



Allergic Rhinitis Optimising Management

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Format

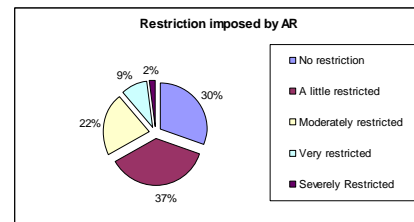
- Impact of allergic rhinitis
- Diagnosis and management of allergic rhinitis
- Subcutaneous and Sublingual immunotherapy
- What's new

The allergy epidemic:

- Allergic sensitisation : 40% of Australians
- Increasing frequency over the last 30 yrs
- 90% of children and 80% of adults with asthma are atopic

Allergic disease	1960's	1990's
Hayfever	3.2%	12.7%
Eczema	5.3%	17.7%
Asthma	7.0%	29.4%
Sensitised (SPT+)	20%	40%

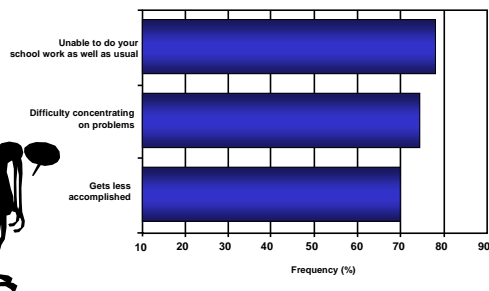
Degree of Quality of life Restriction in the Allergic Patient



- 10% gave up pets
- 10% avoid social interaction that may trigger AR

Ronald Dahl, Denmark WAO 2005

Burden of Seasonal Allergic Rhinitis in Adolescents



Modified from Juniper EF J Allergy Clin Immunol 1994 93:413-23

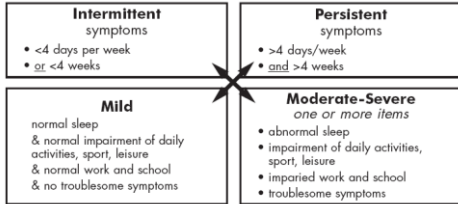
Problems Associated with AR that Impact School Performance

- Fatigue
- Cognitive impairment
- Sleep disturbances
 - Irritability, inattention, decreased concentration, restlessness
- Social dysfunction

Blaiss MS Curr Med Res Opin 2004



Classification of allergic rhinitis



Moderate to severe allergic rhinitis

- Primary care studies have shown that ~90% of patients who consult their GP have AR of this severity
- Defined as impact on one or more of:
 - impairment of sleep
 - impairment of daily activities, sports or leisure
 - impairment of school or work
 - troublesome symptoms

*ARIA Workshop, Bousquet et al. JACI 2001; 108(suppl 5) S147-333
 **Bousquet et al. JACI 2008; 117:158-62

Diagnosis of Allergic Rhinitis

- Demonstrate **specific IgE** against **inhalant allergens**
- RASTs of similar value to skin tests and adequate in general practice
- For screening, suggest:
 - house dust mite
 - animal dander (cat, dog..)
 - grass mix
 - +/- mould

Management

- Allergen avoidance
 - Reduce exposure to allergic triggers
- Pharmacologic
 - intranasal corticosteroids (nasal irrigation)
 - antihistamines
 - (leukotriene antagonists)
- Immunotherapy / desensitisation
 - Alters allergic response

6 Efficacy of therapies for rhinitis and asthma

	Rhinitis		Asthma	
	Size of effect*	Evidence level†	Size of effect*	Evidence level†
Allergen avoidance	+/-	IV	-	I
Antihistamines	++	I	+/-	II
β ₂ -Agonists	-	+	+++	I
Anticholinergics	+	II	+	I
Chromones	+	I	+	I
Topical steroids	+++	I	+++	I
Leukotriene receptor antagonists	+	I	+	I
Immunotherapy	++	I	+	I
Anti-IgE monoclonal antibody	+	II	+	I

*+/- = no effect, +++ = the most effective. † Based on National Health and Medical Research Council levels of evidence.¹⁴

Reducing Exposure to House Dust Mites



- Use bedding encasements
- Wash bed linens weekly
- Avoid down fillings
- Limit stuffed animals to those that can be washed
- Reduce humidity level

