

# Effectiveness of MFR on Trigger Point Release in Upper Trapezius: A Case series

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## **Abstract:**

**Background:** Trigger points are called as a “hyperirritable spot” in skeletal muscle which contains palpable nodule in a taut band”. When we press or compress this spot, it gives rise to pain, tenderness, motor impairment and autonomic phenomena. Trigger points contain sensory, motor, autonomic component.

Trigger points develops after muscular injury. This initial injury may develop due to trauma or repeated micro trauma to the muscles. Muscles having pressure points shows pain and stress in muscles. Increase in stress in muscles leads to development of fatigue which further activates pressure points. Sensory disturbances produced are proprioceptive disturbances salivation, lacrimation, changes in temperature of skin, sweating, hyperalgesia. [3].

MFR (Myofascial release) is the application of a long duration stretch with lower load into the myofascial complex. It restores the optimal length of myofascial complex, reduces pain and improve range of motion [2].

Several studies of pathophysiologic research on trigger points has been directed toward verifying common theories of their development. There is lack of evidence for identifying pressure points by pathological or laboratory findings. Current study focuses on the effect of MFR in different variables like ROM, Neck Disability and Pain by releasing trigger point.

**Methodology:** Five subjects were chosen in view of inclusion and exclusion criteria. Subjects were explained all the elements to be followed in this study and there after consent form was signed by patient. Upper trapezius muscle was examined and patient was asked about any pain he/she is feeling during the course of examination on any particular point on trapezius muscle. Data for pain, disability and ROM of neck was collected before and after application of MFR technique. Pain was evaluated using NPRS. The ROM of neck was measured with the help of goniometer. Disability was measured using Neck disability.

**Result:** Statistical analysis revealed reduction in pain, disability and improvement in Neck range of motion.

**Conclusion:** Myofascial Release showed effective results in releasing trigger points by improving Range of Motion and decreasing Pain and Neck Disability.

**Paper Text****Introduction**

“Trigger points are called as a “hyperirritable spot” in skeletal muscle which contains palpable nodule in a taut band”. When we press or compress this spot, it gives rise to pain, tenderness, motor impairment and autonomic phenomena. Trigger points contain sensory, motor, autonomic component. These components constitute a “integrated hypothesis”. This hypothesis involves local muscles, Facia, CNS, systemic biomechanical factors. Trigger points certainly can cause face pain [1]. It can also cause stress headache [2]. There are so many techniques for releasing trigger points, MFR is one of them.

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MFR is the technique in which pressure on pain sensitive structure caused by pressure of facia is released and alignment is restored. MFR acts as a catalyst in the release of a trigger point (4). Local twitch response is called as local response of myofascial trigger points [3].

