

THE LOW-INTENSITY RESISTANCE TRAINING WITH BLOOD FLOW RESTRICTION PROMOTES SIMILAR VASCULAR ADAPTATION TO HIGH-INTENSITY RESISTANCE TRAINING IN YOUNG HEALTHY MALES

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Background: Resistance training with blood flow restriction (BFR) can increase muscle size and strength like a traditional high-intensity resistance training (HIRT). However, few studies investigated the vascular response to resistance training with BFR. **Aim:** Evaluate the vascular response of healthy young males submitted to resistance training with BFR or HIRT. **Methods:** The study was conducted with humans. Twenty-eight male individuals (23.96 ± 2.67 years) were randomized in two groups, high-intensity (HI) and Low-Intensity with BFR (LI-BFR). The loads were determined at 80% of 1RM for the HI group and 30% of 1RM for the group LI-BFR. The vascular response was assessed by the flow mediated dilatation (FMD), dosage of nitric oxide by-products nitrite and nitrate (NOx), and antioxidant capacity by superoxide dismutase (SOD) activity. Data was compared by independent t-test between groups and significance was $p < 0.05$. **Results:** NOx concentration was $104.4 \pm 6.5 \mu\text{M}$ vs $120.2 \pm 9.3 \mu\text{M}$ for HI group; $101.1 \pm 8.5 \mu\text{M}$ vs 119.9 ± 10.3 for LI-BFR, pre and post training respectively. There was no significant difference between groups. However, after eight weeks of training NOx was significantly greater in both groups HI and LI-BFR. There was no significant difference in pre and post-study FMD ($5.4 \pm 2.6 \%$; $6.8 \pm 1.8 \%$) for HI group, and for LI-BFR group ($4.1 \pm 1.0 \%$; $6.5 \pm 1.9 \%$). Between the groups there was no significant difference. The activity of SOD in the OC group (pre training) showed a significant difference between the moments pre and post of acute session. Comparing the groups OC and HI there was a significant difference on pre training for the moments post to the group HI. **Conclusion:** The BFR training seems to promotes similar adaptation to HIRT. Study approved by Ethics Commission at Methodist University Center (364.202.)

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