



F49 Superficial Forensic Evidence in a Child Abuse Case

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After attending this presentation, attendees will better understand the collaboration needed between odontology and other forensic disciplines.

This presentation will impact the forensic science community by increasing awareness of odontology's role and interaction with other disciplines.

Head trauma is a frequent occurrence in child abuse. The resultant neuronal body and axonal damage, vascular injuries with bleeding of a variety of types, and obstruction to the flow of spinal fluid may cause an impaired level of consciousness and focal neurological dysfunction as well as increased intracranial pressure. Secondary edema may further increase intracranial pressure. If severe, the elevated pressure may cause bulging of the fontanelles and even separation of cranial bones along suture lines. The degree of initial damage and the development of secondary problems influence prognosis and ultimate outcome may not be known for months.

In addition to head trauma, there may be other injuries including intraocular hemorrhages, bone fractures, and a variety of superficial injuries as well as bite marks. Bite mark evidence may be of use in excluding an assailant. A case of a comatose two-year-old African American female is presented where apparent bite marks to the left chest were confirmed by the confession of the mother who committed the assault.

The mother initially claimed that the marks across the victim's left chest were bite marks made by her three-year-old son, the third person in the room. However, the metric scale clearly showed a three centimeter arch width, which when compared to that of her son, might have refuted her claim.

The mother also claimed that the white mark on the victim's upper right chest was "ringworm" which the medical examiner refuted. Eventually, she admitted that the mark was due to a belt buckle strike during the assault and that she had subsequently been putting skin lotion on it.

Since the mother confessed, bite mark evidence, including dental impressions, were unnecessary, and indeed such evidence is not always considered acceptable. However, all such findings should be noted and might have been useful if assistance in proof of the assailant's identity was required.

With the number of judicial overtures involving bite marks such as those sponsored by The Innocence Project, some states have barred bite mark evidence from their courtrooms. Further, defense attorneys in that organization have scheduled seminars discussing methods for attacking such evidence. The 2009 National Academy of Sciences (NAS) Report raised a level of uncertainty in the legitimacy of bite mark evidence. Nevertheless, the case presented above may be used if not in helping identify the perpetrator at least to exclude the three-year-old in the room and in combination with other superficial evidence, elicit the mother's confession.

Odontology Section of American Academy of Forensic Sciences (AAFS) might consider its role in support and reliance on other AAFS disciplines.

Bitemarks, Child Abuse, Superficial Evidence