Understanding Immunotherapy

By Dr Helen Evans-Howells

GP WER Allergy

Who Am I?

- Multiple Roles;
- Self employed GP in Dorset
- GP WER Paediatric Allergy Private Clinic Dorset Allergy - www.drhelenallergy.co.uk
- Previous Primary Care of BSACI
- Trustee for Anaphylaxis Campaign
- A busy mum!



Disclosures

- Sponsored by Mylan/Viatris, Thermofisher, Astra Zeneca, Abbott, Danone, Nutricia, Nestle Health Science, ALK and Mead Johnson to provide GP education
- University fees supported by Nutricia and Mead Johnson
- Trustee for the Anaphylaxis Campaign

Aims and objectives

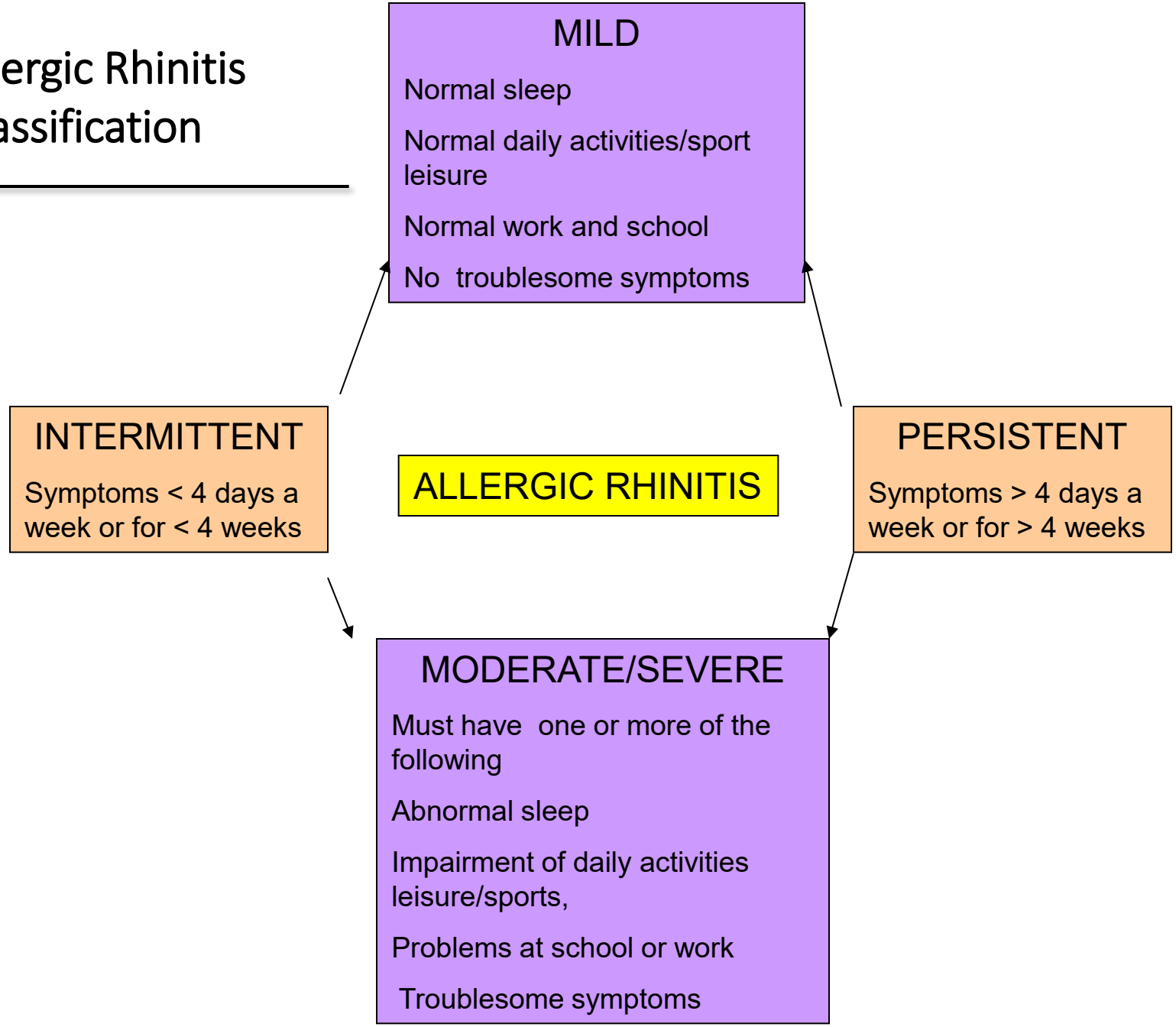
1. Explore the prevalence of allergic rhinitis and the impact it has on individuals
2. Consider how allergic rhinitis presents and treatment options available
3. Look at how insect venom allergies present
4. Look at the treatment options available for allergic rhinoconjunctivitis and venom allergies which are available in primary and secondary care
5. Consider food immunotherapy –the pros and cons