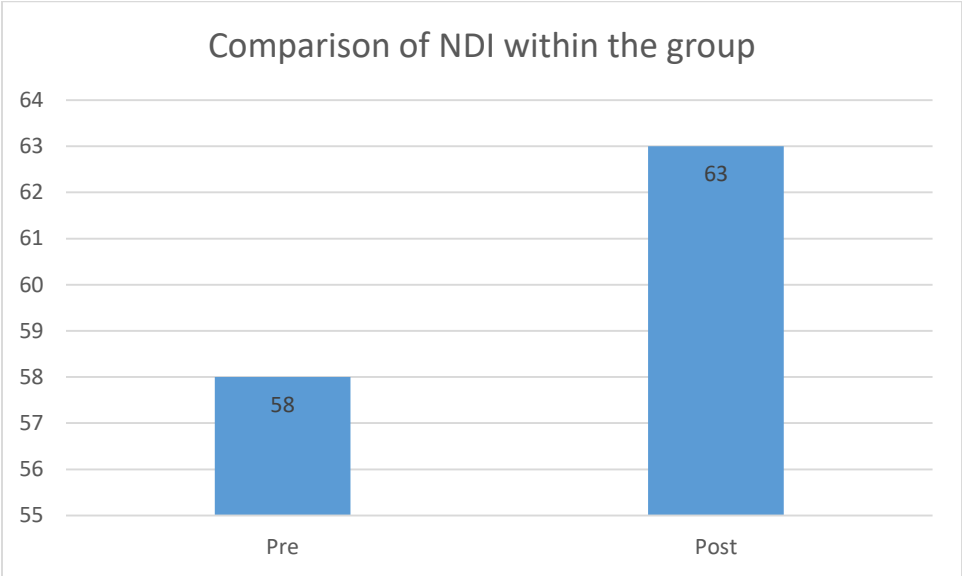
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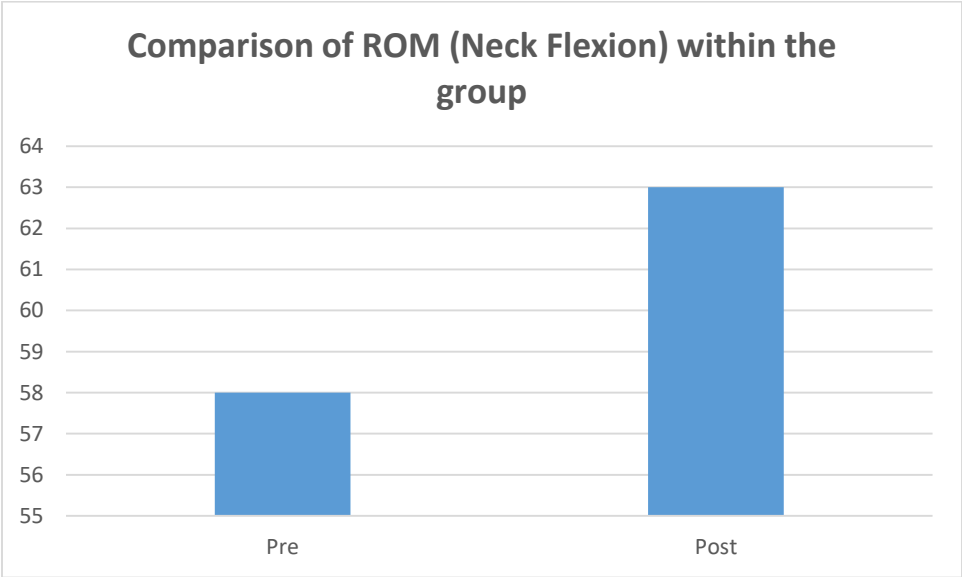
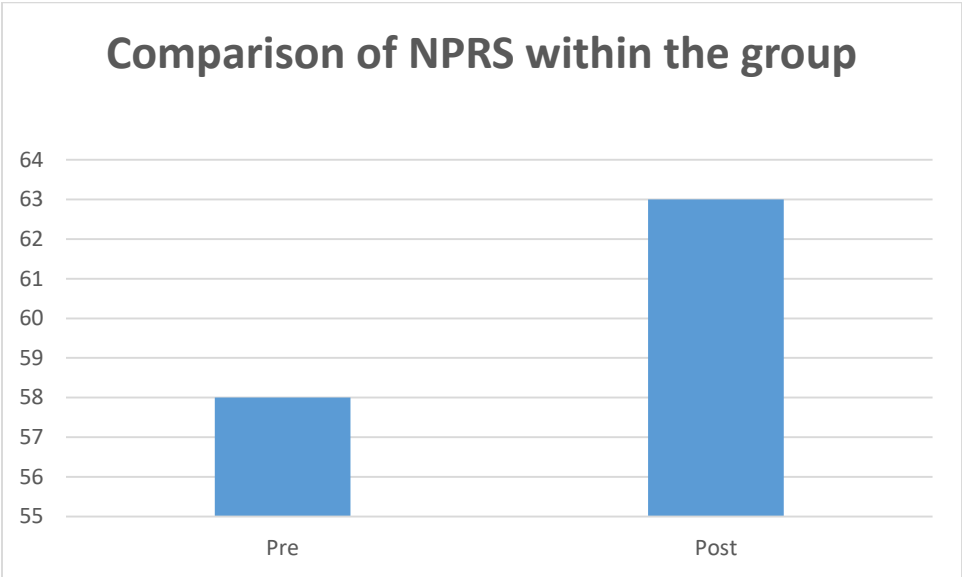
**Methodology**

