A131 A Multiple Fatality Response to Nine Indigenous Deaths in a Burned House in Pikangikum, Ontario: The Interdisciplinary Approach to Dental Identification

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After attending this presentation, attendees will be informed concerning the approach to dental identification of the Ontario Forensic Pathology Service (OFPS) in the event of a multiple fatality.

This presentation will impact the forensic science community by demonstrating the limits of the use of antemortem dental records for identification. This presentation will also illustrate how a team approach utilizing forensic anthropology from scene to dental assessment ensures that the most information possible is available to the odontologist and is not lost through mishandling by non-experts. In addition, this presentation will disclose how other skills, such as age stratification, can be useful in the final identification of decedents of a multiple fatality.

The OFPS and the Office of the Chief Coroner were engaged to investigate a single house fire in the remote Ojibwe community on the Pikangikum Reserve. A team including a forensic anthropologist, the Ontario Provincial Police, and the Office of the Fire Marshall were dispatched to the isolated community to recover the fire-damaged remains of nine family members, which included six adults and three children of known and differing ages. The decedents were transported to the Provincial mortuary facility for the purposes of conducting postmortem examinations and establishing identifications. The dental identification team consisted of a forensic odontologist and two pathologists' assistants. Upon examination, the remains were noted to have extensive fire-related injuries, were heavily fragmented, and, in some cases, incomplete. The lack of material available for examination posed a challenge to dental identification despite having a closed population of individuals to identify in a multiple fatality incident.

The dental identification team was provided with antemortem records for the six adults and two of the children by the local community nursing station. The records received were in varying states of completeness and quality. Typically, these remote areas are served by a series of itinerant dentists that leave after a short time; thus, continuity of antemortem dental records can be problematic. Further, as it is rare for these records to be audited, there is little impetus to maintain them. Additionally, most of the individuals from these remote areas attend school outside of their communities for a time, so assembling a complete antemortem data set may require contacting multiple dentists. As a result, it was a requirement that the dental identification team cautiously review the entire antemortem record, including odontograms, billings, and chart notes from the past to the present, then recheck some of the records from the present to the past to verify that an accurate record of the dental conditions at the time of death was available for comparison. Following this review, the team developed a list of identifiable conditions and created an antemortem odontogram for each individual.

The available dentition of each decedent was recovered, restored, and reapproximated by the forensic anthropologists during the postmortem examinations. The dental identification team then positioned and exposed numerous intraoral radiographs of the teeth and jaws; however, the incinerated, fragmented, and incomplete nature of the available tissue made it impossible to create complete postmortem dental charts and odontograms for each individual.

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The dental team had to determine points of concordance and no points of discordance between the partial or complete antemortem records and the partial postmortem records. Identifying features that differentiated between people were used as much as were unique identifiers. A total of six positive dental identifications were provided to the Identification Committee as well as three dental age-at-death estimates for the children. Although antemortem dental records were not available for one of the children, investigators had accounted for every person in the community; therefore, having a closed population of the missing allowed the use of age stratification techniques to assist in the final identification of the three children.

Multiple Fatality/DVI, Forensic Odontology, Dental Identification

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