BSACI guidelines and NICE guidelines



Environmental Allergies

Allergic Rhinitis Classification



House dust mite - max growth >20 C and high humidity. All year round

Tree pollen – generally early spring

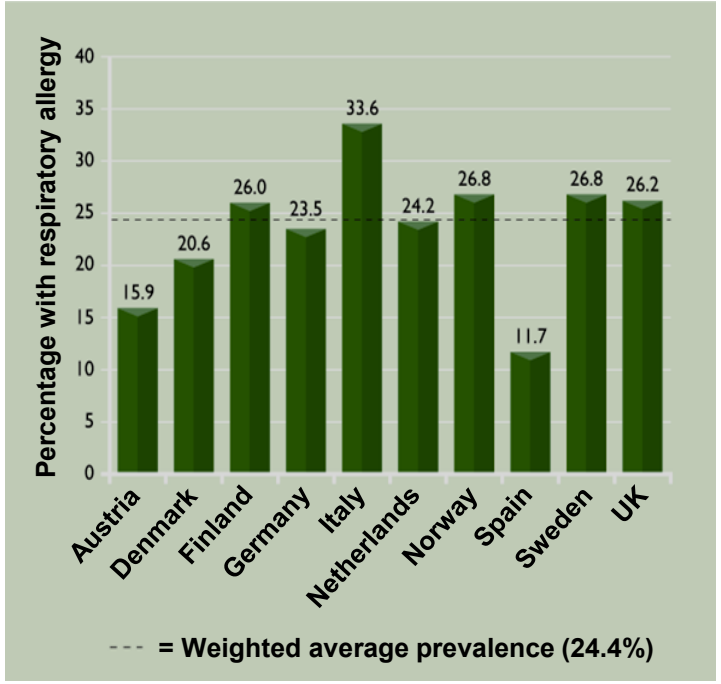
Grass pollen – Generally end of spring and early summer

Moulds – esp. Damp environments and woods

Animal dander – esp. cat and dog

Occupational – e.g. working with latex, chlorine, wood etc.

Allergic Rhinitis-prevalence



- Approximately 1 in 4 adults in the UK suffers from respiratory allergy[1]
- 50% of these are allergic to grass pollen[2]
- 5 million adults in the UK suffer from grass allergy

"The time has come to make a determined effort to improve clinical services for patients with allergic disease in the UK"
(Royal College of Physicians, 2003)

1. Adapted from Dahl *et al*, *Respir Med* 2004
2. Bauchau & Durham, *Eur Respir J* 2004

ARIA

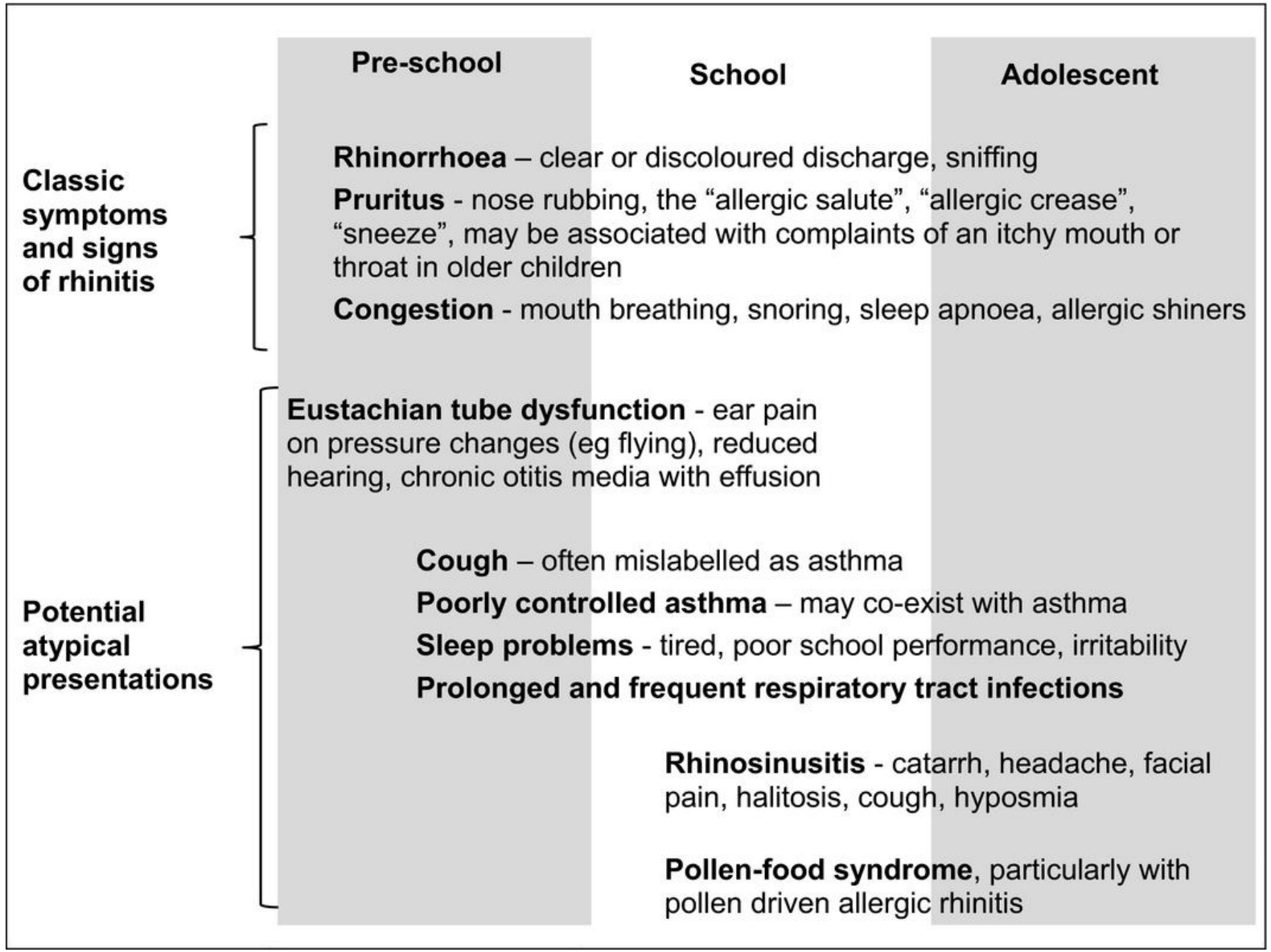
- Allergic Rhinitis and its Impact on Asthma (ARIA)
- Link between the severity and control of both diseases
- Most patients with asthma have rhinitis
- 10 – 40% of patients with AR also have asthma

