



H89 The Complicated Recovery of a House Fire Victim in Northern Michigan

Jane (Wankmiller) Harris, PhD, Northern Michigan University, Marquette, MI 49855; Rachel E. Smith, BS, Marquette, MI 49855; Carl W. Hawkins, MD, Office of the Medical Examiner, St. Ignace, MI 49781*

Learning Overview: After attending this presentation, attendees will understand how forensic anthropologists can assist medical examiners and forensic pathologists in scene recoveries involving fragmentary, thermally altered skeletal remains.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by emphasizing the value of involving forensic anthropologists when recovering highly fragmentary skeletal remains as part of a medicolegal death investigation.

This presentation will review the recent recovery of fragmentary human skeletal remains from the scene of an intense, unwitnessed house fire in northern Michigan. Michigan's Upper Peninsula (UP) is known for its extensive Great Lakes shoreline, extreme winter weather, and a low population density that allows residents and visitors to disconnect from the bustle of life in larger cities and enjoy relative isolation. The overall population density changes seasonally, with far fewer people residing in the UP in winter than in summer. In February of 2019, a single-family residence caught fire. Because the nearest residences were unoccupied at the time and the nearest neighbor was over one-half mile away, the fire went unwitnessed and unreported until it had essentially burned itself out. The residence was known to have been a single-story ranch-style house with a full basement, owned and occupied by a single homeowner. Extremely fragmentary, calcined human skeletal remains were located in an area of the lower level, indicating the victim had been on the main floor but had fallen into the basement when the floor collapsed during the fire. No foul play was suspected by investigators.

Extreme winter weather conditions and unsafe temperatures following the fire complicated the investigation. Overseen by the Mackinac County Medical Examiner, the recovery of human skeletal remains from the basement was primarily conducted by law enforcement and fire personnel. The investigators did their best at the time, but the onset of heavy snow during this initial recovery obscured visibility of both the remains and any potentially hazardous conditions in the home. By the next day, approximately two feet of snow covered the scene (and snow continued to accumulate for the next several weeks). Further recovery was halted, and the medical examiner transferred custody of the remains to the Forensic Anthropology Research Laboratory at Northern Michigan University (NMU) for analysis. Anthropologists were asked to determine the minimum number of individuals, analyze the skeletal trauma, provide a biological profile, and identify the victim. Identification at that time was complicated due to the fragmentary and incomplete nature of the remains, as only approximately 50% of the body was represented, resulting in the absence of comparable features for comparative radiography.

Approximately three months later, when the snow finally melted and the scene was once again visible, the medical examiner and local law enforcement initiated a second excavation to complete the recovery of the victim. The medical examiner, recognizing the need to work with skeletal specialists on a case involving such fragmentary, extensively burned remains, called upon the NMU anthropologists to assist with this phase of recovery. The NMU anthropologists methodically excavated the area of the basement where the victim was known to have been located, resulting in the location of skeletal elements representing all regions of the body that were missing following the first recovery, many of which had not been recognized as bone during the initial recovery effort due to extreme thermal alteration and difficult visibility. As a result of the additional excavation, a positive identification was made using comparative dental radiography and the medical examiner was able to issue a death certificate.

This case highlights the complicated nature of forensic recovery of human remains from scenes that involve adverse conditions, such as fire damage and extreme winter weather, as well as the need for collaborative, interdisciplinary teams. The forensic anthropologists in this case provided much-needed expertise in skeletal identification and excavation. The medical examiner considered this service vital for both victim identification and to be certain no remains were left behind in the ruins.

Burned Remains, Scene Recovery, Forensic Anthropology