



Mid Atlantic Regional Chapter of the American College of Sports Medicine

Annual Scientific Meeting, November 5th- 6th, 2021
Conference Proceedings
International Journal of Exercise Science, Issue 9, Volume 10



Comparison of Self-Myofascial Release Methods on Ankle Range of Motion, Balance, and Patient Reported Comfort

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Exercise has been shown to elicit an inflammatory reaction in response to both acute and chronic exposures. The impact of this inflammation, if not treated, can be detrimental to function, training ability, and performance. These negative effects have been frequently treated through a variety of therapeutic interventions, including self-myofascial release (SMR). In SMR, the patient combines his/her weight with an external device, i.e., a foam roller, band, or massage stick, and movement to mobilize soft tissue restrictions. While SMR methods appear to be beneficial, the efficacy of various tools and their effect on balance, range of motion, and patient comfort are not fully known. **PURPOSE:** The purposes of this project were to examine the acute effects of the CTM Band (CTMB) or foam roller (FR) on ankle dorsiflexion (DF) range of motion, ankle stability, and patient-related comfort. **METHODS:** Subjects completed the Physical Activity Readiness Questionnaire (PAR-Q) prior to participation. After completion of a standardized stationary bike warm up, ankle range of motion was measured using the weight bearing lunge test (WBLT). Visual analog scale (VAS) for patient comfort was assessed during and 5 minutes post-treatments. Balance was assessed using the anterior reach portion of the Y-balance test (YBT) due to its relationship with ankle instability. **RESULTS:** Fourteen female subjects (n=14, 18-21 years old) participated. No significant changes in ankle range of motion (WBLT) or balance (YBT) after treatment with the CTMB (29.43 ± 3.76 , 30.57 ± 3.72 , $p=0.56$; 62.57 ± 6.12 , 62.72 ± 6.11 , $p=0.087$) or FR (31.71 ± 3.26 , 31.21 ± 4.09 , $p=0.22$; 60.72 ± 5.66 , 61.73 ± 5.68 , $p=0.80$) were found. There were significant differences in the VAS scale during-treatment ($t= -9.33$, $p< 0.001$) and post-treatment ($t= -3.05$, $p=0.009$). **CONCLUSION:** A single treatment with a FR or CTMB was not enough to increase ankle DF, but did not negatively affect ankle stability. Patient comfort should be considered when choosing SMR tools or techniques.