



## G47 Non-Bitemarks That I Have Known

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**Learning Overview:** The goal of this presentation is to focus on the first step of a three-step process outlined by the American Board of Forensic Odontology (ABFO) with respect to new bitemark guidelines and a bitemark decision tree/algorithm, the first step being whether a patterned injury is in fact a bitemark. Several cases will be presented in which a patterned injury looked to someone to be a bitemark that later was determined to not be a bitemark and the motivation that led some investigators to believe that a pattern injury was a bitemark.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by postulating that if the decision tree proposed by the ABFO is used appropriately, far fewer cases will advance beyond the first step of the suggested guidelines, ultimately preventing costly judicial errors.

The long and winding road of bitemarks began with *Doyle v. the State of Texas* in the 1950s—a bite in cheese<sup>1</sup>. Over the ensuing years, the ability to “match” the teeth of an individual, not to cheese but to a human dermal bitemark was, if not the stated goal, the unstated goal of both bitemark analysis and comparison. It was also considered, as many forensic disciplines were, both straightforward and scientifically valid. It was not scientifically validated—and many think scientifically invalidated. In the years since *Doyle v. the State of Texas*, there have been numerous cases in which bitemark analysis and comparison resulted in convictions of persons that were later overturned. In excess of 30 people, wrongfully convicted of crimes in which bitemark evidence was used, have been re-adjudicated. Finally, bitemark evaluation, analysis, and comparison is only a small part of many forensic odontologists’ case work, with the largest part of most forensic odontologist practices being comprised of the identification of human remains.

In 2018, the American Board of Forensic Odontology published new bitemark guidelines and a bitemark decision tree/algorithm. The goal of this endeavor was to guide the profession with respect to the three-step process by which an investigator first decides whether a patterned injury is a bitemark, second whether a mark that is deemed to be a bitemark possesses evidentiary value sufficient to warrant further investigation, and third, having passed the previous two hurdles, whether a suspect dentition or dentitions can be excluded or not excluded as having produced the bitemark.

This presentation intends to focus only on the first step, since often the question before an investigator or even before the courts is not always “whose bitemark is it?” but “is it a human bitemark at all?” Several cases will be presented in which the first fork in the road was reached (i.e., a patterned injury looked to someone to be a bitemark that later was determined to not be a bitemark). It is postulated that if the decision tree proposed by the ABFO is used appropriately, that far fewer cases will pass the bar of even being a bitemark and certainly for evaluation for evidentiary value sufficient to warrant further investigation; and even fewer will reach the stage of comparison to a suspect. This will be accomplished by examining non-bitemarks that were thought to be bitemarks, the motivation that lead some investigators to believe that a pattern injury is a bitemark, and an assessment of some of the clinical cases in which a pattern of contusions, lacerations, incisions, or abrasions led to someone at the very early stage of an investigation to diagnose a patterned injury as a bitemark.

With the human cost of a wrongful conviction being terrible enough, even from a monetary standpoint of the cost of a jury trial, the post-conviction appellate costs, and monetary awards to those wrongfully convicted, there is a strong argument for applying the 2018 algorithm effectively since it seems prudent to look at a decision-point where at least some of these cases can be filtered from the judicial system.

### Reference(s):

<sup>1</sup>. *Doyle v. the State of Texas*. 329 S.W.2d 286 (1959).

### Bitemark, ABFO, Wrongful Conviction