Bousquet, JACI, 130(5); 1049

Typical Presentation

- Sneezing
- Nasal itch
- Nasal discharge
- Nasal congestion
- Bilateral symptoms develop quickly after allergen exposure
- Associated eye symptoms – itching redness and tears



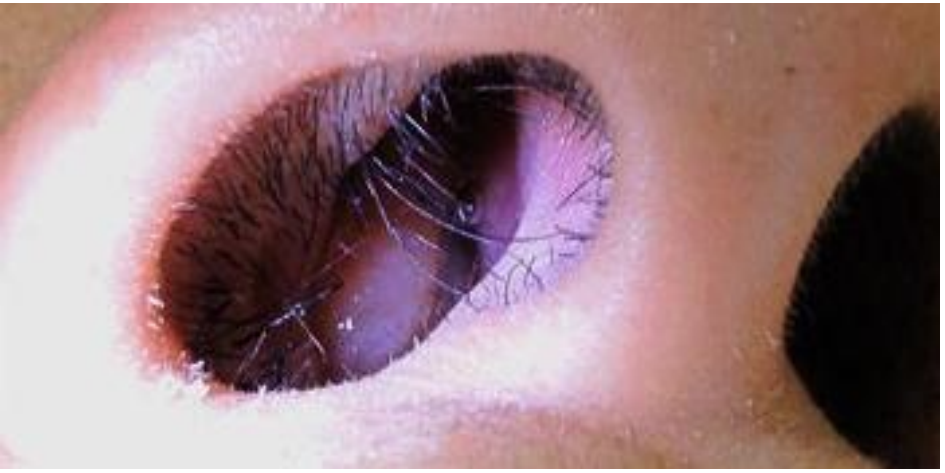


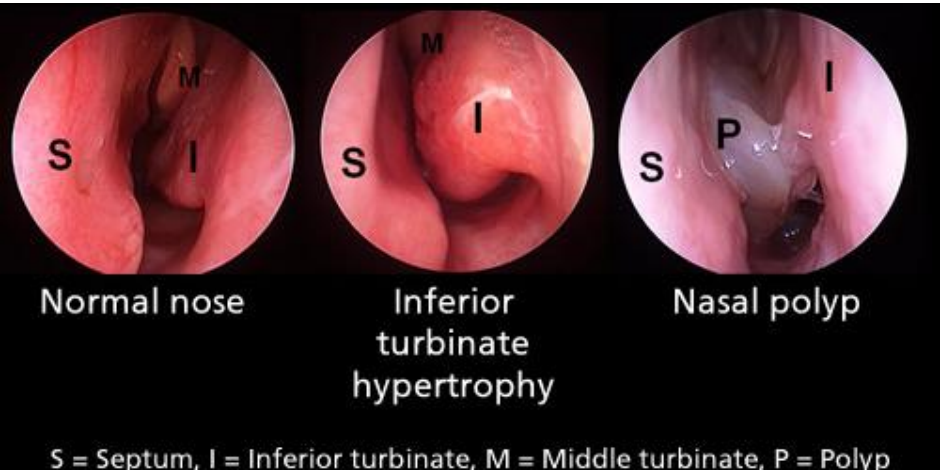
BSACI Allergic & Non Allergic Rhinitis Guidelines. Scadding et al

Red flags

- Unilateral Symptoms
- Recurrent bloody nasal discharge or nosebleeds
- Nasal pain
- Anosmia
- Visual disturbance







