



## Continuing Medical Education Activity Information

### **Allergic Rhinitis-IQ: Closing the Treatment Gap in Allergic Rhinitis Differential Diagnosis and Quality of Life Issues Child Webisode 2**

#### **Learning Objectives**

Upon completion, participants should be able to:

- Discuss the impact of AR on patients' daily functioning and quality of life
- 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*<sup>™</sup>. Physicians should only claim credit commensurate with the extent of their participation in the activity.

#### **Statement of Evidence-Based Content**

Educational activities that assist physicians in carrying out their professional responsibilities more effectively and efficiently are consistent with the ACCME definition of continuing medical education (CME). As an ACCME-accredited provider of CME, it is the policy of Med-IQ to review and ensure that all the content and any recommendations, treatments, and manners of practicing medicine in CME activities are scientifically based, valid, and relevant to the practice of medicine. Med-IQ is responsible for validating the content of the CME activities it provides. Specifically, (1) all recommendations addressing the medical care of patients must be based on evidence that is scientifically sound and recognized as such within the profession; (2) all scientific research referred to, reported, or used in CME in support or justification of a patient care



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 Webcast, 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 10, 2009



Expiration Date for Submitting Test for Credit:  
June 10, 2010

### **Disclosure Policy**

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### **Med-IQ Disclosure**

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### **Faculty Disclosure**

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*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](http://www.AllergicRhinitis-IQ.com). For other CME activities, please visit [www.Med-IQ.com](http://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 2:

Differential Diagnosis and Quality of Life Issues

## Diane's Clinical Signs/Symptoms

- Nasal congestion
- Conjunctivitis
- Mild rhinorrhea
- Headache
- Nasal itch
- Sneezing
- Inattentive/disruptive
- Irritable

# Initial Clinical Concerns

## **Initial evaluation:**

- ADHD?
- Otitis media with effusion?
- Sinus infection?

## **Initial treatment:**

- Antihistamine
- Antibiotics
- Ear tubes

# Faculty

## **Michael S. Blaiss, MD**

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Division of Immunology  
and Allergy  
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Health Science Center  
Memphis, TN

## Diane's Clinical Concerns

- Recurrent ear effusion
- Nasal congestion
- Headache
- Conjunctivitis
- Nasal itch
- Sneezing

Her headache is causing the most discomfort.

## AR and Asthma

- AR is part of a systemic inflammatory process
- Nasal symptoms are present in up to 80% of the asthmatic population
  - Higher in some subsets (eg, 93% of allergic asthmatic adolescents experience nasal symptoms)
- As many as 22.5% of adults with AR have asthma vs. 7.2% of adults in the general population
- Ratio of asthmatics with AR to asthmatics without AR is higher in children

Leynaert B, et al. *J Allergy Clin Immunol.* 1999;104:301-4.  
Leynaert B, et al. *Allergy Clin Immunol Int: J World Allergy Org.* 1999;11:218-25.

## Comorbidities and AR

AR is associated with:

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

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

## Survey of Adolescent Patients With Rhinoconjunctivitis

- 87% reported being irritable
- 87% reported being unable to concentrate
- 78% were unable to complete schoolwork
- 69% were embarrassed by symptoms
- More than half reported feeling “tense” and “angry” much of the time

Juniper EF, et al. *J Allergy Clin Immunol.* 1994;93:413-23

## First-Generation Antihistamines: Adverse Characteristics

- Readily cross blood-brain barrier, causing sedation
- Poor side effect profile:
  - Sedation: drowsiness, motor impairment
  - Anticholinergic effects: confusion, dry mouth, urine retention
  - CNS effects: cognitive impairment, potentiated by alcohol
- Unfavorable risk/benefit ratio due to side effects

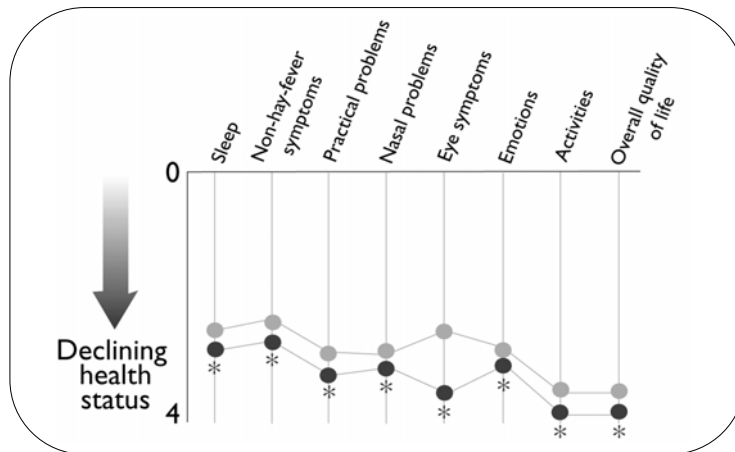
Coleman C, et al. *Cochrane Database Syst Rev.* 2008;3:CD001727.

