

Workshop #4: Pediatric Toxicology Part I: From Bottle to Backpack – Introduction to Pediatric Toxicology

Date: Monday, October 30

Time: 8:00 AM – 12:00 PM

Cost:

MEMBER RATES		
Early Bird Registration June 1 – Aug 31 \$150	Late Registration Begins Sept 1 \$175	On-site Registration Begins October 11 \$200
NON – MEMBER AND DAILY RATES		
Early Bird Registration June 1 – Aug 31 \$200	Late Registration Begins Sept 1 \$225	On-site Registration Begins October 11 \$250

Chairs

Jennifer L. Swatek, MS, D-ABFT-FT
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Abstract

In forensic toxicology, the pediatric population presents its own set of unique challenges. This population, particularly those less than school-age, requires special guidance for interpretation as the pharmacokinetic capabilities and body compositions (i.e., muscle mass, water content, etc.) of children differ from those of adults. Interpretation is further complicated by a general lack of published studies and established drug concentrations for the pediatric age range. Often, when a drug is discovered in a young child, extra scrutiny is given to the investigation. In cases involving a neonate, infant, or toddler, there is potential to utilize matrices that may not be available in other populations (e.g., umbilical cord, meconium, and breast milk). Testing these alternate matrices can be useful in cases with toxicologically significant findings, especially when trying to determine the child’s route and/or duration of exposure.

This workshop will introduce the audience to the topic of pediatric toxicology by exploring both exposure/antemortem and postmortem scenarios. The session will start with a general overview of the challenges faced when evaluating pediatric casework followed by an introduction to alternate pediatric matrices. A special focus will be paid to the transfer of drugs into breast milk and the corresponding exposure risks to the babies who consume it. An additional talk from an affiliate with the Rocky

Mountain Poison Control Center (PCC) will shed light on recent pediatric exposure trends reported to PCCs. This public health perspective will educate the audience on the role of PCCs in toxicology while also providing insight into analytes of interest that may not necessarily lead to lethal outcomes or be part of routine toxicology casework. Finally, the role of the pathologist and the importance of an autopsy and complete investigation will be examined, and case examples will be provided.

Learning Objectives

1. Introduce the audience to the field of pediatric toxicology and the challenges and considerations that come with it.
2. Discuss alternate pediatric matrices and how drugs can transfer to these matrices, including breast milk, umbilical cord, and meconium.
3. Provide trends and case examples of common drugs seen in pediatric casework, particularly those younger than school-aged, from the perspective of toxicologists, pathologists, and public health representatives.

Faculty

James Caruso, MD
Division Director
Chief Medical Examiner/Coroner
Denver Office of the Medical Examiner

Emily Dennison, MD
Assistant Medical Examiner
Forensic Medical Management Services

Thomas Hale, PhD, RPh
Distinguished Professor of Pediatrics
Texas Tech University School of Medicine
InfantRisk Center

Laurie Halmo, MD, FAACP
Assistant Professor of Pediatrics
University of Colorado School of Medicine
Faculty, Rocky Mountain Poison & Drug Safety

Robert Middleberg, PhD, F-ABFT, D-ABCC(TC)
Laboratory Director
NMS Labs, Inc.

Kari Midthun, PhD, F-ABFT
Forensic Toxicologist
NMS Labs, Inc.

Audience Knowledge Level

Basic - suitable for individuals new to the field, requires little prior knowledge to the subject matter

Workshop Agenda

Time	Topic	Speaker
8:00 – 8:05 am	Welcome & Agenda	Jennifer Swatek
8:05 – 8:35 am	Introduction to Pediatric Toxicology & Exposure	Robert Middleberg
8:35 – 9:05 am	Alternate Matrices – Umbilical Cord, Meconium, & Hair	Kari Midthun
9:05 – 9:50 am	General Transfer of Drug to Human Milk & Risks	Thomas Hale
9:50 – 10:00 am	Question & Answer Session	All
10:00 – 10:30 am	Break	
10:30 – 11:10 am	Overall Trends of Calls to Poison Control Centers in Young Children	Laurie Halmo
11:10 – 11:50 am	The Autopsy/Case Studies	Emily Dennison
11:50 am – 12:00 pm	Question & Answer Session	All