



Physical Anthropology Section – 2007

H2 Identification of the Rib Number by Metric Study in Korean

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After attending this presentation, attendees will understand that the importance and purpose of placing ribs in their proper anatomical order are to determine the number of individuals and for the application of techniques for establishing age-at-death using cartilaginous and osseous changes in the sternal end of the ribs.

This presentation will impact the forensic community and/or humanity by investigating a correct sequence of ribs and the usefulness of ribs as a distinction among populations.

Rib seriation has important applications in both bioarchaeology and forensic anthropology. The correct siding and sequencing of human ribs are an essential process in forensic anthropology and medico-legal investigation. The importance and purpose of placing ribs in their proper anatomical order are to determine the number of individuals represented, apply techniques for establishing age-at-death using cartilaginous and osseous changes in the sternal end of the ribs. The aim of this study is described a rib seriation correctly in Korean and compared with other populations.

The sample was the dry rib of 50 sets that known age and sex at Department of Anatomy, College of Medicine, Yonsei University. The method investigated was based on three metric variables: superior costo- transverse crest height (SCTCH), articular facet of the tubercle-to-angle length (AFTAL), and head-to-articular facet length (HAFL).

Analysis of variance showed that SCTCH, AFTAL, and HAFL were significantly associated (P less than 0.001) with rib number on both right and left sides. The variables SCTCH and HAFL were associated with the central ribs (3rd through 6th) on both sides. SCTCH generally increased in size with rib number and variables AFTAL and JAFAL showed a tendency to increase from ribs 2 – 7). The accuracy of discriminant analysis was 81.3% in SCTCH, 83.3% in AFTAL, and 85.4% in HAFL on both sides. THE variable AFTAL ($r^2=0.86$) is the useful dimension for rib seriation and SCTCH (84%) is useful for sexual dimorphism.

This result would distinguish between European Whites and Koreans using the rib.

Rib Seriation, Sex Determination, Korean