



H132 Digging Up the Past — An Atypical Medical Examiner's Case

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After attending this presentation, attendees will be familiar with the recovery of historical skeletal remains with evidence of previous postmortem examination.

This presentation will impact the forensic science community by demonstrating how medical examiners and coroners must work closely with anthropologists to determine: (1) if the remains in question are human; (2) if the remains display any trauma; and, (3) if the remains are of contemporary forensic significance or are of historical interest. Attendees will be able to further utilize the information presented from the case summary to promote the participation of the medical examiner or coroner office alongside a forensic anthropology investigation.

This study examines skeletal remains recovered in Edmore, MI, by the Montcalm County Medical Examiner's Office. In August 2015, Michigan state police were dispatched to a private residence where the homeowners had unearthed multiple bones while excavating a portion of their backyard to unclog a sewer line. Upon the arrival of the Montcalm County medical examiner investigator, Michigan State University's Forensic Anthropology Laboratory (MSUFAL) was called in to assist with the recovery. A forensic anthropologist and several graduate students from MSUFAL along with a representative from the Montcalm County Medical Examiner's Office, began mapping, photographing, and excavating the disturbed area identified by the homeowner.

The remains previously uncovered were determined to be human remains from an adult individual. After assessment of the taphonomic signatures and general context, the forensic anthropologist determined the remains were historical, most likely representing a primary interment of an early homesteader of Edmore, dating from the late 1800s to the early 1900s. The general lack of anatomical arrangement and disruption of the overlying soil strata suggest the burial was most likely initially disturbed during construction of the city's sewer line sometime between 1950 and 1960. Due to the scattered disposition of the remains still *in situ*, the MSUFAL decided to continue excavation of the yard following the sewer line, anticipating the recovery of additional bones. The remains of at least one additional individual were eventually recovered.

All of the remains were transported to the Montcalm County Medical Examiner's Office morgue facility for a brief examination by a forensic pathologist, who noted multiple specimens with evidence of sawing in areas atypical for modern autopsy procedures. The remains were then transported to MSUFAL for a more comprehensive analysis. There, a minimum number of individuals (two) was estimated and the postmortem damage to the remains recorded. Multiple cranial fragments from at least one individual evinced cut marks consistent with even striation patterns and several incomplete saw cuts (kerfs). The distribution and location of these cuts are consistent with the separation of the calvarium and a near mid-sagittal section. The observed pattern of these defects was compared to specimens dating to approximately the same period (late 19th to early 20th century) with evidence of postmortem examination. The MSU anthropology laboratory concluded the defects represent evidence of postmortem examination through obsolete autopsy practices rather than anatomical preparations or trauma/ clandestine dismemberment. These distinctions are based on the absence of anatomical hardware (including springs, wire, clasps, etc.), the taphonomic signature noted on the remains (including cortical staining, exfoliation, delamination, etc.), and the presence of



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coffin wear, a phenomenon noted on historical remains consistent with long-term interment within a casket. Based on the totality of evidence, the remains are not considered forensically significant.

The recovery of previously autopsied remains is not common, and the correct interpretation of remains with evidence of postmortem examination is imperative, particularly when the techniques employed do not conform to contemporary autopsy practice. This case demonstrates the importance of a multidisciplinary approach to forensic investigations of skeletal remains that bear evidence of tool marks. The medical examiner's office, the anthropology laboratory, and the various police agencies working together were able to demonstrate the non-forensic nature of the recovered material.

Historical Skeletal Remains, Investigation, Forensic Anthropology