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www.allergy.org.au

Information
FOR HEALTH PROFESSIONALS

Allergic Rhinitis Clinical Update

Contents

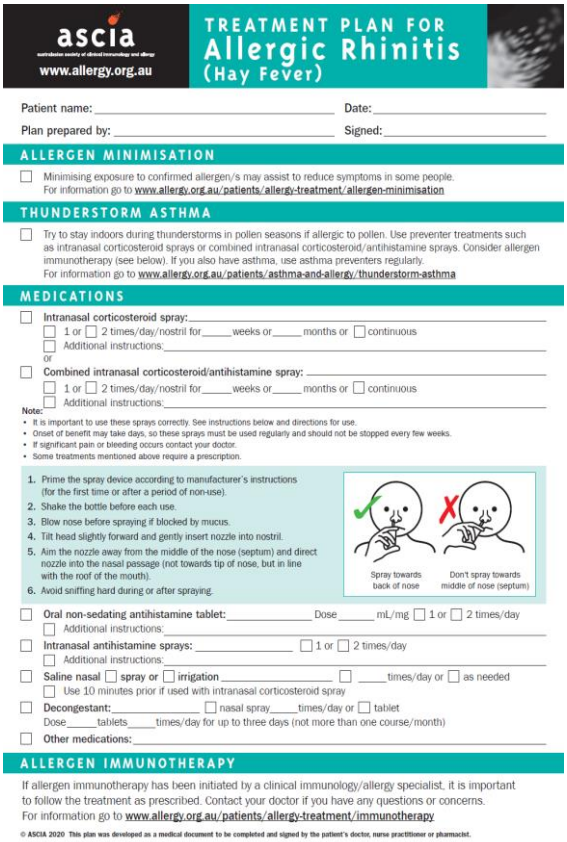
Introduction

This document complements ASCIA allergic rhinitis e-training for health professionals which has been updated in 2022 to provide medical practitioners (including GPs, paediatricians and physicians), pharmacists, nurse practitioners and nurses, dietitians and other allied healthcare professionals with information on allergic rhinitis, including:

- Recognition of clinical features and possible co-existent conditions
- Uses and limitations of allergy testing
- Pharmacotherapy options
- Allergen immunotherapy
- Tests and therapies that are not recommended
- The role of primary care physicians in the management of allergic rhinitis
- When to consider referral of the patient to a specialist

Key Points

- Minimising exposure to confirmed allergens may assist in reducing symptoms of allergic rhinitis in some people.
- Results of allergy tests should always be considered with a patient's clinical history. Positive tests do not automatically prove the allergen is causing the symptoms.
- Intranasal corticosteroids sprays or combined intranasal/antihistamine sprays are recommended first line treatments.
- Patients should be instructed on the correct use of treatments by providing an ASCIA Treatment Plan for Allergic Rhinitis
- Effective treatment of allergic rhinitis is important in the management of asthma.
- If patients are allergic to pollen, recommend that they stay indoors during, before and after thunderstorms in pollen seasons, or on windy days, and use preventer treatments.
- Referral to a clinical immunology/allergy specialist to initiate allergen immunotherapy should be considered when severe or inadequately controlled allergic rhinitis persists.
- Allergen immunotherapy is effective in reducing the frequency and severity of symptoms of allergic rhinitis.



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TREATMENT PLAN FOR
Allergic Rhinitis
(Hay Fever)

Patient name: _____ Date: _____
Plan prepared by: _____ Signed: _____

ALLERGEN MINIMISATION

☐ Minimising exposure to confirmed allergen/s may assist to reduce symptoms in some people.
For information go to www.allergy.org.au/patients/allergy-treatment/allergen-minimisation

THUNDERSTORM ASTHMA

☐ Try to stay indoors during thunderstorms in pollen seasons if allergic to pollen. Use preventer treatments such as intranasal corticosteroid sprays or combined intranasal corticosteroid/antihistamine sprays. Consider allergen immunotherapy (see below). If you also have asthma, use asthma preventers regularly.
For information go to www.allergy.org.au/patients/asthma-and-allergy/thunderstorm-asthma

MEDICATIONS

☐ Intranasal corticosteroid spray: _____
☐ 1 or ☐ 2 times/day/nostril for ____ weeks or ____ months or ☐ continuous
☐ Additional instructions: _____
or
☐ Combined intranasal corticosteroid/antihistamine spray: _____
☐ 1 or ☐ 2 times/day/nostril for ____ weeks or ____ months or ☐ continuous
☐ Additional instructions: _____

Note:
- It is important to use these sprays correctly. See instructions below and directions for use.
- Onset of benefit may take days, so these sprays must be used regularly and should not be stopped every few weeks.
- If significant pain or bleeding occurs contact your doctor.
- Some treatments mentioned above require a prescription.

1. Prime the spray device according to manufacturer's instructions (for the first time or after a period of non-use).
2. Shake the bottle before each use.
3. Blow nose before spraying if blocked by mucus.
4. Tilt head slightly forward and gently insert nozzle into nostril.
5. Aim the nozzle away from the middle of the nose (septum) and direct nozzle into the nasal passage (not towards tip of nose, but in line with the roof of the mouth).
6. Avoid sniffing hard during or after spraying.

Spray towards back of nose
Don't spray towards middle of nose (septum)

☐ Oral non-sedating antihistamine tablet: _____ Dose _____ mL/mg ☐ 1 or ☐ 2 times/day
☐ Additional instructions: _____
☐ Intranasal antihistamine sprays: _____ ☐ 1 or ☐ 2 times/day
☐ Additional instructions: _____
☐ Saline nasal ☐ spray or ☐ irrigation _____ ☐ ____ times/day or ☐ as needed
☐ Use 10 minutes prior if used with intranasal corticosteroid spray
☐ Decongestant: _____ ☐ nasal spray ____ times/day or ☐ tablet
Dose ____ tablets ____ times/day for up to three days (not more than one course/month)
☐ Other medications: _____

ALLERGEN IMMUNOTHERAPY

If allergen immunotherapy has been initiated by a clinical immunology/allergy specialist, it is important to follow the treatment as prescribed. Contact your doctor if you have any questions or concerns.
For information go to www.allergy.org.au/patients/allergy-treatment/immunotherapy

1. Overview

Allergic rhinitis, commonly referred to as hay fever, is the most common allergic disorder in Australia and New Zealand. It is often underdiagnosed, undertreated and sub-optimally self-treated.

