COMPARISON OF LEG-TO-LEG BIOIMPEDANCE (BIA) SYSTEM WITH DUAL ENERGY X-RAY ABSORPTIOMETRY (DXA) IN AN ELDERLY COHORT.

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Practical Implications:
• These results suggest that the Tanita leg-to-leg BIA system reliably predicts body fat in elderly subjects.
• The mean % fat estimates by Tanita BIA and DXA were not significantly different. Linear regression demonstrated a high correlation between Tanita BIA and DXA fat estimates (r=0.90, p<0.001).

ABSTRACT

Objective: Prior studies support the use of BIA in assessing healthy adult body composition. As there are recognized age-related body composition and physiological changes that alter tissue conduction, concern arises for BIA validity in the elderly. The present study evaluated the validity of a leg-to-leg contact electrode BIA system (TBF 305, Tanita Corp., Tokyo, Japan) in an elderly cohort by comparing BIA fat estimates with those by DXA.

Results: The mean %fat estimates by BIA (32.8±9.5) and DXA (33.7±9.9) were not significantly different (p=0.58). Linear regression demonstrated a high correlation between BIA and DXA fat estimates (r=0.90, p<0.001, SEE=4.4). The slope and intercept of the regression line were not significantly different from 1 and zero, respectively. These results suggest that the leg-to-leg BIA system reliably predicts body fat in elderly subjects.