

CASE REPORT

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The Presentation of Bite Mark Evidence Resulting in the Acquittal of a Man After Serving Seven Years in Prison for Murder

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ABSTRACT: On 25 Feb. 1974, a 63-year-old woman was robbed and murdered in her home. A suspect was arrested, convicted, and sentenced to from 25 years to life. A bite mark was found on the woman's body, but was not used as evidence in the trial. The Supreme Court overturned the conviction on a technicality and a second trial was held. The second trial ended in a hung jury; therefore, a third trial was held. Before the third trial, I was enlisted to develop the evidence concerning the bite mark. After three months of evaluation, I informed the prosecution that the suspect did not make the bite mark on the victim. The prosecution sought the advice of the other odontologist with the State Police and he stated the suspect did make the bite mark. Therefore, I testified for the defense. The third trial ended in an acquittal. Bite mark evidence was the main theme of the third trial for both the prosecution and the defense.

KEYWORDS: odontology, bite marks, testimony

On 25 Feb. 1974, a 63-year-old woman was murdered in her home during a burglary. A fingerprint on a credit card stolen during the burglary resulted in the arrest of a 33-year-old man named Alpha Nims. Mr. Nims stated he drove a friend to the woman's home and waited outside. His friend came out of the house and informed Nims that he had stolen some items and they drove off. Mr. Nims admitted to inadvertently assisting in the burglary only, maintaining that the man with him committed the crime.

The autopsy revealed the victim's death to be due to strangulation. The pathologist discovered a human bite mark on the back of the victim's upper right arm and excised it. The excised tissue was placed on a flat surface adjacent to a millimetre rule and photographed (Fig. 1). The prosecutor had the bite mark photograph examined by a forensic odontologist to determine its use as evidence. The odontologist claimed that, because it was excised, too much distortion was created in the tissue section to make a comparison possible.

Alpha Nims was tried and convicted in October 1975 and was sentenced to 25 years to life for murder. An important factor was that Connecticut had no felony murder statute in 1974;

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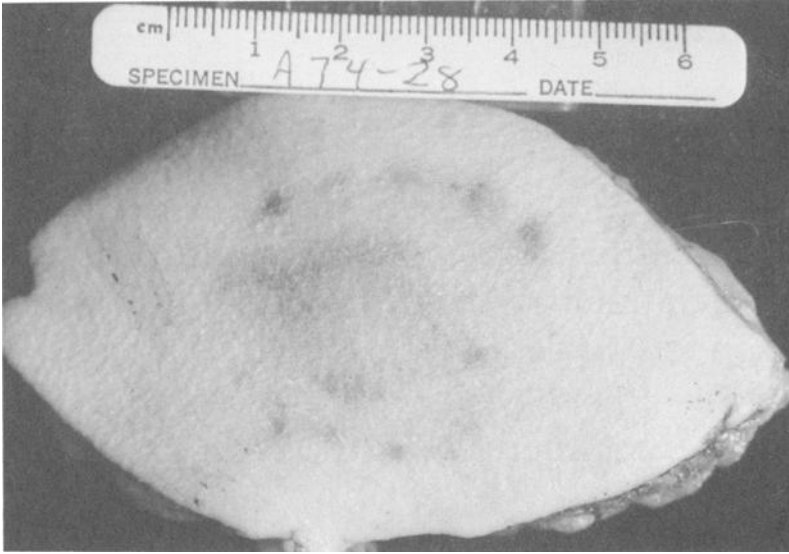


FIG. 1—*Photograph of excised tissue on a flat surface adjacent to a millimetre ruler.*

therefore, even if he had participated in the crime, he could only be charged with burglary, not murder. The State Supreme Court of Connecticut, in 1980, overturned Nims' conviction on a procedural technicality. In December 1980, a second trial ended in a mistrial when the jury could not reach a decision. Bite mark evidence was not used in this trial either.

I was contacted in April 1981 by the State's Attorney's office and asked to evaluate the bite mark photograph for its possible use in the third trial. Alpha Nims' public defender agreed to allow me to collect all the dental data necessary to evaluate the bite mark photograph. In the presence of the public defender, impressions and stone models were made, all the necessary photographs were taken, and several wax bite registrations were recorded. Also, a section of fresh pigskin was laid over an arm-like model of clay into which Mr. Nims made several bites in order to record his bite. The section of pigskin was placed on a flat surface next to a millimetre rule and a one-to-one photograph was taken. It was my intention to perform a wax overlay test and to make bite marks on my own skin with the stone models. The wax overlay tests made from Nims' maxillary model created a definite V-shaped incisal arch form. The right central incisor overlapped the left central incisor enough to create a definite overlap pattern (Fig. 2).

