

To Alter or Not to Alter the Cuff Pressure Over an Intervention Period in Blood Flow Restriction Training?

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DESCRIPTION

Blood flow restriction (BFR) training combines exercise with a pressurized cuff to partially reduce muscular blood flow. In both healthy and clinical populations, BFR training has been used to increase strength and muscle growth. Blood flow restriction pressure (BFRP) administered during an exercise bout is a major methodological concern of BFR training. Although some studies have found that increasing BFRP during a training intervention is beneficial, it is uncertain if BFRP changes are necessary to maintain an appropriate BFR during the training time. While BFR-induced neuromuscular adaptations have been extensively researched, circulatory alterations during BFR training and their putative link with BFRP are less well characterized. The goal of this study was to examine the necessity for BFRP adjustments based on cardiovascular results and to point researchers in the right path for future studies. We conducted a review of the literature and looked at twenty-nine studies that looked at cardiovascular adaptations after BFR training. Healthy middle-aged adults, elderly persons, and clinical patients took part in the investigations. During the training phase, the cuff pressure was increased when it was adjusted. The cardiovascular outcomes, on the other hand, did not support an increase in cuff pressure. Avoiding cuff pressure increases, on the other hand, may reduce the discomfort, suffering, and hazards associated with BFR therapies, especially in clinical populations. Because the cardiovascular adaptations caused by BFR training are contradictory, determining whether BFRP should be increased or decreased is difficult. Based on the results, we recommend that future research look into whether

keeping or lowering cuff pressure makes BFR training safer and/or more comfortable while requiring equivalent physiological adaptation. During exercise, blood flow restriction (BFR) is a training strategy that partially restricts arterial inflow while completely restricting venous outflow in the working muscles. Dr. Yoshiaki Sato in Japan coined the term "kaatsu training," which means "training with additional pressure," to describe exercising with reduced blood flow obtained by restricting the capillaries proximal to the muscle. Kaatsu training, often known as "BFR training," is currently done all over the world and involves the use of a pneumatic tourniquet device. Dr. Yoshiaki Sato of Japan invented the phrase "kaatsu training," which translates to "added pressure training," to describe exercising with reduced blood flow achieved by confining the capillaries proximal to the muscle. Kaatsu training, also known as "BFR training," involves the use of a pneumatic tourniquet device and is being used all over the world. When the cuff is inflated, the vasculature underneath the cuff is gradually mechanically compressed, resulting in partial limitation of arterial blood flow to structures distal to the cuff, but more severely affecting venous outflow from underneath the cuff, which is thought to obstruct venous return. The vascular proximal to the skeletal muscle is compressed, resulting in insufficient. The purpose of this paper was to provide an overview of the adjustments to various BFR modes, application methods, and safety considerations. The authors suggest combining BFR with various types of exercise (resisted, aerobic, passive), taking into account volume and intensity, as well as cuff pressure, restriction time, size, and cuff material.

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