

# Efficiency of Mulligans Mobilization in Tennis Elbow Patient with Kinesiotaping

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**Abstract:** A painful overuse injury of lateral aspect of elbow is commonly known as Tennis Elbow, the term tennis elbow is misnamed as it also affects non tennis players. The condition is characterized by elbow Pain at origin of common extensor muscle group of wrist or pain directly over the lateral epicondyle and tenderness is termed as Lateral Epicondylitis. 40 individual with Tennis elbow were selected for the study. The subjects were randomly allocated in to two groups where Group A MWM along with K-Tape and the Group B received K Tape and conservative physiotherapy exercise for both the groups.

**Keywords:** K-Tape, MWM, Tennis Elbow, Mills Test, Cozens Test

## 1. Introduction

A painful overuse injury of lateral aspect of elbow is commonly known as Tennis Elbow, the term tennis elbow is misnamed as it also affects non tennis players. The condition is characterized by elbow Pain at origin of common extensor muscle group of wrist or pain directly over the lateral epicondyle and tenderness is termed as Lateral Epicondylitis. Tennis Elbow TE is described as painful condition of lateral aspect of elbow especially at lateral epicondyle of humerus, prevalence of TE is common in individual who requires repetitive movements of wrist and supination and pronation of the forearm, such as tennis players, gardeners, abattoir worker, cricket players, carpenter, painters, computer operators. The pathophysiology of TE is characterized by absence of inflammatory cells, glycosaminoglycans and proteoglycans, disorganized and immature collagen vascular hyperplasia and increases of fibroblast.

The pathogenesis of TE is result of repetitive Strenuous force but occasionally it may result from acute injury as a result of direct injury. The condition is commonly seen in tennis players but it is commonly seen in non-sports person as a response of altered biomechanics.

### Hypothesis

- **Null Hypothesis:** there will be no significant effect of MWM with KT on pain and grip strength in tenniselbow.
- **Alternative Hypothesis:** there will be a significant effect of MWM with KT on pain and grip strength in tenniselbow.

## 2. Literature Review

The pathogenesis of TE is result of repetitive Strenuous force but occasionally it may result from acute injury as a result of direct injury. the condition is commonly seen in tennis players but it is commonly seen in non-sports person as a response of altered biomechanics. There are some of literature review for related cases.

- [Daison Varghese (2017)] conducted a study to find out socio-demographic and clinical profile of patients with lateral epicondylitis. Study concluded most of the

subjects were of 20-40 years age group, the symptoms experienced were tenderness 95%, swelling 13.3% and increased temperature 8.2 %.

- [Daniel M Walz(2010)]suggested epicondylitis commonly affects at 4th or 5th decade of life, regardless to sex. Lateral epicondylitis result of tendinosis of common extensor tension at lateral epicondyle. The condition is result of reiterative strain, microtrauma, and degeneration due to immature repair.
- [Dr. SwetaUpadhyay (2017)]conducted a study to overview effect of progressive strengthening exercise in chronic lateral epicondylitis, the result suggests improvement in PSE along with conventional treatment to reduce pain, improve functional disability, increased isometric grip.
- [Fozia Bashir (2015)]conducted a study to find out effect of therapeutic management of tennis elbow, physiotherapy treatment including biomechanical correction along with ice, UST, eccentric exercise to reduce pain and improves grip strength in subjects with tennis elbow.
- [Hasanshakeri(2017)]conducted study to overview effectiveness of KT on lateral epicondylitis, 30 women with lateral epicondylitis and myofascial trigger point were included in study. Author concluded KT has a significant effect on pain and disability in patient with lateral epicondylitis.
- [Parthtrivedi (2014)]conducted a competitive study on active releases technique and MFR on pain grip strength and functional performance in patient with chronic lateral epicondylitis, on 36 patients for 4 weeks. Subjects were decided into 2 groups, on comparison of effects of treatment MFR group demonstrated significant outcome over ART.
- [Robert P Nirschl (2015)] suggested epidemiology and health care burden of tennis elbow, the author had conducted approximately 1500 surgery for tennis elbow, and the incidence of dominant hand involvement was higher compare to nondominant side, only in few cases bilateral involvement has been observed.
- [SaharNiwas Ahmed (2017)]conducted a study on efficacy of MWM followed by mulligan tapping in treatment of tennis elbow, study suggested a significant

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improvement in tennis elbow patients in term of pain and function disability.

