

# APPLICATION OF LEG-TO-LEG BIOIMPEDANCE SYSTEM IN CHILDREN.

**C. Nuñez, F. Rubiano, M. Horlick, J. Thornton & S.B. Heymsfield.**

Obesity Research Center, St. Luke's\Roosevelt Hospital,  
Columbia University, NY, NY 10025.

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## Practical Implications:

- The Tanita leg-to-leg BIA system provides comparable estimates with DXA body composition estimates in children.
- Body composition assessment in children is important because of an increasing trend in childhood obesity.

## ABSTRACT

**Objective:** The assessment of body composition in children provides important information in the diagnosis and treatment of childhood obesity. A simple, noninvasive and inexpensive method of quantifying body composition that may be applicable in children is the leg-to-leg contact-electrode BIA system (TBF 305, Tanita Corp. Tokyo, Japan). The system's validity in estimating body composition is established for healthy adults, although information in children is lacking.

**Results:** A high correlation was observed between fat free mass estimates by both methods ( $r = 0.98$ ,  $p < 0.001$ ,  $SEE = 2.62$  kg). Additionally, a Bland-Altman plot revealed no systematic bias ( $r = 0.10$ ,  $p = 0.93$ , NS) between methods. These results therefore suggest that the leg-to-leg BIA system agrees favorably with DXA body composition estimates and may be an appropriate health tool in the assessment of children varying widely in body composition.

**Design:** The present study evaluated the leg-to-leg BIA system in a group of 96 children ranging in age (5 -17 yrs.) and BMI (13.2-30.8 kg/m<sup>2</sup>) by comparing respective body composition estimates with dual energy x-ray absorptiometry (DXA, Lunar DPX-L).

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**TANITA Corporation of America, Inc.**

2625 S. Clearbrook Dr.,  
Arlington Heights, IL 60005 U.S.A.  
Toll Free: 1-800-TANITA-8  
Phone: +1-847-640-9241  
Fax: +1-847-640-9261  
Web: <http://www.tanita.com>  
E-mail: [4health@interaccess.com](mailto:4health@interaccess.com)

**TANITA Corporation of Japan**

14-2, 1-Chome, Maeno-Cho,  
Itabashi-Ku Tokyo, Japan 174-8630  
Phone: +81-3-3968-2123 Fax: +81-3-3967-3766  
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**TANITA France**

Villa Labrouste, 68 Boulevard Bourdon,  
92200 Neuilly-Sur-Seine, France  
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**TANITA Europe GmbH**

Dresdener Strasse 25,  
71065 Sindelfingen, Germany  
Phone: +49-7031-6189-6 Fax: +49-7031-6189-71

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The Barn, Philpots Close, Yiewsley,  
West Drayton, Middlesex, Great Britain, UB7 7RY  
Phone: +44-1895-438577 Fax: +44-1895-438511

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The Barn, Philpots Close, Yiewsley,  
West Drayton, Middlesex, Great Britain, UB7 7RY  
Phone: +44-1895-438588 Fax: +44-1895-438522