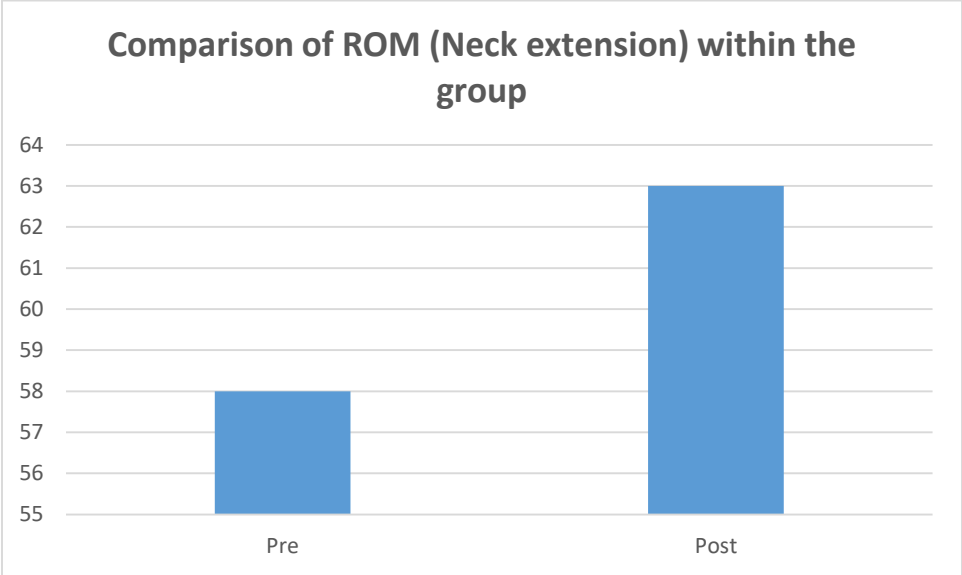
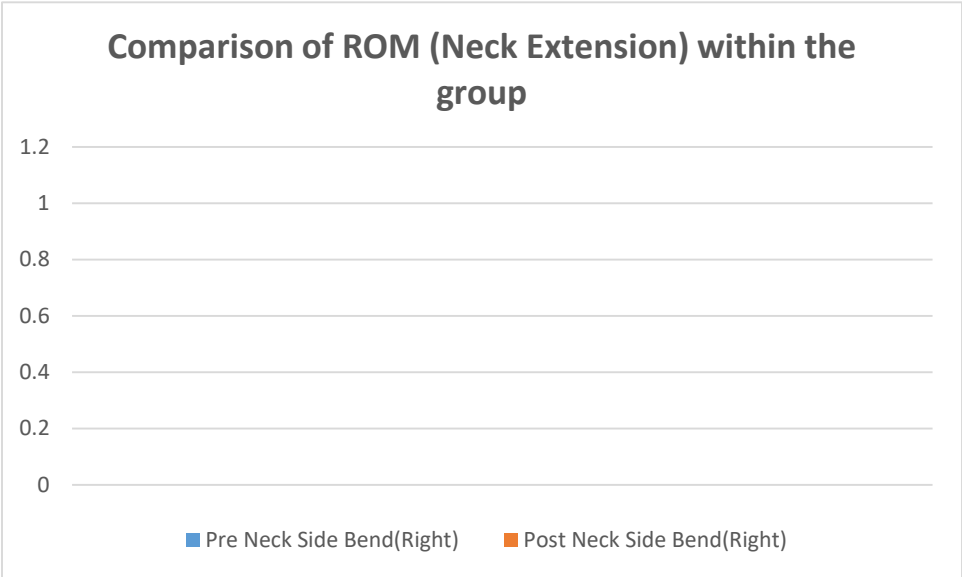
Five subjects were chosen in view of inclusion and exclusion criteria. Inclusion Criteria was

