H56 The Role of the Harris County Medical Examiner's Office Forensic Anthropology Division in Scientific Identification

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After attending this presentation, attendees will understand the role of the Harris County Medical Examiner's Office Forensic Anthropology Division in scientific identification.

This presentation will impact the forensic community by outlining the contribution made by Forensic Anthropology to the scientific identification of unknown and tentatively identified decedents.

The Harris County Medical Examiner's Office (HCMEO) Forensic Anthropology Division (FAD) is a relatively new division, established in November of 2006. Scientific identification of unknown and tentatively identified decedents is one of the core responsibilities of the Medical Examiner's Office and has become a central component of the daily activities of the FAD.

HCMEO standard operating procedures require scientific confirmation of identification of all homicide cases and all cases rendered unsuitable for visual identification by decomposition, disfigurement and thermal injury.

All cases in which scientific identification is not confirmed by fingerprints or dental comparison become the responsibility of the FAD. When available, the FAD scientifically confirms identification through radiograph comparison and facilitates identification through DNA by collecting family reference samples and interpreting DNA kinship indices. When antemortem records or DNA samples are unavailable, the FAD facilitates the identification through the collection and presentation of circumstantial evidence to the responsible pathologist. In the case of unknown decedents, the FAD compiles an unknown decedent description; disseminates it to law enforcement, media, and the Unidentified Decedent Reporting System; submits DNA to CODIS; and follows up on all generated leads.

Since its inception, the FAD has significantly reduced the number of cases that remain unidentified. The number of decedents who remain unknown for greater than six months decreased 40% from the three-year average prior to the inception of the FAD to 2007 (the first full year of operation). This number decreased substantially (90%) again in the first half of 2008. The success is a result of a dedicated team of professionals that can focus on the follow-through with law enforcement, media, and the community to identify the unknown and to notify the next-of-kin. Furthermore, an audit of all of the unknown decedent case files that predated the FAD has yielded identifications of 30 previously unknown decedents.

Anthropologists have significantly reduced HCMEO DNA costs. Prior to the FAD, cases without dental records were scientifically identified through DNA. A majority of these cases are now identified through skeletal radiograph comparison. The FAD completed a total of 31 scientific identifications in its first full year of operation, 2007, and had completed 22 during the first half of 2008. Identifications are routinely performed using an array of radiograph types.

Fourteen (45%) of the 31 identifications in 2007 were made based on chest radiographs. Five comparisons were made between lumbar spine images, and the remainder of the 2007 cases involved skull, hip, knee and wrist images. Thirteen (62%) of the 21 2008 cases for the first half of 2008 involved chest radiograph comparison, and the remaining eight were completed with head, pelvis, foot, wrist and shoulder films. Each of these identifications was completed at the request of the responsible pathologist.

Another beneficial by-product of the increased efficiency in decedent identification has to do with morgue capacity. The increase in efficiency necessitates the curation of fewer remains and a shorter curation period for unidentified decedents. This represents a considerable benefit to the HCMEO's disaster preparedness by increasing on-site surge storage capacity.

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