Allergic rhinitis can have significant impact on sleep, concentration, learning and daily function, and affect childhood behaviour and development. It can be effectively managed.

The treatment of allergic rhinitis is also important for the effective management of asthma.

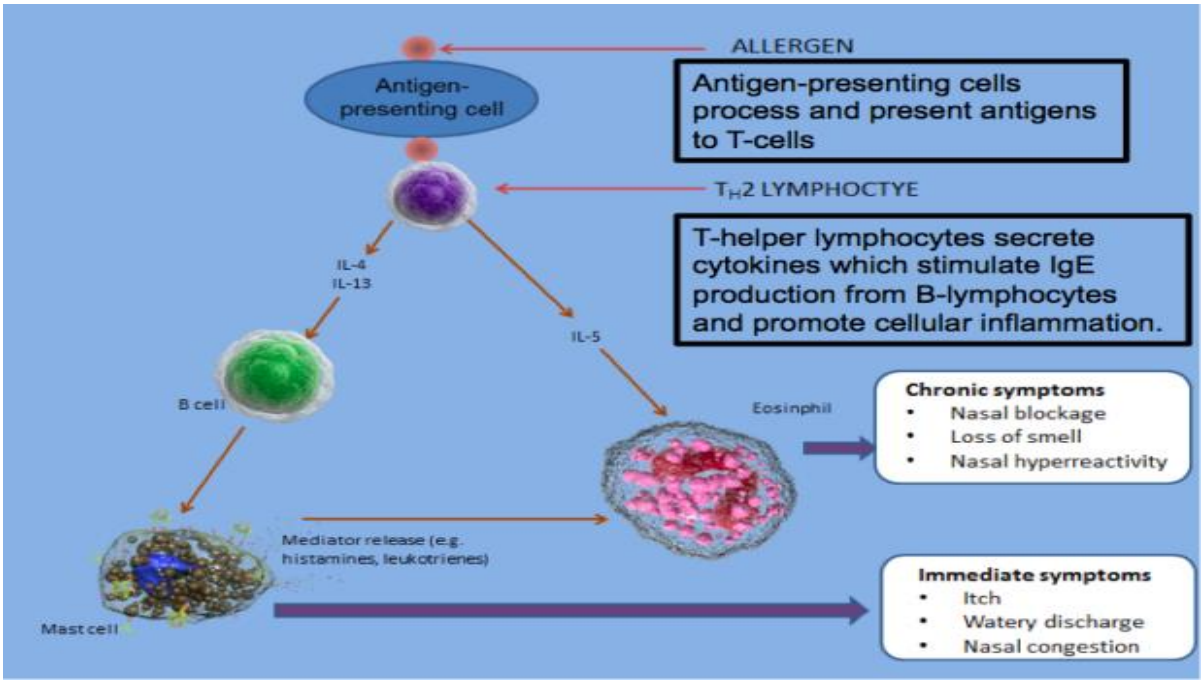
Brief history

The term “hay fever” was used to describe seasonal allergic rhinitis from the late 18th century, when the prevailing belief was that the effluvium from new hay was the main cause of symptoms.

In the late 19th century Dr Charles Blackley discovered that pollen from wind pollinated trees, grasses and weeds was the major cause of seasonal allergic rhinitis.

In 1906 the term “allergy” was first used, derived from the “allos” meaning “other” or a deviation from the original state. This was combined with “rhinitis”meaning “inflammation of the nose”.

Allergic rhinitis is a local IgE mediated allergic condition, a response of the nasal airways to inhaled allergens.



Allergic rhinitis is common in Australia and New Zealand

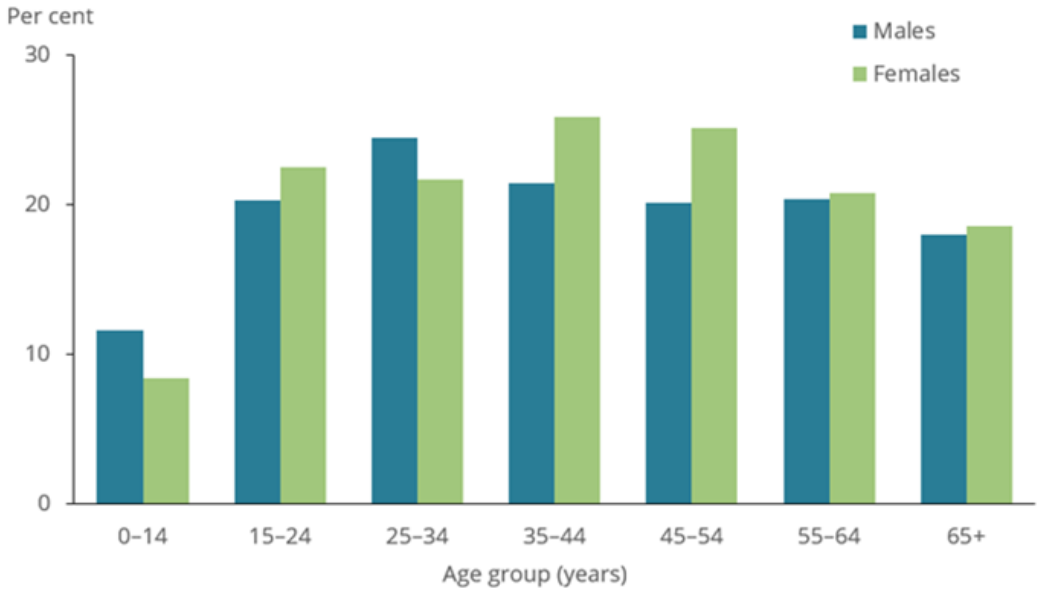
In 2017-18 over 4.6 million Australians (19% of population) had allergic rhinitis based on self-reports compiled in the Australian Bureau of Statistics (ABS) National Health Survey 2018.

