



Continuing Medical Education Activity Information

Allergic Rhinitis-IQ: Closing the Treatment Gap in Allergic Rhinitis The Risks of Asthma and Other Comorbidities Child Webisode 1

Learning Objectives

Upon completion, participants should be able to:

- Formulate appropriate management strategies for patients with AR
- Describe comorbid conditions commonly associated with AR

Program Faculty

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Contributors

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Target Audience

This activity is intended for pediatricians and other healthcare professionals with an interest in the management of allergic disease.

Accreditation/Designation Statement

Med-IQ is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

Med-IQ designates this activity for a maximum of 0.5 *AMA PRA Category 1 Credit*[™]. Physicians should only claim credit commensurate with the extent of their participation in the activity.

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recommendation must conform to generally accepted standards of experimental design, data collection, and analysis.

Med-IQ is not liable for any decision made or action taken in reliance upon the information provided through this activity.

Acknowledgment of Commercial Support

This activity is supported by an educational grant from sanofi-aventis U.S.

Statement of Need

Because allergic rhinitis (AR) has a significant effect on quality of life and may lead to further health complications, healthcare professionals (MDs, NPs, and PAs) must accurately diagnose and appropriately treat affected patients based on their symptoms and level of impairment in daily life. These healthcare professionals have an important role in the diagnosis and management of AR because it is prevalent in both urban/suburban and rural settings and across various regions of the country, and many patients self-medicate. Unfortunately, professional practice gaps exist in the optimal treatment of this condition. Educational activities designed to inform healthcare professionals about advances in the understanding of the pathophysiologic mechanisms of AR and the emergence of newer medications for controlling symptoms, including the relief of nasal congestion, are needed to improve patients' overall health and quality of life.

Educational Design

This activity is available in one format. Participants can earn credit by participating in up to four Webisodes. Each Webisode contains an attestation and evaluation. To receive credit, each participant must read the introductory CME material, view the entire Webisode, and complete the attestation and evaluation.

Hardware/Software Requirements

Operating System

Microsoft® Windows® 98, NT, 2000, XP, ME

Browser/PDF Viewer

Microsoft Internet Explorer 5.5 or 6.0

Adobe® Acrobat® Reader® or Adobe Reader

Media Player

Windows Media® Player 7.1 or higher, OR

RealPlayer® Basic 8 or higher

Connection Type

High bandwidth (300k) is strongly recommended

Low bandwidth (100k) results in less than optimal quality

56k dial-up/modem is not sufficient

Estimated Time to Complete This Activity: 0.5 hour



Dates of Release and Expiration

Original Release Date:
June 3, 2009

Expiration Date for Submitting Test for Credit:
June 3, 2010

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Med-IQ Disclosure

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Faculty Disclosure

The content of this activity has been peer reviewed and has been approved for compliance. The faculty has indicated the following financial relationships, which have been resolved through an established COI resolution process, and has stated that these reported relationships will not have any impact on his ability to give an unbiased presentation.

Michael S. Blaiss

Consulting fees/advisory boards: UCB Pharma, Inc., sanofi-aventis U.S., Merck & Co., Inc.

Fees received for promotional/non-CME activities: AstraZeneca, Teva Pharmaceuticals, Schering-Plough Corporation, GlaxoSmithKline, Alcon, Meda Pharmaceuticals, Inc., Sciele Pharma, Inc., UCB Pharma, Inc., sanofi-aventis U.S., Merck & Co., Inc.

R. Grant Steen has stated no real or apparent conflicts.

Kimberly Diminni, MS, MD, has stated no real or apparent conflicts.

How to Receive CME Credit

Participants must view the CME materials, view the activity, and complete and submit the attestation and evaluation online at www.AllergicRhinitis-IQ.com. For other CME activities, please visit www.Med-IQ.com.

ADA Statement

Med-IQ fully complies with the legal requirements of the ADA and the rules and regulations thereof. If any participant in this educational activity is in need of accommodations, please contact Amy Sison, CME Compliance Manager, at (443) 543-5179.

