

Allergic Rhinitis Clinical Update

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Introduction

This document complements ASCIA allergic rhinitis e-training courses for health professionals which are available on the ASCIA website www.allergy.org.au/health-professionals/health-professionals-e-training

It is intended to provide health professionals with information on allergic rhinitis, including:

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

Summary of Key Points

- 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.
- Minimising exposure to confirmed allergens may assist in reducing symptoms in some people.
- Intranasal corticosteroids sprays or combined intranasal/antihistamine sprays are recommended preventer treatments.
- Effective treatment of allergic rhinitis is important in the management of asthma.
- If patients are allergic to pollen, recommend staying indoors during thunderstorms in pollen seasons and use preventer treatments.
- Referral to a specialist should be considered when severe or inadequately controlled allergic rhinitis persists and consideration is being made for allergen immunotherapy.
- Allergen immunotherapy is effective in reducing the frequency and severity of symptoms of allergic rhinitis.
- Patients should be instructed on the correct and consistent use of treatments by providing an ASCIA Treatment Plan for Allergic Rhinitis (updated in 2020)

www.allergy.org.au/patients/allergic-rhinitis-hay-fever-and-sinusitis/allergic-rhinitis-treatment-plan



ascia
australasian society of clinical immunology and allergy
www.allergy.org.au

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/nosril for _____ weeks or _____ months or continuous
Additional instructions: _____
or
 Combined intranasal corticosteroid/antihistamine spray: _____
 1 or 2 times/day/nosril 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

© ASCIA 2020. This plan was developed as a medical document to be completed and signed by the patient's doctor, nurse practitioner or pharmacist.

1. Overview of Allergic Rhinitis

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.

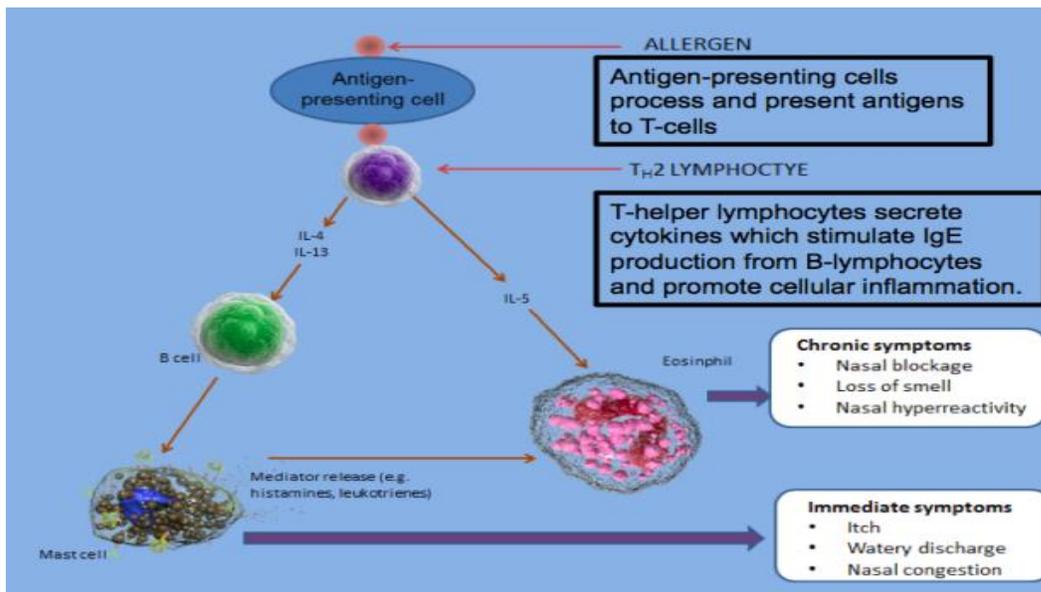
Patients often consider allergic rhinitis to be a nuisance, with no effective treatment. It can, however, be effectively managed. The treatment of allergic rhinitis is important for the effective management of asthma.

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 was the major cause of seasonal allergic rhinitis.

The true cause of symptoms of hay fever are wind pollinated trees, grasses and weeds. In 1906 the term “allergy” was first used, derived from the “allos” meaning “other” or a deviation from the original state and this was combined with “rhinitis”. Therefore allergic rhinitis simply means “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

Based on self-reports in the 2007-08 National Health Survey approximately 3.1 million Australians (15% of population) have allergic rhinitis. It was found to be most common between 15-54 years of age (peak between 25-44 years of age).

