

ORIGINAL RESEARCH

THE EFFECT OF FATIGUE ON UPPER QUARTER Y-BALANCE TEST SCORES IN RECREATIONAL WEIGHTLIFTERS: A RANDOMIZED CONTROLLED TRIAL

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ABSTRACT

Background: A paucity of research currently exists for upper extremity return to sport testing. The Upper Quarter Y-Balance Test (YBT-UQ) is a clinical test of closed kinetic chain performance with demonstrated reliability. Prior investigations of the YBT-UQ were conducted with individuals in a resting state and no comparison to performance in a fatigued state has been conducted.

Purpose: To examine the effect of upper extremity fatigue on the performance of the YBT-UQ in recreational weightlifters.

Study Design: Randomized controlled trial

Methods: 24 participants who participated in recreational weight training three days per week were randomly allocated to a control or experimental group. Individuals in the control group were tested using the YBT-UQ and re-tested after a 20-minute rest period. Participants in the experimental group were tested with the YBT-UQ, performed an upper extremity exercise fatigue protocol, and immediately re-tested. Examiners were blinded to participant allocation.

Results: Differences from pre- to post-fatigue YBT-UQ testing revealed score reductions between 2.04cm – 12.16cm for both composite scores and individual reach directions. The repeated measures ANOVA revealed significant differences when comparing the pre- and post-testing results between the fatigue and non-fatigue groups for all individual directions ($p \leq .006$) and composite scores both limbs ($p < .035$).

Conclusion: The performance of an upper body fatigue protocol significantly reduces YBT-UQ scores in recreational weightlifters.

Level of Evidence: 1b

Keywords: Fatigue, functional testing, upper extremity, Upper Quarter Y-Balance Test

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