

## Effects of the Amount of Static Stretching on the Knee Isokinetic Muscle Strength

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**Abstract :** The purpose of this study was to investigate the effect of the amount of acutely static stretching on muscular strength and power. There were 15 males, and 7 females recruited voluntarily as the participants in the study. The mean age, body height, and weight of participants were  $23.4 \pm 2.8$  years old,  $171.0 \pm 7.2$  cm, and  $65.7 \pm 8.7$  kg, respectively. Participants were repeated to stretch hamstring muscles 2 or 6 30-s bouts randomly on a separate day spaced 5-7 days apart in a passive, static, sit-and-reach stretching exercise. Before and after acutely static stretching, the Biodex System 4 Pro was used to acquire the peak torque, power, total work, and range of motion for right knee under the loading of 180 deg/s. The 2 (test-retest)  $\times$  2 (number of stretches) repeated measures two-way analysis of variance were used to compare the parameters of muscular strength/power ( $\alpha = .05$ ). The results showed that the peak torque, power, and total work increased significantly after acutely passive static stretching ( $p < .05$ ) in flexor and extensor of knee. But there were no significant differences found between the 2 and 6 30-s bouts hamstring muscles stretching ( $p > .05$ ). It indicated that the performance of muscular strength and power in knee flexion and extension do not inhibit following the increase of amount of stretching.

**Keywords :** knee, power, flexibility, strength

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