Common aeroallergen triggers of allergic rhinitis are:

- House dust mites
- Pollens (grass, tree or weed)
- Animal dander
- Mould spores

Symptoms

The symptoms and signs of allergic rhinitis include:

- Sneezing, itchy nose, sniffing, upward rubbing of the nose.
- Clear rhinorrhea.
- Nasal obstruction/congestion (e.g. nasal speech, mouth breathing, snoring).
- Itchy throat, frequent need to clear the throat.
- Watery, itchy eyes (allergic conjunctivitis) which may occur in conjunction with allergic rhinitis or in isolation.

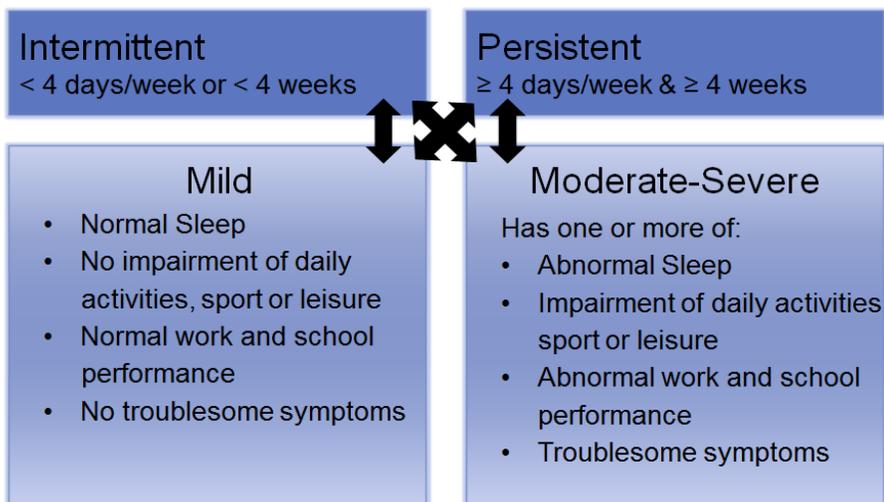
Symptoms may be confused with recurrent upper respiratory tract infection.

Clinical presentation of allergic rhinitis can be defined by **timing of allergen exposure** as follows:

- **Perennial** (year round) symptoms are often triggered by indoor allergens (e.g. dust mite, animal dander, moulds).
- **Seasonal** symptoms worsen usually during spring or summer and are often triggered by the pollens of grasses, weeds or trees as well as moulds. Note: 'seasonal' allergens may present all year round in certain regions and can therefore cause perennial symptoms with seasonal exacerbations. Some patients may also be sensitised to many different 'seasonal' allergens resulting in year round symptoms.

Allergic rhinitis may be defined as **occupational**, triggered by chemicals, irritants or allergens in the workplace. Symptoms simply improve when away from work.

Allergic rhinitis may also be classified by the **duration and severity** of symptoms as shown in the table below.



Asthma and allergic rhinitis – the united airway disease

Allergic rhinitis and asthma are upper and lower respiratory tract manifestations of the same inflammatory process. This is known as the “united airway disease” (i.e. inhalation of aeroallergen via the nose may contribute to inflammation in the lungs). **Allergic rhinitis is a risk factor for subsequent asthma development and the effective treatment of allergic rhinitis improves asthma management.**

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

Thunderstorm asthma

Thunderstorm asthma epidemics and their tragic consequences highlight the need for more research, education and awareness in this area. Thunderstorm asthma is usually due to thunderstorms with rapid changes in wind, temperature and humidity. These cause pollen grains to absorb moisture, burst open and release large amounts of small pollen allergen particles, which penetrate into the small airways of the lung.

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

Not everyone affected by Australian thunderstorm asthma epidemics has had thunderstorm asthma before. 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 with asthma and other respiratory diseases during a thunderstorm.

