

Actigraph-assessed, moderate-to-vigorous PA was 40.9 (IQR 98.5) min/wk in Energize! versus -7.0 (IQR 43.4) min/wk in control (p=0.04).

CONCLUSIONS: This fully automated PA program, which could be scaled to enroll many individuals at minimal cost, demonstrated high program engagement and satisfaction, with a modest, yet significant effect on PA. Participants will be followed until 24 weeks to assess the longer effects of the program.
Legoretta Cancer Center at Brown University

D-33 Free Communication/Poster – Mixing Chamber

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Beyond The Gym: Investigating Post-exercise Hypotension In Outdoor Activities

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PURPOSE: Arterial Blood Pressure (BP) is strongly influenced by physical activity. The temporary decrease in BP following activity is known as Post-Exercise Hypotension (PEH). Literature suggests that a viable alternative to conventional gym-based activities is found in outdoor activities, such as walking and hiking. Therefore, the aim of this study was to investigate PEH following hiking.

METHODS: The study included 11 subjects (age:24.3±1.1 years; body mass: 69.3±13.4 kg; height:1.7±0.1 cm; BMI 23.5±2.6 kg/m²). Volunteers completed a field session involving a selected hike (length ~3800m). Systolic Blood Pressure (sBP) was measured 15-min before (PRE), immediately after (POST), 15-min (POST-15) and 30-min after (POST-30) the hike. Means, standard deviations and range of PRE, POST, POST-15 and POST-30 sBP were calculated for all subjects. PEH was calculated as the difference between sBP PRE and sBP POST-30 measurements. Repeated measures mixed models were applied to examine the effects of the hiking on subject's sBP. Subjects were considered the random effect, whereas the measurement time (PRE, POST, POST-15 and POST-30) were treated as the fixed effect. Statistical significance was set at p<0.05.

RESULTS: Significant reductions in sBP after hike were observed. Significant differences were found between PRE and POST-15 (p=0.000), resulting in 13.8 mmHg of PEH and PRE and POST-30 (p=0.000), resulting in 17.5 mmHg of PEH. In addition, significant differences were found between POST and POST-15 (p=0.000), resulting in 7.7 mmHg of PEH and POST and POST-30 (p=0.000), resulting in 11.4 mmHg of PEH. No significant differences were found between PRE and POST and POST-15 and POST-30.

CONCLUSIONS: The occurrence of PEH was consistently observed, emphasizing its manifestation independent of the PRE session sBP. This not only underscores the capacity of hiking to induce PEH but also suggests it as a potential strategy for promoting reductions in sBP. The implications of these findings extend beyond the immediate post-exercise period, pointing to hiking as a valid modality able to simulate a sustained hypotensive response. Further research and longitudinal studies could shed light on the enduring benefits and the integration of hiking into comprehensive cardiovascular health strategies.

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Physiological Drift During Training Vs Incremental Talk Test

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INTRODUCTION: The Talk Test (TT) response during incremental exercise has been proposed as a method of identifying physiological training zones. The equivocal (EQ) stage of the TT is proposed as a marker of Ventilatory Threshold (VT) and may be an indicator of Zone 1 training. The TT has also been suggested to overestimate VT. This study extends previous findings (Jeans *JSCR* 23: 590, 2011) relative to TT drift during steady state training vs incremental TT (2 min stages, 31 word speech anchor).

METHODS: Well-trained young adults performed incremental exercise to define the EQ, the last positive (LP) and the last positive minus1 (LP-1) TT stages, then performed randomly ordered LP-1, LP and EQ sessions of running (n=12), uphill walking (n=12) or cycling (n=2) (40 min).

RESULTS: During LP-1 and LP stable conditions were observed for %HRmax, RPE (<4/10), blood lactate & TT score, with similar responses between modes.

During EQ, all values drifted substantially (%HRmax=98%, RPE=7/10, blood lactate=6 mmol/l⁻¹, TT score=2.4/3)

CONCLUSIONS: Training intensity based on incremental TT of LP-1 and LP provide conditions suitable to identify Zone 1 training intensity, and display minimal drift.

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A Glucocorticoid Receptor Gene Polymorphism (BclI) Is Associated With Cardiorespiratory Fitness

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Gene-environment interactions can influence health outcomes and genetic variation may impart resilience or vulnerability. Specialized military groups often seek methods to enhance their physical fitness even when it is categorized as superior. Individualized training that considers genetic predisposition to yield improvement is one such approach. We have previously demonstrated that genetics can significantly impact mental health, stress responses, and cardiorespiratory fitness (CRF).