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# Effect of Lumbar Flexibility on Isokinetic Quadriceps Strength: A Protocol Development Study

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## Abstract

**Background:** The isokinetic strength of quadriceps muscles is the significant health concerns in adults. Despite the proven benefits and relation of isokinetic strength of quadriceps on lumbar flexibility, most adults globally do not meet the flexible lumbar and maintain isokinetic strength of quadriceps. The proposed systematic review is the review of the factors and will provide information on the correlation associated with isokinetic strength of quadriceps and lumbar flexibility.

**Methodology:** Study participants are healthy adults. The inclusion and exclusion criteria are: 194 subjects with age 18 to 25 years and normal BMI (18.5-24.9) are included for the study and subjects are unable to follow commands and have presence of musculoskeletal pathology are excluded. The lumbar flexibility is measured with Schober's test and the isokinetic strength of the quadriceps is measured with isokinetic dynamometer.

**Discussion:** The results of this study indicate that engaging in effective strengthening exercises significantly enhances lumbar flexibility and can influence the low back pain. However, there is a need for enhanced quality in research within this domain, particularly in the identification of the myokinetic chain for lumbar and quadriceps muscles. Limited evidence exists for both younger and older populations, and there is a lack of consensus regarding appropriate outcome measures. Future research is imperative to identify and assess to gain a deeper understanding of the rehabilitation needs for individuals with compromised lumbar flexibility and quadriceps strength.

**Keywords:** *Quadriceps muscles, Low back pain, Muscle strength, Back Muscles.*