



Pathology Biology Section - 2012

G125 Lethal Short Falls Can be Accidental Injuries

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After attending this presentation, attendees will learn that accidental lethal short fall child injuries can be identified and learn the investigative efforts necessary to reach such conclusions.

This presentation will impact the forensic science community by showing how accidental lethal injuries in children will provide reliable scientific knowledge to allow practitioners to competently certify cause and manner of death in children thus preventing inaccurate diagnoses and incarceration of innocent parents.

Background: For many years child advocates have regarded short falls as unbelievable explanations for injuries in young children. They relied on the common experience of parents and caregivers as well as literature describing survivability of short falls (Helfer 1977, Chadwick 1991, Williams 1991, Lyons 1993) to identify lethal injuries with a short fall history as non-accidental.

Report of a series of death investigations (Reiber 1993) identified accidental mechanisms in two of nineteen deaths with history of short falls. Fourteen others were considered homicides and three were undetermined. A contrasting report (Plunkett 2001) used the Consumer Products Safety database described 18 deaths from accidental injuries but having limited description of injury and investigations. The latter report has been thought-provoking but less reliable. Individual case reports continue to provide anecdotal evidence of the existence of lethal accidental short falls.

Methods: Two institutions' experiences were reviewed and identified three cases of child deaths attributed to accidental short falls. First was a recent case from the Eastern Regional Medical Examiner's Office where a 10-month-old male was reported to have fallen backwards at day care onto a concrete floor on the 17th of February but seemed unharmed. He began vomiting on February 22 and was taken to a local medical center, treated for flu and released. He continued to vomit and was taken March 1 and again on March 2, treated and released each time. The child was less active and slept most of March 4th. Put on the kitchen floor to play, he fell forward and hit his head. He was unresponsive when his mother picked him up. Rushed to the hospital, he was found to have a large subdural hemorrhage, retinal hemorrhages, and brain edema. He progressed to brain death on March 6th. The impending death was referred to as a non-accidental injury death. Autopsy revealed a healing skull fracture consistent with the history of injury 17 days earlier. Organization was seen in the subdural membrane. Review of medical records confirmed the parents' description of the sequence of events and supported the conclusion of accidental injury.

The other two cases were taken from the prospective study of 169 child death investigations in Dallas, Texas. One was a 40-month-old female who had an unwitnessed fall from concrete stairs to a conglomerate-surfaced apartment complex patio. After a brief lucid interval, sleeping for two hours, and vomiting she was recognized to be unresponsive; medical attention was unsuccessful. Autopsy revealed a large subdural hemorrhage, brain edema, and retinal hemorrhages. Patterned injuries on her forehead and elbows were consistent with the patio. The second child was a 12-month-old male with a witnessed fall from his standing height on a washing machine to a tile-over-concrete floor. He seemed uninjured for approximately a day but fell from the bed to the floor the next day and was taken to hospital poorly responsive the following day. The child advocate team gave an affidavit describing the injuries as probably due to a fall. The child had bilateral subdural hemorrhage, brain edema, and bilateral posterior retinal hemorrhages. Subsequent autopsy and investigations confirmed the subdural hemorrhage duration and accidental nature of the mechanism of injury.

Conclusion: Three accidental lethal short falls were found in review of medical examiner deaths at two institutions. Thorough law enforcement and autopsy investigation led to correct certification of these deaths, two of which were initially regarded as suspicious.

Infant/Child Death Evaluation, Short Falls, Accidental Injuries in Children