

Connecting Environmental Exposures to Chronic Inflammation and Diseases

Date: February 28, 2012
Time: 12:00 – 1:30 p.m. ET

Please register at <http://bit.ly/wS58ZT>
(registration required)

Description: Increasing evidence suggests that environmental exposures are a cause or contributing factor to chronic inflammation leading to a wide variety of diseases and conditions. Heart disease, asthma, obesity, Alzheimer's, arthritis, cancer and other conditions may all be related to or even caused by chronic inflammation. This webinar will feature three presentations:

"Inflammation 101: How is the Immune System Involved in Inflammation?" – Michael Humble, Ph.D.

The immune system is a complex system of cells, organs, and tissues that protects us from diseases caused by bacteria, viruses, allergens, infected cells and toxins. Inflammation, a protective action of the immune system, is a complex biological response of vascular tissues to harmful stimuli, such as pathogens, damaged cells, or irritants. Inflammation represents a body's attempt to remove the injurious stimuli and to initiate the healing process. Inflammatory responses that are excessive or prolonged can have health implications.



"Air pollution Morbidity: Confounding effects of chronic inflammation" – Sri Nadadur, Ph.D.

Air Pollution is a universal phenomenon of human health concern and is a complex mixture of diverse chemicals, particulates and gaseous components from numerous sources. The majority of air pollution comes from the combustion of fossil fuels in power plants and vehicles; however, burning wood, biomass, agricultural wastes, and incineration contribute to the mix. Historically air pollution was associated with respiratory or pulmonary health outcomes. Recent epidemiological studies indicate associations between air pollution and effects on developmental, reproductive and neuronal systems, increased incidence of diabetes, respiratory infections in children, preterm birth and birth defects. This presentation will provide an overview on potential confounding interactions between the inflammatory state associated with disease and the influence of air pollution on exacerbating diseases and their role in air pollution morbidity.



"Inflammation and Patterns of Chronic Disease" – Rodney Dietert, Ph.D.

Chronic diseases, including diabetes and cardiovascular, autoimmune, allergic, and inflammatory diseases, are the leading cause of deaths worldwide. Additionally, they exact a massive economic toll. The World Economics Council and the Harvard School of Public Health has estimated that the cost of chronic diseases is expected to reach a staggering 48% of global gross domestic product by the year 2030. Most people who are diagnosed with an initial chronic disease or condition are at increased risk to develop additional chronic diseases as they age. Increasingly, misregulated inflammation resulting from immune dysfunction is seen as the underlying "cause" of many, if not most, chronic diseases. This presentation will discuss: 1) early-life vulnerability for the risk of later-life chronic disease, 2) the role of environmental factors (environmental chemicals, drugs, diet, infections) in promoting immunotoxicity and chronic disease, 3) the existence of patterns of inflammation-based chronic diseases, and 4) the need for a different approach to safety testing and treatment to reduce the prevalence of chronic diseases.



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PEPH Webinar Series

The Partnerships for Environmental Public Health (PEPH) Program established the PEPH Webinar series to promote interactions among PEPH grantees and to increase awareness of common issues and approaches. The webinars facilitate consideration of emerging issues. While the primary audience is grantees within the PEPH network, anyone interested in environmental public health is welcome to register.

Upcoming PEPH Webinars

April 3: [Examining and Communicating the Health Implication of Arsenic in our Food System](#)

April/May: Mapping and Environmental Public Health: Visualizing Health Disparities and the Effects of Pollution

May: Health Impact Assessments and Community Engagement

June: Science-based Decision Making

July: Hydraulic Fracturing

If you have any questions about this webinar or future webinars please contact Justin Crane (cranej2@niehs.nih.gov, 919-794-4702).

Individuals with disabilities who need accommodation to participate in this event should contact Justin Crane at 919-794-4702 or cranej2@niehs.nih.gov. TTY users should contact the Federal TTY Relay Service at 800-877-8339. Requests should be made at least 5 business days in advance of the event.