E5 An Experimental Evaluation of Participant Recall as One Indicator of the Reliability of Infant Death Doll Reenactments

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After attending this presentation, attendees will better understand the limitations of individual recollection of the details of a death scene independent of other factors.

This presentation will impact the forensic science community by providing a data-supported evaluation of this commonly practiced infant death investigation tool.

Doll reenactment is a controversial component of the medicolegal investigation of infant death. Its potential utility to the determination of cause and manner of death is often levied against the emotional burden that it places on the family member who is asked to conduct the reenactment.

This presentation will present the results of an experimental evaluation of a key component of the reenactment process, the recollection of the reenactor. The experiment was designed to eliminate other confounding variables, including the acute stress on, effects of drugs/alcohol on, and/or the truthfulness of the person conducting the reenactment.

An empty room in the Harris County Institute of Forensic Sciences (HCIFS) facility in Houston, TX, was configured for the experiment. A portable crib was placed in the room away from other objects and from surrounding walls. An infant-sized doll was placed in the crib in addition to other items, including blankets, stuffed animals, a baby bottle, and a pacifier. A total of 46 members of HCIFS staff were asked to enter the room and to recover the decedent and bring it to the experiment coordinator. They were told the process should take approximately ten seconds and were not given any other experiment details, including the fact that they were going to be asked to conduct a reenactment. The array and arrangement of items placed in the crib varied for each participant. Photos were taken immediately prior to each recovery and immediately after each reenactment. The experiment participants were divided into two groups -- those who conducted their reenactment approximately 2 hours after their recovery and those who conducted their reenactment approximately 24 hours after their recovery. For the reenactment, the crib was cleared out and all items, including the doll, and items that may not have been in the crib during the recovery were placed in a bin next to the crib. Participants were instructed to enter the room and to place the doll and items into the crib as best as their recollection permitted.

Twenty-six binary variables were evaluated for correctness, including body position (supine/prone), direction of face in relation to the body, nose/mouth covered at recovery, and the presence and location (separately) of various items in the crib, including a bottle, a pacifier, blanket(s), and stuffed animals. There was considerable variation in the accuracy of the variables. Participants were able to accurately recall whether the doll was prone or supine (41 of 46 (21 of 23 for the 2-hour group, 91%, and 18 of 20 for the 24-hour group, 90%)). Other variables were less accurately recalled. Whether the nose/mouth were covered at the time of the recovery was accurately recreated 13 of the 23 times by the 2-hour group (57%) and 10 of the 20 times by the 24-hour group (50%).

The effect of time between recovery and reenactment on the accuracy of the reenactment was evaluated statistically by developing a “correct” reenactment score based on a subset of variables. Responses were scored as “correct” if the reenactor correctly scored the following four variables correctly: body position (prone vs. supine), direction of the face in relation to the body, whether the nose and mouth were covered at recovery, and the location of the doll in the crib (correct quadrant). Sixteen (35%) of the 46 participants achieved a “correct” score using this rubric (11 (69%) at 2 hours and 5 (31%) at 24 hours). The difference approaches statistical significance (Wilcoxon p value 0.07). A logistical regression yielded a 66% probability of a “correct” reenactment at 2 hours verses a 52% probability at 24 hours. These results indicate that after 24 hours, a person who is not subjected to the stressors and distractions that are associated with finding an infant unresponsive has a roughly 50% chance at correctly reenacting the core components of an infant death scene.

Infant Death, Doll Reenactment, Death Scene Investigation

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