It was found to be most common between 15-54 years of age (peak between 35-44 years of age).

Children were less likely to have allergic rhinitis (10%).

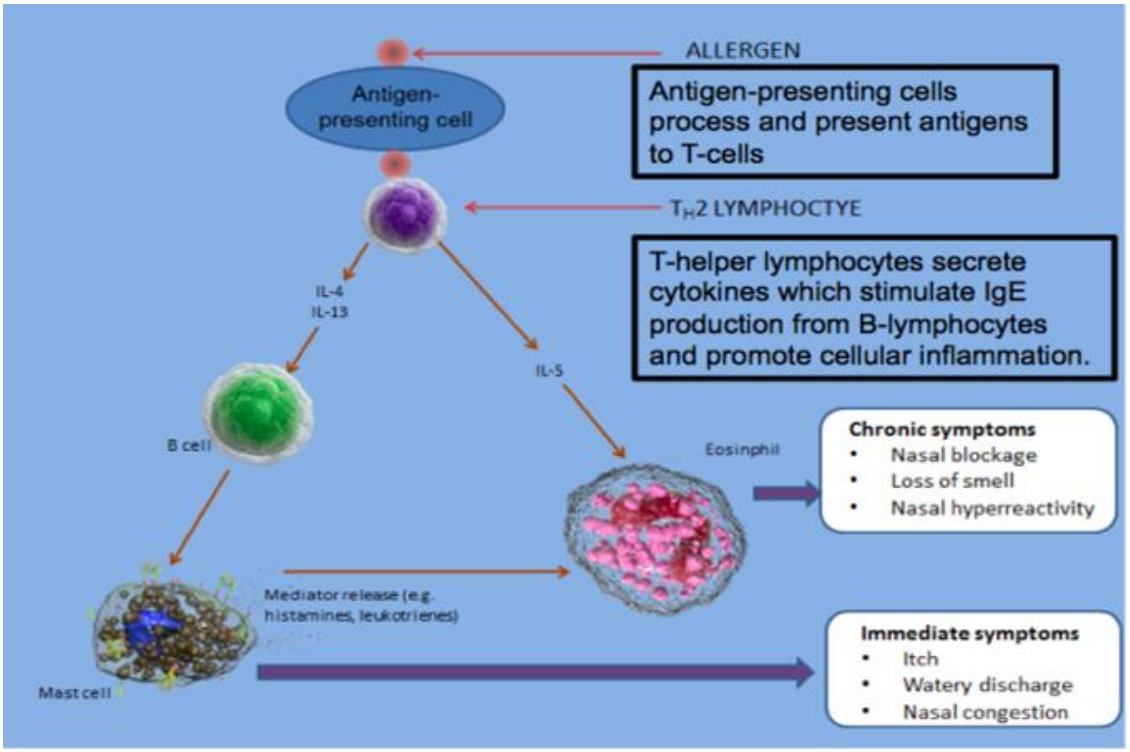
Common aeroallergen triggers of allergic rhinitis are:

- house dust mites,
- grass, tree or weed pollens,
- animal dander and
- mould spores.



Prevalence of allergic rhinitis, by sex and age group 2017-18 (ABS 2018)

Allergic Rhinitis is a local IgE mediated allergic condition



Symptoms

Symptoms of allergic rhinitis include:

- Sneezing, itchy nose, sniffing, upward rubbing of the nose.
- Clear rhinorrhea.
- Nasal obstruction/congestion such as nasal speech, mouth breathing, snoring.
- Itchy throat, frequent need to clear the throat.

Symptoms may be confused with recurrent upper respiratory tract infections.

Allergic conjunctivitispresents with watery, itchy eyes and may occur in conjunction with allergic rhinitis or in isolation.

Clinical presentation of allergic rhinitis can be **classified by** the **timing of allergen exposure**:

- **Perennial** - year round symptoms triggered by indoor allergens such as dust mite, animal dander, and/or moulds.
- **Seasonal** - symptoms worsen during spring or summer and are often triggered by the pollens of grasses, weeds or trees as well as moulds.
- **Perennial with seasonal exacerbations -** Some patients may also be sensitised to many different 'seasonal' allergens and present with perennial symptoms, with seasonal exacerbations. Seasonal allergens present year round in certain regions.
- **Occupational -** triggered by chemicals, irritants or allergens in the workplace. Symptoms improve when away from the workplace.

Allergic rhinitis may also be classified by the **duration and severity** of symptoms.

Definitions

- Internittant: <4 days/week or <4 weeks
- Persistent: >4 days/week or >4 weeks
- Mild: Normal sleep, no impairment of daily activities, normal work or school performance.
- Moderate-severe: One or more of: obnormal sleep, impairment of activities, abnormal work or school performance, torublesome symptoms

Allergic rhinitis can coexist with a range of other conditions besides asthmas, including nasal polyps, Eustachian tube dysfunction, oral allergy syndrome, conjunctivitis and non allergic rhinitis.

Asthma and allergic rhinitis – the united airway disease

United airway disease is the concept that allergic rhinitis and asthma are upper and lower respiratory tract manifestations of the same inflammatory process. Inhalation of aeroallergen via the nose may contribute to inflammation in the lungs.

Allergic rhinitis is a risk factor for subsequent asthma development**.**

Patients with either asthma or allergic rhinitis should be assessed for coexistent disease, because:

- 50-80% of patients with asthma have allergic rhinitis
- 20-30% of patients with allergic rhinitis have asthma

The effective treatment of allergic rhinitis may improve asthma severity/control.

Thunderstorm asthma

Thunderstorm asthma is usually due to thunderstorms with rapid changes in wind, temperature and humidity causing pollen grains to absorb moisture, burst open and release large amounts of small pollen allergen particles. These particles penetrate into the small airways of the lung, which can be fatal if medical treatment is delayed.

Not all thunderstorms, even on days with high pollen counts, trigger thunderstorm asthma.

Not everyone affected by Australian thunderstorm asthma has previously experienced this condition. However, they have usually had severe allergic rhinitis and are allergic to ryegrass pollen. Other allergens such as fungal spores can also affect some people during a thunderstorm.