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Child Webisode 1:

The Risks of Asthma and Other Comorbidities

Marcus's Clinical Concerns

Starting in early spring, 2 months of:

- Nasal congestion
- Postnasal drip
- Cough
- Mild rhinorrhea

Faculty

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Marcus's Clinical Examination

- Chronic nasal obstruction
- Sneezing
- Nasal itch
- Postnasal drip with cough
- Rhinorrhea
- Nasal turbinates pale and swollen

Marcus's Clinical Examination

Excluded diagnoses:

- Upper respiratory infection
- Sinus infection
- Structural anomalies

Marcus's Clinical Examination

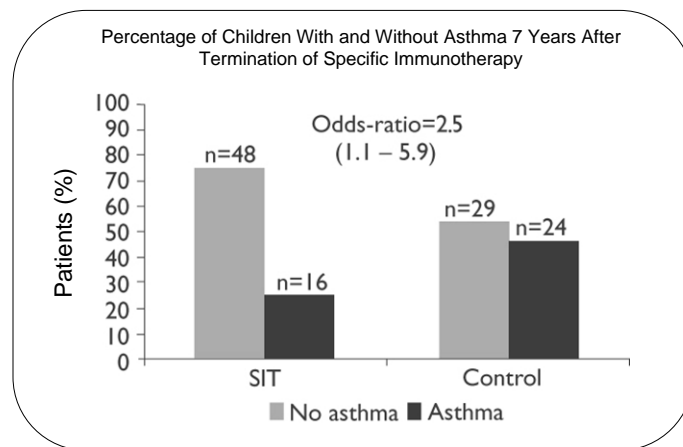
- A slight wheeze is heard
- This is worrisome because AR is often associated with asthma

AR: Some Statistics

- Second leading cause of chronic disease in the United States (US)
- Affects an estimated 35 to 50 million people
 - 50% of those affected have suffered more than 10 years
- Prevalence is increasing
 - Adults: 10% to 30%; children: up to 40%
- 59% of patients consider symptoms to be moderate or severe

Strachan D, et al. *Pediatr Allergy Immunol.* 1997;8:161-76.
Skoner DP. *J Allergy Clin Immunol.* 2001;108:S2-8.

Specific Immunotherapy: Preventive Effect on Seasonal and Perennial Asthma



Jacobsen L, et al. *Allergy.* 2007;62:943-8

Risk Factors for AR

- Higher prevalence of AR among people from higher socioeconomic strata
- Rhinitis is also more common among:
 - Certain minorities
 - People who live near polluted areas
 - People born during pollen season
 - Those with a family history of allergy

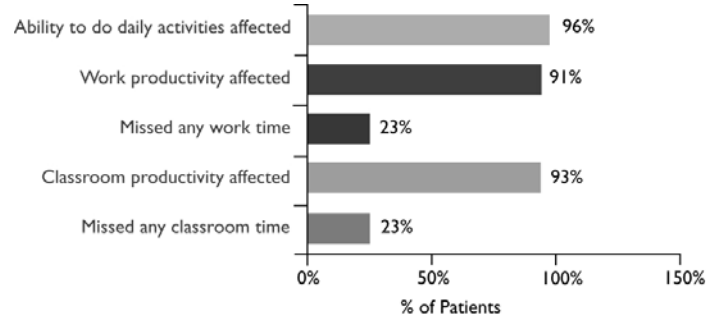
Skoner DP. *J Allergy Clin Immunol*. 2001;108:S2-S8.

Marcus

Age 12

- Series of sinus infections
- School grades falling

Patient-Reported Impairment Due to Allergies



Percent of patients reporting any work or classroom time missed, or any impairment in daily activities, at work, or in the classroom, secondary to allergies.

Tanner LA, et al. *Am J Manag Care.* 1999; 5(Suppl):S235-47

Potential Complications of Uncontrolled AR Symptoms in Children

- Complications of uncontrolled nighttime symptoms
 - Sleep disturbances leading to daytime fatigue and impairments in school performance
- Complications of uncontrolled daytime symptoms
 - Sinusitis or eustachian tube dysfunction
 - Absenteeism
 - Classroom learning difficulties

Lanier BQ. *Clin Pediatr.* 2008;47:435-45.

Impact of AR

AR can impair:

- Sleep
- Psychomotor function
 - Impaired cognitive processing
 - Poor memory
 - Impaired decision-making
- Emotion stability
 - Poor self-image
- Daily vitality

Marple BF, et al. *Otolaryngol Head Neck Surg.* 2007;136:S107-24.

Comorbidities and AR

AR is associated with:

- Increased risk of asthma
- Conjunctivitis
- Otitis media
- Sinusitis
- Eczema
- Food and insect bite allergy
- Migraine
- Depression

Derebery J, et al. *Otolaryngol Head Neck Surg.* 2008;139:198-205.

