (78).