Further information on thunderstorm asthma is available on the ASCIA website

ASCIA Treatment Plan for Allergic Rhinitis includes information on thunderstorm asthma:

AusPollen Apps are available at www.pollenforecast.com.au and these aim to provide accurate and easily accessible information on local pollen counts.

Allergic rhinitis can coexist with other conditions

Allergic rhinitis can coexist with a range of other conditions besides asthma, including:

- Nasal polyps
- Eustachian tube dysfunction
- Oral allergy syndrome
- Conjunctivitis
- Non-Allergic Rhinitis

Chronic Rhinosinusitis with nasal polyps

Chronic rhinosinusitis with nasal polyps (CRSwNP) may coexist with allergic rhinitis.

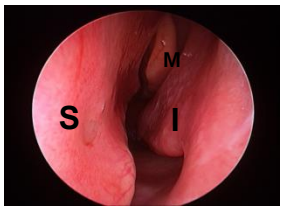
CRSwNP is present in 2-4% of the adult population.

It is defined as inflammation of the paranasal sinuses for more than 12 weeks.

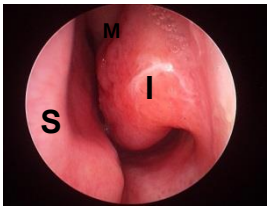
- Aspirin hypersensitivity is common in people with polyposis and asthma (Samter's triad).
- Consider polyps if patient presents with persistent nasal obstruction and/or anosmia.
- Large polyps may be seen on anterior rhinoscopy.
- Consider referral to an ENT surgeon or clinical immunology/allergy specialist for treatment with biologics medication or surgery.

For more information on diagnosis, treatment and management, refer to the ASCIA CRSwNP Position Paper

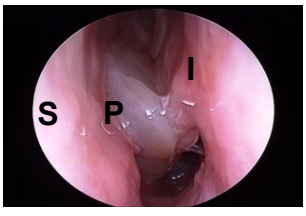
Normal nose, inferior turbinate hypertrophy and polyp as examined on anterior rhinoscopy



Normal nose



Inferior turbinate hypertrophy



Nasal polyp

S = Septum
I = Inferior turbinate
M = Middle turbinate
P = Polyp

Ears and allergic rhinitis

Allergic rhinitis may contribute to ear symptoms such as fullness, blockage, and/or hearing loss due to mucous and oedema in the Eustachian tube.

Blockage of the Eustachian tube results in negative middle ear pressure and middle ear effusion (glue ear).

Young children are more prone as they have eustachian tubes with a smaller diameter, and an increased predisposition to recurrent upper respiratory infections.

Oral allergy syndrome and allergic rhinitis

Certain fresh vegetables and fruits cause oral symptoms of itch and swelling in some patients, known as oral allergy syndrome (OAS), also known as pollen food syndrome. Serious OAS reactions are rare.

OAS most commonly occurs in people with asthma or allergic rhinitis (hay fever) who are sensitised to inhaled tree, grass or weed pollens, which contain proteins that are similar to proteins found in foods.

Some pollen and food allergens share common allergenic proteins, which are known as cross reactive proteins. This means that in some people with pollen allergy, their immune system confuses a food protein with a pollen protein, resulting in OAS.

Diagnosis of OAS may be confirmed by a clinical immunology/allergy specialist using fresh food in a skin prick test.

ASCIA information for patients and carers, about oral allergy syndrome is available on the ASCIA website.

The role of the medical practitioner in allergic rhinitis management

- Provide diagnosis
- Diagnose and manage comorbid conditions such as asthma and allergic conjunctivitis.
- Initiate treatment if required.
- Educate the patient on:
    - Strategies to minimise aeroallergen exposure.
    - How to use intranasal sprays correctly.
    - Potential side effects of medications.
- Referral to a clinical immunology/allergy specialist when indicated, for example to initiate allergen immunotherapy. Information on how to locate a specialist is on the ASCIA website.

2. Clinical Assessment

Important points to consider	
Timing of symptoms	Perennial (year round) and/or seasonal
Impact of symptoms	Mild (no effect on day-day function) or moderate-severe (impaired day-day function)
Frequency of symptoms	Intermittent (< 4 days/week or < 4 weeks) or persistent (≥ 4 days/week and for ≥ 4 weeks)
Triggers identifiable	Detailed home and/or work environment assessment such as pets, occupation
Coexistent conditions	Asthma, eczema (presence of other atopic conditions makes allergic rhinitis more likely)
Medications currently using/ previously tried and perceived efficacy – check appropriate use	Antihistamines Intranasal corticosteroid sprays Decongestants Saline treatments Other

Important signs of allergic rhinitis on physical examination of the face

- Darkened circles around eyes known as allergic shiners.
- Transverse nasal creaseknown as the allergic salute from upward rubbing of nose

Transverse nasal crease

Allergic shiners

Important signs of allergic rhinitis on physical examination of the nose

Each nostril should be examined with an otoscope.

- Pale, swollen inferior turbinate(s)
- +/- Strands of mucus
- +/- Clear watery discharge
- +/- Exclude presence of large polyps

Normal nostril (left), Large polyp in the nose (right)

Important signs of allergic rhinitis on physical examination of the eyes

- Red, oedematous eyelids
- Conjunctiva papillae

Allergy Testing

Pharmacotherapy for allergic rhinitis can be initiated without waiting for diagnostic allergy testing. However, testing increases the accuracy of diagnosis and identification of potential aeroallergen triggers.

Diagnostic allergy testing involves either:

- **Skin prick testing (SPT) or**
- **Serum allergen specific immunoglobulin E (ssIgE) testing**

These tests detect the presence of IgE antibodies to allergens and their possible clinical relevance

Procedure for allergy testing

SPT involves pricking the individual with commercially available aeroallergen/s into the skin and after 15-20 minutes, positive reactions are read and wheal size recorded. Patients should avoid antihistamines and drugs with antihistamine activity such as pizotifen and tricyclics for 3-4 days prior to SPT.

