

# CASE REPORT

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## The Identification of a Murder Victim Using a Comparison of the Postmortem and Antemortem Dental Records

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**REFERENCE:** Rudnick, S. A., "The Identification of a Murder Victim Using a Comparison of the Postmortem and Antemortem Dental Records," *Journal of Forensic Sciences*, JFSCA, Vol. 29, No. 1, Jan. 1984, pp. 349-354.

**ABSTRACT:** Since the murder victim could not positively be identified by fingerprints, facial appearance, or personal effects, dental techniques of identification were requested by the police and carried out at the city morgue. An exam of the deceased incorporated dental X-rays, models of the maxillary and mandibular teeth, and a written and taped description of the dental structures. Comparing the antemortem with the postmortem dental records, a positive identification was confirmed. When other methods of identification have been exhausted, dental techniques can be employed to identify positively an individual and should be regarded as efficacious as fingerprints.

**KEYWORDS:** odontology, human identification, postmortem examinations, dentition

### Case Report

#### *The Crime Scene*

On Friday, 21 Aug. 1981, two bodies were discovered in the back of an abandoned U-Haul® truck located in an alley just north of the Fairlawn Avenue Apartments in Urbana, IL, by the Urbana Police Department. Detective Tim Fitzpatrick, of the Urbana Police Department, heading a team of investigators, completed a thorough investigation of the crime scene, then removed the bodies from the U-Haul vehicle, placed them in separate body bags, and transported them to the Burnham City Hospital Morgue in Champaign, IL, a twin city to Urbana.

#### *The Autopsy*

The next morning, at the Burnham City Hospital Morgue, the hospital's pathologist performed an autopsy on the bodies in question, referring to them as John Doe A and John

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Doe B. John Doe A was a white male, 2 m (6 ft) tall, 113 kg (250 lb), and in his thirties. He was killed by a gunshot wound to the head. John Doe B was a white male, 2 m (6 ft) tall, 86 kg (190 lb) approximately 25 years of age, and also killed by a gunshot wound to the head. At the autopsy, criminalistic officers processed the two bodies for fingerprints.

### *Forensic Odontology at Work*

On 24 Aug. 1981, I was asked to perform a forensic dental examination on the bodies in question to aid in their identification. At 6:30 p.m. that evening I met with criminalistic officers from the state crime laboratory and investigators from the Champaign and Urbana Police Departments, at the Burnham City Hospital Morgue, to conduct the examination. At 7 p.m. a blue body bag, containing the body of John Doe B, was placed upon the examination table. A police photographer first took photographs of the body in question. With the aid of one of the detectives recording my observations, I performed a complete visual inspection of the face and oral cavity. Surgical separation of the mandible was performed to aid in the examination procedure. Using the universal numbering system for the teeth, I recorded the condition of each tooth. The information was written as well as tape recorded.

Following the visual examination, X-rays were taken under my supervision by a radiology technician. At this point I proceeded to have the X-rays developed to determine their quality. Once satisfied with the X-rays, I proceeded to take alginate impressions of John Doe B's maxilla and mandible. Following, I drew the shape of each restoration on a mouth chart. The examination was now complete, and John Doe B was returned to refrigeration. John Doe A was removed at this time from refrigeration and placed upon the examination table. The same sequence of events of examination were performed on John Doe A as previously performed on John Doe B. Examination of John Doe A was completed at approximately midnight.

### *The Investigation*

At this point in time, police investigators had four pieces of evidence to go on: the U-Haul truck, a gold chain necklace found on one of the bodies, fingerprints, and the forensic dental exam.

The investigation led police to the U-Haul home office in Arizona. U-Haul home office officials told police that the last known dealer for the U-Haul truck in question was located in Ypsilante, MI. When police contacted this dealer, they were told the truck was rented with an American Express card. Through the use of the American Express card number, a name and address was obtained for the card holder.

I will now refer to the card holder's name as Beta. It was determined that Beta lived in Boulder, CO. The Boulder County Sheriff's Office was contacted by detectives from the Urbana Police Department and informed of the situation. Detectives from the Urbana Police Department flew to Boulder, and with the aid of deputies from the Boulder County Sheriff's Department proceeded to the last known address given by the American Express Company for Beta. There they met and questioned Beta's wife. She told the police that she recognized the gold neck chain that was found on one of the bodies as that of her husband's, and informed the police that her husband had a Colorado driver's license.

### *The Clues Continue*

The Colorado License Division requires a thumb print for all licensed drivers in Colorado. Detectives from the Urbana Police Department contacted officials from the Colorado License Division to compare the antemortem thumb print of Beta obtained from his Colorado license with the postmortem fingerprints obtained from both bodies at autopsy. It was deter-

mined that the body of John Doe B was probably that of Beta. Positive identification from one thumb print was not considered sufficient. Corroboration would be required.

Beta's wife also informed the police that he (Beta) had left Colorado two weeks before with another man we will call Alpha. Using Alpha's full name, as well as information concerning his height, weight, and race, the computer terminals of the FBI were put into action. Through the use of the FBI computer, it was determined that Alpha had an arrest record in Florida. Florida police officials were contacted and were able to provide a full set of fingerprints for Alpha. The antemortem fingerprints for Alpha were flown by Florida police officials to Urbana, Illinois and compared with the postmortem fingerprints taken at autopsy. A positive identification was made, proving that John Doe A and Alpha were one and the same.

