



963 Board #279 June 1, 3:30 PM - 5:00 PM
Reliability of Perceived Discomfort when Walking with Different Blood Flow Restriction Pressures in Young Adults
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 (No relationships reported)

Previous studies using blood flow restriction (BFR) with low intensity aerobic exercise report increases in muscle hypertrophy, strength, and aerobic capacity without muscle damage; however, BFR exercise can be uncomfortable. **PURPOSE:** To assess the reliability of perceived discomfort when walking with BFR at different restrictive pressures. **METHODS:** Seventeen men and 15 women (aged 24.09 ± 4.14 yr) visited the laboratory 8 times. On the first and 2nd visit, subjects completed paperwork, screening and completed a familiarization session which included pre and post MVC of the right quadriceps and walking on a treadmill for 10 min at 3.5 mph and at 50% of total occlusion pressure. During the 3rd – 8th visits, each separated by 24 hrs, subjects performed pre MVC and immediate post MVC following 20 min of treadmill walking using BFR cuffs at a randomized pressure of 40%, 50%, or 60% total occlusion pressure. RPE and perceived discomfort were assessed at the end of treadmill walking. **RESULTS:** There were no significant day (1 vs 2), time (pre vs post) and condition (40%, 50%, 60%) effects or interactions for MVC (repeated measures ANOVA) and RPE (Wilcoxon Signed Ranks Test). Although no differences in discomfort were found for 40% and 50% ($p \geq 0.05$), discomfort at 60% was significant ($p = 0.021$) between visits with day 2 significantly less than day 1 (2.5±1.9 vs 3.3±2.1, respectively). Additionally, intraclass correlation coefficients between days were only moderate and ranged from 0.64–0.79 for RPE and from 0.69–0.85 for discomfort across occlusion pressures. **CONCLUSION:** 20 min walking exercise with BFR at 40%, 50%, or 60% elicited no changes in MVC and RPE, however, only discomfort at the highest pressure was different between days, suggesting that subjects could not distinguish differences in occlusion pressure between 40% and 60% of total occlusion.

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Dynamic Balance Performances: Effect of Visual Biofeedback
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Effective balance requires an integrative use of visual, vestibular, and somatosensory systems, aiming at maintaining the projection of the center of gravity within the base of support. However, scarce information is available about the effects of visual feedback on dynamic balance performance.

PURPOSE: To evaluate the influence of visual biofeedback in dynamic balance performances. **METHODS:** 28 (15 female, 13 male) subjects (age: 25.5±3.3 years; weight: 64.0±12.7 kg; height: 167.4±10.3 cm; BMI: 22.6±2.4) volunteered to participate in the study. Dynamic balance performance was assessed on a wobble board (Balance Board WSP, GSJ Service, Rome, Italy; diameter=40cm) as the time spent in the target zone (TZ, diameter=6.3cm) displayed on a screen and the length of center of gravity trajectory (CoG). Participants were asked to stand barefoot on the wobble board with a comfortable double leg stance, keeping their hands on their hip. After a 3-minute familiarization, three 30-second trials were performed with 1-min sitting recovery in between during two randomized conditions (BF, looking at the screen showing real

time performance) and without (NBF, looking at a black wall) visual biofeedback. Differences between performances ($p < 0.05$) were assessed by repeated measures ANOVA.

RESULTS: Differences ($p < 0.01$) emerged in TZ and CoG with better performances in the BF condition (TZ: Female=11.4±4.6s; Male=8.5±6.4s; Total=10.1±5.6s; CoG: Female=893.8±182.7cm; Male=977.1±425.3cm; Total=932.5±315.4cm) with respect to the NBF (TZ: Female=6.3±2.8s; Male=3.8±3.2s; Total=5.1±3.2s; CoG: Female=1023.1±262.9cm; Male=1156.2±469.3cm; Total=1084.9±371.9cm) one.

CONCLUSIONS: Results highlight that BF may improve dynamic balance performances assessed on a wobble board with respect to NBF condition, by facilitating accuracy and goal directedness of postural control. This could impact training and evaluations protocols especially when special populations (i.e., athletes, children, elderly and people with balance disorders) are involved.

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A Survey of Quality of Life of College Students in China
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Quality of life (QOL) of college students is defined as college students' perception on their learning, living and things in relation to one's all-round development in societal backgrounds and it consists of five domains, i.e., physical, psychological, behavior, environment and social support.

PURPOSE: To survey QOL of college students in China so that lifestyle intervention for this population can be better designed.

METHODS: Through a multistage and random sampling, a total of 2,100 college students in Jiangsu, China were surveyed by a validated five-domain QOL questionnaire.

RESULTS: A total of 1,950 (male%=43.2%; age in yr.=21.1±1.5) questionnaires were collected effectively, representing a response rate of 92.86%. The mean±SD of five domains (the score range of each domain is from 1 to 100) are: Physical domain=59.54±12.95, Social support= 59.36±18.05, Environment=58.28±15.54, Psychological=57.66±8.97, and Behavior= 57.36±10.74, respectively. The correlations among domains are summarized below:

	Physical	Psychological	Behavior	Environment
Psychological	0.305			
Behavior	0.277	0.583		
Environment	0.169	0.293	0.321	
Social Support	0.107	0.255	0.266	0.201

According to the evaluation criterion developed for this questionnaire (i.e., 0~37.5= Poor, 37.6~62.5= Normal, 62.6~87.5=Good, & 87.6~100=Very good), most of the Chinese students' perceived QOL was within the normal range. Considering they are young, healthy, and with little real-life pressures, an average score below 60 was unexpected, this is especially true for physical domain.

CONCLUSION: While the survey scores college students in Jiangsu, China are in the normal range, their perceived QOL was lower than expected, indicating that targeted intervention to this population, such as participating more physical activities, getting more support from their schools, and etc.

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966 Board #282 June 1, 3:30 PM - 5:00 PM
Effects of External Counterpulsation in Healthy Adults: From Physio-Psychological Perspectives
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External counterpulsation therapy (ECP) is a non-invasive treatment to relieve symptoms related to cardiovascular diseases. Research has shown positive effects of ECP in patients with coronary heart diseases. However, the benefits of ECP in the general population remain unknown. **PURPOSE:** To investigate the effects of ECP on healthy middle-age adults from physio-psychological perspectives. **METHODS:** 25 participants underwent 30 half-an-hour ECP sessions two to three times a week. They were randomly allocated to either a high- (H: 3.0 psi) or low-pressure (L: 0.5 psi) condition. All participants performed a submaximal treadmill exercise trial before ECP (Pre), Post 15 ECP (Post- 15) and after 30 ECP (Post- 30) sessions. Predicted maximal oxygen uptake ($\dot{V}O_{2max}$), ventilatory breakpoint (Vpt), and lactate threshold (LT) were