



## Effectiveness of Kinesio Tape in the Management of Lateral Epicondylitis– A Literature Review

<sup>1</sup>Liya Agnes Jogen, <sup>2</sup>Sankar Ganesh, <sup>3</sup>Tesymol Antony, <sup>4</sup>Akhila Joseph

<sup>1</sup>BPT Student, Department of Physiotherapy, St Johns Medical College.

<sup>2</sup>Associate Professor, Department of Physiotherapy, St Johns Medical College.

<sup>3</sup>BPT Student, Department of Physiotherapy, St Johns Medical College.

<sup>4</sup>BPT Student, Department of Physiotherapy, St Johns Medical College.

### ABSTRACT :

**Background:** The present review was conducted to critically evaluate the existing body of literature on the effectiveness of kinesio tape in the management of lateral epicondylitis, aiming to provide evidence-based insights that can support the development of effective interventions, potentially reducing pain, improving grip strength, and enhancing functional outcomes.

**Methods:** The PubMed and Cochrane database was searched for published papers from 2017 to 2024. We evaluated the effectiveness of kinesio tape on pain reduction, enhancing grip strength, and functional improvement in patients with lateral epicondylitis.

**Results:** The review of eight high-quality studies from 2017 to 2024 confirms that kinesio tape is highly effective in reducing pain and improving functional outcomes in adults with lateral epicondylitis. According to the gate control theory, kinesio tape also suppresses pain signals by increasing afferent nervous system stimulation. Kinesio tape is more user-friendly, and believed to have additional benefits of providing pain-free range of motion, enhanced grip strength and preserving functional reinforcement without losing active range of motion or inhibiting circulation.

**Conclusion:** The present review supports the efficacy of Kinesio tape as a safe and effective intervention for the management of lateral epicondylitis in adults. Despite its demonstrated benefits, a research gap exists regarding small sample size and shorter follow up period of most of the involved studies. Further high-quality randomized controlled trials are recommended to validate and optimize the long term efficacy of clinical application of Kinesio tape in the rehabilitation of lateral epicondylitis.

**Keywords:** Lateral epicondylitis, tennis elbow, physiotherapy, kinesio tape

### Introduction :

Lateral epicondylitis also known as tennis elbow is one of the most prevalent musculoskeletal conditions involving the upper extremities, resulting in high levels of disability.<sup>1</sup> This condition occurs from multiple micro tears of extensor carpi radialis brevis tendon triggering degenerative changes within the tendon. It may also affect the supinator and other wrist extensors. The pathologic alterations in the tendon include vascular hyperplasia, also known as neovascularization, angiofibroblastic hyperplasia, which has an increase in cell number and ground substance, elevated neurochemical concentrations and haphazard, immature collagen synthesis.<sup>6</sup>

It is the most common cause of elbow pain in adults between 40 and 60 years of age with an annual incidence of 1%–3%.<sup>1</sup> Up to 3% of people may be afflicted by the disease, but among heavy industrial workers, this number rises to 15%. It has been reported to occur in 9–35% of racquet sports players and to be prevalent in 14–41% of tennis players.<sup>3</sup>

Risk factors include physical overloaded activities, repetitive motions, hand-arm vibration, and posture.<sup>2</sup> Clinically, LE is characterized by tenderness over the lateral epicondyle of the humerus, normal range of motion of the affected elbow, and pain around lateral epicondyle on resisted extension of the wrist or middle finger.<sup>6</sup>

Kinesio taping (KT) is a popular treatment for a range of musculoskeletal issues.<sup>9</sup> There are different taping techniques such as fascia correction, space correction, muscle correction, tendon correction, ligament correction, acute injury taping, functional correction and lymphatic drainage. Multiple mechanisms have been proposed for the application of the KT method, including deloading the underlying soft tissues, modifying nociceptive processing, activating cutaneous mechanoreceptors, and changing the tension in the skin. By enhancing blood flow and lymphatic drainage in the subcutaneous tissue,

the tape decreases pain and heightens sensitivity.<sup>1,8</sup> The current review aims at analysing the effectiveness of Kinesio tape in the treatment of lateral epicondylitis.

---

## Materials and Methods :

**Study design:** Literature review

**Study setting:** St Johns Medical College Hospital, Bangalore

### Study criteria

The eligible studies were required to have the following criteria:

1. Systematic Review, randomized control trial, and meta analyses studies.
2. Full text articles published in English from the year 2017-2024 .