### *The Investigation Continues*

During their stay in Boulder, Colorado, detectives from the Urbana Police Department were able to obtain the name and address of Beta's dentist. The doctor was asked to provide any records he had concerning his patient, Beta. These records were flown to Urbana and brought to my attention.

### *The Science of Comparison*

The antemortem radiographs obtained from Beta's dentist were compared with the postmortem radiographs I took at autopsy. The results of this study revealed the following (applies to John Doe B's data only):

1. The outline of the restorations in the lower left first and second molars viewed in the antemortem X-ray (Fig. 1) correlates with the outline of the restorations of the same teeth viewed in the postmortem X-ray (Fig. 2).
2. The antemortem X-ray of the lower right second bicuspid (Fig. 3) also shows a restoration outline form which compares favorably with the postmortem X-ray of the same tooth (Fig. 4).
3. When viewing the antemortem X-rays (Fig. 3) a relationship between the maxillary right first molar and cuspid is revealed, which is both uncommon and distinctive. The molar and cuspid are in direct contact with one another, with minimal deviation in their axis. The study models taken at the forensic exam show this relationship clearly (Fig. 5).



FIG. 1—Outline of the restorations in the lower left first and second molars viewed in the antemortem X-ray.

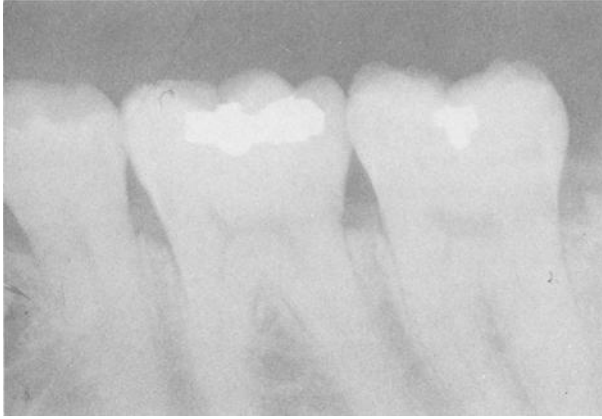


FIG. 2—Restorations in the lower left first and second molars viewed in the postmortem X-ray.

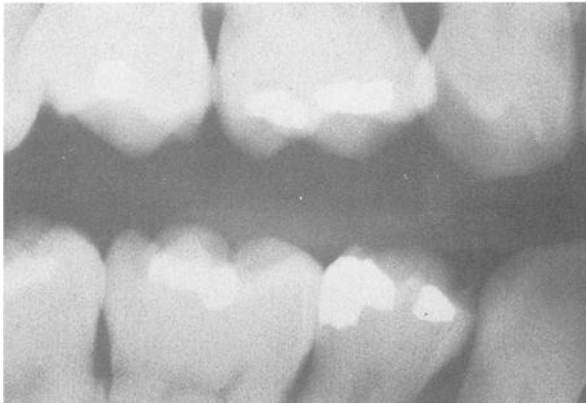


FIG. 3—Antemortem X-ray of the lower right second bicuspid.



FIG. 4—Postmortem X-ray of the lower right second bicuspid.

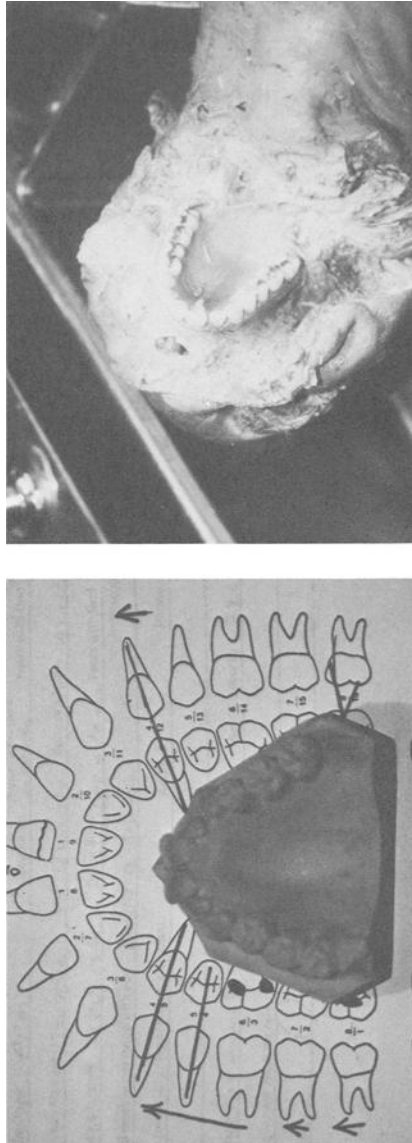


FIG. 5—Study models taken at the forensic exam show the molar and cuspid are in direct contact with one another, with minimal deviation in their axis.

Thus, by comparing the antemortem and postmortem X-rays and utilizing the study models, I was able to prove that John Doe B was Beta.

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