Examination

- General health
- Nose
- Chest

Complications of Allergic Rhinitis

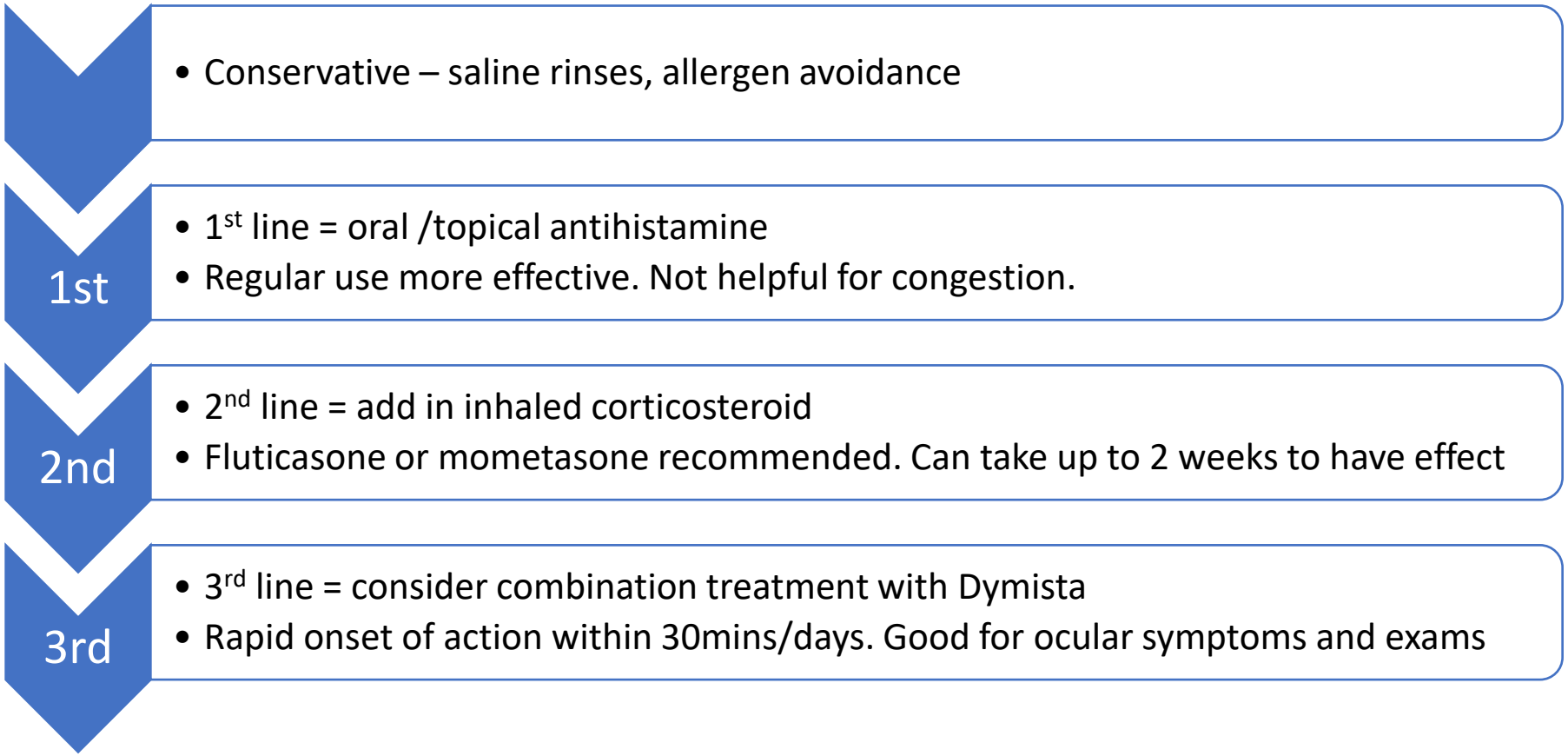
- Poor Quality of life – missed time off work, difficulties at home
- Impaired school performance
- Asthma – often co-exists (found in approx. 15-38% people with AR)
- Sinusitis
- Oral allergy syndrome/ pollen food syndrome

