

## **Demonstrating the Effects of Blood Flow Restriction During Online Strength Training in Older Adults**

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Blood Flow Restriction (BFR) training entails limiting perfusion to specific body areas, allowing low-intensity exercise to simulate the effects of high-intensity workouts. Combining BFR and online exercise classes is a novel way of potentially improving both effectiveness and accessibility of training to an older population. It is essential to maintain strength as we age in order to avoid or manage physiological conditions like sarcopenia and osteoporosis. **PURPOSE:** To investigate whether five weeks of online low-intensity resistance training, with or without BFR, leads to improvements in strength among older adults. **METHODS:** Men and women (mean age =  $70 \pm 5.6$ ) participated in five weeks of online classes twice a week. 14 individuals wore adjustable BFR straps at the proximal thigh while 14 were randomized into a control group, with four needing to withdrawal from the study due to medical and personal reasons. (n=24). Strength of the hamstrings and quadriceps was assessed using a Biodex system 4 pro, prior and post exercise classes. **RESULTS:** After the intervention is completed, both the BFR and control group improved in quadricep and hamstring strength. The BFR group displayed a 108.3% increase in their quadricep strength while the control group increased by 91.7%. A one-way Anova was completed to determine if there were significant changes between and within the groups over five weeks. Changes in strength were not found to be significant ( $p>0.05$ ) suggesting there was not a sufficient amount of time to improve strength. **CONCLUSION:** Improvements were observed in both groups, indicating potential benefits. However, to conclusively determine whether low-online resistance training can effectively enhance strength with BFR in older adults, a more extensive intervention period is necessary.