World Allergy Week 2015

AIRWAY ALLERGIES
The human and economic burden

How will you address the challenge of airway allergies?
Welcome to World Allergy Week 2015

Lanny Rosenwasser, MD
President, World Allergy Organization

The World Allergy Organization welcomes all of you to join us and all of the educators, healthcare practitioners, policymakers, parents, patients, advocates and medical professionals around the world to mark the fifth consecutive year of World Allergy Week by organizing and participating in activities that bring attention to the unmet needs of airway allergies.

Motohiro Ebisawa, MD, PhD
Chair, Communications Committee

In keeping with the World Allergy Week tradition of bringing attention to a specific allergic disease each year, the World Allergy Organization has selected Airway Allergies – The Human and Economic Burden, emphasizing the great need for increased awareness, training, and resources that lead to improved safety and quality of life.
World Allergy Week 2015 Chairpersons
Motohiro Ebisawa, MD and Paul Greenberger, MD

WAO Communications Committee 2014-2015

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Epidemiology of Allergic Rhinitis and Asthma

- **Allergic rhinitis**
  - Occurs in up to 20 - 30% of the general population
  - Occurs in greater than 80% of asthmatics

- **Asthma**
  - Occurs in roughly 5 - 15% of the general population
  - Occurs in up to 40% of AR patients

Corren J et al, Allergic rhinitis and asthma: How important is the link? *Journal of Allergy and Clinical Immunology* 1997; 99(2): S781-786. [Full text]
International Study of Asthma & Allergies in Childhood (ISAAC III)

Allergic Rhinoconjunctivitis

Asthma
“United Airway” Concept

Alkis Togias: “Asthma and rhinitis are manifestations of one syndrome, the chronic allergic respiratory syndrome.”

Journal of Allergy and Clinical Immunology 2003
Chronic Allergic Respiratory Syndrome

Specific disease severity

Rhinitis

Asthma

Syndrome severity

Adapted from Togias A, Rhinitis and asthma: Evidence for respiratory system integration. *Journal of Allergy and Clinical Immunology* 2003; 111(6): 1170-1183. [Full text](https://www.jacionline.org/article/S0091-6749(03)00827-3/fulltext)
Allergic Rhinitis and Asthma Have Common Triggers

- **Outdoor allergens**
  - Pollens
  - Molds

- **Indoor allergens**
  - House-dust mites
  - Animal dander
  - Insects (e.g., cockroach allergen)

- **Nonsteroidal Anti-inflammatory Drugs (NSAIDs)** (e.g., aspirin)


Co-morbidities of Allergic Rhinitis

Pawankar, R Sanchez-Borges, M, Bonini M, Kaliner MA. Rhinitis, Conjunctivitis, and Rhinosinusitis
The upper and lower airways are linked

Section 2.1. Allergic Rhinitis, Allergic Conjunctivitis, and Rhinosinusitis
Ruby S. Pawankar, Mario Sánchez-Borges, Sergio Bonini, Michael A. Kaliner

2.1.1 Allergic Rhinitis

Key statements
- Allergic rhinitis (AR) results from an IgE-mediated inflammation of the nasal mucosa.
- The disease currently affects between 10% and 30% of the population.
- Studies indicate that prevalence rates are increasing worldwide.
- The classification proposed in the Allergic Rhinitis and its Impact on Asthma (ARIA) guidelines is useful for the implementation of treatment.
- AR is a risk factor for asthma.
- Other co-morbidities of AR include: sinusitis, nasal polyposis, conjunctivitis, otitis media with effusion, upper respiratory infections, breathing through the mouth, and sleep disorders.
- AR has a significant impact on patients based on the degree of the severity of their symptoms. It has psychological effects, interferes with social interactions, and creates an economic burden not only for the affected subject, but for the family and for the society at large.

Section 2.2. Asthma
Stephen T. Holgate, Giorgio Walter Canonica, Carlos E. Baena-Cagnani, Thomas B. Casale, Myron Zitt, Harold Nelson, Pakit Vichyanond

Key Statements
- Asthma is a life-long chronic inflammatory disorder of the airways, associated with variable structural changes, that affects children and adults of all ages. It is associated with airway hyperresponsiveness and airflow obstruction that is often reversible either spontaneously or with treatment.
- When uncontrolled, asthma can cause death, and can markedly interfere with normal activities, seriously impacting an individual's quality of life.
- Because of under-diagnosis and inadequate treatment, asthma presents a serious public health problem throughout the world, especially in low and middle-income countries.
- Atopy - the genetic predisposition to develop IgE-mediated sensitivity to common aeroallergens - is the strongest identifiable predisposing factor to the development of asthma, especially in children.
- There was a sharp increase in the prevalence, morbidity, and mortality associated with asthma beginning in the 1960’s and 1970’s in the so-called “Westernized” countries of the world.
- The prevalence of asthma in different countries varies widely, but the disparity is narrowing due to rising prevalence in low and middle income countries as they adopt a more Western-type lifestyle. It is plateauing in high income countries.
Most patients (73%) had pre-existing AR when diagnosed with asthma. The most troublesome symptom was wheezing (17%) and coughing (17%).