Investigations for asthma / allergic rhinitis

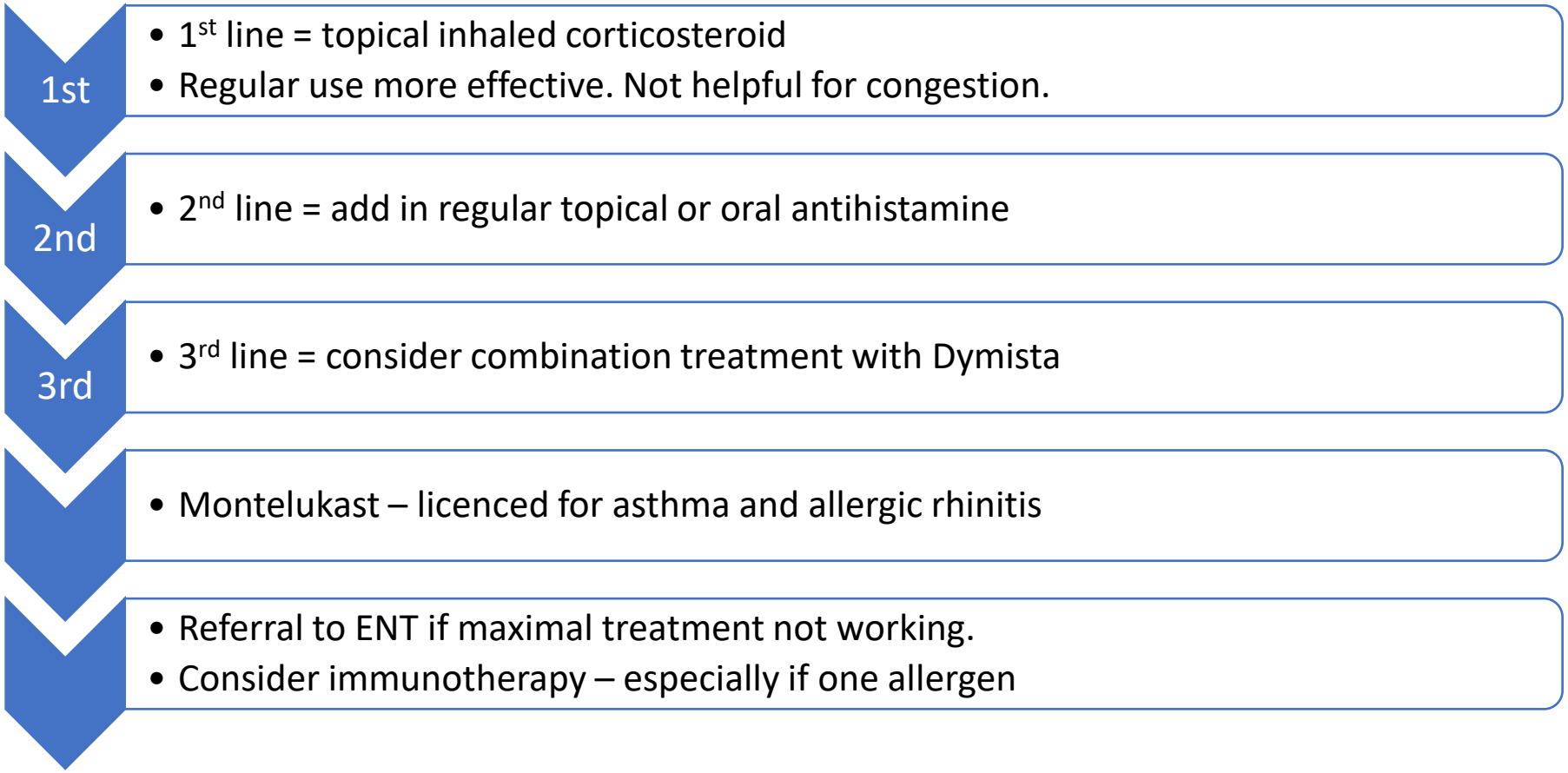
Identifying allergic triggers is not necessary for every patient but it may help with their control and be particularly useful for difficult asthmatics /those with allergic rhinitis

National Review of Asthma Deaths recommends recording asthma triggers/exacerbators, however BTS/Sign guidance doesn't include this in their management plans currently.

NICE now recommend consideration of triggers for poorly controlled asthmatics.



Treatment of mild persistent or mild- moderate intermittent rhinitis



Treatment of moderate-severe rhinitis or severe nasal obstruction

Referral to Secondary Care

- 1 Failure to respond to maximal medical treatment - Allergists
- 2 Missed school / significant impact on quality of life
- 3 Diagnosis uncertain
- 4 Predominant nasal obstruction and a structural abnormality (deviated nasal septum) which makes topical treatments difficult - ENT
- 5 Red flag symptoms - ENT



Allergen Specific Immunotherapy (AIT)

Induces immunological tolerance and reduces symptoms

alters the natural course of disease but the exact mechanisms of action are unknown

Offers potential for:

