G22 Looking Into the Past: Challenges With Dental Identifications of Historically Unidentified Individuals

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After attending this presentation, attendees will be aware of the challenges associated with the identification of historically unidentified remains and the difficulty in matching these cases to long-standing missing persons. After identifying these specific challenges, solutions are proposed that may assist in refining current practices in antemortem and postmortem data collection and storage.

This presentation will impact the forensic science community by bringing to light globally reoccurring issues experienced by many dentists and related agencies as they try to gather antemortem and historically available postmortem information to facilitate the identification of human remains. Furthermore, this presentation will emphasize: (1) the need for increased funding and enhanced legislation to assist in compiling these antemortem and postmortem data sets; (2) the need for content experts to interpret and record this data; and, (3) a call for more effective communication between various holders of information.

In 2012, the Ontario Forensic Pathology Service and the Office of the Chief Coroner undertook a comprehensive review of all unidentified remains files dating back 50 years. Hundreds of cases were reviewed by content experts, including a forensic odontologist, anthropologist, pathologists, and pathologists' assistants, and data was entered into a relational database capable of performing case comparisons with missing persons based on specific variables. During this review, postmortem dental information was routinely found in these historical files. Although it was recognized that postmortem dental data had been collected relatively well over the years and largely by content experts, there remained numerous obstacles to the collection of a reliable postmortem data set. Dental information varied from robust to incomplete, coding methods were not uniform, and radiographs were limited or in the custody of now-deceased odontologists and could not be located.

There are also issues with regard to the collection of antemortem dental data for long-standing missing persons. In Ontario, these records are only mandated to be kept by a dentist for ten years from the last entry in record or ten years after a minor has turned 18 years old. The opportunity to retrieve these records diminishes with time if they are not seized immediately.

Additional challenges exist when there is a possibility that the missing person may have died out of province or out of country. Canada and the United States share land and water borders. Missing persons and unidentified remains data is not fluidly shared between provinces and states and their respective agencies. The dental nomenclature used by each country, namely the universal tooth-numbering system in the United States and the Fédération Dentaire Internationale (FDI) in Canada differs and would provide a challenge for anyone but a content expert.

Although there are many difficulties in the historical postmortem data collection of dental information, some of the former practices of forensic odontologists have actually proven useful in assisting current technologies. The dated practice of removing the jaws from unidentified remains and retaining them indefinitely, while no longer

considered dignified, has provided a means to obtain DNA. The availability of these jaws has also enabled new sets of radiographs, photographs, and charts to be completed should the originals be unavailable.

Dental Identification, Historically Unidentified, Dental Challenges