

Impact of Blood Flow Restriction Aerobic Training at 40% and 60% Occlusion Pressure on Body Composition in Sedentary Young Adults: A 4-Week Randomised Pilot Study

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ABSTRACT

Introduction: Training with Blood Flow Restriction (BFR) has become a popular way to improve exercise results at lower intensities. The relative effects of various occlusion pressures on body composition in sedentary populations; however, it is not well supported by data.

Aim: The purpose of this pilot study was to examine how aerobic exercise with arterial occlusion pressures of 40% and 60% affected the Body Mass Index (BMI) and Waist-Hip Ratio (WHR) of sedentary young adults.

Materials and Methods: Using computer-generated randomisation, 30 sedentary young individuals were gathered and divided into two intervention groups. For four weeks, both groups engaged in three sessions of supervised treadmill training using the modified Bruce protocol, along with BFR at 40% or 60% Arterial Occlusion Pressure

(AOP). BMI and the WHR were measured both before and after the intervention.

Results: Repeated measures Analysis of Variance (ANOVA) was used in the statistical analysis to evaluate both between-group differences and within-group differences changes over time. Both groups showed changes in the body composition, with WHR and BMI possibly declining more at 40% AOP was higher than at 60% AOP.

Conclusion: This pilot investigation will help guide future large-scale clinical trials by offering initial data on the ideal occlusion pressure for BFR aerobic exercise to change body composition in inactive young adults.

Keywords: Blood flow restriction therapy, Body mass index, Exercise, Sedentary Behaviour, Waist-Hip Ratio

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