SEATED BATTLE ROPE EXERCISE TRAINING: HIIT AND LIIT

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Our study complied with the protection of human subjects and received formal approval from the Mayo Clinic Institutional Review Board.

BACKGROUND AND PURPOSE: Battle rope exercise training (BRET) is typically performed during high-intensity interval training (HIIT). BRET is an exercise mode that allows for upper extremity training independent of lower extremity function and can be performed seated. However, there is limited knowledge of workload intensity in healthy individuals, especially while seated. Therefore the purpose of this study was to investigate BRET heart rate response in a seated position between two separate exercise intensities.

SUBJECT(S): 22 healthy subjects (18-40 yo)

METHODS AND MATERIALS: Subjects participated in two sessions of BRET. Subjects were randomly assigned session order, with one week in between sessions. Both sessions included eight minutes of exercise, with either LIIT or HIIT BRET.

ANALYSES: Mean heart rate (HR), heart rate variability (HRV), and rating of perceived exertion (RPE) were calculated.

RESULTS: Mean RPE during LIIT and HIIT were 4.0 ± 1.7 and 7.0 ± 1.3, respectively. Mean HR was 116 ± 27 for LIIT and 150 ± 14 for HIIT. Mean change in HRV post- versus pre-exercise ratios were 0.8 ± 0.2 for LIIT and 0.4 ± 0.3 for HIIT.

CONCLUSIONS: Seated BRET can be performed at both high and low intensities. We observed lower RPE, lower exercise HR and higher HRV for LIIT versus HIIT exercise all indicative of a lower cardiac workload for LIIT.

IMPLICATIONS: Seated BRET may be a valuable exercise mode for upper extremity training and conditioning and an alternative to upper extremity aerobic exercise and can be initiated at lower exercise workloads for deconditioned patients.