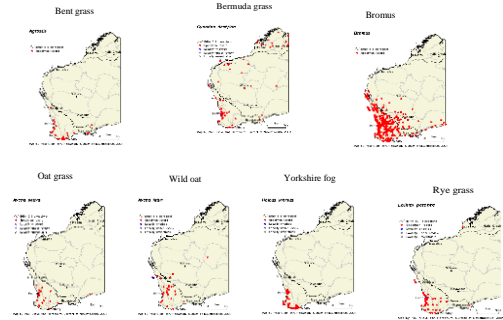
Source: "What You and Your Family Can Do About Asthma" by the Global Initiative For Asthma
 Created and funded by NIH/NHLBI



Grass Pollen

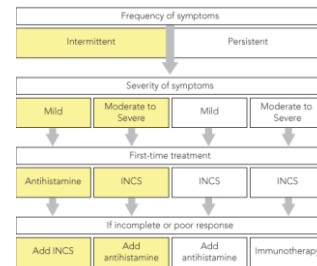
- Pollen = fine flour
- Many of the troublesome grasses are improved pasture grasses, all of which have been introduced
- Pasture grasses rely on the wind to disperse pollen - produced in vast quantities and blow long distances of those distributed by bees, birds
- Concentrations depend on prevailing winds
- "Sanctuary creation" at home: During the season..
 - Do not open the bedroom window
 - Dry clothes indoors, not on the clothes line
 - Indoor and outdoor sets of clothes – do not bring outdoor into bedroom

Distribution of grasses in WA



Pharmacologic Management

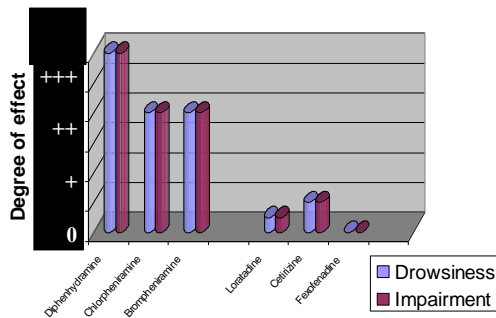
- Depends on severity and persistence of disease
- Depends on coexisting disease
 - eg asthma, conjunctivitis



In all patients consider:
 Intranasal saline – loosens mucous
 Anti allergy eyedrops (levocabastine, lodoximide etc)
 +/- Ipratropium bromide – effective in cases of intractable rhinorrhoea
 Avoid decongestants

Walls R et al. MJA Jan 2005

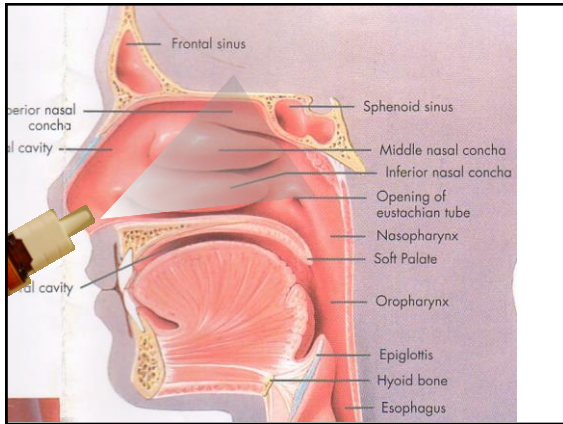
Drowsiness Caused by 1st and 2nd Generation Antihistamines



Modified from Casale TB et al. J Allergy Clin Immunol 2003

Intranasal corticosteroids

- Superior to antihistamines and more cost effective
- Well tolerated, can be used long term without adverse effect on nasal mucosa
- No effect on the hypothalamic-pit-adrenal axis
- No effect on growth in children
- No clear evidence one preparation is better - choice guided by personal preference, cost, accessibility



Ocular treatments

- Antihistamines
 - Levocabastine (Livostin)
- Antihistamines with vasoconstrictor
 - Naphazoline + pheniramine (Naphcon A)
- Mast cell stabilisers
 - Olopatadine (Patanol)
 - Lodoxamide (Lomide)
- Cromones
 - Sodium chromoglycate (Chromolux)

Inhalant allergen immunotherapy

- HDM, grasses, (animal dander, moulds)
- Indicated for allergic rhinitis and for selected asthmatic patients
- See benefit in 6- 12 months
- Prolonged benefit after cessation of therapy

Inhalant allergen immunotherapy

- *Subcutaneous* immunotherapy
 - Induction: Incremental doses of aeroallergen
 - Maintenance: Monthly injections
 - Duration: Usually 3 years
 - Limited by age and compliance
 - Antihistamine premed recommended

