

# 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:

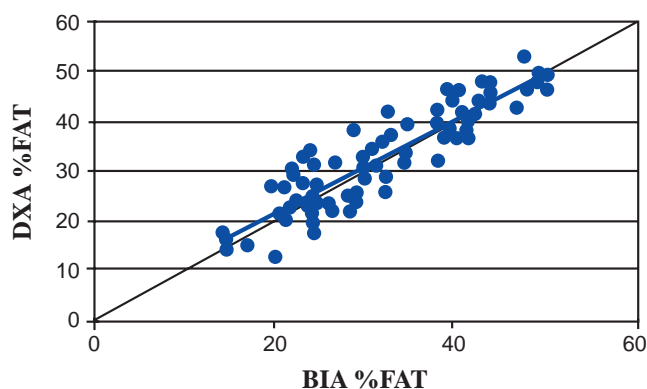
- These results suggest that the Tanita leg-to-leg BIA system reliably predicts body fat in elderly subjects.
- The mean % fat estimates by Tanita BIA and DXA were not significantly different. Linear regression demonstrated a high correlation between Tanita BIA and DXA fat estimates ( $r=0.90$ ,  $p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

## 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.

**Design:** There were 74 subjects with mean age 64 yrs. and BMI ( $26.6\pm 4.8$  kg/m<sup>2</sup>) who successfully completed protocol.

**Results:** The mean % fat estimates by BIA ( $32.8\pm 9.5$ ) and DXA ( $33.7\pm 9.9$ ) 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.



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