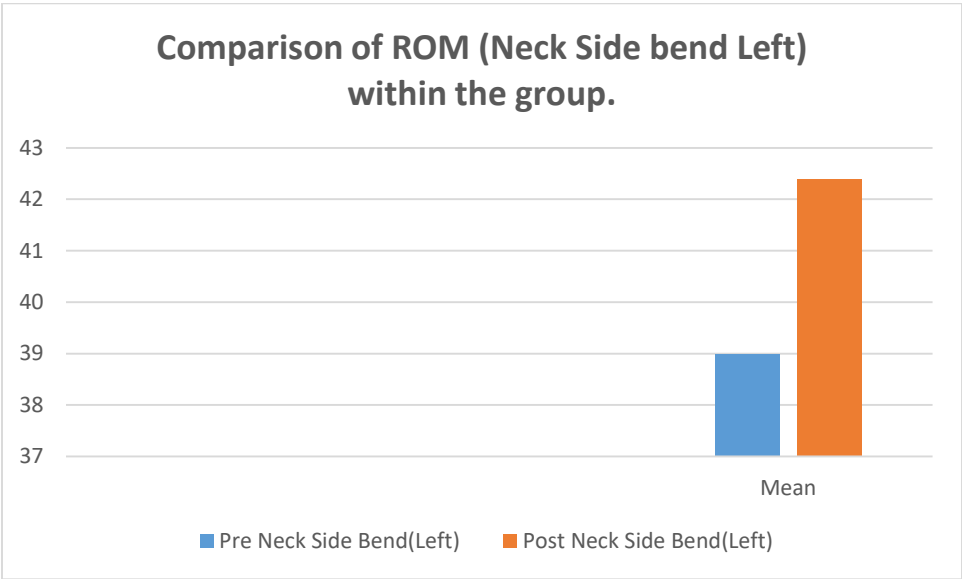
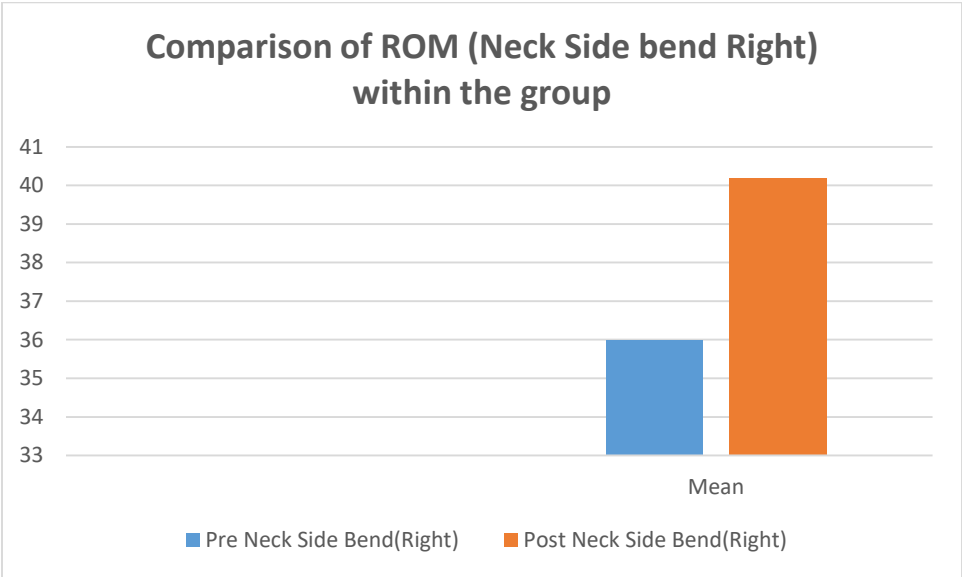
Young adults of age 18 to 25, Mobile users, Both males and females, Trigger Point in upper trapezius and Exclusion Criteria was Orthopedic impairment, Fracture cases, Previous neck injury, Any past trauma, Upper cross Syndrome Forward head posture, Radiating Pain. Subjects were explained all the elements to be followed in this study and there after consent form was signed by patient. Upper trapezius muscle was examined and patient was asked about any pain he/she is feeling during the course of examination on any particular point on trapezius muscle. Data for pain, disability and ROM of neck was collected before and after application of MFR technique. Pain was evaluated using NPRS. The ROM of neck was measured with the help of goniometer. Disability was measured using Neck disability.

