Correlations and Normative Data of Gluteal Strength and Endurance

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Study Design: Non-Experimental Correlation Study

Objective: The purpose of this study is to gather normative data and correlations for measures of gluteal strength, power, and endurance for 18-35 year-old healthy adults. Clinicians can use this data as guidelines for enhanced evaluation of gluteal function. Normative data found using measures of gluteal strength, power, and endurance can be used to better predict a safe return to the patient’s prior level of function.

Background: Currently there is little research regarding correlations between gluteal strength and endurance and how the addition of gluteal endurance training to gluteal strengthening during the rehabilitative process will provide increased readiness for return to activity.

Methods: Forty males and females aged 18-35 (average = 24.8) with no history of surgery in the last year, no history of lower extremity or back pathology, and not currently pregnant were chosen from a sample of convenience. Gluteal strength was measured with maximal isometric contractions, gluteal power was measured via vertical jump, and gluteal endurance was measured using repeated single leg bridging.

Results: There was a high correlation between gluteus maximus (GMax) strength and gluteus medius (GMed) strength (r = 0.822). There were moderate correlations between gluteal strength and endurance (GMax: r = 0.466, GMed: r = 0.454), as well as gluteal strength and vertical jump height (GMax: r = 0.477, GMed: r = 0.558). There were low correlations between vertical jump height and endurance (r = 0.278) in addition to height and endurance (r = 0.179). There was a negative correlation between self-reported hours of cardiovascular training and endurance (r = 0.226). Low correlations were found between hours of strength training and gluteal strength (GMax: r = 0.089, GMed: r = 0.127) and vertical jump height (r = 0.151).

Conclusion: The results of this study suggest gluteal endurance training in addition to power and strength training may provide a more comprehensive prevention strategy to minimize the risk of injury in healthy subjects.