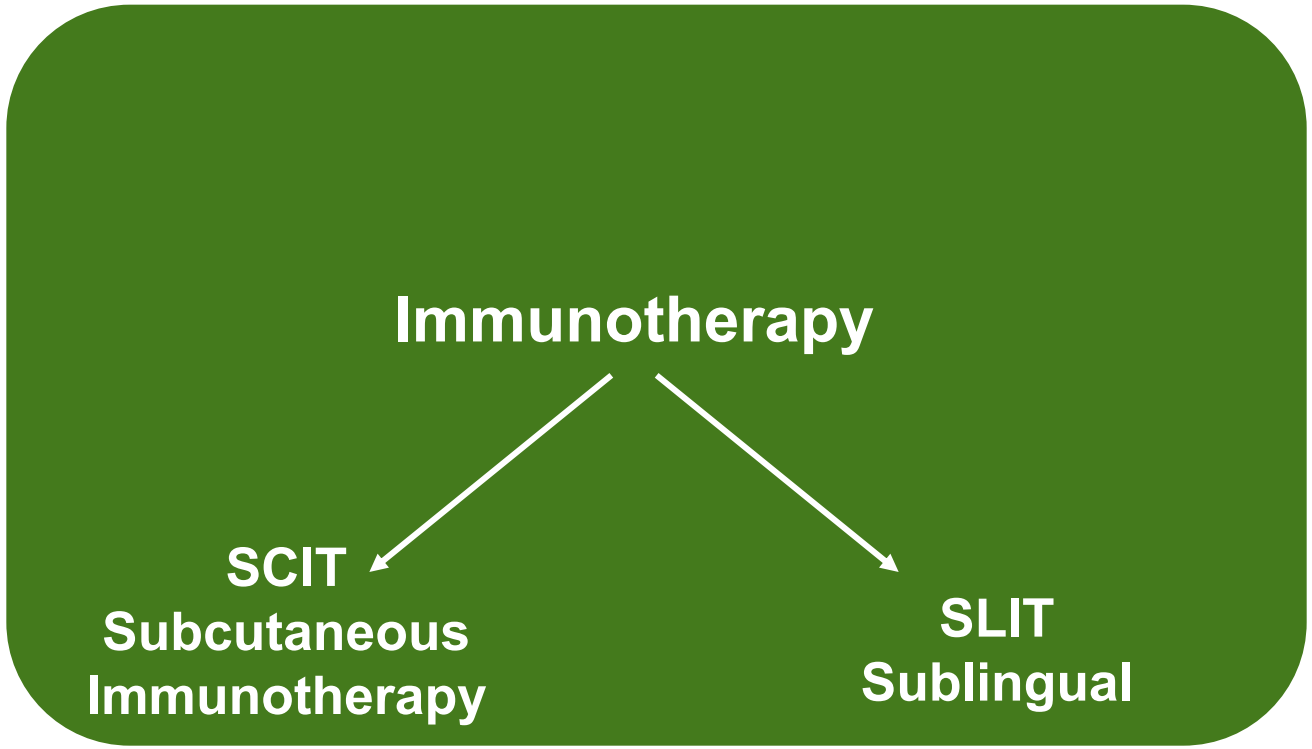
- sustained prevention of allergic symptoms
- disease modification to avoid disease progression
- disease remission

Recommended by international guidelines (WHO) and UK Guidelines (BSACI /NICE)

1. Bousquet J *et al*. *J Allergy Clin Immunol* 2001; 108: S147–S334

Prescribing Information can be found on the last slide of this presentation

Allergen Specific Immunotherapy







Allergen Specific Immunotherapy (AIT)



Available on NHS for:



Grass pollen



Tree pollen



House dust mite

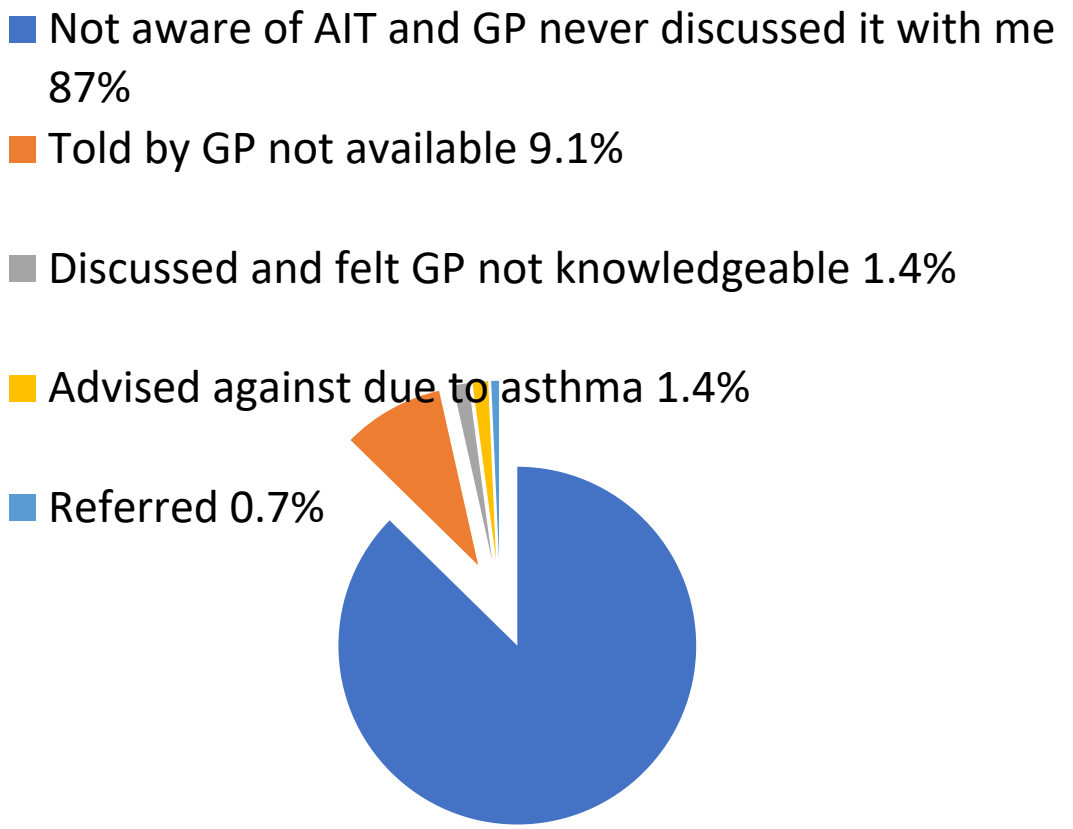


On some occasions – cat, dog, horse



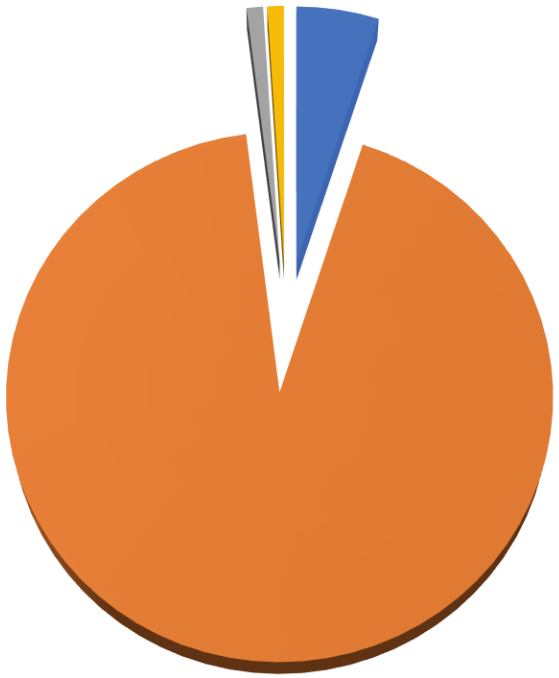
Honey-Bee Venom and Wasp Venom allergy Peanut

Survey of Patients on Hayfever Help UK – 143 Responses



- Never discussed.. They just prescribed different things each year
- Nothing works.. The only relief I have ever had is from Kenalog
- I asked about AIT… found my usual medications sent to pharmacy and no call back
- Told the NHS no longer gives any prescriptions for hayfever
- Amazing results but I had to pay privately

Survey of 150 GP's Across 3 Facebook Groups



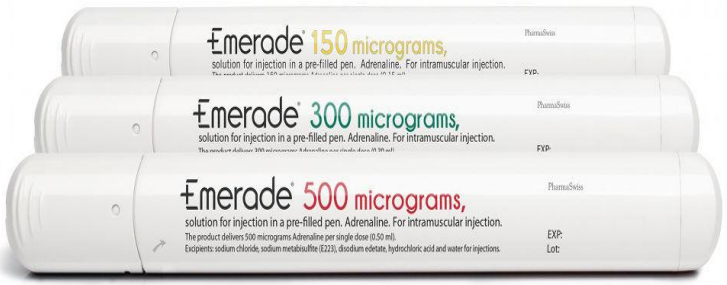
- Never Heard of Immunotherapy 5%
- Aware of AIT but don't know the guidelines 93%
- Aware of AIT and the guidelines 1%
- Tried to refer but rejected 1%

- Occasionally have people ask but we have no allergy service to refer to – Lothian Area
- I've had AIT to wasp and still don't know the guidelines
- Never heard of it but would like to know more

Venom Allergy

Anaphylaxis And Death







- Venom allergy is a common cause of anaphylaxis
- 2nd most frequent cause of anaphylaxis outside medical settings
- Fatalities are rare – 0.03-0.48 per 100 000 inhabitants per year
- Deaths from anaphylaxis 1992-2001 in UK – 47 out of 214 bee or wasp stings. Average age 50yrs

BSACI Diagnosis and Management of Hymenoptera venom allergy. Krishna et al

Case History

- Jane is 34 years old and works at a Forest School
- She has been stung by a bee a few times in the past but was stung again last week
- On this occasion, she developed urticaria over the sting site and elsewhere on her body and some swelling. She felt wheezy and unwell
- Jane took some antihistamine and went home and her symptoms improved within a few hours
- Jane is now very anxious about going to work and has come to her GP to ask about an adrenaline autoinjector.

- What should the GP do??

Types of Reaction from Bee / Wasp Stings

Intense burning pain followed by erythema and oedema at site of the sting. Resolves in a few hours.

LARGE LOCAL REACTIONS-oedema, erythema & pruritis, >10cm in diameter and peak 24-48hrs later

SYSTEMIC REACTIONS

MILD –pruritis, urticaria, erythema, mild angioedema, rhinitis, conjunctivitis

MODERATE – moderate angioedema, mild asthma AP, vomiting, diarrhoea, lightheadedness, dizziness

SEVERE – resp difficulty, hypotension, collapse, LOC, incontinence, seizures, loss colour vision

BSACI Diagnosis and Management of Hymenoptera venom allergy. Krishna et al

Criteria for Immunotherapy

- Secondary Care should ideally assess all those with a systemic reaction to bee /wasp sting
- Severe Systemic Reactions
- Moderate Systemic Reactions with additional risk factors
  - Raised baseline tryptase
  - High risk of future stings- eg. Bee keepers
  - Impaired quality of life
  - Remoteness from medical help
  - Co-morbid conditions