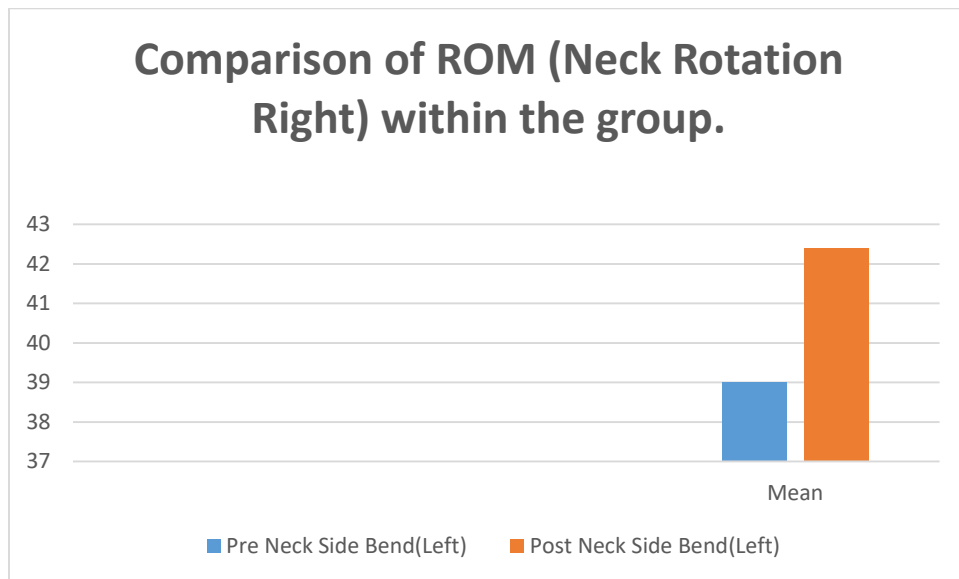
**Results:**











## **DISCUSSION**

This study aims to find out the efficacy of MFR on Trigger point release. Efficacy of MFR in Reducing pain, Disability and Improving in neck ROM. Study was carried out on 5 patients of Neck Pain. Based on inclusion and exclusion criteria, convenient sampling was done, Subjects were examined for upper trapezius trigger points. Data for pain, Disability and ROM was collected.[5]

In this study the ROM of neck improved significantly as the reduction in pain and spasm was seen which increase the ROM. This study shows significant reduction in pain. This could be due to stimulation of Mechanoreceptors. The Pain gate effect on both A delta (fast) and C (slow) path fibers in the posterior horn due to stimulation of mechanoreceptors (A beta) fibers by high frequency, low intensity electric pulses, sometimes called hi-TENS or traditional TENS.

A morphine-type effect on the C fibre system occurs. This is due to enkephalin produced by interneurons in the posterior horn, which have been stimulated by stimulation of mechanoreceptors. Morphine-type (enkephalin) effect on C fibre is via centers in the midbrain and involving serotonin as a neurotransmitter; also activated by A delta stimulation by low-frequency, high-intensity stimuli. [6]

Disability: Neck disability could be reduced due to reduction in pain and muscle spasm. Reduction in pain decreases muscle spasm as well. Evidence shows that pain leads to development of muscle spasm. Few studies shows relationship between pain- spasm- pain cycle and shows that analgesics can reduce muscle spasm, and that a various technique to relax muscle like massage can reduce pain [7].



Improvement in ROM could be due to decreased pain or muscle spasm[5].Reduction of pain and muscle guarding leads to improvement in ROM.

Result of current study is supported by study conducted by Rezkallah et al on comparison between sustained natural epiphyseal glides(SNAGS) and Myofascial Release techniques combined with exercise in nonspecific pain [5]. This study has shown significant effect in decreasing Pain, Neck Disability and improving ROM by releasing trigger point with MFR[5].

**Conclusion:** Myofascial Release showed effective results in releasing trigger points by improving Range of Motion and decreasing Pain and Neck Disability.

**Limitation: -**

- Small Size Sample.
- Short Treatment Protocol.

**Future Scope: -**

- Long term effect of Myofascial release study could be seen on Trigger Point.
- Effect of Myofascial Release could be seen along with other advance techniques.
- Comparison of Myofascial Release could with control group.

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