

Reliability of Squat and Countermovement Jump Tests in Children 6 to 8 Years of Age

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The aim of this study was to determine the reliability of the squat jump test (SJ) and countermovement jump test (CMJ), in fifty-six children (30 girls and 26 boys) with ages ranging from 6 to 8 years. Each subject performed two evaluation sessions (T1, T2) with seven days between tests. The results show that the CMJ test has a high intratrial reproducibility in T1 and T2 measured through intraclass correlation coefficient ($ICC \geq 0.95$). The ICC for the SJ test had a high value (0.99) only in T1. The variability for both tests among children under 9 years of age is higher than those reported for adult subjects in other studies. The intersession reliability was questionable with a high methodical error ($ME = 9.86\text{--}15.1\%$, for the SJ and CMJ, respectively) and a significant worsening of the results of CMJ in T2 ($p < .05$).

Since the 1980s, the vertical jumps battery, this is a set of vertical jump tests, has been applied to many populations of different ages, both for athletes and non-athletes, to evaluate the explosive strength of the lower limbs (7). Squat jumps (SJ) and counter-movement jumps tests (CMJ) have been applied to young children to study neuromuscular capabilities of children as well as their development process. However, the reliability of using these test with young children, especially under 10 years of age, has not been extensively studied or reported.

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