Serum specific IgE tests to aeroallergens are blood test which are available for dust mite, pollen mixes, mould mixes and animal dander. It is important to note that only certain aeroallergen/s in mixes may be clinically relevant. Antihistamines do not affect the results of ssIgE testing.

Limitations of allergy testing for aeroallergen sensitisation

Test results must be interpreted by clinicians experienced in performing and interpreting these tests, in conjunction with the patient's clinical history.

- **Positive SPT or ssIgE test results do not automatically prove the allergen/s are causing the symptoms.** They only confirm the presence of IgE antibodies or sensitisation to that allergen.
- Positive SPT or ssIgE test results to particular aeroallergens may not be clinically relevant.In a patient with seasonal symptoms but positive SPT or ssIgE test results to dust mite, for example, dust mite is unlikely to be clinically important since they are present all year round.
- SPT wheal size or ssIgE level to aeroallergens cannot be used to determine the clinical significance of the trigger.Severe dust mite interpretation cannot be taken to imply the patient has a clinically severe dust mite allergy.
- Knowledge of common inhalant allergens relevant to the geographical location of the patient is required to ensure that tests are initiated for the relevant aeroallergens.

Food specific IgE testing should not be performed in allergic rhinitis investigation because:

- Food allergy is not a cause of intermittent or persistent allergic rhinitis. Acute onset rhinitis with symptom resolution typically occurs within 24 hours as part of an IgE mediated food allergic reaction.
- Irrelevant positive results may arise and these may cause unnecessary concern.

A full blood count and total IgE is of little clinical use in the investigation of allergic rhinitis.

Non evidence-based methods that claim to test for allergy

Non evidence-based testing methods include IgG testing, cytotoxic food testing, kinesiology, Vega testing, electrodermal testing, pulse testing, reflexology and hair analysis.

These unproven tests are not scientifically validated and may lead to unnecessary and costly avoidance strategies. They are not Medicare rebated in Australia or Pharmac rebated in New Zealand.

These methods are not recommended by ASCIA or the World Allergy Organisation (WAO).

Further information is available from the ASCIA website

Differential diagnosis

Non-allergic and allergic rhinitis can co-exist in the same patient.

Non-allergic rhinitis encompasses a range of disorders where rhinitis (nasal obstruction and/or rhinorrhea) is not caused by IgE mediated aeroallergen allergy.

Differentials to consider	Key features
Chronic rhinosinusitis/polyposis	Anosmia, facial pressure/pain, muco-purulent discharge
Non-allergic rhinitis with eosinophilia	Negative allergy tests but > 20% eosinophils on nasal smear
Hormonal	Pregnancy Menstrual cycle rhinitis

Drug induced	Typically aspirin and other NSAIDs. Range of other medications also reported include decongestants, ACE inhibitors, alpha-adrenoceptor antagonists, oral contraceptive pill, chlorpromazine, and methyldopa.
Granulomatous diseases	External nasal swelling, sinusitis, nose bleeds, septal perforation, collapse of nasal bridge, multi-system involvement
Idiopathic/vasomotor rhinitis	Sudden onset and offset of watery nasal discharge Can be triggered by strong smells or changes in environmental temperature

When to consider other conditions:

Feature	What to consider
Unilateral nasal obstruction	Foreign body in children, nasal polyp, deviated septum, tumor
Discharge • Bloody, muco-purulent discharge • Unilateral nasal discharge	Chronic rhinosinusitis or super-imposed infection Foreign body (children), CSF leakage
Negative allergy tests	Correct aeroallergens selected Non-allergic rhinitis
Failure to respond to allergic rhinitis therapy	Compliance Non-allergic rhinitis

Referral to a specialist

Referral to a clinical immunology/allergy specialist should be considered if:

- Further allergy testing and interpretation is required to confirm diagnosis and facilitate allergen avoidance.
- Severe or inadequately controlled allergic rhinitis despite therapy.
- Consideration if being made for allergen immunotherapy.
- Other atopic comorbidities require management.

Refer to ENT surgeon if there is medically refractory nasal obstruction.

3. Aeroallergen minimisation

- Avoidance or minimisation of confirmed allergen/s may assist some people in reducing the severity of their allergic rhinitis symptoms.
- This can be difficult to achieve for house dust mite and pollens.
- Avoidance strategies must only be developed if the allergens are clinically significant.
- Realistic consideration must also be given to the family's ability to action strategies.

More information is available on the ASCIA website

House dust mites

- House dust mites are microscopic arthropods that live indoors and feed on human skin flakes.
- Two major species are *Dermatophagoides pteronyssinus (most common)* and *Dermatophagoides farinae.*
- They thrive in temperate and humid climates.
- The major allergen excreted by house dust mites are the digestive enzymes in their faeces.
- Life span of a house dust mite is approximately two months. In this time each house dust mite can produce 2,000 faecal particles.
- House dust mite minimisation is possible, but eradication is not..

House dust mite minimisation

- Advice regarding bedding:
  - Wash weekly in hot water (> 60ºC).
  - If washing in cold water use product containing tea tree oil.
  - Hot tumble dry of washed items for 10 minutes to kill dust mite.
  - Use dust mite impermeable covers on pillows and mattresses.
  - Remove sheepskins and woollen underlays.
- Wash soft toys in eucalyptus oil or place in freezer overnight.
- Damp dust or use electrostatic cloths for hard surfaces weekly.

Pollens

Pollens that cause allergic rhinitis are usually:

- Wind pollinated grasses, weeds and trees.
- Not caused by Australian or New Zealand native plants.
- Not caused by highly flowered plants as they produce less pollen which is transported by bees, other insects or birds.

Recommended actions for patients to reduce exposure to pollen:

- Remain indoors during, before or after thunderstorms, and on windy days. When in contact with water, pollens release starch granules which can trigger allergic rhinitis and asthma symptoms, known as "thunderstorm" asthma.
- Avoid activities known to cause allergen exposure such as mowing grass.
- Shower after outdoor activities where exposure to pollen is high.
- Use re-circulated air in car when pollen levels are high.
- Wear sunglasses to reduce the amount of pollen that gets into eyes.
- Dry bedding and clothing inside or in a tumble dryer.

