



## **Efficacy of Active Isolated Stretch [A.I.S] technique and therapeutic k taping on chronic low back pain patients a controlled randomised trial**

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### **Abstract**

#### **Background:**

Low back pain in human is a major problem which occurs due to acquired lumbar curve in human spine. Most of Back Pain occurs due to Mechanical reason and only 3 % LBA in patients occur due to Non-Mechanical reasons. Almost 97 % of Mechanical Low Back Pain in Patients are due to soft tissue Problems.

#### **Objective:**

The objective of this study is to compare the efficacy of fascial Release Technique [F.R.T] And Modified Muscle Energy Technique [M.M.E.T] in comparison with conventional physiotherapy in patients with Chronic Mechanical Low back Pain.

#### **Materials and Methods:**

A total of 300 individuals between the ages of 30 and 60 were taken in the study having symptoms with chronic low back pain participated in this study.

A prospective repeated-measures design was used to determine the efficacy of interventions during a 4 weeks program. and 8 weeks follow up.

Participants taken in study were randomised and divided into three different groups, designated as groups 1.Control Group 2.Experimental Group I and 3.Experimental Group II.

## **Results & Conclusions:**

Evaluation of these results concludes that the inclusion of application of F.R.T/M.M.E.T techniques in the physiotherapy regime is more effective than the passive stretch and the study also suggests that the MMET Technique is more effective in reducing the pain in Chronic Low Back Pain patients than the F.R.T . Technique.

**Key Words: F.R.T[ Fascial Release Techniques], M.M.E.T [ Modified Muscle Energy Technique] , LBA [Low Back Ache ]**

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## **Introduction**

A major problem a human being suffers due to evaluation of spine is Low Back Pain. Almost every human Being on this earth suffers at least once from Low Back Pain in Life.

A critical survey of the research done by many researchers across the globe clearly shows that most of the low back pain are Mechanical in nature and out of which almost 97% originates from the soft tissue structures.

Low Back Pain is not only the cause of Pain but it is also the reason for social and economical problems in Population.

A key role in management and treatment of Low Back Pain is played by Physiotherapy and almost 30% of cases reporting in Physiotherapy Department are of LBA.

Inspite of Major part of Physiotherapy Department Patients are LBA Patients the treatment protocol and the therapeutic options are inconsistent and not very well accepted.

Physiotherapy plays a major role in the management of LBA. As many as one-fourth of the total number of patients referred to physiotherapy are of LBA.

Critical review of literatures reveals that A.I.S Technique or Therapeutic Kinesio Taping are beneficial in patients suffering from chronic low back pain when applied as single-model treatment approaches.

But few studies have looked into the efficacy of Active Isolated Technique or Therapeutic K Taping on chronic low back pain and have found that theses techniques relieve pain and normalises function.

## **Objective of study**

The objective of this study is to find out the efficacy of Active isolated Stretch Technique and Therapeutic Kinesio Taping Technique with conventional physiotherapy in patients with Chronic Low back Pain.

## **Materials and Methods**

### **Subjects**

A total of 30 individuals between the ages of 40 and 60 were taken in this study having symptoms with chronic low back pain.

### **Inclusion Criteria**

1. Chronic low back pain of more than 3 months with diagnosed iliopsoas tightness.
2. Age groups -40 to 60 years.
3. Sex-male and female.

### **Exclusion Criteria**

1. Pain with neurologic signs.
2. Spondylolisthesis.
3. Spondylolysis.
4. Previous back surgery.
5. Known rheumatic, neurologic, or mental diseases.
6. Absence of pain aggravation on active, functional movement tests (i.e., indicating nonorganic symptoms).
7. Other red flags (contra-indications) to manual therapy.

### **Variables**

Independent Variables.

#### **Independent Variables of This Study are**

1. Passive Stretch.
2. Active Isolated Stretch Technique [A.I.S].
3. Therapeutic Kinesio Taping.

#### **Dependent Variables of This Study are**

1. Average VAS (Visual Analogue Scale) for pain at rest and activity.
2. Kinesiology Tape.

A prospective repeated-measures design was used to determine the efficacy of interventions during a 3 weeks program. and 4 weeks follow up.

Participants taken in study and were randomised into two groups, designated as groups 1.Control Group and 2.Experimental Group.

### **Tools used**

1. Physical therapy Regime [Heat therapy + Interferential Therapy].
2. Passive Stretching of iliopsoas.
3. Active Isolated Stretching Technique of Illiopsoas.
4. Kinesiology Tape.
5. Visual Analogue Scale (VAS) VAS used in order to assess pain. Most widely and commonly used method given by Bond & Pilously (1966). The patient is presented with a strip of papers with a line 10 cm. long is used, where zero considered as, no pain and 10 as worst pain felt ever.

1	2	3	4	5	6	7	8	9	10
No pain			Moderate pain				Severe pain		

#### 6. Patients Assessment Questionnaire

In Assessment questionnaire used in order to asses and record the data of the patient comprising history, physical examination and score record on follow up.

#### IV. Procedure

Procedure used for different treatment techniques were

1. Physiotherapy Regime [Hot Packs for 20 Minutes with Interferential Therapy for 20 minutes for all Groups.
2. Control Group Received Passive stretch for iliopsoas muscle.

Set of 3 passive stretch once per day for 3 weeks with Kinesiology Tape

3. Experimental Group-Received Active Isolated Stretch [A.I.S] Technique for Illiopsoas with Kinesiology Tape.

#### V. Data Collection

Patients were assessed for pain on day 1<sup>st</sup> and 21<sup>st</sup> day these score were recorded on the questionnaire chart.

For pain assessment visual analogue scale was used.

#### Analysis and Results

**Table 1:** Pre and Post VAS mean score for Control Group

	Group A	Mean	N	SD	t	p
Control Group	Day 1	6.81	15	.702	39.000	.000
	Day 21	1.82	15	.591		

Table No. 1 signify that the mean score of VAS at day 1 ( $6.80 \pm .704$ ) is significant indicating that the Control Group Shows a significant Improvement in Pain on 21<sup>st</sup> day.

**Table 2:** Experimental Group

Paired Samples Statistics						
	Group B	Mean	N	SD	t	p
Experimental Group	Day 1	6.72	15	.675	13.552	.000

	Day 21st	3,06	1 5	.88 2		
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Table 2 Shows that mean VAS score of pre-test is (6,73 ± .676) which is significant significantly Which further Indicates that the Pain in Control Group Improved Significantly in Experimental Group.

**Table 3:** Comparison of Vas Score of Control Group and Experimental Group

Group	N	Mean Post Test VAS	SD	T	p
Control Group	1 5	1.32	.594	7.824	0.000
Experimental Group	1 5	3.05	.884		

TABLE 3 Shows that the mean score of VAS for Control Group and Experimental Group at 21st day indicates a significant value, Which Suggest the Experimental Group recovers Faster than the Control Group.

### Conclusion

A comprehensive Evaluation of these results suggest that the inclusion of application of Active Isolated Stretch techniques in the physiotherapy regime is more effective and the Experimental Group Recovers Faster than the Control Group.

However it would be interesting to find out in long run that

- Whether, the recovery is permanent or transient.
- The study can be further extended for the athletes and common Population having acute low pack pain with radiating pain. Therefore, these are the interesting area which could form a basis for further research.

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