

Original Article

IMPORTANCE OF ILIOPSOAS AND ERECTOR SPINAE MUSCLES IN PREDICTING THE FUNCTIONAL COMPETENCE OF TRANSFEMORAL AMPUTEES

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ABSTRACT

Purpose: Muscle imbalance in transfemoral amputees impair physical mobility and activities of daily living. Aim of this study was to correlate the muscle imbalance with functional competence in transfemoral amputees.

Methods: Thirty amputees were evaluated under inclusion criteria and randomly allocated into 2 groups. Group A received stretching(1 week) followed by strengthening(3 weeks) and in group B strengthening(3 weeks) were followed by stretching(1 week) . Phase I includes values after 1 week stretching program in group A and 3 weeks strengthening program in group B. Data were recorded at baseline, after phase I completion and end of treatment. Physical mobility was assessed by "Timed up and go" test.

Results: Muscle imbalance and physical mobility improved significantly in both groups at the end of treatment. The correlation values of "Timed up and go" test with Iliopsoas and Erector spinae muscle showed significant improvement in both groups.

Conclusion: Baseline measurements showed that Iliopsoas and Erector spinae muscles were tight whereas Gluteus maximus and Abdominal muscles were weak in transfemoral amputees. Functional mobility improved after correction of muscle imbalance. Stretching followed by strengthening gave more significant results than vice versa. Good posture in transfemoral amputee prevents muscle dysfunction and improves functional mobility.

KEYWORDS: Muscle imbalance, Lower cross syndrome, Stretching, Strengthening.

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INTRODUCTION

Amputation is one of the major cause of disability in India.¹ According to the Census 2001, prevalence rate of disability in India accounts 1.8% -2.2% (locomotor disability- 28%), global being 4% - 10%.²

Lower limb amputation reduces the muscle

strength of the hip muscles. Hip flexor muscle contracture limits hip extension and is associated with increased lumber lordosis. The common causes to develop muscle imbalance in Transfemoral amputees is poor posture, abnormal movement pattern, disuse, misuse and overuse.³