### Costs of Rhinitis and Asthma: Global Perspective

<table>
<thead>
<tr>
<th>Country</th>
<th>Year costs calculated</th>
<th>Population (2010)</th>
<th>Disease</th>
<th>Direct costs*</th>
<th>Indirect costs**</th>
<th>Total costs estimated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>2007</td>
<td>23 million</td>
<td>All allergies</td>
<td>A$1.1 billion</td>
<td>A$8.3 billion</td>
<td>A$9.4 billion</td>
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<tr>
<td>Finland</td>
<td>2005</td>
<td>5.3 million</td>
<td>All allergies</td>
<td>€468 million</td>
<td>€51.7 million</td>
<td>€519.7 million</td>
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<tr>
<td>South Korea</td>
<td>2005</td>
<td>50 million</td>
<td>Asthma Allergic Rhinitis</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td>US $1.78 billion</td>
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<td></td>
<td></td>
<td>US $266 million</td>
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<td>Israel</td>
<td></td>
<td>7.5 million</td>
<td>Asthma</td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>US $250 million</td>
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<tr>
<td>Mexico</td>
<td>2007</td>
<td>103 million</td>
<td>Asthma</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>US $35 million</td>
</tr>
<tr>
<td>USA</td>
<td>2007</td>
<td>310.2 million</td>
<td>Asthma Allergic Rhinitis</td>
<td>US $14.7 billion</td>
<td>US $5 billion</td>
<td>US $19.7 billion</td>
</tr>
<tr>
<td></td>
<td>2005</td>
<td></td>
<td></td>
<td>US $11.2 billion</td>
<td>Up to US $9.7 billion</td>
<td>Up to $20.9 billion</td>
</tr>
</tbody>
</table>

* Direct costs: Expenditure on medications and health care provision
** Indirect costs: Cost to society from loss of work, social support, loss of taxation income, home modifications, lower productivity at work, etc.

Treating Allergic Rhinitis Decreases Asthma-Related Resource Utilization

61% fewer hospitalizations in patients treated for AR

Patients untreated for allergic rhinitis (n=1357) vs. Patients treated for allergic rhinitis (n=3587)
P<0.01

Retrospective cohort study of costs over a period of up to one year incurred by patients 12 to 60 years of age with both allergic rhinitis and asthma.
A number of studies confirm that co-morbid Allergic Rhinitis in asthmatics is associated with higher total annual medical costs, greater prescribing frequency of asthma-related medications and increased likelihood of hospitalizations and emergency visits.

- Pawankar R, Canonica GW, Holgate ST, Lockey RF. M. Blaiss. WAO White Book on Allergy (World Allergy Organization, 2013)
Concluding Remarks

- Concomitant rhinitis and asthma increases morbidity, worsens quality of life, and increases socio-economic costs, in a significant way.

- The presence and severity of allergic rhinitis should be assessed in every patient with asthma.

- Patients with rhinitis should be evaluated for asthma.

- **Adequate management of both asthma and rhinitis is essential to achieve optimal disease control.**

- Management is based on patient education, environmental control measures (allergen avoidance etc.), medications and allergen-specific immunotherapy.
To learn more about airway allergies

World Allergy Organization
Resources
http://www.worldallergy.org/airway-allergies

www.worldallergyweek.org

Patient Advocacy:

Allergy and Anaphylaxis Australia
Allergic Rhinitis

European Federation of Allergy and Airways Diseases Patients Associations (EFA)
Allergic Diseases Information
http://www.efanet.org/diseases-allergies/

Asthma Society of Canada
Asthma Information
http://www.anaphylaxis.ca/en/resources/helpful_info.html
Children with Asthma Information
http://www.asthma.ca/global/kids.php

National Asthma Council Australia
Understanding Asthma Resources
http://www.nationalasthma.org.au/understanding-asthma

Asthma Society of Ireland
Basic Asthma Information
http://www.asthma.ie/get-help/learn-about-asthma/asthma-basics/asthma-basics
About the World Allergy Organization

The World Allergy Organization is an international alliance of 95 regional and national allergy, asthma and immunology societies. Through collaboration with its Member Societies WAO provides a wide range of educational and outreach programs, symposia and lectureships to allergists/immunologists around the world and conducts initiatives related to clinical practice, service provision, and physical training in order to better understand and address the challenges facing allergists/immunologists worldwide.

www.worldallergy.org

Upcoming World Allergy Organization Meetings:
Member Societies of the World Allergy Organization

