H52 Identification of Multiple Cranial Traumas in a Recently Closed Homicide Investigation

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After attending this presentation, attendees will come away with an understanding of the value of using forensic anthropologists in investigative contexts involving human skeletal remains. This will be achieved through an overview of a recently resolved homicide case from southeastern Wyoming that contrasts and evaluates the assessments offered to law enforcement by forensic anthropologists and other forensic investigators involved in the case.

This presentation will impact the forensic community by providing a direct illustration of the power of employing forensic anthropological techniques in crime investigations, in service to law enforcement as a means for remains identification and for analysis of human skeletal trauma.

Attendees will be presented with a case study of an actual homicide investigation involving human skeletal remains. This case serves as an example of the benefits of applying forensic anthropological techniques to the identification of remains and in analyses of bone trauma. In the initial stages of this investigation, which began in December 2002, both anthropologists and forensic pathologists were approached and engaged by law enforcement to provide analyses of an unidentified, partial human skeleton. This set of remains, found through extensive, coordinated searches conducted over a period of several months in 2002 and 2003 by volunteers and multiple law enforcement agencies and rescue and recovery groups, consisted of a partial cranium, both femora, a humerus, and an ulna. These skeletal elements were scattered over an area of roughly one square mile on the ground surface in a remote recreational area. The authors will present the osteological evidence available to investigators at the outset of this homicide investigation, and will detail the course and outcome of the case. The specific evidence emphasized will be multiple traumas to the recovered portion of the cranium of the victim, including a unique penetrating fracture to the occipital region, and several other perimortem traumas to the mid-facial and orbital regions of the skull. The hypotheses offered to law enforcement by anthropologists and pathologists differed markedly in terms of the suggested mechanisms of injury and in the suggested relationships, both temporal and physical, of the observed cranial traumas.

Subsequent case evidence and testimony provided investigators with detailed information regarding the true mechanisms of the various injuries, as well as the relationships between these observed and documented traumas. This information provides a unique opportunity to present both a comparison of the hypotheses offered by the anthropologists and other forensic investigators to the actual chain of events for this homicide, and an evaluation of the accuracy of these hypotheses, which were based solely on the initial osteological evidence. It will be shown that the hypotheses offered to law enforcement by the case forensic anthropologists correlate most closely with the actual mechanisms and sequence of traumas for this homicide case, which was closed in early part of 2008. This will be made explicit through the presentation of the information contained in the documented statements provided to law enforcement by the perpetrators of the crime.

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