

Bite Marks

Human bite marks have played a significant role in criminal investigation in the past. A distinctly registered bite has the potential of linking the assailant and the victim when properly documented and analyzed by a qualified forensic odontologist.

I. General Characteristics

A bite mark is a form of blunt force trauma, commonly seen on the skin of victims of assault, but also found on inanimate objects, e.g., food, leather, metal and soap. Occasionally the victim, as a defensive act, may also bite the assailant. Another rare occurrence to consider is that the bite is self inflicted. If this is a possibility because of the anatomic location, consideration should be given to documenting the dentition of the victim.

Bite marks may be present as bruises, abrasions, indentations or lacerations. Most have an overall ovoid appearance. This ovoid area is generally made up of two or more arcs of rectangular patterns made by the incisal edges of individual teeth. Occasionally, only one arch registers and it is not uncommon to find multiple, superimposed bites. It is the registration of the size, shape, individual position and other specific features which make this patterned evidence unique and capable, in many instances, of linking the perpetrator to the crime.

Since the media in whom the bite marks are registered is often subject to dehydration and subsequent distortion, prompt preservation of this type of evidence is necessary and is best handled, because of the complexity of the procedure, by a qualified expert.

II. Photographic Documentation of Bite Marks

The most common means of documenting the bite patterns is by scaled photography (see Chapter 2, Forensic Photography). Because of the specific requirements to produce workable evidence and because of the infrequency with which agencies encounter this type of evidence, it is recommended that technical assistance be requested from the Imaging Unit of the Laboratory.

Fig. 7-1
Normal color photograph of a bite mark.

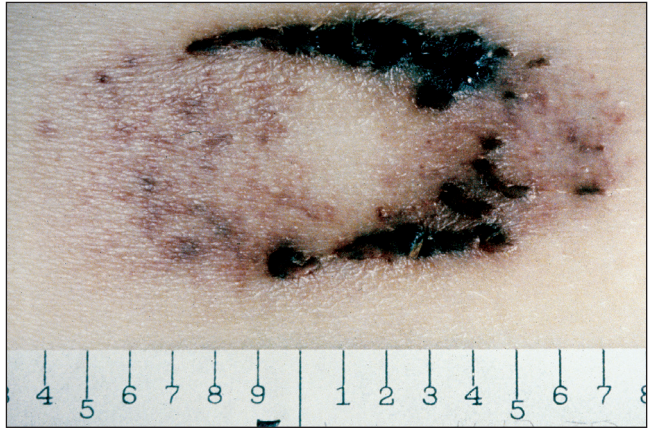


Fig. 7-2
Black and white photograph of the same bite mark with a # 47 blue filter.



III. Evidence Collection

Swab the area surrounding the bite mark to collect potential traces of the assailant's saliva for DNA analysis (see Chapter 5, *DNA Evidence and Standards* and Chapter 6, *Sexual Offenses*). This must be done prior to washing, casting, or other procedures which might remove the saliva or deposit another material which interferes with testing. See Chapter 25, *Autopsy* for further information on collection procedures.

Those specimens exhibiting indentations (three dimensional characteristics) can be further documented by casting the area with an impression material. This, too, can be a difficult procedure for someone not trained in taking fine, detailed impressions. Technical assistance for this procedure is available and referral of a qualified expert can be obtained from the Laboratory. Since the State of Wisconsin does not employ forensic experts in this field, agencies should be aware that there is a nominal fee for this service.

A further step in the preservation of this evidence, if possible, is to have the pathologist conducting the autopsy remove the area of the bite by en bloc dissection and preserve it in formalin. Normal anatomic contour of the tissue is maintained by attaching a custom-made acrylic ring and suturing and fixing the tissue to the ring with cyanoacrylate before it is removed. Technical advice is also available on this technique.

The second phase in the collection of this type of evidence comes into play when the investigation has developed a suspect. It then becomes necessary for a licensed forensic dentist to conduct a complete odontologic work-up including an examination of the jaws, mouth and teeth. This examination is documented by photography, impressions, saliva sample and exemplars in wax of the biting edges of the teeth. To be admissible as evidence, a trained forensic odontologist should do this procedure acting under a signed and witnessed informed consent form obtained from the suspect or under a court order or search warrant.

The success in the gathering, analyzing and courtroom presentation of this type of evidence will be dependent upon the training, skills and experience of the examiner.

