SYLLABUS
INSIGHTS FROM THE EPIDEMIOLOGY OF ASTHMA:
POPULATION-BASED APPROACHES TO PREVENTION OF THE DISEASE

Planning committee: A Joint Society for Pediatric and Perinatal Epidemiologic Research (SPER) - American Academy of Pediatrics (AAP) Section on Epidemiology Symposium

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SUPPORT: Funding from Novartis Pharmaceuticals®, SPER, and the American Academy of Pediatrics Section on Epidemiology is available for speakers' travel and hosting costs.

Date & Time: June 22, 2006, *1:30 PM to 5:00 PM*

Brief Description: These presentations are targeted to clinicians and epidemiologists interested in the etiology and prevention of asthma and other atopic diseases. The state-of-the-art talks focus on how population-based surveillance epidemiology studies can be translated into potential clinical interventions and how the findings from clinical studies can both inform and guide population-based and risk factor studies.

Accreditation: This activity has been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education through the joint sponsorship of University of Utah School of Medicine and Society for Pediatrics and Perinatal Epidemiologic Research (SPER) & American Academy of Pediatrics (AAP) Section on Epidemiology. The University of Utah School of Medicine is accredited by the ACCME to provide continuing medical education for physicians.

Designation: The University of Utah School of Medicine designates this educational activity for a maximum of 2.5 AMA PRA Category 1 Credits™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Faculty Disclosure: The University of Utah School of Medicine adheres to ACCME Standards regarding industry support of continuing medical education. Disclosure of faculty and commercial sponsor relationships will be made known at the activity. Speakers are also expected to openly disclose intent to discuss any off-label, experimental, or investigational use of drugs, devices, or equipment in their presentations.

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Responsibility Statement: The University of Utah School of Medicine presents this activity for educational purposes only. Participants are expected to utilize their own expertise and judgment while engaged in the practice of medicine. The content of the presentations is provided by individuals who have been selected because of recognized expertise in the field.

Attendance Records: The University of Utah School of Medicine requires that all participants self-report participation in the CME activity. Certificates of attendance, designating the maximum number of hours of participation, are distributed to each participant after the CME activity.

SPEAKERS AND AGENDA

PART 1: INSIGHTS FROM THE EPIDEMIOLOGY OF ASTHMA
MODERATORS: Michael D. Cabana, MD, MPH; Mary L. Hediger, PhD

1:30-1:45 PM Introduction to the First Half
Michael D. Cabana, MD, University of California, San Francisco, CA

1:45-2:10 PM Hygiene Theory and Allergy and Asthma Prevention
Andrew H. Liu, MD, National Jewish Hospital, Denver, CO

The hygiene hypothesis suggests that the increase in allergic diseases such as asthma may be due to reduced exposure to infectious stimuli. For example, in developing countries where parasitic infection is more common, the prevalence of asthma is much lower than in industrialized countries. This presentation will focus on the epidemiologic evidence behind the hygiene hypothesis.

2:10-2:35 PM Maternal Stress and the Development of Asthma
Rosalind J. Wright, MD, Brigham & Women's Hospital, Harvard Medical School, Boston, MA

It is well known that psychological stress may disrupt biological systems, and it has been suggested that maternal stress during pregnancy and early infancy may affect the hypothalamic-pituitary-adrenal (HPA) axis and affect infant lung development. This presentation will focus on evidence regarding the role of maternal stress in the development of asthma in children.

2:35-3:00 PM Gene-Environment Interactions and the Development of Asthma
Fernando D. Martinez, MD, University of Arizona, Tucson, AZ

The development or expression of asthma may be due to a combination of genetic background, environmental exposures and the timing of such exposures. This presentation will focus on recent epidemiologic evidence regarding the combination of these three factors in the development of asthma.

