

2. SWACSM Abstract

Short-duration Massage Does not Affect Grip Strength in Rock Climbers

TAYLER S. AH NEE ¹ & CHRISTOPHER G. BERGER ²

¹Physical Therapy; A.T. Still University; Mesa, ARIZONA; ²Kinesiology and Health Studies; University of Central Oklahoma; Edmond, OKLAHOMA

Category: Undergraduate

Advisor / Mentor: Berger, Christopher (aucgb@outlook.com)

ABSTRACT

Handgrip strength (HGS) is now viewed as an index of overall health and may even be prognostic for conditions that include cancer and cardiovascular disease. Consequently, it is important to understand influences on HGS, one of which may be forearm massage. **PURPOSE:** The aim of this study was to test the hypothesis that a bout of short-duration massage would augment HGS in rock climbers, a population for which massage is commonly employed and HGS is acutely important. **METHODS:** Subjects included fifteen female (age 28 ± 7 yr; height 165.8 ± 5.5 cm; weight 63.1 ± 11.7 kg) and fifteen male (age 26 ± 5 yr; height 179.2 ± 9.8 cm; weight 72.5 ± 12.1 kg) experienced rock climbers. Experience was quantified using self-reported Yosemite Decimal System scores (group mean 5.11 ± 0.01). Following a brief warmup of the wrist flexors, wrist extensors, and finger flexors, HGS was measured bilaterally using a Smedley-type dynamometer with the highest of three trials flagged for data analysis. Subjects squeezed the dynamometer while standing with the elbow at 180° . Verbal encouragement was provided. Forearm massage of the self-reported dominant limb was provided only by the lead author. Strokes included effleurage (1 min), wringing (1 min), and petrissage (3 min) using grapeseed oil. During massage, the non-dominant limb rested and subsequent measures of this limb HGS served as controls. Following massage, subjects were re-measured for bilateral HGS and the resulting data were interpreted using Student's *t* for dependent measures. **RESULTS:** Following massage, dominant limb HGS increased by 1.0% and non-dominant limb (control) HGS increased by 1.4% for the group. These measures were not statistically significant for either female ($t(14) = -0.16, p = 0.88$) or male ($t(14) = -0.58, p = 0.58$) subjects. Effect sizes computed using Cohen's *d* suggested that short-duration massage has no constructive influence on HGS for either female ($d = 0.015$) or male ($d = 0.05$) experienced rock climbers. **CONCLUSION:** Short-duration massage of the forearm musculature does not seem to affect HGS in experienced rock climbers.