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A Test of Four Innominate Bone Age Assessment Methods in a Modern Skeletal Collection from Medellin, Colombia

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Highlights

- A blind test of four innominate bone age assessment methods is proposed.
- The methods show tendency to increase bias and inaccuracy in relation to age.
- The methods exhibit low accuracy errors for young adults but increase with age.
- Buckberry-Chamberlain's is the most accurate method for this Colombian population.

Abstract

Studying bone collections with known data has proven to be useful in assessing reliability and accuracy of biological profile reconstruction methods used in Forensic Anthropology. Thus, it is necessary to calibrate these methods to clarify issues such as population variability and accuracy of estimations for the elderly. This work considers observations of morphological features examined by four innominate bone age assessment methods: 1) Suchey-Brooks Pubic Symphysis, 2) Lovejoy Iliac Auricular Surface, 3) Buckberry and Chamberlain Iliac Auricular Surface, and 4) Rouge-Maillart Iliac Auricular Surface and Acetabulum. This study conducted a blind test of a sample of 277 individuals from two contemporary skeletal collections from Universal and San Pedro cemeteries in Medellin, for which known pre-mortem data support the statistical analysis of results obtained using the four age assessment methods. Results from every method show tendency to increase bias and inaccuracy in relation to age, but Buckberry-Chamberlain and Rougé-Maillart's

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