



F32 Wound Contraction and Older Bite Mark Injuries: Aspects of Interest to Odontologists

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Following this presentation attendees will understand: (a) the process of wound healing, (b) the mechanisms of wound contracture, and (c) the effects of wound contraction on bite mark appearance.

Bite marks are found in some of the most serious crimes investigated within the criminal justice system. Odontologists are often faced with a bite mark, that, for one reason or another, presents several days, weeks or even months after the original injury. There are many reasons for late presentation, sometimes by the victim themselves or often due to the failure of investigators to note the importance of the injury to the subsequent conviction of the suspect. Such late presenting bite marks are most likely found on living victims and are often fibrous in nature as a result of scar tissue formation. It is the purpose of this presentation to describe some of the complications that such bites can present.

In the northeast of England a complaint was made against an individual for assault. The victim of the assault claimed that he had been bitten on the lip by the accused and assaulted with a screwdriver. Some three months after the assault the odontologist was called to examine the injury. Photographs taken at the time of the assault were unsuitable for forensic use because: a) they had no adequate scale, b) they had been taken by the victim's family and were of poor quality, or c) they were taken post-treatment when a large degree of swelling was present due to the administration of local anaesthetic. The bite was located at the junction of the vermilion border of the lower lip. When the odontologist assessed the bite a number of new photographs, including UV shots, were taken. Due to the severe contraction which had occurred the odontologist determined that it would not be possible to compare the bite with a suspect's dentition, but it was possible to determine that: a) the victim could not have been responsible for the bite pattern seen, and b) that another individual's teeth could have caused the injury. When presented in Court, much was made of the discrepancy between the intercanine distances of the suspect and the alleged bite. The case details will be discussed.

It is important for odontologists to be aware of the nature of wound contracture and that bite marks will change dimension in response to both time and any medical treatment that has been provided. The stages of the healing process, including macro and micro changes will be described, with an emphasis of the effect of anatomical location on the dynamic process of wound healing. The nature of scarring and fibrous reaction will be illustrated and the reactions seen in different racial groups explained. The impact of these changes upon the forensic significance of bite injuries will be discussed. The fact that contracture of over 50% in a matter of days following some medical interventions should be of particular interest to those involved in the assessment of such injuries. The importance of seeking advice from wound healing specialists in individual cases is emphasized.

Bite mark injuries continue to represent important physical evidence. Such injuries must be carefully assessed for their forensic significance before analysis begins. In many cases, it is of value merely to determine that human teeth caused a given injury; and those bite marks that present late will often fall into this category. A thorough understanding of wound healing and the effect that this may have on the dimensions of bite injuries is essential for any operational odontologist.

Odontology, Bite Mark, Wound Healing