Allergy Evaluations for Children with Asthma - When to Refer?

• Currently based on symptom severity.

• Evaluation results have the following treatment implications:
  1. Environmental modifications (allergen avoidance)
  2. Allergen immunotherapy (shots) – not usually indicated for those with moderate to severe asthma
  3. Treatment with biologics: e.g., the anti-IgE biologic (omalizumab) for those with moderate to severe disease.
  4. Often overlooked: Development of a seasonal treatment plan is especially useful for those with mild and mild-persistent asthma. These plans are frequently medicine sparing.
Risk Factors for Acute Wheezing Episodes

- Sensitization to aeroallergens
- RSV
- Flu, MPV
- Rhinovirus infection

Passive Smoke

J Allergy Clin Immunol: In practice 2014; 2: 537-543

Number of visits

Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec

Black bars = Children 0-2 years
Hatched bars = Children > 2 to 16 years

Immunol Allergy Clin N Amer 1998; 18: 35-47
Allergy Asthma Proc 2016; 37: 475-51
Effect of Omalizumab Treatment on Seasonal Variations in Asthma Exacerbations

Asthma Cases:

• 7 year old male with **mild-persistent asthma** who experiences recurrent wheezing episodes **in the fall**.

• 7 year old male with **mild-persistent asthma** who experiences recurrent wheezing episodes **in the spring and fall**.

• 7 year old male with **moderate-severe asthma** who experiences recurrent wheezing episodes **in the spring and fall**, and less often at other times of the year.
Sensitization (Positive IgE tests) and Exposure to Environmental Allergens are Both Required to Cause Asthma Symptoms (for questions contact Dr. Heymann at phw5a@virginia.edu)

Seasonal allergens

- **Spring exposures:** trees and grasses
- **Fall exposures:** dust mite, ragweed, and *Alternaria*
- **Summer exposures:** English plantain, *Cladosporium*, and weeds (but these allergens are less of a problem than symptoms caused by trees and grasses which can persist if untreated).

Perennial allergens: cat, dog, cockroach, rodents (especially mouse allergens). **Consider total allergen load!**

Results have important treatment implications: 1) **environmental modifications**; 2) **selection of allergens for immunotherapy**; 3) treatment with biologics (omalizumab) for moderate to severe asthma; and 4) **development of seasonal medication plans for those with milder asthma.**