TACSM Abstract

Effects of Massage Gun Treatment on Calf Muscle Soreness

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ABSTRACT

Massage gun devices are relatively new and verification of their claims to reduce muscle soreness is needed. **PURPOSE**: The purpose of this study is to determine the effects of percussive treatment using a massage gun on calf muscle soreness. **METHODS**: The session included measurement of age (22.5±4.0), height (164.1±9.6), and body weight (77.7±15.9) for 37 participants, Participants performed one trial of heel raises with a 4.5 kg (males) or 2.3 kg (females) dumbbell to a 70 b/min cadence to exhaustion, followed by 1-min rest and another trial in the same way but without weight. Two types of written scales (VAS and interval) were provided for evaluation of soreness at 24- and 48-hrs. IBM SPSS V29 (Chicago, IL) was used to analyze the data. Friedman's test and Spearman's rho correlations were with Alpha set at .05. **RESULTS**: There were no significant differences in calf muscle soreness at the 24 hour and 48 hour time points, $\chi^2_{(3)}$= 4.146, p = .246 using the VAS scale. There were no significant differences in calf muscle soreness at the 24 hour and 48 hour time points, $\chi^2_{(3)}$= 3.712, p = .294 using the interval scale. There was a moderately strong positive relationship in soreness rating of the right and left calf at 24 hrs ($r_{(35)}$ = .64, p=.001) as well as 48hrs ($r_{(35)}$ = .67, p=.001) using the VAS rating scale. The interval scale also indicated a moderately strong positive relationship in soreness level of the right and left calf at 24 hrs ($r_{(35)}$ = .59, p=.001) as well as 48hrs ($r_{(35)}$ = .77, p=.001). **CONCLUSION**: It does not appear from this study that massage guns effectively reduce muscle soreness considering no significant differences in muscle soreness were found between the control calf and the treated calf. The stimulus may not have been strong enough or lasted long enough to effect circulation or other means of healing effect. Future studies can explore different brands of massage guns as well as if duration and occurrence have different effects on muscle soreness.