



Odontology Section - 2016

G21 Bitemarks — Maybe It Is Rocket Science

Ken F. Cohn, DDS*, Forensic Consultant, 422 Teague Trail, Lady Lake, FL 32159

The goal of this presentation is to promulgate the merits of bitemark evidence in forensic science.

This presentation will impact the forensic science community by providing a forum for bitemark discussion.

Forensic identification sciences, in particular bitemarks, have been the bane of forensic science since the publication of the 2009 National Academy of Sciences (NAS) Report, *Strengthening Forensic Science in the United States: A Path Forward*. Disdained by some in legal and academic communities and accepted by others as viable forensic evidence, the questions of “admissible or not?” and “science or junk?” have arisen.

The 2009 NAS Report delivered a controversial criticism of perceived and/or real shortcomings of much of the forensic sciences. In particular, there were two questions regarding the admissibility of forensic evidence in criminal trials. First, what is “the extent to which a particular forensic discipline is founded on a reliable scientific methodology that gives it the capacity to accurately analyze evidence and report findings.”? Second, what is “the extent to which practitioners in a particular forensic discipline rely on human interpretation that could be tainted by error, the threat of bias, or the absence of sound operational procedures and robust performance standards.”? Is forensic identification science, including bitemark evidence, “normal” science with approaches and techniques like DNA typing with its measureable attributes, sampling of variation in populations, and statistical basis?

Bitemark scrutiny has occurred on many fronts, including “experts” from the media and blogs, errors in judgment and opinions, investigative errors, lack of research, conflicting expert testimony, bias, and misconduct. Basic issues inherent in bitemark analysis and interpretation include: (1) the uniqueness of human dentition has not been scientifically established; (2) the ability of dentition to transfer a unique pattern to human skin; (3) the ability of the skin to maintain that unique pattern; and, (4) the interpretive process is experientially based rather than scientifically based. This rancor exists in the legal community and among forensic odontologists themselves. Some odontologists have opted out of the bitemark business altogether and have even recanted on the validity of the value of bitemark analysis.

Despite the controversy, there are still many in the investigative, legal, judicial, and professional disciplines that argue that bitemark analysis remains a viable tool in the forensic process. This presentation will offer opinions to support that conclusion.

Bitemarks, Evidence, Validity