**ACTIVE RELEASE TECHNIQUE VERSUS MUSCLE ENERGY TECHNIQUE ON HAMSTRING FLEXIBILITY IN NORMAL ADULTS**

**RAGAB MOHAMED MARZOUK, AMIN DOAA IBRAHIM, EL-KABLAWY MAHER AHMED, ALI AYA MOHAMED**

***DEPARTMENT OF BASIC SCIENCES, FACULTY OF PHYSICAL THERAPY, CAIRO UNIVERSITY, EGYPT***

**Corresponding Author:** Ragab Mohamed, MSc, PT, Assistant Lecturer.

E-mail: mohamed.ragb@cu.edu.eg

Work Telephone: +20337617691

Mailing Address: Hadayek EL-Haram, Giza, Egypt, postal Code: 12572

**ABSTRACT**

**Background:** Hamstring muscles comprise a large percentage of acute musculoskeletal injuries. Hamstring flexibility, weakness, and fatigue are all modifiable risk factors associated with hamstring strain. Improved flexibility has long been considered a major component of preventive treatment of musculotendinous strain. Increasing hamstring flexibility can play an important role in preventing lower extremity overuse injuries. However, there is a lack of agreement as to what are the most effective techniques to lengthen the hamstring muscles

**Purpose:** To compare the effect of active release technique with muscle energy technique in increasing hamstring muscle flexibility in normal asymptomatic male adults.

**Methods:** This study was a pretest–posttest randomized controlled experimental design. Fort-five normal asymptomatic male participants with hamstring tightness were assigned randomly using a random sequence generator to one of the three study groups: Group A (first study group):13 participants received active release technique on dominant side. Group B (second study group):15 participants received muscle energy technique on dominant side. Group C (control group):17 subjects did not receive any intervention. Popliteal angle (active knee extension test) and sit-reach flexibility test were measured pre and post the intervention period.

**Results**: Post-hoc test for active knee extension test and sit-reach test among the three groups for post intervention values revealed that group (A) and group (B) resulted in significant improvement in hamstring flexibility rather than control group (C). Both groups A & B showed similar improvement in post intervention values without statistical differences between them.

 **Conclusion:** It can be concluded that both the active release technique and muscle energy technique have the same effect in improving hamstring flexibility in normal asymptomatic adults.

**Key Words:** Active release technique - Muscle energy technique - Hamstring flexibility - Active knee extension test – Sit and reach test.