ASIA AND PACIFIC REGION

Allergy & Immunology Society of Sri Lanka
Allergy and Clinical Immunology Society (Singapore)
Allergy and Immunology Society of Thailand
Asia Pacific Association of Allergy, Asthma, and Clinical Immunology
Asia Pacific Association of Pediatric Allergy, Respiratory and Immunology
Australasian Society of Clinical Immunology and Allergy
Azerbaijan Society for Asthma, Allergy and Clinical Immunology
Bangladesh Society of Allergy and Immunology
Chinese Society of Allergology
Hong Kong Institute of Allergy
Indian Academy of Allergy
Indian College of Allergy, Asthma and Clinical Immunology
Indonesian Society of Allergy and Immunology
Japanese Society of Allergology
Korean Academy of Asthma, Allergy and Clinical Immunology
Malaysian Society of Allergy and Immunology
Mongolian Society of Allergology
Taiwan Academy of Pediatric Allergy Asthma Immunology
Vietnam Association of Allergy, Asthma and Clinical Immunology

AFRICA AND MIDDLE EAST REGION

Allergy Society of Kenya
Allergy Society of South Africa
Egyptian Society of Allergy and Clinical Immunology
Egyptian Society of Pediatric Allergy and Immunology
Iranian Society of Asthma and Allergy
Israel Association of Allergy and Clinical Immunology
Jordanian Society for Allergy and Clinical Immunology
Kuwait Society of Allergy & Clinical Immunology
Lebanese Society of Allergy and Immunology
Moroccan Society of Allergology and Clinical Immunology
National Association for Private Algerian Allergists
Serbian Association of Allergologists and Clinical Immunologists
Tunisian Society of Respiratory Diseases and Allergology
Turkish National Society of Allergy and Clinical Immunology
Zimbabwe Allergy Society

LATIN AMERICA REGION

Argentine Association of Allergy and Immunology
Argentine Society of Allergy and Immunology
Brazilian Society of Allergy and Immunology
Chilean Society of Allergy and Immunology
Colombian Allergy, Asthma and Immunology Association
Cuban Society of Allergology
Ecuadorian Society of Allergy, Asthma, and Immunology
Guatemalan Allergy, Asthma, and Clinical Immunology Society
Honduran Society of Allergy and Clinical Immunology

Latin American Society of Allergy and Immunology
Mexican College of Allergy and Clinical Immunology (CMICA)
Mexican College of Pediatricians Specialized in Allergy and Clinical Immunology
Panamanian Association of Allergology and Clinical Immunology
Paraguayan Society of Allergy, Asthma, and Immunology
Peruvian Society of Allergy and Immunology
Philippine Society of Allergy, Asthma and Immunology
Uruguayan Society of Allergology
Venezuelan Society of Allergy, Asthma and Immunology

—continued
Member Societies of the World Allergy Organization

EUROPE REGION
Albanian Society of Allergology and Clinical Immunology
Armenian Association of Immunology and Allergy
Austrian Society of Allergology and Immunology
Belarus Association of Allergology & Clinical Immunology
Belgian Society of Allergy and Clinical Immunology
British Society of Allergy and Clinical Immunology
Bulgarian National Society of Allergology
Commonwealth of Independent States Society of Allergology and Immunology
Croatian Society of Allergology and Clinical Immunology
Czech Society of Allergology and Clinical Immunology
Danish Society for Allergology
Dutch Society of Allergology
European Academy of Allergy and Clinical Immunology (EAACI)
Finnish Society of Allergology and Clinical Immunology
French Society of Allergology and Clinical Immunology
Georgian Association of Allergology and Clinical Immunology
German Society for Allergology and Clinical Immunology
Hellenic Society of Allergology and Clinical Immunology
Hungarian Society of Allergology and Clinical Immunology
Icelandic Society of Allergy and Clinical Immunology
Italian Association of Territorial and Hospital Allergists
Italian Society of Allergology and Clinical Immunology
Latvian Association of Allergists
Moldavian Society of Allergology & Immunology
Norwegian Society of Allergology and Immunopathology
Polish Society of Allergology
Portuguese Society of Allergology and Clinical Immunology
Romanian Society of Allergology and Clinical Immunology
Russian Association of Allergology and Clinical Immunology
Slovenian Association for Allergology & Clinical Immunology
Spanish Society of Allergology and Clinical Immunology
Swedish Society for Allergology
Swiss Society of Allergology and Immunology
Ukrainian Allergists Association
Ukrainian Association of Allergologists and Clinical Immunologists

AFFILIATE ORGANIZATIONS
British Society for Immunology
Global Allergy and Asthma European Network (GA2LEN)
International Association of Asthmology (INTERASMA)
International Primary Care Respiratory Group (IPCRG)
Southern European Allergy Societies (SEAS)

NORTH AMERICA REGION
American Academy of Allergy, Asthma and Immunology
American College of Allergy, Asthma and Immunology
Canadian Society of Allergy and Clinical Immunology
How will you address the unmet needs of airway allergies?

Tell us about your activities for World Allergy Week 2015.

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