## Effects of Antihistamines on Quality of Life

- Many first-generation antihistamines are sedating, and this can impair quality of life
  - Decreased performance at work or at school
  - Increased incidence of automobile accidents
- Sedating antihistamines can impair:
  - Sustained attention
  - Cerebral processing
  - Visual function
  - Reaction time

Nolen TM. *Clin Ther.* 1997;19:39-55.

## Rhinoconjunctivitis Quality of Life Questionnaire (RQLQ)



RQLQ health profiles of patients with nasal/ocular symptoms (*blue circles*; n = 312) vs. healthy controls (*yellow circles*; n = 96). Higher score indicates poorer health status.

\* $P < 0.01$  vs. control and placebo

Meltzer EO, et al. *J Allergy Clin Immunol*. 1997;99:S815-9.

## Potential Complications of Uncontrolled AR Symptoms

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

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

## Impact of Untreated AR on Cognitive Function

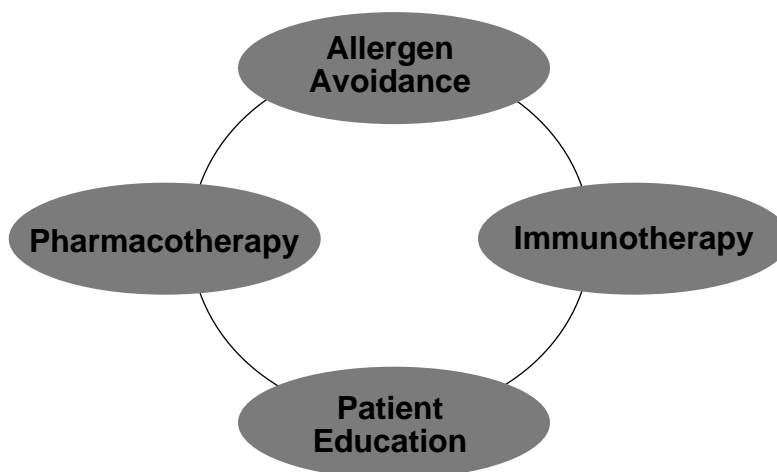
Untreated AR in adults is associated with significant decrements in:

- Sustained attention
- Working memory
- Psychomotor speed
- Reasoning/computation
- Divided attention

Symptomatic, untreated AR subjects experienced significant reductions in measures of vigilance and a broad range of cognitive functions.

Wilken JA, et al. *Ann Allergy Asthma Immunol.* 2002;89:372-80

## Treatment of AR



Bousquet J, et al. *J Allergy Clin Immunol.* 2001;108:S147-334.

## Treatment Concerns

- Discouraged with treatment
- Concerns about future treatment success

## Increasing Adherence to Treatment

- Review its use
- Keep the treatment simple
- Link it with lifestyle
- Put it in writing
- Support it psychosocially
- Minimize the cost

Meltzer EO. *J Allergy Clin Immunol*. 1995;95:1097-110.

## Estimated Symptom Efficacy of AR Pharmacotherapies

	Sneezing	Rhinorrhea	Nasal obstruction	Nasal itch	Eye symptoms
<b>H<sub>1</sub>-antihistamines</b>					
oral	++	++	+	+++	++
intranasal	++	++	+	++	0
intraocular	0	0	0	0	+++
<b>Corticosteroids</b>					
intranasal	+++	+++	+++	++	++
<b>Chromones</b>					
intranasal	+	+	+	+	0
intraocular	0	0	0	0	++
<b>Decongestants</b>					
intranasal	0	0	++++	0	0
oral	0	0	+	0	0
<b>Anticholinergics</b>					
	0	++	0	0	0
<b>Antileukotrienes</b>					
	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: Side Effects

Reported side effects include:

- Nasal dryness
- Dryness
- Epistaxis

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

## Estimated Symptom Efficacy of AR Pharmacotherapies

	Sneezing	Rhinorrhea	Nasal obstruction	Nasal itch	Eye symptoms
<b>H<sub>1</sub>-antihistamines</b>					
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<b>Chromones</b>					
intranasal	+	+	+	+	0
intraocular	0	0	0	0	++
<b>Decongestants</b>					
intranasal	0	0	++++	0	0
oral	0	0	+	0	0
<b>Anticholinergics</b>					
	0	++	0	0	0
<b>Antileukotrienes</b>					
	0	+	++	0	++

