

[Print this Page for Your Records](#)[Close Window](#)**Control/Tracking Number:** 2022-SP-9793-RSNA**Activity:** Scientific Presentations**Current Date/Time:** 5/4/2022 10:26:47 AM**Radiofrequency Echographic Multi Spectrometry (REMS) for the assessment of body composition: a comparison with bioelectrical impedance analysis (BIA) performance****Author Block:** P. Pisani¹, F. Lombardi¹, E. Casciaro¹, A. Centonze², D. Ciardo², A. Natale², F. Conversano¹, M. Muratore³, S. Casciaro¹;¹National Research Council, Lecce, ITALY, ²R&D Department, Echolight Spa, Lecce, ITALY, ³Vito Fazzi Hospital, ASL-LE, O.U. of Rheumatology, Lecce, ITALY.**Abstract:**

***Purpose:** Accurate and non-invasive tools for the assessment of body composition are important to diagnose disorders related to malnutrition, sarcopenia and frailty, and to guide rehabilitation of hospitalized patients. Among non-invasive tools, Ultrasonography (US) and Bioelectrical Impedance Analysis (BIA) are widely used to regularly monitor these patients in order to personalise the nutritional treatment plan. In this context, Radiofrequency Echographic Multi Spectrometry (REMS) is a novel and powerful approach, based on a simple echographic scan, that can be effectively used for body composition analysis. The aim of this study was to assess the accuracy of REMS in comparison to BIA for body composition assessment.

***Methods and Materials:** 168 patients older than 55 years were included in the analysis. All subjects underwent body mass measurement using REMS and BIA. Body fat percentage (BFP) and basal metabolic rate (BMR) parameters were assessed and compared between technologies.

***Results:** Median BFP measured with BIA was in 39.5% (interquartile range [IQR]: 32.8% to 44.7%). This value did not differ significantly from 40.1% (IQR: 32.9% to 44.8%) obtained by REMS (p=0.6). The BMR determined by BIA was 1333.0 kcal/day (IQR: 1268.0 to 1437.5 kcal/day), non-significantly different than the value of 1332.5 kcal/day (IQR: 1267.0 to 1444.0 kcal/day) assessed by REMS (p=0.9).

***Conclusions:** The present study demonstrated the excellent ability of REMS to accurately determine the body composition, demonstrated by a high correspondence of the parameters calculated by both REMS and BIA. Thus, REMS results as a valid alternative approach for the assessment and monitoring of body composition.

***Clinical Relevance/Application:** REMS, through a simple ultrasound scan, is an effective tool for the assessment and monitoring of body composition.

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IRB / IACUC Response: Human subject and in accordance with Declaration of Helsinki

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