The most important and exhaustive tests were those I performed on my own skin. For a period of three months I imprinted my skin with the stone models of Mr. Nims's teeth. These tests were performed to determine the arch form made by his teeth and to see if any individual teeth created any unusual marks. The most important factors evident were that the maxillary arch form was V-shaped, and that the central incisor marks were always closely aligned.

It took three months to complete my tests and make a determination. I informed the prosecutor of my findings and conclusion. My conclusion was that Alpha Nims did not make the bite

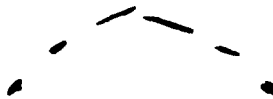


FIG. 2—*Definite overlap pattern created by right central incisor overlapping the left central incisor.*

mark. It was necessary, before making my conclusion, to confirm the dental history of Mr. Nims during his seven years in prison. The prison dental records of Mr. Nims confirmed that his teeth were not altered by dental treatment or by an accident. An examination of his alveolar bone support showed it to be excellent. His teeth were firm and exhibited no mobility. Therefore, I concluded that my tests were valid insofar as any changes that may have occurred to his teeth since the crime.

Note that at this time in my investigation that I requested a dental examination of the man Alpha Nims insisted committed the crime. The prosecution informed me that this would be impossible.

Two months after I submitted my report, the public defender notified me that the forensic odontologist who first examined the bite mark in 1974 would testify for the prosecution. An emotional adjustment on my part was necessary because I had to devote my energies to the defense even though my usual role as a forensic odontologist was with the State's Attorney's office.

The trial was to commence in September 1981. At my request, the public defender engaged the services of another odontologist who concurred with my conclusion that Alpha Nims did not make the bite mark on the victim.

The main theme of the third trial was bite mark testimony. The forensic odontologist for the prosecution testified that Alpha Nims' teeth made the bite mark on the victim and he produced a wax overlay which he stated proved Alpha Nims did bite the victim. In 1974 he could not make this determination from the bite mark photograph, but in 1981 he could. The prosecution introduced as evidence a wax overlay test which was obtained by a bite produced by Alpha Nims' stone dental models (Fig. 3). This is accomplished by pressing a sheet of dental wax over the incisal edges of the maxillary model and another sheet over the incisal edges of the mandibular model so that the incisal edges penetrate the wax sheet. The wax bite is placed on a sheet of white paper, and a red pencil is used to make marks through the openings in the wax made by the incisal edges of the teeth. The result is a series of red marks which can then be superimposed over a negative of the bite mark photograph. If the red marks align themselves with the incisal areas on the negative, a match can be made.

My testimony took approximately one and a half days. The most important part of my testimony centered around a bite mark I made on my own arm with Mr. Nims' maxillary dental model. After I was sworn in, I pressed the incisal edges of Mr. Nims' maxillary dental model as firmly as I could into my arm. The overlapping central incisors produced their peculiar appearance and the incisal edges of the anterior teeth produced a definite V-shaped arch. Periodically during my testimony, I was asked by the public defender to have each juror study the bite mark on my arm. The photograph of the bite mark was placed next to my arm to enable the jury to compare the two arch forms. The skin of my arm at the site of the mark was spread as much as it could be to demonstrate that the overlapping maxillary central incisors still remained close together. Photographs of the bite mark in pigskin were also produced to demonstrate arch form and overlapping incisors.

The wax overlay test that was produced by the prosecution as a match was, in fact, not a match as far as I was concerned. During the testimony by the prosecution's odontologist, dental models of the man who Mr. Nims accused of the murder were introduced as evidence. The public defender asked the judge to permit me to do the wax overlay test on the maxillary model of this man. The judge consented and I performed the overlay test on it and presented it to each individual juror (Fig. 4). It was quite obvious that I had made a match with this second man's



FIG. 3—Wax overlay test obtained by a bite produced by Alpha Nims' stone dental models.



FIG. 4—Wax overlay test on the maxillary model of the man who accused Nims of murder.

dental model. Furthermore, I was able to demonstrate this by placing the incisal edges of the mandibular model of this second man over the marks on the bite mark photographs corresponding to incisal marks. It is interesting to note here that Nims' companion had all his maxillary teeth extracted and a complete upper denture made approximately two years after the first trial. Since we basically set denture teeth over the crest of the alveolar ridge, we therefore produce the same arch form.

The day after my testimony, Alpha Nims was acquitted of murder. He spent seven years in prison and endured three trials before winning his freedom. The judge prevented the public defender from disclosing to the jury that I developed my evidence and came to my conclusion as an advisor to the State's Attorney's office. The jury, therefore, could not be swayed into making a judgement because of this. I think that had I been allowed to examine and study the man Mr. Nims accused of the murder before my conclusions were made to the State's Attorney's office, a third trial might not have been necessary.

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