Pet dander

- Domestic pets can be a major source of allergens in the home.
- Any animal with fur can be a source of pet allergy, but pet allergies are most commonly associated with cats and dogs.
- Allergens are found in skin cells the animal sheds (dander), as well as in their saliva, urine and sweat.
- Pet saliva can stick to carpets, bedding, furniture and clothing. Allergens can become airborne for prolonged periods.
- Clear demonstration of pet dander triggering symptoms needs to occur before recommending removing pet.
- The amount of fur shed can vary between breeds, but no breed is truly hypoallergenic.

Pet dander minimisation

- Discuss removing the pet from the home if symptoms are severe.It can take an average of 20 weeks before cat allergen concentration reaches comparable levels to a house without a cat.
- If dander is only causing minor problems, consider keeping the pet outside.
- The effectiveness of washing pets regularly and the use of HEPA air filters is uncertain.

Moulds

Exposure to moulds can occur both indoors and outdoors even in dry climates.

Mould in the home can:

- Typically be found in damp, warm and poorly lighted areas.
- Cause discoloration of surfaces and/or a musty smell.

Outdoor moulds can be present in all conditions, particularly in humid climates, with seasonal peaks

Mould avoidance

Recommended actions for patients:

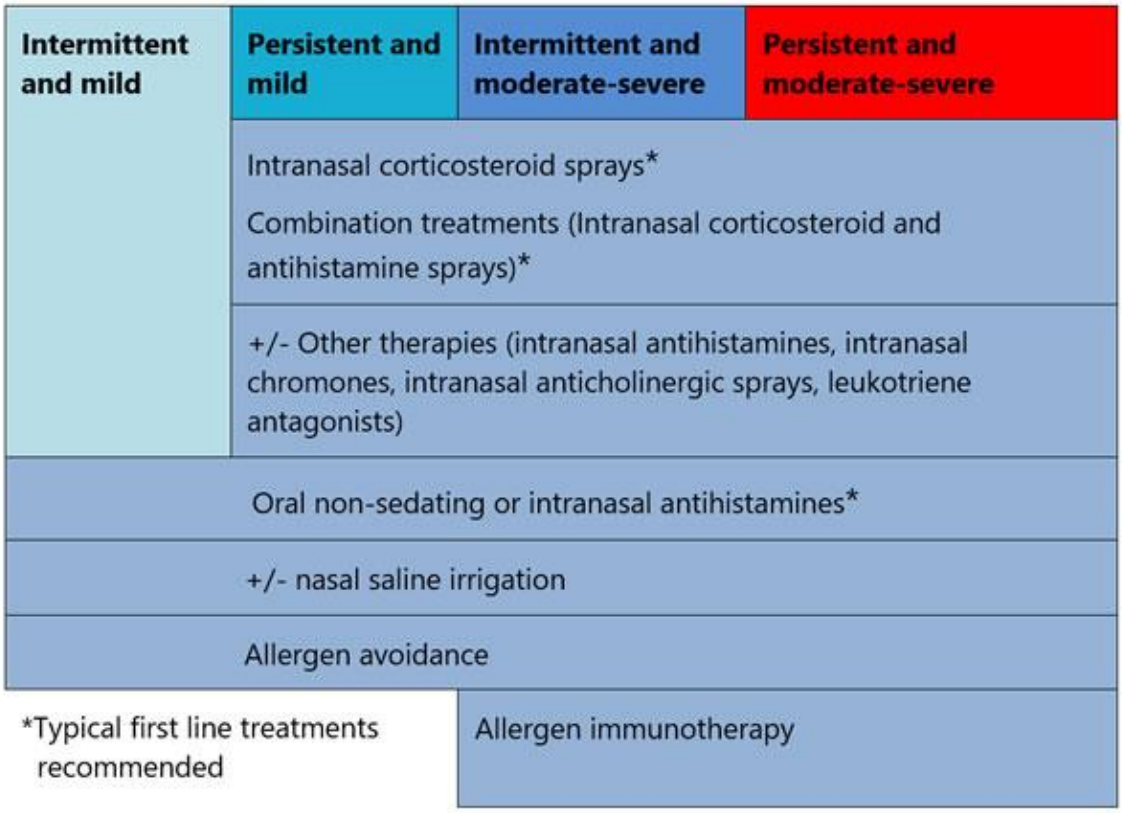
- Remove visible mould by cleaning with diluted bleach, vinegar, or other mould reduction cleaners.
- Ensure adequate ventilation.
- Dry or remove wet carpet.
- Fix any leaks.
- Remove indoor pot plants.
- Do not mow lawns or work with garden compost and mulch.

4. Pharmacotherapy and other treatment options

The duration and severity of allergic rhinitis symptoms are useful in guiding therapy, as shown in the table below.

Definitions

- Intermittent: <4 days/week or <4 weeks
- Persistent: >4 days/week or >4 weeks
- Mild: Normal sleep, no impairment of daily activities, normal work or school performance.
- Moderate-severe: One or more of obnormal sleep, impairment of activities, abnormal work or school performance, troublesome symptoms.



Allergic rhinitis pharmacotherapy options

First line treatment options	Other possible treatments	Short term treatment options
Antihistamines (non-sedating oral or intranasal)	Saline treatments	Decongestants (oral or intranasal)
Intranasal corticosteroid sprays	Intranasal chromones	Systemic oral corticosteroids
Combination treatments (Intranasal corticosteroid and antihistamine sprays)*	Intranasal anticholinergic sprays	Combination treatments (Intranasal decongestant and antihistamine sprays)*
*Require a prescription	Oral leukotriene antagonists	*Require a prescription

Allergic rhinitis pharmacotherapy principles

- When symptoms improve, pharmacotherapy doses may be reduced.
- Trial of pharmacotherapy initiated by primary care physicians and maintained for at least 4 weeks is recommended before considering referral to a specialist, if no improvement.
- If a patient is a competitive athlete, it is important to ensure medications suggested are permitted. For example, pseudoephedrine used in some decongestants is subject to certain restrictions. Contact the Australian Sports Anti-Doping Agency (ASADA) or Drug Free Sport New Zealand for information.

