*TACSM Abstract*

# The Effects of Blood Flow Restriction Training on $VO_{2Max}$ and 1.5 Mile Run Performance

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ABSTRACT

Blood flow restriction (BFR) training is a training strategy involving the use of cuffs or wraps placed around a limb during exercise to maintain arterial inflow to the muscle while preventing venous outflow. Blood flow restriction training with resistance has been shown to improve muscular power, sprinting speed, strength, hypertrophy and endurance. Non-resistance training methods using BFR, such as walking, may increase strength and hypertrophy however the effects on aerobic capacity are less uncertain and the research in this area is limited. **Purpose**: to evaluate the effects of three weeks of BFR walk training on $VO_{2max}$, 1.5 mile run times, and muscular size. **Methods:** Ten well trained males underwent three weeks of lower extremity BFR walk training. Pre-and post-measurements of $VO_{2max}$, 1.5 mile run times, and thigh muscle cross sectional area were recorded. **Results:** Blood flow restriction walk training resulted in significant improvements in $VO_{2max}$ ($p$=.034), significant decreases in 1.5 mile run time ($p$=.024) and significant increases in thigh muscle cross sectional area ($p$=.016). **Conclusion:** BFR walk training represents a singular training methodology for improving aerobic capacity, endurance and muscular size at low training volumes and intensities. This may be beneficial for individuals undertaking concurrent strength and endurance training.