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The Relationship of the FMS to Anthropometric Markers in Women with Breast Cancer

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The functional movement screen (FMS) is a pre-participation screen comprised of seven movements, each scored from 0 to 3. Exercise practitioners can use an individual's FMS screen to tailor a specific exercise regimen to eliminate movement imbalances, potentially reducing risk of injury. Previous literature suggests that FMS scores negatively correlate with body mass index (BMI), body fat percentage (BF%), and age, and positively correlates with activity levels (AL), in healthy middle and older aged adults. However, to our knowledge, no study has assessed the FMS in a breast cancer (BC) population, potentially limiting the FMS's ability to guide exercise programs in individuals with BC. **PURPOSE:** The aim of this study was to assess the relationship of FMS to BMI, BF%, age, and AL, in individuals with BC. **METHODS:** Forty women being treated for BC underwent a 3-month thrice weekly dose-escalated exercise regimen utilizing multi-joint compound movements and linear progression exercise regimen, in an exercise oncology facility. Pre- and post-workout assessment of body composition, functional mobility and balance, and activity levels were measured. **Results:** The FMS score negatively correlated with BMI, AL, and age, and positively correlated with activity level (r= -0.22, -0.35, -0.10, 0.41, respectively). However, a significant relationship was found with BF% and AL (both $p<0.05$), and not BMI or age. **CONCLUSION:** With the exception of age, the relationship of the FMS to BMI, BF% and AL in women with BC was similar to that of individuals without BC, seen in previously published literature. Therefore, our data suggest that the FMS screen could be used as a pre-participation screen for individuals with BC undergoing an exercise intervention. **SIGNIFACANCE/NOVELTY:** This was the first study to assess the relationship of the FMS to BMI, BF%, age, and AL in women with BC. Women with BC often present anthropometrically similar to individuals without BC. However, due to the potential morbidity of BC diagnosis and the subsequent treatment, the relationship of FMS to anthropometric markers could not be assumed. Our data suggests that the FMS can be implemented in women with BC undergoing an exercise intervention in a similar manner to those individuals undergoing an exercise intervention without BC.