



F10 Single Tooth Identification: Three Case Studies

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After attending this presentation, attendees will understand the value of a single tooth in the process of dental identification as well as in the process of exclusion during dental identification.

This presentation will impact the forensic science community by a direct effect upon those who participate in the dental identification process. Persons who are acutely interested in the identification of unknown missing persons also may be members of the law enforcement community or relatives of a missing person.

Dental identification is usually based upon multiple loci of restorations present in the teeth of the dental arch. It is accompanied by radiographic and photographic records and a comparison of the antemortem and postmortem records of a similar nature. Often these antemortem records are absent, illegible, or ignored in the process of identification. Even the postmortem records may not be created in a proper manner and result in the same inadequacy. The process as well as the material are important, but on occasion the record comes down to only one tooth. In addition, there may be an inadequate application of basic principles which may confound the identification.

Three cases are presented which demonstrate various degrees of difficulty when presented with different situations when only a single tooth is involved. In the first case, a parent unknowingly gave false information regarding the condition of a single anterior tooth which led to the mistaken identity of a person who was not the victim of an automobile accident. Subsequent microscopic examination of that single tooth produced evidence leading to the correct identity of the victim, who was in fact her son.

In the second case, which was involved in the Valujet™ airplane disaster in Miami, there was a fixed population who were aboard the plane. There were a limited number of victims and a fixed number of dental specimens available for identification. In this instance, there was a single tooth which could only be matched with one antemortem record. No other victim, whose records were available, demonstrated a restoration of that size and shape in that same tooth.

In the last case, there was an unfortunate set of circumstances leading to multiple omissions and errors which eventually developed into a single tooth identification. Neglect of cleansing of teeth and replacement of scattered teeth into their proper places contributed to the confusion. In addition, improper placement of radiographic sensors, cone cutting, and neglect to consult with the medical examiner for additional postmortem evidence prevented the identification by traditional forensic odontological methods. Finally, neglecting all other means, the identification was accomplished by the close examination of the antemortem and postmortem records of the pattern of one restoration contained within one single tooth.

It is incumbent upon the forensic odontologist, in the absence of ideal evidence, to pursue the evidence contained even within one single tooth in order to make a positive identification.

Tooth, Odontology, Identification