



### F22 Misidentification and Misinterpretation of Dental Evidence Recovered in Cremains

*Peter W. Loomis, DDS\*, 3801 San Marcos NE, Albuquerque, NM 87111*

After attending this presentation, attendees will understand a technique of cremated remains examination and analysis and appreciate the need for a forensic odontologist to evaluate and interpret the dental evidence and the antemortem dental record.

This presentation will impact the forensic community and/or humanity by stressing the importance of an accurate interpretation of the dental evidence in cremains identification.

Cremated remains identification is a fairly uncommon request to forensic anthropologists and odontologists. Family members who suspect the cremains of their loved one(s) to be misidentified, commingled, or mislabeled are often the ones to make such a request for an examination and analysis to ascertain the cremains' identity.

Two cases of cremains misidentification will be presented, both of which have been litigated in civil courts. The cases involve cremations done at different times by the same crematorium on cadavers that had been willed to a medical school. In both cases many dental restorations were recovered in the cremains.

Dental restorations and dental structures often survive the temperatures achieved during commercial, accidental, homicidal, or suicidal cremations. From the surviving dental evidence a comparative dental identification can often be made with the antemortem dental record to determine the identity of the cremains.

The first case involved the examination of cremains that were purported to be an elderly male who had willed his body to a medical school. Once the medical school had completed its study of the cadaver, a crematorium was contracted to perform the cremation, return the cremains to the medical school who in turn delivered them to the next of kin. The family had suspicions of the identity upon receiving the cremains because of labeling on the temporary urn, and media news stories relating to problems with the crematorium and medical school. An examination of the cremains done by an ABFO certified odontologist concluded the cremains were not those of the purported decedent. A second analysis of the cremains by an ABFA certified forensic anthropologist concluded the remains were "consistent" with the purported decedent and in a subsequent report stated that the cremains probably were those of the purported decedent. A third analysis was conducted by different ABFO certified forensic odontologist (the author), who concluded that the cremains were not the purported decedent. The presentation will focus on the dental evidence recovered, the antemortem dental records, the comparison between the two, and the misinterpretation of this evidence.

A second case involving the same medical school and crematorium will be presented describing a technique of cremains analysis and the recovery of non-biologic artifacts. As in the previous case, the dental evidence recovered does not agree with the antemortem record of the person purported to be the cremains.

The analysis of dental restorations and dental structures recovered in the cremains as well as the interpretation of the antemortem written and radiographic records should be done by a forensic odontologist. Dental nomenclature, dental anatomy, knowledge of restorations, materials, devices and clinical dental experience are needed to review the dental remains and antemortem dental record which are beyond the ken of a non- dentist.

**Cremains, Identification, Dental**