The Acute Effects of Blood Flow Restriction Therapy with 100% Occlusion on Vastus Medialis Oblique Muscle Thickness and Insertion Angle

Acute Effects of BFR Therapy with 100% Occlusion on VMO Muscle Thickness

nd benefits of this study through the IRB approved
stories obtained, subjects were measured for height,
kle-brachial index.

and after five, 5-minute bouts of 100% occlusion using
rtion angle was measured before and after five
etween inflation periods. VMO thickness and insertion
c ultrasound unit.

280.25 Ɐ DC26 0 Td6D50 Td1.i3.3 (n)10.2 (g ad)-0.7 (5 Ɐ 7c).3 r6 Tc 0 T6 Tc 0 MO

Results: Subject demographics were 21.08 +/-1.56 yrs of age, 66.75 +/- 4.
148.33 +/-29.48 lbs. Average resting heart rate and blood pressure was 71
respectively.

VMO insertion angle increased significantly (t(11) = -6.633, p=0.00) from 4
pre-test to post-test. The one-way repeated measures ANOVA revealed a s
(F(5,50)=13.97, p=0.00) for VMO thickness across time. Pairwise compariso
increased significantly (p=.011) from pretest (M=2.49 , SD= +/-.422) to (M=
first occlusive bout. VMO remained elevated when tested following the fin

Discussion: We believe this to be the first investigation involving the measu
angle and thickness during blood flow restriction therapy using 100% occlu
that both VMO insertion angle and muscle thickness were altered by this th
Several unanswered questions remain in this research line pertaining to hea
with pathology in reference to VMO thickness and insertion angle. Further
identify if these variables revert back to pre-exercise levels after an acute b
a role in affecting these variables acutely, or how chronic BFRT can affect th

Clinical Relevance: Published data demonstrates clinical and functional ben
basic physiological changes such as muscle thickness and insertion angle, w