### Search strategy

We searched several electronic database ,PubMed, Cochrane and published papers from 2017 to 2024. For further relevant studies, we manually reviewed references from the collections. To decide whether the studies met the predetermined inclusion requirements, we checked authors, titles, and abstracts. The following keywords were used, “Lateral epicondylitis”, “tennis elbow”, “physiotherapy”, “kinesio tape”.

---

## REVIEW OF LITERATURE :

### 1. Yinghao Li et al(2024)<sup>1</sup>

This study is a systematic review of 26 studies on the efficacy of Kinesio tape in patients with lateral elbow tendinopathy. According to this review, individuals with lateral epicondylitis may benefit from KT application in terms of their maximal strength, pain thresholds, and elbow joint function, all of which could enhance their overall quality of life. The studies that were included in this meta-analysis limit its quality. This study's conclusion was limited by the original study small sample size, un-standardized confounding factors, and duration highlighting the need for higher-quality trials with higher sample size.

### 2. Oznur Çelik et al (2023)<sup>2</sup>

This randomized single-blinded trial titled on bracing or Kinesio Taping in the management of lateral elbow tendinopathy analysed

The study analysed 72 participants, with 40 in each group. Overall, the study results suggest that both FCB and KT treatments can lead to improved outcomes in patients. In comparison to the FCB group, the KT group experienced greater increases in PPT score and greater decline in PRTEE function score.

### 3. Firat Erpala et al (2021)<sup>3</sup>

This randomized controlled study titled “Early Results of Kinesio Taping and Steroid Injections in Elbow Lateral Epicondylitis included 50 patients. They were randomly assigned to three groups, kinesio tape (KT) was applied to 20 patients , corticosteroid injection (CSI) was applied to 15 patients and rest-and-medication group (RMG) was applied to 15 patients. This study concluded that at the end of week 2, the pain reduction and functional scores of CSI, KT, and rest-and-medication treatments were all effective; but only KT remained effective into the final week. . Long terms effects were not able to evaluate because of brief follow up period

### 4 YingZhonga et al (2020) <sup>4</sup>

This meta-analysis of five randomized controlled trials .In comparison to the control group, KT was linked to a statistically significant decrease in visual analog scale (VAS) ratings both at rest and when moving, as demonstrated by the meta-analysis's findings. Furthermore, at one and three months, it was discovered that KT improved the grip strength. KT also showed significant improvement in DASH score and Modified Mayo Performance Index. The skin irritation was not made more likely by using KT. Finally, the results of this meta-analysis demonstrate that KT can successfully lessen discomfort and strengthen grip strength functional outcomes and does not cause any skin irritation.

### 5. Alisha Graciasat et al (2019)<sup>5</sup>

This double blinded randomized control trial involved 30 patients within the age group 20-50 who had diagnosed with lateral epicondylitis. The patients were randomly assigned to two groups using Stat Trek random number generator. Experimental group consist of 13 females and 2 males and the control group consist of 10 females and 5 males.. The experimental group were treated with muscle and space correction techniques of kinesio tape and the control group were treated with sham tape.. The results of the study suggest that the pain pressure threshold and Grip strength differed significantly between the experimental and control group. The study found that following the immediate application of KT the pain pressure threshold and grip strength improved markedly in the experimental group compared to control group.

#### 6. Fatmanur Aybala Koçak et al (2019) <sup>6</sup>

The study comprised eighty-four patients. Group 2 got KT, Group 3 got a combination of KT and steroid injections, and Group 1 got steroid injections. A statistically significant difference ( $P$  less than 0.001) was seen in all groups' pre- and post-treatment evaluations between the third and twelve weeks after the treatment. Examination of the treatment results of patients in groups 1 and 2 revealed a statistically significant difference favouring group 1 only in PFGS in the twelfth week after therapy. When the treatment outcomes of the patients in groups 1, 2 and 3 were compared patients in group 3 had significantly better treatment outcomes compared to group 2 and 1. Significant differences were found in VAS during movement at the third week and PFGS, PPT, qDASH, and PGART at the third and twelfth weeks after treatment. Ultimately, the administration of both therapies together proved to be substantially more successful in this trial than either SI or KT alone.

