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Effects of Blood Flow Restriction Training on Various Physiological Factors among Different Population: A Narrative Review

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Abstract

Purpose: Blood flow restriction (BFRT) is a recent rehabilitation modality in which a tourniquet is used to reduce arterial inflow and occlude venous outflow along with a set of exercise or resistance training. This study highlights various aspects and physiological factors which are affected by BFRT along with different exercise regimens. **Relevance:** BFRT provides advantages over traditional resistance training (moderate-heavy) as it provides muscular adaptations and increase in muscle cross sectional area despite relatively low external loads, producing less muscle damage and increasing frequency of training. Traditional resistance training usually used exercise loads of 70% of 1 repetition maximum (1RM) and it is known that stress on connective tissues can be detrimental for elderly population and rehabilitative patients, but in BFRT only 20%-40% of 1RM in studies have shown consistently to increase muscle strength, hypertrophy and angiogenesis. It is very popular among practitioners, researchers, physiotherapists and athletes to increase muscle mass, endurance, strength and functional performance or activity of daily living. Studies show that resistance exercises coupled with BFRT are diverse which include body weight exercises, lower body exercises, upper body exercises, in-water exercises, older populations or clinical cases. **Participants:** Total 15 articles were included and reviewed. Only full text articles from past ten years were included in this review. **Methods:** A literature search was performed using Google Scholar and PubMed using terms blood flow restriction, resistance exercise, 1 repetition maximum.

Keywords: *Blood flow restriction training, resistance exercise, 1 repetition maximum.*