PART 2: INTERVENTIONS TO PREVENT ASTHMA BASED ON THE EPIDEMIOLOGIC EVIDENCE
MODERATORS: T. Michael O'Shea, MD; Mary L. Hediger, PhD

3:30-3:40 PM Introduction to the Second Half
T. Michael O'Shea, MD, Wake Forest University School of Medicine, Winston-Salem, NC

3:40-4:00 PM Trial of Infant Probiotic Supplementation (TIPS) to Prevent Asthma
Michael D. Cabana, MD, University of California, San Francisco, CA

Probiotics are bacteria used for their ability to stabilize intestinal flora and prevent disease. Based on the hygiene hypothesis, it may be possible to use probiotics in infancy to decrease the likelihood for the development of asthma. This presentation will discuss the theory behind the use of probiotics, and the subsequent design of the TIPS study.

4:00-4:20 PM Does Breastfeeding Help Prevent Asthma and Allergy? Evidence from a Randomized Trial in Belarus
Michael S. Kramer, MD, McGill University, Montréal, Québec, Canada

The evidence that breastfeeding reduces the risk of subsequent asthma and allergy is not only mixed, but contradictory. This presentation will summarize results bearing on these outcomes from a 6.5-year follow-up of nearly 14,000 Belarussian children participating in a cluster-randomized trial of a breastfeeding promotion intervention.

4:20-4:40 PM Viral Respiratory Infections and the Development of Asthma
Robert F. Lemanske, Jr., MD, University of Wisconsin, Madison, WI

Immune response aberrations to lower respiratory tract infections, such as respiratory syncytial virus (RSV), at a critical time-period in the development of the immune system may be related to the development of asthma. This presentation will focus on recent efforts to determine and define the importance of these factors in relation to the development of asthma.

4:40-5:00 PM Formal Discussion

Learning Objectives:

Upon completion of this activity, participants should be able to:

- Critique the scientific basis for the hygiene theory.
- Explain how immune modulation by naturally occurring microbial exposures might prevent the development of asthma
- Describe the fundamental health determinants of healthful or harmful outcomes from microbial exposures: timing, dosage, co-exposures, and genetic variation affecting response to exposures
- Describe the influence of maternal stress on neuroimmunomodulation in early childhood
- Explain data from epidemiologic studies linking maternal stress to development of asthma phenotypes
- Describe the effects on asthma risk, of *in utero* and early childhood influences
- Describe the results of a randomized trial of breastfeeding promotion on the prevalence of asthma
- Describe the rationale for testing probiotics as an intervention to lower the risk of asthma in populations
- Describe the importance of rhinovirus infection to infantile wheezing
- Describe the relationship of cytokine dysregulation to virus-induced wheezing

Speaker and Planning Committee Disclosure Summary
Insights from the Epidemiology of Asthma:
Population-based Approaches to Prevention of the Disease

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Speaker(s) Name or Planner(s) Name	Speaker (S) or Planner (P)	Grants or Research Support	Consultant	Stock Shareholder (directly purchased)	Honorarium	Other Financial or Material Support	Discussion of Off-Label Uses for Pharmaceutical & Medical Device Products
Joseph B. Stanford, MD, MSPH	P	No	No	No	No	No	No
Michael D. Cabana, MD	S, P	No	No	No	Novartis	No	No
Michael O'Shea, MD	S, P	No	No	No	No	No	No
Mary L. Hediger, PhD	P	No	No	No	No	No	No
Anna Maria Siega-Riz, PhD	P	No	No	No	No	No	No
Lucinda England, MD	P	No	No	No	No	No	No
Andrew H. Liu, MD	S	No	No	No	Novartis	No	No
Rosalind J. Wright, MD	S	No	No	No	Novartis	No	No
Fernando D. Martinez, MD	S	No	Genentech Merck Pfizer	No	Genentech Merck Pfizer Novartis	No	No
Michael S. Kramer, MD	S	No	No	No	Novartis	No	No
Robert F. Lemanske, MD	S	No	Astra Zeneca GSK Aventis	No	Astra Zeneca GSK Merck Novartis	No	No