- [SedaBaktir (2018)] conducted a study on effectiveness of low-level LASER phonophoresis and iontophoresis on lateral epicondylitis, author suggested LLLT is effective in pain management only where as iontophoresis helps in pain and function both, in comparison with phonophoresis iontophoresis has better effect on pain function and grip strength in lateral epicondylitis.

### 3. Research Methodology

A detailed screening of patients is performed with Mills test cozen test, subjects were included in study on the basis of inclusion and exclusion criteria. All the participants were randomly allocated in two groups. Selected patients were included in the study and consent form is obtained.

Apparatus and Materials:

- PREE assessmentsheet
- Treatmenttable
- Data collectionsheets
- Essential stationarymaterials.
- Computer.
- Mulliganbelt.

40 subjects were selected for the study basis on exclusive and inclusive criteria.

All the patients underwent 3 weeks treatment program for 5 days in a week.

Group A with 20 patients was received MWM and KT and Group B with 20 patients was treated with KT and baseline treatment. Pain and functional disability level were assessed at the beginning of treatment, during the treatment and after treatment using patient rated tennis elbow evaluation.

**Test** - Independent t test was used to calculate the difference of mean of pre- pre and post-post PREE value between the two groups



Figure 1: Mulligans Mobilization In Tennis Elbow Patient



Figure 2: Kinesio Taping in Tennis Elbow Patient



Figure 3: Tennis elbow ECRB exercise

### 4. Data Analysis and Result

The current study was conducted on Patients with Tennis Elbow at Peoples college of Paramedical Sciences, Bhopal. 40 male and female subjects were allocated in two groups, Group A and Group B through random simple method. Group A received MWM along with K-Tape and conventional Physiotherapy for Tennis elbow, while Group B received Kinesio Tape with Conventional Physiotherapy.

Table 4.1: Distribution of Patients according to age in two groups

Groups	Mean age	SD
Group A	39.60	6.60
Group B	40.45	6.79

Table 4.2: Comparison of mean values of Pre PREE & Post PREE Value of Group A

Group A	mean	SD	t=value	p=value
Pre PREE	63.70	11.03	14.84	0.001
Post PREE	22.55	11.66		

Table 4.4: Comparison of mean values of Pre-Pre and Post-Post PREE between Group A & Group B

Groups	N	Mea n	SD	t=value	p=value
Pre PREE	4	43.1	11.3	0.484	0.631
	0	2	5		
Post PREE	4	44.7	9.28	-1.563	0.127
	0	7			

Independent t test was used to calculate the difference of mean of pre-pre and post-post PREE value between the two groups. The Mean value difference of pre PREE of both groups was  $43.12 \pm 11.35$ . The Mean value difference of post PREE value of both groups was  $44.77 \pm 9.28$ . Result showed that there was statistically no significant difference in pre PREE of all the subjects as the p value is  $>0.05$ . Later after the comparison of mean values of post PREE of both group, group A showed more improvement than group B.

## 5. Discussion

The Study subjects were of 20-40 years age group, the symptoms experienced by patients were tenderness 95%, swelling 13.3% and increased temperature 8.2 %, all the participants showed sensitivity for mills and Cohen's test. Study also concluded lateral epicondylitis common in subjects with dominant side reiterative movement involvement. In another study Soubhagya R Nayak 2009, manifest of extensor carpi radialis brevis in tennis elbow and it's origin and nerve supply. Study concluded that ECRB had a significant role in tennis elbow pathology, and it may compress posterior branch of radial nerve at elbow joint.

## 6. Conclusion

The present study was conducted for a period of three weeks on 40 Patients having Tennis Elbow at OPD of Peoples College of Paramedical Sciences, Bhopal. The subject was randomly allocated into two groups by means of lottery method. Group A received MWM along with K Tape & Conventional Physiotherapy and Group B received K-taping and Conventional Physiotherapy for a period of 3 weeks. Pre and Post Data were collected and analyzed. The results showed that both the technique is showing significant improvement in Tennis Elbow Symptoms but on comparison of in-between groups the mean value of Group A was Better than Group B, but statically there is no significant difference in both groups, Hence, Both the Techniques were equally effective.

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