F11 The Significance of Expert Disagreement in Bite Mark Casework

Iain A. Pretty, DDS, PhD, Dental Health Unit, 3A Skelton House, Manchester Science Park, Manchester, NF M15 65H, UNITED KINGDOM; and C. Michael Bowers, DDS, JD, Deputy Medical Examiner, Ventura Coroner's Office, 2284 South Victoria Avenue, Suite 1G, Ventura, CA 93003*

After attending this presentation, the attendee will recognize the range of opinions reached by odontologists in actual casework. The amount of disagreement will be assessed in over 50 cases used in criminal cases in the United States and Europe.

This presentation will impact the forensic science community by demonstrating how the reliability of bite mark opinions will be determined in actual casework as opposed to experimental studies of bite mark evidence.

A recently published JFS article titled "Development and Validation of a Human Bite Mark Severity and Significance Scale" proposed a qualitative bite mark index (ratings from 1-6) that can be used to weigh the forensic significance of the physical characteristics of a wide range of skin injuries. The purpose of this paper is to apply this scale to actual bite mark cases generated by prosecutorial investigations in the United States. The sample was taken from 55 bite mark cases reviewed by the primary author in the course of acting as a defense bite mark expert. These cases were independently scaled according to the "Human Bite mark Severity and Significance Scale. Their results were then correlated for inter-examiner reliability using non-weighted Kappa statistics. The mean of their results were then compared to the opinions expressed by the prosecution bite mark experts who participated in the original cases. The preliminary results suggest that the lower forensic value bite marks are considered by some experts to have high forensic significance. Considerations regarding low inter-examiner correlation will be discussed. The rating of bite injuries between examiners of similar experience and training should be, in an objective science, highly correlated. Forensic sciences in which this is not the case risk accusations of subjectivity.

Bite Marks, Expert Reliability, Expert Disagreement

 ** Presenting Author*