Criteria for Immunotherapy

- Mild Systemic Reactions with additional risk factors (BSACI)
- Not for – local reactions only, regardless of severity

- CHILDREN – severe sting-induced systemic allergic reactions
- Not indicated for the majority of children with less severe systemic reactions –urticaria and angiodema distant from the sting site

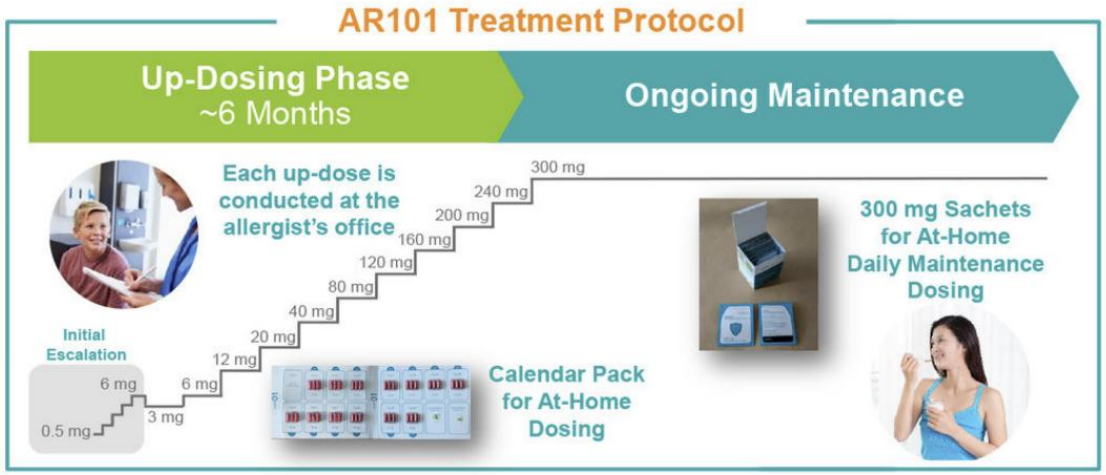


Food Allergy

NICE Approval for Peanut OIT - 2022



Oral Immunotherapy for Peanut



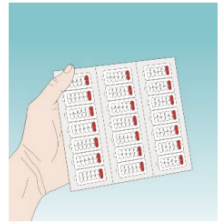
- Start at a low dose (~1/500th of a peanut)
- Time between steps-ups is two weeks or longer based on individual needs
- Dosing flexibility allowed to accommodate individual and family needs

Palforzia (Aimmune)

Palforzia is characterized peanut allergen in the form of peanut flour, formulated with a bulking agent and a flow agent in pre-measured graduated doses

Capsule strengths equivalent: 0.5, 1, 10, 20, 100 mg





Once reaching the Maintenance Period, Palfrozia will be supplied as 300mg sachets





Side Effects of Peanut Immunotherapy
13% stop due to side effects
Common – mouth and throat itch
GI-abdominal pain and vomiting
Anaphylaxis
Rarely – Eosinophilic Oesophagitis

Lifestyle Changes

Dos and Don'ts

To minimise your child's risk of side effects, please make sure they stick to the following Do's and Don'ts of PALFORZIA treatment.

✓ Dos

- Take their PALFORZIA every day
- Take their PALFORZIA with food
- Take their PALFORZIA at roughly the same time of day (with their evening meal is best)
- Carry their adrenaline autoinjectors with them at all times

X Don'ts

- DO NOT eat peanuts
- DO NOT drink alcohol 2 hours before or after taking a dose
- DO NOT take their PALFORZIA if they feel sick
- DO NOT exercise, or take a hot shower or bath right before or for 3 hours after taking their PALFORZIA
- DO NOT take their PALFORZIA within 2 hours of bedtime
- DO NOT swallow the capsule or breathe in the powder

Is it Worth It?

- Risk of OIT
  - Increases risk of anaphylaxis
  - Other side effects
  - Daily dosing and restrictions around doses
  - More frequent clinic visits
- Benefits of OIT
  - Increase threshold
  - Reduced risk accidental reaction
  - Reduced severity of reactions
  - Hope of long term tolerance



Future Treatments

- **Epicutaneous Immunotherapy – peanut patch**
- **Sublingual Immunotherapy**
- **Biologics –e.g. Omalizumab – anti IgE – used as add on to OIT**
- **Other foods**
- **Access on the NHS??**

Summary

- Controlling asthma and rhinitis is vital for protecting someone against severe food allergy reactions
- You may need to direct your doctor about what treatment is needed
- Immunotherapy can be a life changing option for patients suffering with allergies
- It is available on the NHS but only in some areas

Questions??

- helen@drhelenallergy.co.uk



Sources of Help For Patients

- www.anaphylaxis.org.uk
- www.allergyuk.org
- www.sadiebristowfoundation.org.uk
- Infant feeding and allergy prevention PARENTS FINAL (bsaci.org)

- Free Facebook with me – regular Q&A
- and links to info

