



### W13 A Primer on Multidisciplinary Investigations of Pediatric Injuries and Deaths

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**Learning Overview:** Attendees will be able to demonstrate the ability to analyze and evaluate available data in a pediatric death or injury case to formulate a viable hypothesis regarding the actual mechanism of the pathology in question. After attending this presentation, attendees will be better able to differentiate and implement effective investigative techniques from lesser alternatives.

**Impact on the Forensic Science Community:** This workshop will impact the forensic science community by exposing practitioners to an effective multidisciplinary team approach to prospectively work through investigations as they progress to a conclusion.

Pediatric cases are some of the most difficult cases for investigators to work, particularly those involving the injury and/or death of a young child. Multiple intersecting stressors can impact the investigation, as well as the investigator. Medical findings may be equivocal or complicated. Subtle and/or minimal findings pose diagnostic challenges, while physical injuries, especially to vulnerable victims, can be emotionally challenging. Existing medical conditions can add a layer of confusion while excluding possible mimics, or other conditions may prove labor intensive. In addition, parents, families, and communities want answers. Thorough investigations require enough time to ascertain the truth—whatever that might be. All these, and other, aspects tax the limited resources available to the investigator. In cases where the justice system becomes involved, all the myriad elements receive further intense scrutiny.

Multidisciplinary teams have proven popular in providing a retroactive analysis in dealing with such cases, due to their significant successes. Key elements in such cases involve the clinical medical team, forensic pathologist, social workers, advocacy center, law enforcement, legal community, and others. These teams are obviously targeted at deceased individuals; however, there exists no reason why the same concept cannot be applied with equal effort to living victims. Likewise, if applied at the inception of a case moving forward, as the investigation is ongoing, such multidisciplinary collaboration can achieve excellent investigative conclusions.

This workshop will condense a two-day workshop into a one-day overview of how this concept can be applied in practice. All these cases begin with the medical recognition of suspicious child deaths and injuries and, as such, a review of common findings may help in isolating elements that make some deaths “suspicious” or worthy of further scrutiny. Once concerns are raised in a case, the typical investigation escalates from routine to a more intensive and focused search for answers. A large part of attempting to ascertain the truth of events will arise from informal and formal interviews of persons with knowledge about case particulars. A critical element to better understand events is the development of a timeline allowing visualization of potential inclusionary and exclusionary information. Such a process is very similar to the singularly most important diagnostic element in medicine—establishing a patient history based on open-ended, direct questioning of person(s) with direct knowledge about the patient's condition.

Using this investigative model, the technique will then be demonstrated in one of the more challenging and contentious areas of forensic medical practice: pediatric head injuries. Recognizing that there are differing points of view about how such trauma occurs and presents is critical to understand an individual case. Reflex application of dogma can hinder impartial case analysis. As such, an objective overview of present medical knowledge will be mixed with investigative techniques and timeline development to arrive at an investigative endpoint, regardless of whether it tends to inculpate, exculpate, or provide no definite answer.

This workshop is intended to enhance attendees' knowledge of excellent techniques for the multidisciplinary investigation of pediatric injury and/or death, positioning them to better implement objective analysis and appraisal of case data to formulate an overall evaluation for potential subsequent action(s), if needed. Such a strategy would improve patient outcomes by enhancing the final investigative conclusions.

#### Multidisciplinary, Pediatric, Trauma