



G56 Odontology Support for Humanitarian Events

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After attending this presentation, attendees will understand the role of the odontologist in supporting humanitarian events.

This presentation will impact the forensic science community by providing an analysis of the results of postmortem dental examinations for undocumented border crosser deaths in South Texas. The role of the odontologist as a team member with forensic anthropologists will be emphasized.

The traditional role of the odontologist in mass disaster and humanitarian events is to provide identifications of deceased individuals by comparing antemortem and postmortem dental records. In many humanitarian events, such as natural disasters and cases of genocide, standard postmortem dental records can be completed on recovered human remains, but antemortem dental records often either do not exist or are difficult to locate and collect. In spite of impediments to traditional identification methods, the odontologist can provide critical information that will help narrow the search among a group of missing and unidentified individuals or will possibly lead to positive identifications.

Documentation of individual dental traits, age estimation, dental disease status, restorative characteristics, cultural accoutrements, and oral/facial trauma can contribute to building a biological and cultural profile that will help narrow the search for an identity. The odontologist may help provide enough evidence to narrow the search for an identity, exclude a potential match from existing data bases, or complete a positive identification. Additionally, DNA evidence for identification may also be provided by sampling an entire tooth or its pulpal contents. The trained odontologist is the logical choice to select teeth and perform pulp extirpations for DNA analysis.

Cases from Operation Identification (OpID) are used to illustrate the role of the odontologist in work that focuses on identifying undocumented border crosser deaths in the Rio Grande Valley of South Texas. These cases are the complete set of cases examined at one forensic anthropology center (Texas State University). Nearly all cases examined have full or nearly full dentitions. Existing dental treatment in 28% of the cases suggest that dental records may exist. Dental age estimations have been completed for 38% of the cases, with all the cases in good agreement with other anthropology age estimation techniques. Cultural characteristics of anterior restorations have been recorded that contribute to the profile of 14% of the cases. Untreated caries and periodontitis affect the majority of cases in highly variable degrees. Antemortem facial traumas, including fractured nasal structures and other facial bones, have also been recorded.

In conclusion, this analysis of dental data from a group of unidentified remains shows that the odontologist has had an important role in building the biological and cultural profile of sample cases from OpID. All work has been completed with the odontologist being a member of a forensic anthropology team. Even though definitive identifications by dental methods may be few, the detailed dental profile is a positive contribution to the work of the identification team. The dental profiles have helped narrow the search among missing individuals and have excluded potential matches from the National Missing and Unidentified Persons System database. The traditional methods of identification may need to be redefined to include the contributions of methods that refine searches.

Odontology, Humanitarian Identification, Operation Identification