AR and Asthma

	Control (n=3163)	Atopy, no rhinitis (n=704)	Nonallergic rhinitis (n=1377)	Allergic rhinitis (n=1217)
Women (%)	44.9	44.9	59.9	47.5
Age, year	34.3	33.5	34.9	33.4
Non smokers(%)	41.2	40.1	42.4	50.8
Skin-prick test				
<i>Dermatophagoides pteronyssinus</i>		57.5		46.51
Asthma-like symptoms (%)	17.4	19.2	25.3	26.5

Shaaban R, et al. *Lancet*. 2008;372:1049–57

Incidence of New Cases of Asthma

	Controls	Atopy, no rhinitis	Nonallergic rhinitis	Allergic rhinitis
N	2,909	590	1,392	963
Asthma, n	32	9	42	39
Adjusted RR*(95% CI)	1.00	1.20 (0.56–2.58)	2.36 (1.46–3.81)	3.35 (1.98–5.67)

*Adjustment for country, sex, baseline age, body-mass index, log total IgE, family history of asthma, respiratory infection in childhood, smoking, and FEV1.

Shaaban R, et al. *Lancet*. 2008;372:1049–57

Link Between AR and Asthma

	Inactive M-OR+	Newly Diagnosed M-OR	Chronic M-OR
Parental Asthma	2.0	2.7	3.2
Transient early wheezing	1.6	2.0	1.4
Persistent wheezing	8.9	4.0	14.0
<i>Alternaria</i> skin-test positive 6 years	2.0	.6	3.6
CA-BHR at 6 years	2.4	6.9	4.5

CA-BHR = bronchial hyperresponsiveness to cold air challenge at age 6 years; M-OR = multinomial odds ratio estimated with multinomial logistic regression with all risk factors listed in the table included in the model with the no asthma group as the reference group; models were additionally adjusted for ethnicity, sex, and current smoking at age 22 years.

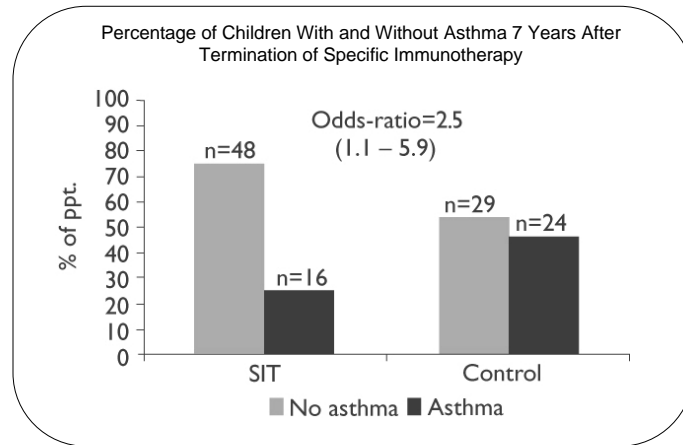
Stern DA, et al. *Lancet*. 2008;372:1058-64

Possible Mechanisms of Interaction Between Upper and Lower Airways

- Loss of protective functions of the nose
 - Cold-induced bronchoconstriction
- Increase in circulating inflammatory cells and mediators after allergen inhalation
- Continuity between upper and lower airways
 - Allergens carried to lower airway by post-nasal drip
 - Immunologic cross-talk between upper and lower airways

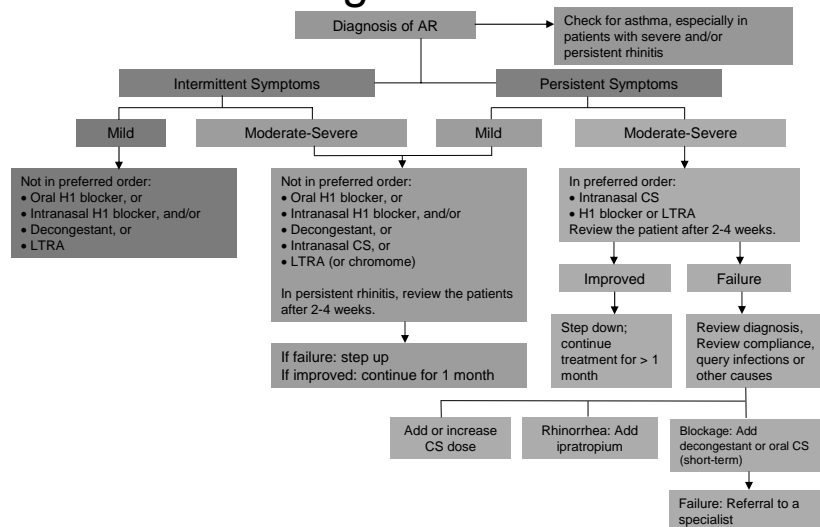
Shaaban R, et al. *Lancet*. 2008;372:1049-57.
Von Mutius E. *Lancet*. 2008;372:1012-4.

