The Efficacy of Using Blood Flow Restriction Training on Proximal Muscle and Joint Rehabilitation: A Systematic Review

Authors: Evan Brown SPT, Bailey Brugler SPT, Matthew Cuomo SPT, Tristan Wright SPT, Johnathan Warg SPT, Joshua Wilkes MSPT

MISERICORDIA UNIVERSITY

Introduction

- BFRT is a technique used to induce the same effects as a high-resistance, high-load workout with a low-load[3-6]
- BFRT research has already shown the positive on distal rehabilitation[4,9]
- No previous systematic review have been completed on the effects of proximal musculature and joint rehabilitation

Physiology of BFR

- Occlusion of venous blood flow while restricting arterial flow[1,7]
- Pooling of capillary blood which leads to a decrease in oxygen and an increase in metabolic stress[1,7]
- Because of decreased oxygen Type 2 fibers are recruited[7]
- Anaerobic mechanisms occur which causes an overall anabolic response which translates to muscle hypertrophy among other benefits[7]

Use For Rehab Professionals

- Post-surgical patients are unable to use high-load training[3-6]
- Can use as low as 20% of patients 1-RM[3-6]
- Safer than other non-medical techniques (ie compression bands)[11,12]

Abstract and References

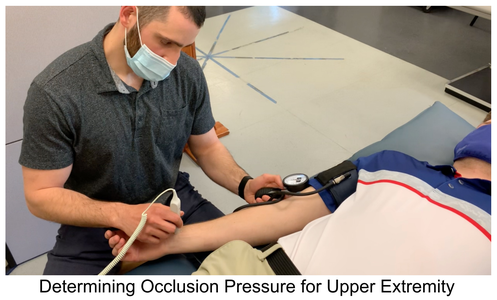
Poster Audio

- Blood Flow Restriction Training leads to improvements on proximal muscle and joint rehabilitation in healthy populations as it increases muscular strength, tendon thickness, positive responses to metabolic stress, and hypertrophy through systemic and vascular effects.[2, 4, 7, 9, 13-18]

- Based off our findings, we recommend future research implements the use of a standardized protocol in order to allow for generalizability. It is also suggested to examine the use of BFRT on individuals with proximal joint injuries/dysfunction and or with comorbidities.

Fit Cuffs and Doppler Ultrasound

Varying Widths for Pressure Dispersion



Determining Occlusion Pressure for Upper Extremity

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