Non-sedating antihistamines

Place in therapy	First line treatment for intermittent mild allergic rhinitis or used in conjunction with other therapies
Route • **Oral** • **Intranasal**	Rapid onset action (1-2 hours) Very rapid onset action (within 30 minutes). May be used as a rescue medication to provide immediate relief of symptoms
Availability	Over the counter
Type	Non-sedating antihistamines are recommended Sedating antihistamines are not recommended
Frequency of use	Once or twice a day
Benefits • Ocular symptoms • Nasal sneeze/itch/runny nose • Nasal congestion	 ↓ itchy, watery eyes ↓ sneezing, itchy, runny nose Limiteddecrease in symptoms

Whilst some nasal antihistamines can reduce nasal congestion, intranasal corticosteroids (INCS) are more effective in reducing nasal congestion. Combination treatments containing an antihistamine and INCS spray offer the combined advantages of both medications.

Intranasal corticosteroids (INCS)

Place in therapy	First line treatment for persistent and/or moderate to severe allergic rhinitisand treatment failures with antihistamines alone
Availability	Over the counter or prescribed by a doctor
Age restriction	Different intranasal corticosteroids often have different minimum age restrictions
Frequency of use	• Continuous (more effective; a few days to take effect; maximal effect by 2 weeks) • Long term use is recommended where effective • As-needed basis (less effective)
Benefits • Ocular symptoms • Nasal sneeze/itch/runny nose • Nasal congestion • Cost effective reduction of symptoms	↓ itchy, watery eyes ↓ sneezing, itching, runny nose ↓ nasal congestion

Note: Different brands of INCS vary in strength and efficacy. Combination treatments containing an antihistamine and INCS spray offer the combined advantages of both medications.

Side effects of intranasal corticosteroids (INCS)

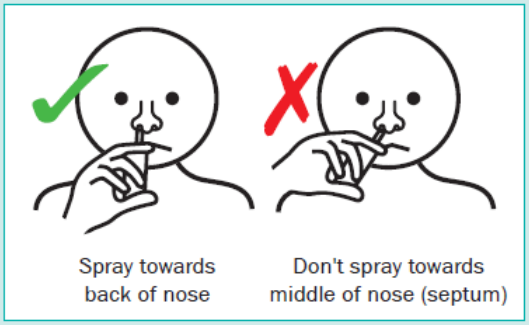
- Local side effects (uncommon when correctly administered) include:
  - Dryness
  - Epistaxis (occasionally)
- Topical corticosteroids such as INCS do not cause atrophy.
- Minimal potential for systemic absorption, when used in recommended doses.
- Nasal irritation may occur, but this is uncommon.

Whilst systemic absorption of INCS is negligible growth of children and adolescents taking corticosteroids by any route should be monitored

INCS must be used with caution in patients with pre-existing glaucoma and/or cataracts,Rare cases of cataracts, glaucoma and intraocular pressure have been reported following use of INCS.

Correct administration of INCS

1. Prime the spray device according to manufacturer's instructions (for the first time or after a period of non-use).
2. Shake the bottle before each use.
3. Blow nose before spraying if blocked by mucus.
4. Tilt head slightly forward and gently insert nozzle into nostril.
5. Aim the nozzle away from the middle of the nose (septum) and direct nozzle into the nasal passage (not towards tip of nose, but in line with the roof of the mouth).
6. Avoid sniffing hard during or after spraying.



Patients should be instructed on the correct and consistent use of prescribed treatment and given an ASCIA Treatment Plan for Allergic Rhinitis.

A short animation about allergic rhinitis for patients (created as part of the National Allergy Strategy) can be found here: What is Allergic Rhinitis (Hay Fever)?

Other treatment options

Saline nasal irrigation

- Clears aeroallergens and inflammatory mucus.
- Is usually well tolerated and effective in reducing rhinitis symptoms.
- Safe and inexpensive.
- Large volume (>60 mL) and positive pressure devices appear to be more effective than simple sprays (<1 mL).
- Is not a replacement for pharmacotherapy.

Intranasal chromones such as sodium cromoglycate:

- Are typically used for intermittent rhinitis.
- Predominantly used for the immediate treatment of itch, sneeze, rhinorrhoea.
- Are more useful for episodic treatment than regular prophylaxis.
- Duration of action is approximately 4 hours.
- Less effective than intranasal corticosteroids.

Intranasal ipratropium

- Anticholinergic sprays useful in non-allergic rhinitis.
- Only decreases watery rhinorrhoea.
- May be used in allergic rhinitis as adjunct treatment for rhinorrhoea persisting despite antihistamines or intranasal corticosteroid use.

Oral leukotriene antagonists

- Used in children/adolescents with asthma and allergic rhinitis.
- No additional benefit if used in combination with antihistamines for treatment of allergic rhinitis.
- Combination of leukotriene antagonists (e.g. Montelukast) and antihistamines are no more effective than intranasal corticosteroids alone for allergic rhinitis.
- There is no Australian or New Zealand government subsidy for use of leukotriene antagonists for patients with allergic rhinitis alone.

Decongestants

- Oral or nasal decongestants may be used short term (**3-5 days)** to reduce nasal congestion if severe.This allows more effective administration of intranasal corticosteroids if tubinates are very swollen.
- Chronic use of intranasal decongestants may lead to rebound nasal obstruction, called rhinitis medicamentosa.
- Decongestants should not be used in patients withhypertension,coronary artery disease, prostatism or glaucoma.
- Decongestants should not be used in pregnancy.

Systemic steroids

- Brief courses of oral corticosteroids **(3-7 days)** are rarely indicated, but may be considered:
  - If there is severe nasal obstruction.
  - As short-term rescue medication if symptoms are severe, despite conventional therapy, but only up to a **maximum limit of 2 or 3 short courses in a 12 month period.**
- Depocorticosteroids are **NOT** recommended due to short duration of benefit and potential for local (subdermal and dermal atrophy) and systemic side effects.
- Patients requiring oral corticosteroids for allergic rhinitis should be referred to a clinical immunology/allergy/specialist for assessment.