#### 7. Isil Saadet Yenice Balevi et al (2021) <sup>7</sup>

24 patients from placebo taping group and 21 patients from study group completed the study. Both groups' maximal grip strength and NRS scores showed significant increases over time ( $P < .001$ ). Although there was no significant difference between the groups, the study group's maximal grip strength of elbow extension and elbow pronation on the Cyriax resistant muscle test improved significantly ( $P = .002$  and  $.001$ , respectively) according to intra-group analysis. Comparing the study group to the sham taping group, there was a significant improvement in PRTEE pain levels. All SF-36 subgroups in the study group, with the exception of pain and social functions, demonstrated improvement. The beneficial effect was seen to last for up to six weeks without alteration. The findings demonstrated that for LE patients, Kinesio taping be used as an adjuvant therapy to reduce pain in conjunction with an exercise program.

#### 8. Hassan Shakeri et al (2017) <sup>8</sup>

Thirty subjects satisfied the inclusion criteria for the study, randomly assigned using draw a card system to two groups one with kinesio tape with tension other with kinesio tape without tension. The results demonstrated that the mean score of VAS during activity decreased from 6.4 and 6 pre-test to 2.53 and 4.66 post test, The mean PPT scores increased from 15.92 and 12.93 pre treatment to 17.34 and 13.1 after treatment respectively, in the KT with and without tension groups. Significant differences in VAS during activity and DASH scores following treatment were verified by the paired t-test. Comparing the groups using KT with and without tension, ANCOVA showed that the group using KT with tension had greater pain alleviation and functional impairment. When KT is applied to individuals with LE and MTP in their forearm muscles, it improves pain intensity and upper extremity impairment; KT with tension shown to be more beneficial compared to the placebo group.

---

### RESULTS :

This review affirms the clinical effectiveness of kinesio tape in alleviating lateral epicondylitis in adults. Evidence from randomized controlled trials and systematic reviews indicates that kinesio tape significantly improves pain intensity, grip strength and functional capacity. Further high-quality, long-term studies are warranted to optimize and confirm sustained benefits.

---

### DISCUSSION :

Lateral epicondylitis also known as "tennis elbow," usually resolves on its own, in certain individuals it may worsen and result in chronic symptoms.<sup>4</sup> The main focus of this review were to investigate the effectiveness of kinesio tape in the management of lateral epicondylitis. A total of 8 articles were reviewed after screening, which was obtained from database of PubMed. The studies include 6 randomised trials, 2 systematic reviews and meta analysis. Articles published from 2017 to 2024 were included in this review.

According to the studies included in this review, kinesio tape has a significant role in managing lateral epicondylitis. KT provides support and stability to muscles and joints without limiting movement. This method reduces pressure on mechanoreceptors under the skin, leading to less pain. Other benefits include improved circulation, reduced pain intensity, realigned joints, and changes in muscle activity. KT application can have facilitatory and inhibitory effects on muscles, inhibiting muscle contractions and providing pain relief. This is achieved by stretching the Golgi tendon organ at the muscle's distal end.<sup>2</sup> The gate control theory explains the impact of KT on pain intensity.<sup>8</sup> Space correction, fascia correction and muscle inhibition are some of the techniques of KT treatments. In order to relieve pressure and pain, space correction adds additional space above the injured region. In order to alleviate tension and improve proprioception, muscular inhibition relaxes the extensor muscles from the lateral epicondyle. Vibration between the fascia layers is how fascia correction lowers adhesion and stress.<sup>6</sup>

Yinghao Li performed a systematic review to investigate the effect of KT in treatment of lateral epicondylitis and reported that using KT led to reduced pain scores and improved strength, function, and quality of life in patients with LET. However, it did not completely eliminate pain during activities that require contraction of the ECRB muscle. Despite this, the affordability, broad applicability, and lack of adverse reactions make KT a good option for treating LET.<sup>1</sup>

A recent metanalysis assessing the effectiveness and safety of KT in lowering pain in people with LE conducted by Ying Zongha also confirmed that KT is linked to a noteworthy decrease in the VAS score at rest and movement.<sup>4</sup> Similarly Alisha Graciasat in their RCT reported that a minimal increase in pain pressure threshold and a significant increase in grip strength immediately after KT application.<sup>5</sup> Hassan Shakeri showed that in individuals with

lateral epicondylitis and myofascial trigger point in the forearm muscles, the administration of KT results in improvements to pain intensity and upper extremity disability, and KT with tension was more beneficial relative to the placebo group.<sup>8</sup>

