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### The Effect of Static and Dynamic Stretching on Power Output in Dancers

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Flexibility and power output are two critical components of dance performance; however, recent research suggests that acute bouts of stretching may decrease muscular power. **PURPOSE:** The purpose of this study was to compare the effects of dynamic stretching (DS) and static stretching (SS) on muscular power in dancers. **METHODS:** 12 female, collegiate dance majors volunteered for this study. The subjects attended a familiarization session, gave informed consent, and were oriented to all testing procedures. Three different experimental sessions were conducted in randomized order for each stretching condition: DS, SS, and no stretching (NS), with a minimum of 48 hours between testing days. Each session began with a warm-up (5 min walk) followed by a guided stretching protocol, specific to dancers, for each condition. Muscular power (peak torque, Watts) was obtained for the plantar/dorsiflexors with an isokinetic dynamometer (60°/s and 180°/s) and vertical power (W/kg BW) was obtained using both a squat (SJ) and countermovement jump (CMJ). One-way ANOVA with repeated measures with Tukey HSD post-hoc tests were conducted to determine significance ( $p \leq 0.05$ ) for each variable. **RESULTS:** The results indicated that there were no significant differences for the power output of dancers after incorporating DS, SS, or NS as part of a warm-up. Isokinetic muscular power isolating the plantar flexors demonstrated no significant difference at 60°/s (DS,  $57.1 \pm 22.7$  W; SS,  $57.8 \pm 28.4$  W; NS,  $62.7 \pm 19.3$  W,  $p = 0.82$ ) or at 180°/s (DS,  $28.3 \pm 9.50$  W; SS,  $30.5 \pm 14.7$  W; NS,  $32.2 \pm 16.2$  W,  $p = 0.76$ ). In addition, measurements of power incorporating whole body power demonstrated no significant difference in jump height for the SJ (DS,  $21.05 \pm 3.36$  cm; SS,  $20.83 \pm 3.55$  cm; NS,  $20.9 \pm 3.14$  cm,  $p = 0.893$ ) or the CMJ (DS,  $23.8 \pm 3.9$  cm; SS,  $23.7 \pm 5.7$  cm; NS,  $24.7 \pm 6.8$  cm,  $p = 0.98$ ). **CONCLUSION:** Although some research suggests that varying form of stretching may decrease muscular power, this study suggests that neither acute static stretching nor dynamic stretching will elicit a significant change in muscular power in dancers.