Arsonic and Children’s Health

Co-Chairs: Aaron Barchowsky, University of Pittsburgh, and Brenna Flannery, US FDA CFSAN

Overview

The Society of Toxicology in conjunction with the US FDA Center for Food Safety and Applied Nutrition (CFSAN) have partnered to provide this colloquia series. The series presents scientific information that is high-quality, cutting-edge, future-oriented toxicological science to provide a well-grounded foundation to inform the work of US FDA employees. These webcasts are open to the public at no charge. These events are not a public forum for discussion of toxicology regulatory issues.

Arsenic is a naturally occurring element found in low concentrations in foods worldwide, including those commonly consumed by young children and pregnant women. Because arsenic occurs naturally, it is not possible to completely remove it from the food supply, which results in arsenic exposure. Arsenic exposure in-utero and/or in childhood is associated with harmful effects including adverse birth outcomes, developmental delay, decreased cognitive function, impaired lung function, perturbations in the immune and cardiovascular systems and leaves children at greater risk for future adult diseases. Therefore, it is essential for children’s health to understand the impact of arsenic exposure on child development. This colloquium will present the latest science in the area of arsenic toxicity and children’s development from both toxicology and epidemiology perspectives with specific focus on developmental arsenic exposure and the role of nutrition in arsenic toxicity. This colloquium will also explore the framework of ongoing risk assessments related to arsenic exposure and children’s health outcomes and discuss efforts related to arsenic mitigation in food to reduce children’s arsenic exposure.
### Schedule (All times are Eastern US, UTC -5)

<table>
<thead>
<tr>
<th>Time</th>
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| 9:00 AM–9:15 AM | Welcome and Overview  
Conrad Choiniere, PhD, Office of Analytics and Outreach Office  
Director, US FDA, CFSAN, College Park, MD |
| 9:15 AM–9:20 AM | Speaker Introductions  
Aaron Barchowsky PhD, University of Pittsburgh, Pittsburgh, PA |
| 9:20 AM–10:00 AM | Current Understanding of Mechanisms Underlying Arsenic-Induced  
Developmental Toxicity  
Rebecca Fry, PhD, University of North Carolina, Chapel Hill, NC |
| 10:00 AM–10:40 AM | Nutritional Manipulation of One-Carbon Metabolism: Effects on  
Arsenic Methylation and Toxicity  
Mary Gamble, PhD, Columbia University, New York, NY |
| 10:40 AM–10:50 AM | Break |
| 10:50 AM–11:30 AM | Systematic Review Framework and Dose-Response Methods for  
Identifying Reference Doses for Inorganic Arsenic  
Alexandra Larsen, PhD, US Environmental Protection Agency,  
Research Triangle Park, NC |
| 11:30 AM–12:10 PM | Arsenic Mitigation in Foods and Ingredients  
Cheryl Callen, MS, Nestle USA, Arlington, VA |
| 12:10 PM–1:00 PM | Summary: Brenna Flannery, PhD, US FDA, College Park, MD  
Roundtable Discussion  
Moderators: Co-Chairs  
Discussion: All speakers  
Additional Panelist: Jeffrey Gift, PhD, US EPA, Research Triangle  
Park, NC |