



## Anthropology Section - 2016

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### A4 **Commingling Among Disinterred Remains of Unknown United States Service Members From the Korean War**

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After attending this presentation, attendees will learn the nature and rate of commingling among purported United States service members, buried as unknowns from the Korean War.

This presentation will impact the forensic science community by demonstrating the extent of commingling in historic military cemetery contexts, identify the need for proper analyses with regard to establishing Minimum Numbers of Individuals (MNI), and discuss identification rates from disinterments under similar contexts.

The Defense POW/MIA Accounting Agency (DPAA) is a new Department of Defense (DoD) agency (established January 2015), formed by the merging of several pre-existing DoD organizations including the Joint POW/MIA Accounting Command (JPAC). This newly created agency is responsible for accounting for “persons whose remains have not been recovered from the conflict in which they were lost,” specifically in regard to past United States military conflicts (National Defense Authorization Act (NDAA) 2015).

As part of the accounting effort, the DPAA routinely disinters United States service members buried as unknowns from cemetery contexts around the world. The goal of this project is to discuss rates of identification and commingling from disinterred Korean War United States service member caskets. This study examined all Korean War disinterments from the National Memorial Cemetery of the Pacific between 1999-2014. During this period, a total of 91 caskets were disinterred resulting in a total MNI of 108 individuals. In all Korean War disinterments, no commingling was *anticipated*, meaning that at least in theory, each unknown was buried as a single individual and any possible commingling was resolved by analysts prior to the interment of the unknown remains. From the 91 caskets, 16 (18%) were found to have commingling present and represent more than one individual; 1 of these represented an MNI of three, while the other 15 all represented an MNI of two individuals. Of the total 108 disinterred individuals (from the 91 caskets), 55 (51%) have been identified to date, and from the 33 individuals involved in commingled accessions, 10 individuals have been identified.

The vast majority of the commingled remains resulted from duplication of small skeletal elements (e.g., an extra pisiform or phalanx). When the small-element commingling is removed, the commingling rate drops to six caskets (7%), with a total MNI of 96, and the identification rate increases to 58%; however, the small-element commingling introduces a significant issue. The individuals represented by these isolated elements are (with current methods) unresolvable. Including these unresolvable cases in the total MNI results in a decrease of identification rate, while at the same time, we currently lack methods to identify these isolated elements, mainly due to the extremely poor DNA preservation. Accounting for these remains and accurately reflecting the number of individuals that are possible to identify in a commingled casket may become more of an issue as disinterments increase.

The JPAC developed a rigorous process using both historical and scientific assessments of case-related sources to develop lists of potentially associated candidates with each set of unknown remains prior to disinterment. The process was oriented to meet the past United States policy of disinterring only those unknown service members most likely to yield an identification. In April 2015, the DoD announced a new policy regarding the disinterment of unknown United States servicemember remains which lowered the standards required to disinter unknown servicemembers in order to increase the number of disinterments. Following previously established best-practice procedures, the identification success rate for identifiable remains is ~60% to date, with more identifications pending. The Korean War unknowns highlight how a rigorous multidisciplinary assessment of cases prior to disinterment *can* lead to successful and acceptable identification rates. A lowering of the standards to disinter greater numbers of unknowns will very likely have an adverse impact on identification rate, especially considering the current commingling rate present in Korean War unknown caskets. In addition, this policy will also affect WWII disinterments, which are known to have a dramatically higher commingling rate (~76% to date). Since the majority of interred unknowns are associated with WWII, the policy change may ultimately serve to raise disinterment rates, without a subsequent increase in identification rates. The commingling and related identification issues of the Korean War unknowns should inform our disinterment policies and practices, in contrast to escalating exhumations without considering these issues.

The views herein are those of the authors and do not necessarily represent those of the Department of Defense or the United States government.

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#### **Disinterment, Commingling, Identification**

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