



### A15 Patterns of Intentional Dismemberment in Florida Medicolegal Death Investigations

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**Learning Overview:** After attending this presentation, attendees will be familiar with the dismemberment modes, affected body regions, and implement types commonly observed at the C.A. Pound Human Identification Laboratory (CAPHIL).

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by enhancing the comparative data available for dismemberment cases.

Comprehensive data has been presented previously by Adams and Rainwater for New York City, a major metropolitan area; the data presented herein reflect non-comprehensive data for a single state.<sup>1</sup>

This study reviewed all CAPHIL case files accessioned between July 2003 and June 2018 ( $N=959$ ). The contents of each file were assessed for indications of intentional human dismemberment. During the 15-year period reviewed, the CAPHIL evaluated 31 cases—representing 28 individuals— involving intentional human dismemberment. These cases derived from 17 counties across the state, ranging from the southern peninsula to the Panhandle. There is an even split between male ( $N=14$ ) and female ( $N=14$ ) decedents in the sample. Ages at death range from neonatal to 76 years, with the greatest number of individuals falling into the middle-aged adult age bracket (30-49 years;  $N=14$ ). For the 24 individuals for whom a racial category is known, 22 are White and 2 are Black; this does not account for Hispanic ethnicity. This sex and race breakdown is relatively reflective of decedent demographics at the CAPHIL, as well as of the demographic breakdown of Florida.

All dismemberment methodology data derive from indications of dismemberment recorded on the skeletal elements submitted to the CAPHIL. Full sets of remains were not always available at time of analysis, due either to recovery circumstances or to selective submission of affected body portions by the medical examiner. Following Rainwater, the CAPHIL dismemberment cases were categorized by dismemberment mode: (1) anatomical disarticulation around joint articulations; (2) transection of bone via sawing; and/or (3) transection of bone via hacking.<sup>2</sup> Transection via sawing was the most common mode of dismemberment for the individuals assessed at the CAPHIL; 14 individuals fall into this category exclusively. Five individuals were dismembered solely by anatomical articulation, while only two individuals were dismembered solely by a hacking mechanism; six individuals were dismembered via a combination of modes, and the mode for one individual (the neonate) could not be determined. For all three cases involving sawing in conjunction with an anatomical mode of dismemberment, there was a partial (incomplete) transection through the spinal column.

Overall, the most commonly affected body regions were the neck ( $N=18$ ), left shoulder/upper arm ( $N=14$ ), left hip/upper thigh ( $N=12$ ), torso ( $N=10$ ), and right shoulder/upper arm ( $N=10$ ). The relatively high frequency of dismemberments through the torso seen in the CAPHIL sample is in contrast with the very low frequency of such dismemberments reported by Adams and Rainwater in their analysis of dismemberment cases in New York City.<sup>1</sup>

The most common implement was a saw used in isolation; multiple such cases display thermal alteration at transected margins, likely due to friction-generated heat produced by the action of the saw. A saw used in conjunction with a knife was the second most common means of dismemberment. Reciprocating saws were the most commonly used saw type; only one individual was dismembered using a manually powered saw. Two individuals exhibited tool marks from at least two different saws; both cases involved the use of rotary saws. All anatomical disarticulations used only a knife. Hacking implements ranged from heavy implements intended for hacking to improvised hacking implements, such as claw hammers and shovels.

Understanding dismemberment patterns from past cases is important for the advancement of future medicolegal investigations. Knowledge of common dismemberment practices may improve the total percentage of an individual recovered by informing upon what body portions may be anticipated given case circumstances. Trends in tool use may also aid law enforcement in preliminary searches for causative implements. Further, this information may better prepare forensic anthropologists to respond to unusual investigative requests; for example, the CAPHIL has been asked to compare dismemberment styles across multiple sets of remains to help law enforcement pursue possible connections between decedents in seemingly distinct cases.

#### Reference(s):

1. Adams B.J. and Rainwater C.W. 2018. A Retrospective Study of Intentional Body Dismemberment in New York City: 1996-2016. In *Proceedings of the American Academy of Forensic Sciences, 70<sup>th</sup> Annual Scientific Meeting*, Seattle, WA, February 19-24, 2018.
2. Rainwater C.W. 2015. Three Modes of Dismemberment: Disarticulation Around The Joints, Transection of Bone Via Chopping, and Transection of Bone Via Sawing. In *Skeletal Trauma Analysis: Case Studies in Context*. NV Passalacqua and CW Rainwater, eds, 222-245. Oxford, UK: Wiley Blackwell.

#### Sharp Force, Decapitation, Dismemberment Mode