



### F29 Misdiagnosis of a Bite Mark by an Unqualified Physician

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After attending this presentation, attendees will have learned to rely on their knowledge of dentistry, and training in forensics to determine the accuracy and reliability of diagnosing a pattern injury as a bite mark.

This presentation will impact the forensic science community by stressing the necessity of meeting the Supreme Court *Daubert* decision of 1993 and the ASFO guidelines to fulfill the requirements of a legal bite mark identification.

Two men engaged in a fight on a street in Boston. The precipitating cause was one man's affair with the second man's wife. There were no witnesses at the start of the fight. As the fight ensued, one participant pulled his windbreaker over his head in a defensive move. A crowd gathered and the police arrived.

One participant suffered a through and through tear injury of his left ear. He was transported to the hospital for treatment. Based on what the patient said, the plastic surgeon at the hospital diagnosed the ear injury as a result of a bite by the assailant. The victim underwent a three hour surgery to restore the ear. One hundred and fifty sutures were used. The alleged assailant was arrested and charged with five felony counts which could result in 20 years incarceration. The defendant was a successful businessman. Finances were not an issue but jailtime was abhorrent to him. The defendant hired a prominent defense attorney. However, the defense attorney had no forensic experience. He chose to not question the surgeon's diagnosis despite the defendant's insistence that he did not bite the victim. One year later, the criminal case came to trial. As the trial progressed, the pattern injury became the defining issue. The attorney's secretary had watched a television show involving Dr. Henry Lee and forensic odontology. She suggested to the attorney that he contact a forensic odontologist. The attorney was hesitant, but did so at his client's insistence. The attorney's overture to the dentist started with "you are only a dentist. The prosecution expert is a doctor. He is a famous plastic surgeon. Do you think you can help me in this case?" The dentist agreed to look at the evidence despite the attorney's ringing endorsement. The attorney sent the evidence consisting of several pictures were taken by the Boston Police. None of the pictures had a ruler in them. The police did not take the victim's jacket for evidence. Hence, there were no pictures of the bloody jacket, no DNA samples taken and no amylase test for saliva. The dentist went to Boston and took pictures of the defendant's teeth, study models and occlusal records. After a thorough review of the pictures and the study models, using established forensic investigation procedures and the Lucis computer program, the dentist determined that the pattern injury was not caused by human teeth. He so informed the attorney and was asked to testify as a defense witness. In court the plastic surgeon reiterated his diagnosis of a bite mark injury. Based on questions supplied by the dentist during cross examination, the physician admitted he was not a member of AAFS. He also admitted to his lack of knowledge of the *Daubert* principals and dentistry. Based on his own answers, the plastic surgeon recanted his testimony. He assumed the injury was a bite mark, but used no scientific method to reach his conclusion. The defense presented a forensic odontologist who explained the principals of the *Daubert* decision. He showed pictures he took of the defendant's mouth. He demonstrated the arch form of the defendant's teeth versus the linear pattern of the ear injury. During his testimony, the odontologist testified about the Lucis program, how it can sharpen pictures and distinguish 255 shades of gray. He demonstrated how the program brought up the detail of the pattern injury to the point that it could be determined that the injury was indeed caused by teeth, but not human teeth. The cause of the injury was the teeth from the zipper on the victim's jacket. Due to the testimony of the forensic odontologist and the prosecutor's omissions science triumphed over supposition, the jury took only two hours to find the defendant not guilty on all five charges.

**Daubert, Lucis, Bite Mark**