++++ = Very good/excellent efficacy  
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 0 = No effect

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

## Keys to Successful Treatments

- Proper evaluation
- Frequent follow-up
- Ensure that prescribed therapy is working for the patient

## Intranasal Corticosteroids

- In terms of systemic side effects, laboratory evaluations of the hypothalamic-pituitary-adrenal axis by multiple means have shown minimal or no suppression
- Osteocalcin, a marker of bone turnover, and eosinophilia were unaffected by a variety of INS when compared with placebo, suggesting that the systemic glucocorticoid burden was insignificant
- Increased level of active agent delivered to target tissue
- Minimize unwanted systemic effects

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

## Intranasal Corticosteroids

- Seem to be free of growth-stunting effects seen with oral glucocorticoids
- Delivery of active agent directly to target tissue minimizes side effects
- Consistent use over days and weeks maximizes efficacy
- Proper administration technique is critical to clinical success
- The onset of effect with nasal corticosteroids may be delayed
  - May take up to 12 hours to observe symptom relief

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

## Identifying Allergens

- Skin prick test
  - This test involves placing a small amount of suspected allergy-causing substances on the skin, usually the forearm, upper arm, or the back
- Radioallergosorbent test (RAST)
  - The RAST tests for the amount of specific IgE antibodies in the blood, which are present if there is an allergic reaction

Wallace DV, et al. J Allergy Clin Immunol. 2008;122:S1-B4

## Diane's Results

- Allergic to house dust mites
- Weak response to pollens

Minimizing exposure to dust mite allergens is important but complex.

## Measures for Reducing House Dust Mite Allergen Exposure

### Essential

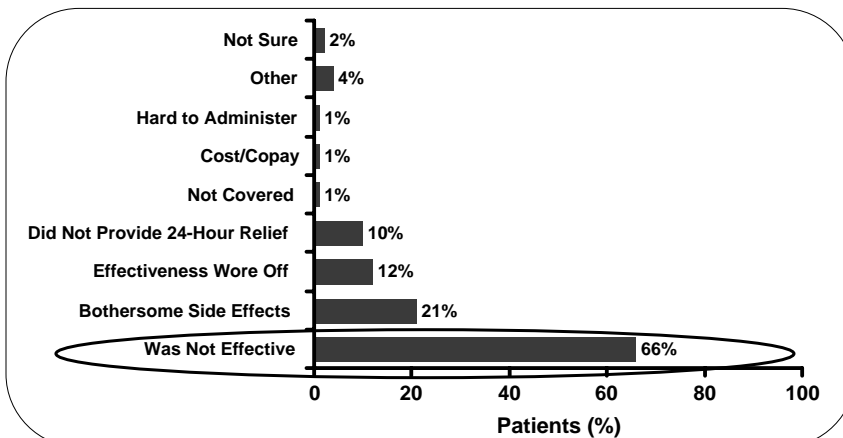
- Encase mattress, pillow, and quilt in impermeable covers
- Wash all bedding weekly in a hot cycle (55-60°C)

### Optimal

- Replace carpets with linoleum or wooden flooring
- Minimize upholstered furniture/replace with leather furniture
- Keep dust-accumulating objects in closed cupboards
- Use a vacuum cleaner with integral HEPA filter and double thickness bags
- Replace curtains with blinds or easily washable (hot cycle) curtains
- Hot wash/freeze soft toys

Bousquet J, et al. *J Allergy Clin Immunol*. 2001;108:S147-334.

## Reasons for Dissatisfaction With Allergy Medication



N = 860

Allergies in America: A Landmark Survey of Nasal Allergy Sufferers.  
Available at [www.mmcpub.com/scsaia/adult.pdf](http://www.mmcpub.com/scsaia/adult.pdf).

## Subcutaneous Specific Immunotherapy

- After a baseline season, 205 children were randomized to 3 years of subcutaneous specific immunotherapy (SIT) or control
- Follow-up 10 years after initiation
- Significant improvements in rhinoconjunctivitis and conjunctival sensitivity
- Children treated with SIT were significantly less likely to develop asthma (odds ratio 2.5 (1.1-5.9))

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

### **Take the Allergy-IQ Challenge: Managing the “self-managing” patient**

Many patients self manage AR symptoms with over-the-counter medications. Lynn’s persistent symptoms include mild sinus congestion and a chronically runny nose. What management strategies would you devise to treat this self managing patient?

View Lynn’s story today or watch more Webisodes at [www.AllergicRhinitis-IQ.com](http://www.AllergicRhinitis-IQ.com).

Comments about today's program?

Call toll-free 866 858 7434

E-mail [info@med-iq.com](mailto:info@med-iq.com)

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