



F28 Bite Mark Analysis From a Police Shooting

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The goal of this presentation is to show and classify bite mark patterns and the interpretation of the marks to produce a profile of the biter. The affects of time, humidity, and temperature on the pattern injuries will be shown with examples.

This presentation will impact the forensic science community by showing through actual cases the affects of alternate light, ambient light, time and temperature enhancement of a bite mark injury as well as other examples of pattern injuries. Profiling of the biter from the bite mark is enhanced by gravity, time, temperature and light.

In Miami-Dade County from January through July of 2009 there were thirteen police shootings with the resultant death of six suspects and the wounding of seven others. There was one officer fatally shot by a suspect. In one of the fatal incidents where a suspect was shot and killed by a police officer the officer was bitten in the process of attempting to arrest the suspect. The suspect was combative and the officer was forced to use deadly force when the suspect attempted to take the officer's weapon.

The bite wound on the officer presented DNA evidence, a profile of the biter, position of the biter, in relation to the officer and produced a permanent injury. The analysis of the bite established the position of the officer and suspect as well as the dental arrangement of the suspect's teeth. These investigative opinions proved to be helpful to the Internal Affairs Committee and validated the officer's account of the incident.

The use of alternate light sources has advantages over conventional ambient light to enhance a pattern injury. There are changes that occur to a pattern injury specifically a bite mark during the healing process and these changes were documented graphically in this case. The theory of obtaining bite mark records as soon as possible on the victim, living or dead, may not always produce the best evidence for evaluation. Refrigeration of a decedent in the morgue cooler for extended time such as 24-48 hours will allow for a pattern injury to become recognizable where it may not have been prior to the refrigeration. The reasons are multiple. If the deceased has been in water the injury or injuries may not be noticeable until the body has dried out. The effects of gravity tend to move blood from normal tissue but not from an injury such as ligature marks, other type pattern injuries or bite marks. The drying effect of low humidity tends to dry the skin surface which enhances the traumatic lesion whether bite mark or other type pattern injury. The effects of this phenomenon, drying and gravity are demonstrated with ligature marks undetected on initial examination but became more apparent after drying and storage in the morgue refrigerator in a case of suicide by hanging.

As a result of this presentation the audience will have had an opportunity to see in actual cases the affects of alternate light, ambient light, time and temperature enhancement of a bite mark injury as well as other examples of pattern injuries. Profiling of the biter from the bite mark is enhanced by gravity, time, temperature and light.

Bite Mark Analysis, Bite Mark Classification, Bite Profile