Specific Immunotherapy: Preventive Effect on Seasonal and Perennial Asthma



Jacobsen L, et al. *Allergy*. 2007;62:943-8

ARIA Recommended Stepwise Approach to the Management of AR



Bousquet J, et al. *Allergy*. 2008;63:8-160.

Discussion About Treatment Options

- Marcus's mother was concerned about banned "steroids"
- Intranasal corticosteroids are not the same as banned steroids
- Other options besides OTC medication are available

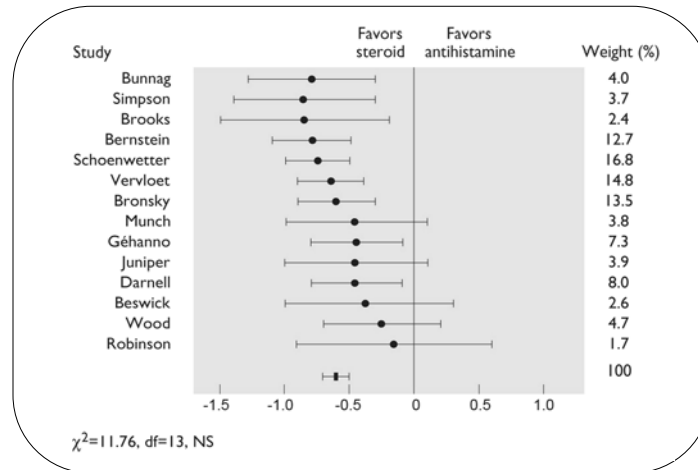
Estimated Symptom Efficacy of AR Pharmacotherapies

	Sneezing	Rhinorrhea	Nasal obstruction	Nasal itch	Eye symptoms
H₁-antihistamines					
oral	++	++	+	+++	++
intranasal	++	++	+	++	0
intraocular	0	0	0	0	+++
Corticosteroids					
intranasal	+++	+++	+++	++	++
Chromones					
intranasal	+	+	+	+	0
intraocular	0	0	0	0	++
Decongestants					
intranasal	0	0	++++	0	0
oral	0	0	+	0	0
Anticholinergics	0	++	0	0	0
Antileukotrienes	0	+	++	0	++

++++ = Very good/excellent efficacy
 +++ = Good efficacy
 ++ = Mild efficacy
 + = Questionable efficacy
 0 = No effect

Bousquet J, et al. *Allergy*. 2002;57:841-55.

Intranasal Corticosteroids Vs. Antihistamines for Nasal Blockage



Weiner JM, et al. *BMJ*. 1998;317:1624-9.

Intranasal Corticosteroids Approved in the US for Use in Children

Drug
Beclomethasone dipropionate
Budesonide
Flunisolide
Fluticasone propionate
Fluticasone furoate
Mometasone furoate
Triamcinolone acetonide aqueous
Ciclesonide

Lanier BQ. *Clin Pediatr*. 2008;47:435-45.

Intranasal Corticosteroids

- Reported side effects include:
 - Nasal burning and stinging
 - Dryness
 - Epistaxis
- These may occur in 5% to 10% of patients
- Seem to be free of growth-stunting effects seen with oral glucocorticoids

Greiner A. *Med Clin N Am.* 2006;90:17-38.

Intranasal Corticosteroids Considerations

- The onset of effect with nasal corticosteroids may be delayed
 - May take up to 12 hours to observe symptom relief
- Consistent use over days and weeks maximizes efficacy
- Proper administration technique is critical for clinical success

Greiner A. *Med Clin N Am.* 2006;90:17-38.

Estimated Symptom Efficacy of AR Pharmacotherapies

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Corticosteroids					
intranasal	+++	+++	+++	++	++
Chromones					
intranasal	+	+	+	+	0
intraocular	0	0	0	0	++
Decongestants					
intranasal	0	0	++++	0	0
oral	0	0	+	0	0
Anticholinergics					
	0	++	0	0	0
Antileukotrienes					
	0	+	++	0	++

++++ = Very good/excellent efficacy
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Bousquet J, et al. *Allergy*. 2002;57:841-55.

Marcus

Age 12

- Recommended a skin prick test to identify allergens
- Strongly allergic to tree and grass pollens

Test your Allergy-IQ.
Would you make the right diagnosis?

Confusing symptoms can make it difficult to diagnose AR. Inattentive first grader Diane was initially treated for a chronic cold. How would you manage differential diagnoses to help keep her alert in the classroom?

View Diane's story today or watch more
Webisodes at
www.AllergicRhinitis-IQ.com

Comments about today's program?

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E-mail info@med-iq.com

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