



### **K49 Postmortem Pediatric Toxicology**

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After attending this presentation, attendees will gain an appreciation for the challenges unique to toxicological findings in postmortem pediatric cases. Attendees will learn interpretive guidelines for pediatric cases involving forensic toxicology in both a general and case-specific sense.

This presentation will impact the forensic science community by further delineating the interpretive aspects of toxicological findings in the pediatric population.

In this 15<sup>th</sup> Annual Special Session within the Toxicology section, pediatric cases involving toxicological findings are discussed. As a relative dearth exists of interpretive information involving toxicological findings in the pediatric population, this session is a forum to help elucidate and clarify such issues. The format is a short case presentation including pharmacokinetic data and other relevant ancillary information followed by audience participation to provide interpretive clarity around the case-specific impact of the toxicological findings. This session, attended by various sections of the Academy, allows for various perspectives of case issues that lead to integrative consensus, or differing opinions, as to cause of death in children.

Gregory Davis, MD, will be presenting a case involving the death of a 16-year-old who purchased, via the internet, a substance called "Blue Nitro." The active ingredient in this concoction was gamma-hydroxybutyric acid (GHB). This substance, originally developed as a potential anesthetic agent and whose abuse for everything from weight loss to sedation to androgenic properties, is potentially lethal. It is a challenge analytically as it is not part of most routine toxicological screens. Interpretive issues include consideration of postmortem formation of the substance. Dr. Davis will discuss the role of this substance in the individual's death.

Andrea McCollum, MD, will be speaking to a case of a 7-week-old female who was found expired face down in bed with her mother at home at 11:20 p.m. She had been fed at approximately 4:00 p.m. on February 5, 2013. The previous day, she had been dropped from a waist-level height by her 17-year-old sister. There were no apparent signs of trauma as a result of the fall, according to the mother. Toxicology showed 1.82mg/L diphenhydramine in blood with a qualitative (positive) result for fluconazole. The case will highlight a combination of factors, including the issues of an infant sleeping in the same bed as an adult juxtaposed to the toxicological findings. The use of diphenhydramine in children has been widespread based on its sedative properties and the conception of safety as an over-the-counter substance.

William Anderson, PhD, will discuss a homicidal poisoning case of a child with disulfoton, an organophosphate pesticide. A sibling was also poisoned, but survived. The compound was administered in a flavored drink, thus attempting to hide its potentially offending taste. The case will highlight the clinical, toxicological, analytical, and forensic aspects of this toxicant. It will also stress the need for toxicologists and pathologists to be aware of substances other than drugs.

Sally Aiken, MD, will present a case of an infant that was admitted to a hospital with subdural hemorrhage, thought to be child abuse, but with an unusual presentation. Eventually, the child was put into hospice care, where it was given phenobarbital for sedation. The child died with a very high phenobarbital concentration postmortem.

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### **Pediatric, Postmortem, Toxicology**