



F11 A Multidisciplinary Approach to a Mass Disaster Victim Identification

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The forensic dentist must be capable and willing to exhaust all investigative avenues and to accept that under certain circumstances a dental identification cannot be ascertained but will, by nature of its statistical narrowing effect, facilitate identification by other means.

The case presented is of one victim of the World Trade Center Disaster. The decedent was recovered from the disaster site on September 12, 2001, one day after the tragedy. The partially decapitated female body was generally intact; however, the only dental remains that were recovered was a fragment of the left mandible, extending from tooth number seventeen to tooth number twenty-seven. The clinical and radiographic examination revealed amalgam and composite restorations on teeth numbers seventeen, eighteen, and nineteen. One of the premolars had been extracted, presumably for orthodontics. The anatomy of the remaining premolar led the investigators to believe that tooth that was removed was number twenty. The space created seemed to have been successfully closed. Teeth numbers twenty-one through twenty-five and tooth number twenty-seven were virgin. Tooth number twenty-six had apparently been traumatically avulsed postmortem.

The initial search through the WinID database presented more than one hundred-fifty possible matches. After eliminating all males from the search, approximately sixty possible matches remained. The painstaking task of comparing each victim's antemortem X-Rays with the decedent's narrowed the search to one highly likely individual. It was determined that more radiographic evidence was needed and the family dentist was contacted to send the original X-Rays, not copies. Also, new X-Rays of the fragment were taken at different angulations. After the gathering of this new radiographic evidence and clearer family films, it was determined that this victim was now excluded from the list of possible matches.

For several months routine searches did not reveal any new possible matches, despite the addition of hundreds of new family records to the database. In early March 2002, family records from foreign countries started arriving on a daily basis. At this time a possible match appeared evident. The WinID comparison odontogram showed a missing tooth number twenty-one instead of number twenty. This was not deemed to be exclusionary. While both diagrams showed identical materials for the restorations, the family records failed to note the surfaces involved. There were no X-Rays at all to refer to. These records came from a foreign country and were difficult to understand. At this juncture the Police were notified to determine if the victim's roommate could lead the investigators to a possible American Dentist. No further information about an American practitioner could be found, however, the police did obtain a comb, hairbrush, and toothbrush for DNA analysis.

The investigators obtained the assistance of a bi-lingual Dental Hygienist who was able to translate the dental records received from the language of the country involved. A representative from the victim's place of employment who was to implement the gathering of family records for the Medical Examiners Office was contacted and obtained new dental charting. No X-Rays were sent and again the new records stated the restorative materials but not the surfaces involved. Contact was then made with the consulate from that country in New York City and the situation was explained asking if their State Department could track down any available radiographs. After several more weeks of waiting for records it was disappointing to learn that no X-Rays or additional information would be forthcoming.

Recognizing that a dental identification based on such sparse information would be impossible, the investigators notified the Medical Examiner's Office of a "Probable Match" and requested that a DNA analysis be conducted. After several weeks the Dental Unit was notified of an identification based on DNA.

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