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## Immediate effect of instrument assisted soft tissue mobilization (Iastm) With M2T blade technique in trapezitis: An experimental study

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### Abstract

**Background:** Trapizitis is a commonly seen condition in clinical practice. Trapizitis is seen as a result of overuse and faulty posture. Patients usually have pain which limits activities of daily living. Hence the present study is planned to find out an alternate method of treatment of trapizitis which is less time consuming.

**Objective:** To find out the immediate effect of instrument assisted soft tissue mobilization (IASTM) with M2T blade technique in trapizitis and spasm.

**Methods:** The study included 50 subjects having unilateral upper trapezius spasm. Participants were assessed and treated with M2T blade. Visual analogue scale (VAS) was taken for pain as an outcome measure before and after the intervention.

**Results:** The mean age according to statistical analysis was 29.02 years. The mean of VAS on pre session was 7.18, which was decreased to mean of 1.18 after 1 session of treatment. The p value was found to be <0.01 which is highly significant.

**Conclusion:** Instrument assisted soft tissue mobilization (IASTM) with M2T Blade technique is an effective tool in immediate reduction of pain in subjects with trapizitis.

**Keywords:** M2T, Myofascial release, Trapezitis, Visual analogue scale

### 1. Introduction

Trapezitis is defined as the inflammation of trapezius muscle leading to pain which is present even during rest and is aggravated by activity<sup>[1, 2]</sup>. All movements in the upper extremity are reflected in the neck musculature as the muscles of the neck and shoulder region always function as a single unit. The muscles of shoulder and neck particularly upper trapezius and levator scapulae and deep muscles require activation while doing all movements of arm includes slow or fast, resisted or unresisted movements. Muscle recruitment will be more pronounced if the patient carries heavy loads or has developed poor motor habits. Hyper tonus and spasm is often seen in the neck musculature. Working postures with the neck in extreme flexion increase the load moment three to four times causing spasm of the neck muscles. Also working tasks that involve continuous arm movements always generate a static load component on these muscles<sup>[3]</sup>. M2T is a latest invention in instrument assisted soft tissue mobilization (IASTM) which is a technique used for myofascial release and helps to relieve myofascial pain using the M2T blade. Mr Adam Boger was first invented the M2T blade technique in Canada and it was used to reduce the pain and tightness of the particular muscles. The method is based on a newly developed, three-dimensional analysis<sup>[4]</sup>. The blade consists of 8 treatment planes and in present study are using treatment plane number 1 and 2 for the treatment.

The need of the study was to find out the immediate effect of IASTM with M2T blade technique on Trapizitis to know how it can be a beneficial tool pertaining the Physiotherapy arena. There is no literature available pertaining to the immediate effect of IASTM with M2T blade technique on Trapezitis. In this study immediate effect of IASTM with M2T blade technique Trapezitis was examined.

### Methods

A total of fifty subjects with trapezitis were selected. Ethical clearance was obtained from the Institutional Ethical Committee.

### Correspondence

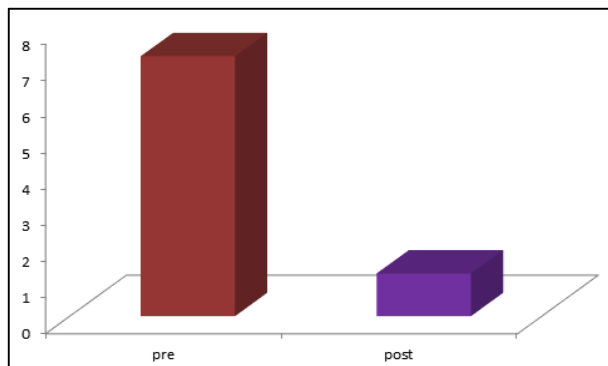
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Inclusion criteria were both male and female subjects with acute (7-14 days) and sub-acute (14 days to 3 months) trapezititis who were willing to take treatment and participate in the study. Exclusion criteria comprised of any recent surgery, spinal pathology, ankylosing spondylitis, any open wound around the neck, history of cervical fracture, torticollis, administration of corticosteroid injection in the last 3 months and any other conditions that contra indicate M2T blade. Informed consent was taken from the subjects. The participants were explained about the procedures in detail. Pre and post treatment assessment of pain was taken by using Visual analog scale (VAS). M2T blade technique was given for 30 sec to 1 min. The (IASTM) M2T protocol was administered by a certified M2T Practitioner. After the treatment, cryotherapy was given for 20 minutes to avoid delayed onset of muscle soreness.

## Result

The study titled "Immediate effect of IASTM with M2T blade technique in trapezititis: An experimental study" included 50 participants. All the participants received M2T blade treatment. The study was conducted to evaluate the immediate effect of IASTM with M2T blade technique in trapezititis. The study has shown significant improvement in trapezititis pain reduction.

Statistical analysis for the present study was done manually as well as using statistical package of social sciences (SPSS) version 20.1 so as to verify the results obtained. For this purpose data was entered into an excel spread sheet, tabulated and subjected to statistical analysis. To compare the pre and post data wilcoxon test was used. The demographic data such as age was analysed with mean of 29.02 years.



**Fig 1:** The mean of pain on pre (vas) on pre and post M2T session



## M2T Blade

The outcome measure of the study, VAS was analyzed. The mean of pain on pre session was 7.18, which to mean 1.18

after M2T session of treatment. The p value by Wilcoxon was found to be <0.01 which is highly significant. This suggested that there is decrease in pain participants with trapezititis after the treatment protocol.

## Discussion

The present study was conducted to evaluate the immediate effect of instrument assisted soft tissue mobilization (IASTM) with M2T blade technique in trapezititis. The study involved 50 subjects having trapezititis. The present study provides positive results in pain in trapezititis subjects. To our best knowledge this is the first time an experimental study has been performed to check the immediate effect of M2T blade to reduce pain in trapezititis.

Thus, the result of this study showed that null hypothesis which says that there will be no immediate effect of IASTM with M2T blade technique on trapezititis can be rejected and alternative hypothesis has been accepted which says that there will be an immediate effect of IASTM with M2T blade technique on trapezititis.

In studies conducted on rehabilitation interventions for neck pain and associated muscle spasms, patient's important outcomes were decided by consensus as being pain, function, and patient global assessment, cervical range of motions, quality of life and return to work. For this purpose, pain intensity can be measured by means of visual analogue scale (VAS). A 10 cm line marked with number 0-10 can be used where 0 symbolizes no pain and 10 is maximum pain. Subject is asked to mark his / her pain on this line as per the severity [5]. Visual Analog Scale was used to measure the pain in the subject's pre- treatment and post treatment as VAS is more reliable for pain evaluation [6]. In present study Visual analog scale was used for assess the pre and post pain in trapezititis subjects.

In the present study M2T blade was used to find out the immediate effect of IASTM with M2T technique in trapezititis pain. In a study it was found that there was immediate reduction of shoulder pain and improvement in shoulder range of motion with M2T blade treatment in badminton players [7].

## Conclusion

Instrument assisted soft tissue mobilization (IASTM) with M2T Blade technique is an effective tool in immediate pain reduction in subjects with trapizitis and spasm.

## Future Scope

- M2T can be a useful tool for on field management of pain.
- The effect of M2T technique can be compared with MFR.
- Electromyographic studies can be conducted to check the muscle activity after the application of M2T.
- Studies pertaining to the long term effects of M2T can be carried out.

## Limitation

- The study did not have any long term follow up.

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