

The Relationship between Isokinetic Knee Strength and Squat Jump Performance

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ABSTRACT The aim of this paper was to investigate the relationship between isokinetic strength of knee flexion/extension muscles and squat jump performance. Twenty-two students (age 23.13 ± 3.28 yrs; height 180.59 ± 7.87 cm; body mass 75.27 ± 7.39 kg) from the School of Physical Education and Sport Department, participated in this study. The subjects performed the squat jumping (SJ) test and their jump height was measured by using MyoTest Pro2. Biodex System 4 was used for determination of isokinetic knee strength. After a Pearson Correlation analysis in SPSS 22.0, there were significant correlations between maximum jump speed, maximum jump height and right/left extensor muscles of the Peak Torque/Body Weight at $60^\circ \cdot s^{-1}$ and $180^\circ \cdot s^{-1}$. The significant relationship between the average power that produced at $60^\circ \cdot s^{-1}$ and maximum power, maximum eccentric and concentric contractions were found ($p < 0.05$). The paper shows that knee flexor muscles have more roles in jumping performance and effected to jumping height.