

Comparison of Anthropometry to DXA in Men: A Validation Study

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ABSTRACT

INTRODUCTION. Accurate and valid body composition methods are needed in order to assess percent body fat (%BF) but the accuracy of anthropometric equations is limited by the criterion method from which they are created. The more recent DXA criterion (DC) skinfold equation created by Ball et al. is based on dual X-ray absorptiometry (DXA), a three-component model (3C), which has been shown to be more accurate than the previous 2C model (14). The purpose of this study is to validate the DC skinfold equation and compare the currently recommended skinfold equations to DXA. **METHODS.** Two hundred ninety-seven male subjects, aged 18-65, completed a seven site skinfold assessment and one DXA scan to determine %BF. **RESULTS.** Mean age was 32.4 ± 14.0 y and mean BMI was 25.6 ± 3.3 kg/m². The mean DXA %BF was 18.0 ± 5.9 . The mean %BF for skinfold equations DC, JP7, JP3a, and JP3b were 19.1 ± 6.3 , 16.1 ± 7.4 , 14.8 ± 6.8 , 15.6 ± 6.7 respectively. The standard error of the estimate (SEE) of DC was low (2.72%) and was highly correlated with DXA. **CONCLUSION.** This study suggests that the DC equation is a more accurate prediction equation than the current ACSM recommended equations.