## A125    A Reanalysis of Korean War Anthropological Records to Support the Resolution of Cold Cases

*Emily K. Wilson\*, Defense POW/MIA Accounting Agency, 310 Worchester Avenue, Joint Base Pearl Harbor-Hickam, HI 96815*

After attending this presentation, attendees will be informed concerning the accuracy of 1950s Korean War identification data used to develop certain reference methods.

This presentation will impact the forensic science community by expanding awareness of the complications affecting age at death and stature estimation using 1950s reference methods.

The Defense POW/MIA Accounting Agency Central Identification Laboratory (CIL) has developed a disinterment project to prioritize exhumations of unidentified remains from the Korean War for laboratory analysis and identification. These cases were previously processed at the Central Identification Unit (CIU) in Kokura, Japan, and were buried as unknown. Since 1999, the CIL has disinterred 94 sets of Korean War remains and identified 55 individuals. This process has made available for comparison from each of these 55 cases: (1) the original CIU anthropological assessments; (2) blind CIL assessments made for those same remains; and, (3) the reported antemortem information from each individual identified at the CIL. Zinni presented preliminary comparisons for a portion of these cases.[1] This study presents a comparison of the biological estimations for age at death, stature, and ancestry at both the CIU and the CIL with the reported antemortem information. The purpose of this study is to find patterns of errors that are useful in refining disinterment research (in which more accurate biological profiles are extrapolated from CIU notes prior to exhumation) and in supporting current identification efforts.

The CIU age ranges captured the reported age at death in 58.5% of cases and did not in 41.5% of cases. When the age was overestimated, the reported age was an average of 1.6 years younger than the lower limit of the CIU range (min. 0.25 years; max. 4 years). When the age was underestimated, the reported age was an average of 2.1 years older than the upper limit (min. 0.5 years; max. 4.75 years). CIL age ranges captured the reported age at death in 90.6% (48/53) of cases and did not in 9.4% (5/53) of cases. All five cases for which the CIL range did not capture the reported age at death resulted from underestimation. All five underestimations at the CIL were also underestimations at the CIU. In three of those five underestimations, CIL analysts had exclusively used McKern and Stewart (a method developed from the 1950s Korean War identifications) as a reference.[2]

Reported stature was captured by modified CIU age ranges in 79.2% (42/53) of cases and was not captured in 20.8% (11/23) of cases. When the stature was not captured, 54.5% (6/11) were overestimated and 45.5% (5/11) were underestimated. When the stature was overestimated, the reported stature was an average of 0.9 inches under the CIU estimate (min. 0.1 inches; max. 2.5 inches). When the stature was underestimated, the reported stature was an average of 0.8 inches over the CIU estimate (min. 0.25 inches; max. 1.5 inches). The CIL captured the reported stature in 88.7% (47/53) of cases. When the stature was not captured, 50% (3/6) were overestimated and 50% (3/6) were underestimated. All six cases in which the CIL estimation did not capture the reported stature were also cases in which the CIU did not capture the reported stature, and each in the same direction (over- or underestimated). Trotter and Gleser formed the basis of both the CIU and CIL estimations.[3]

The CIU captured the reported race in 96.2% (51/53) of cases and did not in 3.8% (2/53) of cases. The CIL captured the reported race in 100% (53/53) of cases. Fewer errors are made today at the CIL, but they are the same types of errors. Understanding these systematic errors in 1950s CIU-developed reference data is useful for refining disinterment research and supporting current identification efforts.

**Reference(s):**

1. Zinni D.P. Resolution of cold cases: A multidisciplinary approach to identifying remains previously interred as unknown. Proceedings of the American Academy of Forensic Sciences, 65th Annual Scientific Meeting, Washington, DC. 2013;19:405.
2. McKern T.W., Stewart T.D. Skeletal age changes in young American males. Natick: MA: *Quartermaster Research and Development Command Technical Report EP-45*, 1957.
3. Trotter M., Gleser G.C. Estimation of stature from long bones of American whites and negroes. *Am J Phys Anthropol* 1952;10:463-514.

**Cold Case, Age-At-Death, Stature**

\*Presenting Author