Further information on thunderstorm asthma is available at:

www.allergy.org.au/patients/asthma-and-allergy/thunderstorm-asthma

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

www.allergy.org.au/patients/allergic-rhinitis-hay-fever-and-sinusitis/allergic-rhinitis-treatment-plan

AusPollen Apps aim to provide accurate and easily accessible information on local pollen counts: www.pollenforecast.com.au

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

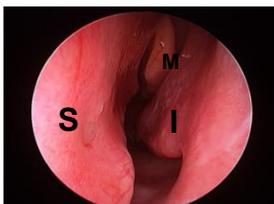
Nasal polyps and allergic rhinitis

Nasal polyposis is not a simple allergic disease but may coexist with allergic rhinitis. Aspirin hypersensitivity is common in those with polyposis and asthma (Samter's triad).

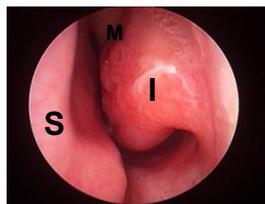
Polyps should be considered if patient presents with persistent nasal obstruction and/or anosmia.

Large polyps may be seen on anterior rhinoscopy. Referral should be considered to an ear, nose and throat (ENT) surgeon or clinical immunology/allergy specialist with expertise in this area

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

Some patients with pollen allergy will complain that certain fresh vegetables and fruits cause oral symptoms of itch and swelling. This is known as oral allergy syndrome (OAS). Serious OAS reactions are rare. OAS is thought to be due to cross-reactions between proteins found both in pollens and fruit/vegetables. In Australia, sensitisation to plantain weed is relatively common. Some individuals with plantain allergy may also present with an oral allergy to certain fruits such as melons, tomato, orange and/or kiwi fruit.

The role of the primary care physician is important in the management of allergic rhinitis

The role of the primary care physician in the management of allergic rhinitis includes:

- Diagnosis of allergic rhinitis.
- Diagnosis and management of comorbid conditions (e.g. asthma, allergic conjunctivitis).
- Initiation of pharmacotherapy (if required).
- Education of the patient:
 - Discuss strategies to minimise aeroallergen exposure.
 - Demonstrate correct administration of intranasal sprays.
 - Discuss potential side effects of medication.
- Referral to a specialist when indicated.

2. Clinical Assessment

Important questions in clinical history 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 (i.e. pets, occupation, etc)
Coexistent conditions	Asthma, eczema (i.e. 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

Face - signs of allergic rhinitis include:

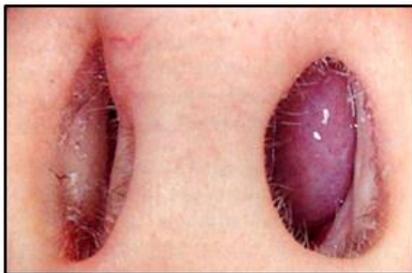
- Darkened circles around eyes (allergic shiners).
- Transverse nasal crease (allergic salute, from upward rubbing of nose).



Nose - Each nostril should be examined with an otoscope.

Signs of allergic rhinitis include:

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



Eyes - Signs of allergic conjunctivitis include:

- 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:

1. Skin prick 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.

2. Serum specific IgE (ssIgE) testing for aeroallergen sensitisation is a blood test that is available for dust mite, pollen mixes, mould mixes and animal dander. However, only certain aeroallergens in mixes may be clinically relevant. Antihistamines do not affect the results of ssIgE testing.

Both SPT and ssIgE testing detect the presence of IgE antibodies to potential allergens. These tests are considered to be surrogates for nasal allergy because they do not directly assess the response of the nasal mucosa to allergens.

Limitations of allergy testing for aeroallergen sensitisation

SPT and ssIgE results must be interpreted by clinicians experienced in performing and interpreting these tests, taking into account the patient's clinical history. This is important because:

- **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 (e.g. in a patient with seasonal symptoms but positive SPT or ssIgE test results to dust mite, 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 (e.g. '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.

Tests that are not useful include:

- Food specific IgE testing (e.g. food mix "RAST") should not be performed in allergic rhinitis investigation, since food allergy is not a cause of intermittent or persistent allergic rhinitis. 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.

Note: Acute onset rhinitis with symptom resolution typically occurs within 24 hours as part of an IgE mediated food allergic reaction, but this is not a cause of intermittent or persistent allergic rhinitis.

Unproven and inappropriate methods that claim to test for allergy

Unproven testing methods include IgG testing, cytotoxic food testing, kinesiology, Vega testing, electrodermal testing, pulse testing, reflexology and hair analysis. They are not scientifically validated and may lead to unnecessary and costly avoidance strategies. There is no Medicare rebate for such tests in Australia or Pharmac rebate in New Zealand. These methods are not recommended by ASCIA or the World Allergy Organisation (WAO).

