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## **EFFECT OF RADIAL EXTRACORPOREAL SHOCK WAVE THERAPY ON MUSCLE POWER OUTPUT IN THE MAJOR THIGH MUSCLE GROUPS**

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**Abstract**

*Joo et al. (2024) reported that a single application of radial extracorporeal shock wave therapy (rESWT) improved jump performance, suggesting an acute power-facilitating effect. However, few studies have quantitatively examined the immediate effects of rESWT on major lower-limb muscle performance in athletes using isokinetic testing. This study investigated the acute effects of rESWT on repeated isokinetic knee extension–flexion performance in collegiate athletes. Eight healthy female collegiate athletes completed a within-subject controlled design. Participants performed two isokinetic knee extension–flexion trials at 60°/s for five maximal repetitions using a CYBEX dynamometer. In the rESWT condition, rESWT (3.5 bar, 20 Hz; 3000 shocks × 2) was applied to the quadriceps before the first trial and again during the rest interval between trials; no rESWT was administered in the control condition. Compared with control, total work during knee extension tended to be higher after rESWT. In addition, the typical decline*

*in peak knee-extension torque (~3%) observed across repeated trials was largely attenuated (~0.5%) under rESWT. These findings indicate that rESWT may help maintain knee-extensor performance under repeated loading. Potential mechanisms remain speculative but may include transient increases in local circulation, reductions in myofascial stiffness, and/or neuromuscular facilitation. Overall, the present results provide preliminary evidence that rESWT could be a practical conditioning modality in sport settings.*

**Keywords:**

Radial ESWT, Quadriceps, Muscle Power, Isokinetic Strength, Neuromuscular Facilitation, Fatigue Attenuation