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Application of a Floss Band at Differing Pressure Levels: Effects at the Ankle Joint

Abstract: The study aimed to examine the effects of different levels of pressure on ankle range of motion (ROM), strength, and power performance. A parallel-group design was used, and subjects were divided into 3 groups. After a warm-up and preintervention testing (ankle goniometry using a manual handheld goniometer and isokinetic dynamometry using a HUMAC NORM isokinetic dynamometer), subjects had underwrap (control) or a tissue flossing band, at 150 mmHg (FLOSS150) or 200 mm Hg (FLOSS200) applied to one of their calves, followed by postintervention testing. Thirty university students participated and completed the testing in a university laboratory: dorsiflexion ROM (DFROM) and plantarflexion ROM (PFROM), peak torque, and power. A repeated-measures analysis of variance with Tukey post hoc showed no statistically significant differences ($p > 0.05$) preintervention to postintervention between each group, except for DFROM in FLOSS150 ($p < 0.05$). Medium and small effect sizes preintervention to postintervention were associated with improvements of DFROM (0.61; 95% confidence interval [CI] 0.39–0.83) and dorsiflexion power (0.29; 95% CI -0.13 to 0.72), respectively, in FLOSS150, while the effect size of PFROM preintervention to postintervention was 20.35 (95% CI -0.85 to 0.15) in FLOSS200. Tissue flossing of the ankle joint may be a useful intervention for increasing dorsiflexion ROM and power, which can be useful for injury prevention, enhancing performance and improving functional ability; however, the potentially harmful effects of the technique should be considered.

Key Words: tissue flossing, mobility, range of motion