Further information is available from the ASCIA website:

www.allergy.org.au/health-professionals/papers/unorthodox-testing-and-treatment

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 (e.g. decongestants, ACE inhibitors, alpha-adrenoceptor antagonists, oral contraceptive pill, chlorpromazine, methyldopa and others)
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

Differential diagnosis to allergic rhinitis should be considered as shown in the table below.

Feature	What to consider
Unilateral nasal obstruction	Foreign body in children, nasal polyp, deviated septum, tumor
Discharge <ul style="list-style-type: none"> 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 respond to allergic rhinitis therapy	Compliance Non-allergic rhinitis

When to consider 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 where possible.
- Severe or inadequately controlled allergic rhinitis despite therapy.
- Consideration if being made for allergen immunotherapy.
- Other atopic comorbidities require management.

Referral to an ENT specialist/surgeon should be considered if there is medically refractory nasal obstruction.

3. Aeroallergen minimisation

Avoidance or minimisation of confirmed allergen/s may assist some individuals in reducing severity of allergic rhinitis symptoms. However:

- This can be difficult to achieve, particularly for house dust mite and outdoor aeroallergens such as pollens.
- Studies have shown inconsistent improvement in allergic rhinitis symptoms and/or medication requirements with use of some aeroallergen reduction strategies.
- Avoidance strategies must only be developed if the aeroallergens are clinically significant.
- Realistic consideration must also be given to the family's financial status and ability to action some strategies.

For more information go to: www.allergy.org.au/patients/allergy-treatment/allergen-minimisation

House dust mites

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

House dust mite minimisation

- Bedding:
 - Wash sheets, pillow cases and other bedding weekly in hot water (> 60°C).
 - If cold water washing, then use commercial product containing tea tree oil.
 - Hot tumble drying of washed items for 10 minutes (will kill dust mite).
 - Use dust mite impermeable covers on pillows and mattresses.
- Remove soft toys (or wash in eucalyptus oil or place in freezer overnight), sheepskins and woollen underlays from bedroom.
- Other measures to consider:
 - Vacuum carpets weekly using high efficiency particulate air (HEPA) filter.
 - Damp dust or use electrostatic cloths for hard surfaces weekly.

Pollens

Pollens that cause allergic rhinitis are usually:

- From grasses, weeds and trees which are wind pollinated.
- 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) than wind pollinated plants.

Pollen minimisation

- Remain indoors on windy days or after thunderstorms (when in contact with water, pollens release starch granules which can trigger allergic rhinitis and asthma symptoms – so called “thunderstorm” asthma).
- Avoid activities known to cause allergen exposure (e.g. 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 environment.
- Allergens become airborne for prolonged periods.
- Clear demonstration of pet dander triggering symptoms needs to occur before recommending removal of pet.
- However, the amount of allergen released can vary between breeds. One study found there was no difference in the concentration of a dog allergen protein in homes between hypoallergenic breeds vs other breeds.

Pet dander minimisation

- Discuss removing the pet from the home if symptoms are severe, however it can take a while for allergen levels to decrease. It can take an average of 20 weeks before cat allergen concentration reaches comparable levels to a house without a cat.
- If pet 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 musty smell.
- Outdoor moulds can be present in all conditions, particularly in humid climates, with seasonal peaks

Mould avoidance

- Remove visible mould (e.g. clean with bleach or other mould reduction cleaners).
- Ensure adequate ventilation.
- Dry or remove wet carpet.
- Fix any leaks.
- Remove indoor pot plants, as they can promote mould growth.
- Do not mow lawns or work with garden compost and mulch.

4. Pharmacotherapy and other treatment options

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

Intermittent and mild	Persistent and mild	Intermittent and moderate-severe	Persistent and moderate-severe
	Intranasal corticosteroid sprays*		
	Combination treatments (Intranasal corticosteroid and antihistamine sprays)*		
	+/- Other therapies (intranasal antihistamines, intranasal chromones, intranasal anticholinergic sprays, leukotriene antagonists)		
	Oral non-sedating or intranasal antihistamines*		
	+/- nasal saline irrigation		
	Allergen avoidance		
*Typical first line treatments recommended	Allergen immunotherapy		

Allergic rhinitis pharmacotherapy options

Usual 1 st line treatment options	Other possible treatments	<i>Short term</i> 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)
	Oral leukotriene antagonists	

Note:

- INCS have not been PBS listed in Australia since the year 2000.
- Whilst some INCS are available OTC, others require a prescription.
- Combination treatments containing an antihistamine and INCS spray require a prescription.

