DOI.10.7860/JCDR/2026/90859.24088 Abstract No.: PT 41

# Effect of Myofascial Release and Muscle Energy Technique on Hamstring Tightness among Sedentary Individuals Working from Home

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## ABSTRACT

**Introduction:** The global shift toward Work-From-Home (WFH) culture has increased sedentary behaviour, contributing to chronic hamstring tightness due to prolonged static hip flexion. However, limited research has examined interventions for this population.

**Aim:** To compare the effects of Myofascial Release (MFR), Muscle Energy Technique (MET), and combined MFR+MET on hamstring tightness in sedentary WFH individuals.

**Materials and Methods:** A randomised controlled trial included 78 participants (mean age: 29.8-31.9 years). Participants were randomly allocated into three groups of 26 each: Group A (MFR+hot pack), Group B (MET+hot pack), and Group C (MFR+MET+hot pack). Interventions were provided for 4 weeks, 3 sessions per week. Sit and Reach Test (SRT, cm) and Active Knee Extension (AKE, degrees) were measured at baseline and Week 4 post-intervention.

**Results:** All groups showed significant within-group improvements in SRT and AKE from baseline to Week 4 ($p<0.001$). Mean SRT improvements were +6.66 cm (MFR), +9.89 cm (MET), and +9.97 cm (MFR+MET), while mean AKE reductions were –6.99°, –10.35°, and –11.28°, respectively. Between-group ANOVA for SRT change scores was significant ($F=9.574$, $p<0.001$). Bonferroni post hoc analysis showed Groups B and C were superior to Group A ($p=0.001$ and $p=0.002$), with no difference between Groups B and C ($p=1.000$). ANOVA for AKE change scores ($F=35.48$, $p<0.001$) and Week 4 AKE values ($F=56.284$, $p<0.001$) further confirmed superior improvements with MET and MFR+MET compared to MFR alone.

**Conclusion:** MET and MFR+MET produced statistically equivalent and clinically superior outcomes compared to MFR alone. MET may be an effective and time-efficient standalone intervention, while MFR+MET may be preferred for comprehensive hamstring management in WFH individuals.

**Keywords:** Active knee extension, Hamstring tightness, Muscle energy technique, Myofascial release, Sedentary behaviour, Sit and reach test.

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