F37 Bite Wafers for Additional Analysis of Patterned Injury Bitemarks

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After attending the presentation, attendees will understand an additional method to use with patterned injury analysis.

This presentation will impact the forensic science community by giving the investigator of the patterned injury another tool to use to interpret the injury.

In the attempt to better analyze and interpret patterned injuries, in particular bitemarks forensics depended on various methods to aid in the collecting and presentation of data.

The purpose of this presentation is to provide the attendee with additional method to be used. This is not a method intended to be used in place of currently used methods, but rather to be used as an adjunct. Thus, when one is required to present in a court of law, he or she will now have yet an additional display to aid in the explanation to those of the nonscientific community. Further, this method will help the forensic odontologist to interpret the patterned injury bitemark.

Methods: This method uses a standard sheet of aluminum wax which is spray painted with white latex paint. It does not matter if the paint is gloss or flat. What matters is that the paint "blocks out" one side of the wax. Next a sheet of white impression wax is sprayed on one side with contact cement. This side is then adhered to the already dry painted side of the aluminum wax to create a "Bite Wafer." The impression wax is then trimmed and luted to the circumference of the aluminum wax. Once dental models have been made of the suspected biter, the models are then impressed on the impression wax side of the wafer. By impressing a model in the softened wafer, a pattern will occur which will resemble a pattern capable of being made by said subject. The incisal edges and cusp tips will be denoted as darker areas. The layer of paint prevents bleaching or burn through of pressure areas not caused by the dentition.

Similar to fingerprint analysis, this technique compares an image of a bitemark to an image of a possible pattern created by a suspected dentition. This technique does not require any flipping or transposing of images. This is obviously easier for the non-scientificly educated person to understand and trust. Though untrue, people sometimes believe an image has been altered when it is demonstrated to them that transposition has taken place in order to complete the analysis and subsequent demonstration.

As with other similar methods, one to one overlays can be made and simply placed on images of the pattern injury and images of the wafer.

This method is already being used and has been used with success in the courtroom. As stated above, this method is not recommended as a substitution for currently used techniques, but rather as an adjunct. This technique allows the forensic odontologist yet another tool for use in his/her ability to better interpret and explain a patterned injury bitemark in question.

Bite Wafers, Wafers, Bite Sheets

 ** Presenting Author*