Allergic rhinitis pharmacotherapy principles

- When symptoms improve, pharmacotherapy doses may be reduced.
- Patients should be instructed on the correct and consistent use of prescribed treatment and given an ASCIA Treatment Plan for Allergic Rhinitis.
- 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 (e.g. pseudoephedrine used in some decongestants is subject to certain restrictions). Contact the Australian Sports Anti-Doping Agency (ASADA) or the New Zealand Anti-Doping Organisation for information. www.asada.gov.au or Drug Free Sport New Zealand www.drugfreesport.org.nz for information

Non-sedating antihistamines

Place in therapy	1 st line for intermittent mild allergic rhinitis or used in conjunction with other therapies
Route <ul style="list-style-type: none"> • 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
Over the counter	+
Type	Non-sedating; sedating antihistamines are not recommended
Frequency of use	Once or twice a day
Benefits <ul style="list-style-type: none"> • Ocular symptoms • Nasal sneeze/itch/runny nose • Nasal congestion 	↓ itchy, watery eyes ↓ sneezing, itchy, runny nose Limited*
Disadvantages	Cost

Note: Whilst some nasal antihistamines can reduce nasal congestion, intranasal corticosteroids (INCS) are more effective in reducing nasal congestion.

Intranasal corticosteroids (INCS)

Place in therapy	1 st line for persistent and/or moderate to severe allergic rhinitis and treatment failures with antihistamines alone
Over the counter	+ (or prescribed by a doctor)
Age restriction	Different intranasal corticosteroids often have different minimum age restrictions
Frequency of use	<ul style="list-style-type: none"> • Continuous (more effective; few days to take effect; maximal effect by 2 weeks) • Long term use is recommended where effective • As-needed basis (less effective)
Benefits <ul style="list-style-type: none"> • Ocular symptoms • Nasal sneeze/itch/runny nose • Nasal congestion • Cost effective reduction of symptoms 	↓ itchy, watery eyes ↓ sneezing, itching, runny nose ↓ nasal congestion
Disadvantages	Nasal irritation and bleeding may occur (uncommon)

Note:

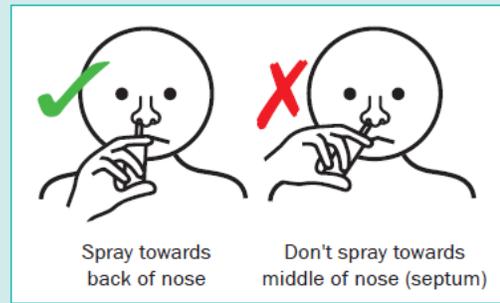
- It is also important to note that different brands of INCS vary in strength and efficacy.
- Combination treatments containing an antihistamine and INCS spray offer the combined advantages of both medications.

Intranasal corticosteroids (INCS) side effects

- 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.
- Whilst systemic absorption of INCS is negligible with newer formulations, primary care physicians should monitor growth of children and adolescents taking corticosteroids by any route. INCS must be used with caution in patients with pre-existing glaucoma and/or cataracts, as rare instances 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.



For further information refer to the **ASCIA Treatment Plan for Allergic Rhinitis (updated in 2020)** and available at www.allergy.org.au/patients/allergic-rhinitis-hay-fever-and-sinusitis/allergic-rhinitis-treatment-plan

Other treatment options

Saline nasal irrigation

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

Intranasal chromones (e.g. sodium cromoglycate)

- Typically used for intermittent rhinitis.
- Predominantly used for the immediate treatment of itch, sneeze, rhinorrhoea.
- This is 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 (up to 3 days) to reduce nasal congestion if severe, and this can allow more effective administration of intranasal corticosteroids if turbinates are very swollen.
- Chronic use of intranasal decongestants may lead to rebound nasal obstruction, called rhinitis medicamentosa.

- Decongestants should not be used in pregnancy, hypertension, and in patients with coronary artery disease, prostatism or glaucoma.

Systemic steroids for allergic rhinitis

- 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.

Surgery for rhinitis

- 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).

