ABSTRACT

TITLE:	An Independent Test of a Simple Age at Death Estimation Method Based on the Morphology of the First Rib
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ABSTRACT: There are many well tested and widely used techniques for determination of age-at-death of human skeletal remains. Dental development, morphology of the pubic symphysis, and cranial suture progression are all trusted techniques, either on their own or in combination, in making such determinations. Despite the apparent abundance of ways in which determine age-at-death, there is still considerable interest and research in developing more methods based on other bones. The ribs in particular have been the subject of much research in developing new age estimation techniques. Kunos's method (1999) involved analysis of three different variables for each of the three epiphyseal regions of the first rib for a total of nine individual traits (some based on metric measurement) in estimating age to an upper limit of 20 years. In addition, the technique utilizes five different variables for each of three different features for a total of 15 traits in estimating age after 20 years old. This study was successful in its accuracy but is unfortunately difficult and time consuming in practice. DiGangi et al (1990) attempted to simplify and test the technique. DiGangi et al used the traits, descriptions, and scoring protocol described by Kunos and applied them to male remains from a mass grave of modern origin in Yugoslavia. The most pertinent change in the technique from the Kunos study to the DiGangi study is that DiGangi et al were able to narrow the technique down to two traits, the geometric shape of the costal face (CF1) and the surface texture of the tubercle facet (TF3). The purpose of this study is to perform a test of the DiGangi method on a sample population that will include female individuals. The methods will be applied exactly as described by DiGangi in an attempt to determine if the test may be used as is, if it needs to be modified for the population being studied, or if it is completely unusable the way it is. The potential usefulness of this technique lay in its simplicity and the high likelihood of finding usable first ribs or first rib fragments. The locations of the features being utilized at the ends of the rib also make it possible to use fragmentary ribs, as long as both features are intact.