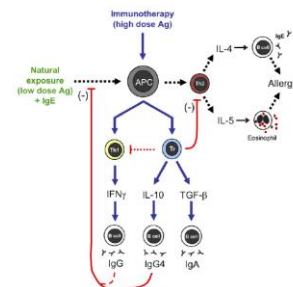


Sublingual immunotherapy

- Advantages:
 - Less visits to doctor
 - Better safety profile in asthma, less systemic adverse events
- Disadvantages
 - Unpleasant local side effects
 - Compliance can be difficult (daily - several times/week drops or tablets)
 - Slower in onset than S/C IMT



Immunological mechanism for immunotherapy





Indications for immunotherapy

- Well documented allergic component to their disease
- Available effective allergen extracts
- Poor response to environmental controls and inadequate response to medication
- Coexistent asthma must be stable and not severe at time of commencing IMT

Contraindications to Immunotherapy

- Concomitant severe medical illness
 - Serious immunopathologic diseases and immunodeficiencies.
 - Malignancies.
 - Severe psychological disorders.
 - Significant cardiovascular diseases.
- Treatment with beta blockers
- Pregnancy (initiation only)
- Poor compliance.
- Severe asthma - uncontrolled by pharmacotherapy (FEV1 < 70%)

Effects of Immunotherapy

- Symptom improvement and/or reduction of the need for symptomatic drugs in allergic rhinitis and asthma.
- Long-lasting effect once discontinued.
- Prevention of the onset of new skin sensitizations.
- Prevention of the onset of asthma

Immunotherapy prevents development of allergy in children

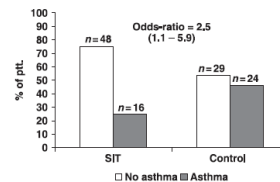


Figure 3. The percentage of children with and without asthma 7 years after termination (10-year follow-up) of specific immunotherapy. Based on the patients without asthma before treatment (n = 117). The absolute number of children is shown above the bars.

Effect of immunotherapy is long lasting

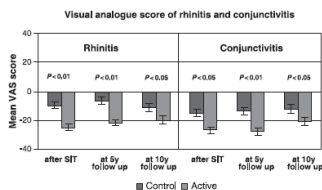


Figure 4. Change from baseline and standard error of the mean for rhinitis and conjunctivitis visual analogue scores at the end of specific immunotherapy, 2 and 7 years after termination.

Adverse Reactions from Immunotherapy

- Minor local reactions common
 - Mild Bronchospasm
 - Rhinitis
 - Urticaria
- } 1 / 1500 injections
- Severe near fatal anaphylaxis 1 / 1 million injections
 - Fatal reaction 1 / > 3 million injections

Preventing adverse reactions

- Most severe adverse reactions occur due to:
 - Incorrect dose esp during initiation
 - Wrong extract
 - Aqueous extracts
 - Bee immunotherapy
 - Unstable asthma
 - Use of beta blockers
- Experienced personnel with appropriate resus equipment and training
- Pre-injection spirometry (injections not given if FEV1 <80% of best recent; <70% predicted)
- Patients must stay in clinic at least 30 minutes after injections

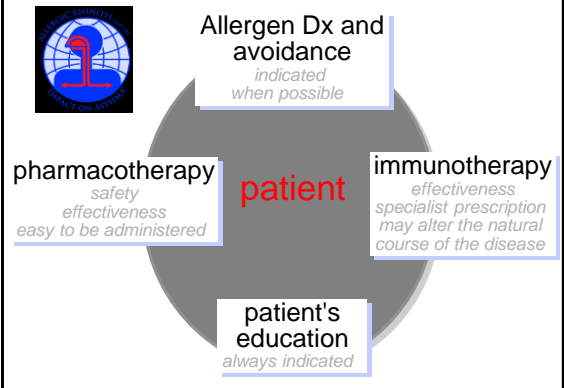
SLIT: Safety

- In post-marketing studies, the overall rate of side effects (all grades) ranges up to 80% of patients.
- The most frequently reported side effects are local (gastrointestinal); oral itching/swelling, nausea, stomach-ache.
- The side effects are usually mild and treatment discontinuation is rarely required (~6% in trials).
- Life-threatening side effects are extremely rare (0.056%)

Summary – Take Home Messages

- Allergic rhinitis is common
- Disability is often under-recognised
- Often moderate – severe by time pts present to Primary Care
- Optimal care requires....

Modified from



What's New...?

- Sublingual tablets
 - HDM
 - Single grasses (eg Rye)
 - Easier than SL drops
 - Suitable for mono-sensitised
- Allergoid preparations
 - Easier up dosing; more flexible mixtures
 - Comparative efficacy studies still lacking