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 2nd trimester, and improving 2 weeks after delivery) hence reassurance may only be required.
- Medications for allergic rhinitis should only be used during pregnancy if the benefit to the mother justifies the potential risk to the fetus.
- There are few well controlled clinical studies in pregnant women examining the safety of many of the medications used in allergic rhinitis.
- Ideally drug therapy should be avoided in the first trimester of pregnancy.
- Saline nasal irrigation and intranasal cromones are safe in pregnancy.
- There are few oral antihistamines and intranasal corticosteroid sprays with an “A” category (i.e. used by large number of pregnant women without any proven increase in harmful effects on foetus).
- Nasal or oral decongestants are not recommended for use in pregnancy.
- Currently available intranasal antihistamines have a “B3” category (i.e. used by a limited number of pregnant women without any proven increase in harmful effects on foetus; but animal studies have demonstrated foetal harm).
- Refer to MIMS (Australia or New Zealand) or go to the “Prescribing medicines in pregnancy database” www.tga.gov.au/hp/medicines-pregnancy.htm before prescribing any medication in pregnancy.

Management of allergic rhinitis during lactation

It is recommended that medications are given after a feed to minimise any potential infant exposure.

During lactation	Medication
Considered safe	<ul style="list-style-type: none"> • Saline nasal treatments • Intranasal sodium cromoglycate (chromone) • Intranasal ipatropium (anti-cholinergic) • Non-sedating oral antihistamines (2nd generation) • Intranasal corticosteroids
Evidence for safety lacking (recommend not use)	<ul style="list-style-type: none"> • Intranasal azelastine hydrochloride (antihistamine) • Intranasal Iodoxamide trometamol (chromone)
Crosses into breast-milk (recommend not use)	<ul style="list-style-type: none"> • Oral or intranasal decongestants • Intranasal levocabastine hydrochloride (antihistamine)

Dietary manipulation in allergic rhinitis

There is no evidence that allergic rhinitis is due to food allergies or food intolerances and therefore food elimination (e.g. cow’s milk, wheat) is not recommended, and has potential for serious nutritional consequences, especially in young children. Restricting dairy products is often popular, but studies do not show any change in mucus production following dietary modification.

Some case series report rhinitis triggered in some individuals by preservatives. History is critical as no diagnostic tests are available to confirm this.

Lack of evidence for complementary medicines in allergic rhinitis

Alternative allergy tests 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 complementary-alternative treatments for allergic rhinitis (e.g. acupuncture, vitamin supplements, homeopathy, and physical therapies such as chiropractic-spinal manipulation) is not supported by currently available evidence.

Allergen immunotherapy is an option for treating allergic rhinitis

Allergen immunotherapy (also known as desensitisation)

- Involves the regular administration of commercially available allergen extracts to promote clinical tolerance to the allergen/s.
- Is effective in reducing the frequency and severity of symptoms resulting from subsequent exposure to the allergen/s.
- Treatment is usually for 3-5 years in order to produce durable effects.
- Should only be initiated by medical specialists with adequate training in allergy.
- Is administered by two routes: subcutaneous injections or sublingual route (liquid drops, sprays or tablets).

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.
- This is the only treatment that can alter the natural history of the disease.

Possible additional benefits include:

- Reduced risk of new sensitisation (i.e. 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 weed pollens)
- Animal dander
- Moulds

Referring a patient for allergen immunotherapy

Consider referring a patient 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 (e.g. pollens)
- Occupational allergy (e.g. veterinarian with animal dander allergy)

For further information refer to the ASCIA website www.allergy.org.au/hp/papers#p6 and ASCIA allergen immunotherapy e-training for health professionals www.allergy.org.au/hp/hp-e-training

Further information

Australasian Society of Clinical Immunology and Allergy (ASCIA)

The ASCIA website www.allergy.org.au 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. www.allergy.org.au/patients/allergic-rhinitis-hay-fever-and-sinusitis/allergic-rhinitis-treatment-plan
- **ASCIA information on allergic rhinitis (hay fever) for patients, consumers and carers.** www.allergy.org.au/patients/information
- **ASCIA allergic rhinitis e-training for health professionals** www.allergy.org.au/hp/hp-e-training

Patient support organisations

- Allergy & Anaphylaxis Australia www.allergyfacts.org.au
- Allergy New Zealand www.allergy.org.nz

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