Ocular management

- Non-pharmacological therapy:
  - Flush allergen from eyes (saline washes, liquid-tear preparations).
  - Cool compresses.
- Ocular or oral antihistamines or topical mast cell stabilisers may be used to control itchy/watery eyes.
- Intranasal corticosteroids can reduce ocular symptoms of allergic rhinitis.
- Ocular corticosteroids should only be prescribed in consultation with, and regular review by an Ophthalmologist.

Management of allergic rhinitis in pregnancy

- Up to 20% of pregnant women develop symptoms of rhinitis,typically in secondtrimester, improving 2 weeks after delivery
- Medications for allergic rhinitis should only be used during pregnancy if the benefit to the mother justifies the potential risk to the foetus.
- There are few well-controlled clinical studies in pregnant women examining the safety of many of the medications used in allergic rhinitis.
- Ideally pharmacotherapy should be avoided in the first trimester of pregnancy. However, there are some oral antihistamines and intranasal corticosteroid sprays with an “A” category used by a large number of pregnant women without any proven increase in harmful effects on foetus.
- Saline nasal irrigation and intranasal chromones are safe in pregnancy
- Refer to MIMS (Australia or New Zealand) or go to the Prescribing medicines in pregnancy database before prescribing any medication in pregnancy.

Management of allergic rhinitis during lactation

Recommend taking medication after feeding the infant to minimise any potential infant exposure.

Safety Consideration	Medication
Considered safe	Saline nasal treatments Intranasal sodium cromoglycate (chromone) Intranasal ipatropium (anti-cholinergic) Non-sedating oral antihistamines Intranasal corticosteroids
Evidence for safety lacking (recommend not use)	Intranasal azelastine hydrochloride (antihistamine) Intranasal lodoxamide trometamol (chromone)
Crosses into breast-milk (recommend not use)	Oral or intranasal decongestants Intranasal levocabastine hydrochloride (antihistamine)

Dietary restrictions are not recommended

- There is no evidence that allergic rhinitis is due to food allergies, although conditions may coexist.
- Food elimination is not recommended unless there is a confirmed allergy, and has potential for serious nuritional consequences, especially in young children.
- Restricting cow’s milk (dairy) products is often popular, even if there is no confirmed food allergy, but studies do not show any change in mucus production following dietary modification.

Non evidence-based treatments

Non evidence-based tests and treatments are not regulated in Australia or New Zealand. There is no Medicare or Pharmac rebate available and there is no evidence to support their accuracy in diagnosing allergic disorders.

Therapeutic efficacy of treatments. such as acupuncture, vitamin supplements, and homeopathyare not supported by currently available evidence.

More information is available on the ASCIA website.

Allergen immunotherapy

Allergen immunotherapy, also known as desensitisation:

- Involves the regular administration of commercially available allergen preparations to promote clinical tolerance to the allergen/s, administered by subcutaneous injections or sublingual preparations.
- Is usually administered for for 3-5 years in order to produce durable effects, to reduce the frequency and severity of allergic rhinitis symptoms.
- Should only be initiated by medical specialists with training in allergy, following a confirmed diagnosis.

Benefits of allergen immunotherapy for allergic rhinitis

- Decreases severity of symptoms and the need for medications.
- Individual patients will experience different degrees of benefit, and on average there may be a 50% reduction in symptoms and/or medication need.

Possible additional benefits include:

- Reduced risk of new sensitisation (developing IgE antibodies) from few to multiple aeroallergens in children.
- Reduced risk of progression from allergic rhinitis to asthma in children.
- Reduced asthma exacerbation.

Commercial aeroallergens available for allergen immunotherapy in Australia and New Zealand include:

- House dust mite
- Pollens (grass, tree and weeds)
- Animal dander
- Moulds

Referral to a specialist

Consider referring a patient to a clinical immunology/allergy specialist for allergen immunotherapy when:

- Allergic rhinitis is causing severe and/or persistent symptoms.
- Medications:
  - Are associated with intolerable side effects.
  - Do not adequately control symptoms.
  - May be effective, but patient desires to reduce use.
- Allergen avoidance is difficult, as in the case ofpollen.
- A patient has an occupational allergy such as a veterinarian with animal dander allergy.

For more information refer to ASCIA allergen immunotherapy e-training for health professionals

Surgery

- Surgery plays a limited role in the management of rhinitis.
- Turbinate reduction and re-modelling of the nasal airway can improve medically refractory nasal obstruction.
- Vidian neurectomy (division of autonomic nasal nerves) is not indicated for allergic rhinitis, but can be considered for severe intractable watery rhinorrhoea of non-allergic rhinitis (vasomotor rhinitis).

Chronic Rhinosinusitis with Nasal Polyps (CRSwNP)

- Nasal irrigation is a widespread first line treatment.
- Intranasal corticosteroids are safe and effective for long term use.
- If short courses of oral corticosteroids are prescribed, both patients and practitioners must remain vigilant to avoid side effects.
- A short course of antibiotics may have a role to play in non-Type 2 CRSwNP, but patient selection is important and side effects need to be managed.
- The effectiveness of allergen immunotherapy in the treatment of CRSwNP remains unclear.
- A number of Type 2 targeted biologics have been trialled with positive outcomes.
- These treatments are high cost and need to be used in a cost-effective manner**.**
- Endoscopic sinus surgery plays a significant role in the management of CRSwNP.
- Surgery is safe, reduces symptom burden, and improves quality of life.
- Refer to an ENT or clinical immunology/allergy specialist for treatment.

For further information, a treatment algorithm is available in the ASCIA CRSwNP Position Paper

Further information and patient support

Australasian Society of Clinical Immunology and Allergy (ASCIA)

The ASCIA website includes:

- Allergic rhinitis treatment plan - developed to be completed by a doctor, nurse practitioner or pharmacist to assist patients with administering their allergic rhinitis medication/s.
- ASCIA information on allergic rhinitis (hay fever) for patients, consumers and carers.
- ASCIA allergic rhinitis e-training for health professionals

Patient support organisations

- Allergy & Anaphylaxis Australia
- Allergy New Zealand