PURPOSE: This study was conducted to determine the lower extremity flexors/extensors ratio of the dominant side in normal individuals during closed kinetic chain (CKC) isokinetic testing and to investigate the effect of velocity on this ratio. RELEVANCE: Although the CKC activities have been introduced and well documented as an alternative tool to evaluate patient’s ability to return to a higher functional level, limited data exists about muscle strength balance during this type of activities. This study provides the information regarding muscle strength balance in multiple joint performance, i.e. CKC activity which may help in assessment of functional performance and for injury prevention. PARTICIPANTS: Thirty healthy male subjects with a mean age of 19.8±2.9 years volunteered to participate in the study. They were free from any musculoskeletal impairment. METHODS: Each subject was asked to perform a CKC testing (leg press task) which consisted of concentric isokinetic lower extremity flexion and extension at linear velocities of 24.44 cm/sec (slow velocity), 48.89 cm/sec (medium velocity), and 73.33 cm/sec (fast velocity). The test was performed using a Biodex system 3-isokinetic dynamometer. ANALYSIS: One way ANOVA with repeated measures was performed using StatGraphics software to test the effect of the three velocities on the peak force ratio. RESULTS: The main outcome of this study was that the peak force ratios of the lower extremity flexors and extensors were 0.36, 0.48, and 0.60, at slow, medium and fast velocities respectively. There was a significant increase (p < 0.05) in flexors/extensors ratios of peak force with increased speed. The total work and average power ratios remained constant around 0.30 with no significant difference (p > 0.05) between the three tested velocities. CONCLUSIONS: Ratio of peak force is velocity dependent. When using this ratio as an evaluative tool of the leg strength, the velocity dependent changes in the flexors/extensors ratio must be taken into consideration. Total work produced and average power generated, are highly relevant measures but are not affected by increasing speed. IMPLICATIONS: The CKC ratio of isokinetic testing can be used as an alternative tool to assess the isokinetic muscle strength instead of only depending on the open kinetic chain ratio of flexors and extensors. KEYWORDS: Isokinetic, Closed Chain. FUNDING ACKNOWLEDGEMENTS: This study was not funded. CONTACT: drsobhymahmoud@yahoo.com, Nagui3@gega.net