In an RCT comparing the effectiveness of CSI and KT in treating LE Firat Erpala stated that both treatments showed superiority over the control group after four weeks, but there was no advantage of CSI over KT. KT may reduce pain by reducing irritation and improving circulation. The KT group had superior grip strength.<sup>3</sup> Similar to this study another RCT in patients with disease duration 2-12 weeks Fatmanur Aybala Kocak claimed that KT alone was as effective as SI alone in relieving pain and improving functionality and grip strength. Furthermore, combining both treatments was found to be more effective than using either alone, particularly for patients with severe pain or those seeking faster recovery.<sup>6</sup>

In contrast to other studies Isil saadet in their RCT found that true Kinesio taping did not lead to significant improvements compared to sham taping in patients with chronic LE. However, the true taping group did experience positive effects on pain, which continued for up to six weeks. In terms of muscle strength, the study group showed improvement in elbow extension and elbow pronation. This may be due to increased exercise adherence and pain relief from the true inhibitory taping. treatment.<sup>7</sup> Another RCT comparing FCB and KT Oznur Celik argued that with time both groups functional abilities, grip strength, and pain severity improved and concluded that KT was not superior to FCB.<sup>2</sup>

All the relevant articles included in this review indicated that application of KT reduced the pain intensity and improved the grip strength and overall quality of life in the lateral epicondylitis patients. The results of this review implies that KT can be used in clinical practice. Some of the limitations faced are the small sample size and shorter follow up period of most of the involved studies. Hence further research is needed for confirming the long term efficacy of kinesio tape in lateral epicondylitis.

---

## CONCLUSION :

In conclusion kinesio tape has emerged as a highly effective, non-invasive intervention for the management of lateral epicondylitis in adults. Kinesio taping for 4-6 weeks significantly contributes to pain reduction, enhancing grip, strength, joint stability and functional capacity when applied independently or in conjunction with conventional physiotherapeutic modalities such as stretching and strengthening exercises. The existing body of evidence supports the incorporation of kinesio taping into routine clinical practice for managing lateral epicondylitis, given its favourable safety profile, ease of use, and consistent therapeutic outcomes. However, notable gaps persist regarding standardized application protocols, optimal treatment frequency, and the long-term efficacy of this intervention. To establish comprehensive clinical guidelines and optimize therapeutic effectiveness, further large-scale, high-quality randomized controlled trials with extended follow-up periods are warranted.

## CONFLICT OF INTEREST :

The authors declare no conflict of interest related to this study.

## ACKNOWLEDGEMENT

The authors express gratitude to St. John's Medical College for their support and resources in conducting this review. Special thanks to colleagues and researchers whose work contributed to this study.

---

## REFERENCES :

1. Li Y, Mei L, Rahat S, Pang L, Li R, Xiong Y, Li J, Tang X. The efficacy of kinesio tape in patients with lateral elbow tendinopathy: A systematic review and meta-analysis of prospective randomized controlled trials. *Heliyon*. 2024 Feb 4;10(3):e25606. doi: 10.1016/j.heliyon.2024.e25606. PMID: 38356591; PMCID: PMC10865320.
2. Çelik Ö, Şencan S. Bracing or kinesio taping in the management of lateral elbow tendinopathy: A prospective, randomized single-blinded trial. *J Bodyw Mov Ther*. 2023 Oct;36:235-243. doi: 10.1016/j.jbmt.2023.07.006. Epub 2023 Jul 14. PMID: 37949566.
3. Erpala F, Ozturk T, Zengin EC, Bakir U. Early Results of Kinesio Taping and Steroid Injections in Elbow Lateral Epicondylitis: A Randomized, Controlled Study. *Medicina (Kaunas)*. 2021 Mar 24;57(4):306. doi: 10.3390/medicina57040306. PMID: 33805193; PMCID: PMC8064344.
4. Zhong Y, Zheng C, Zheng J, Xu S. Kinesio tape reduces pain in patients with lateral epicondylitis: A meta-analysis of randomized controlled trials. *Int J Surg*. 2020 Apr;76:190-199. doi: 10.1016/j.ijsu.2020.02.044. Epub 2020 Mar 10. PMID: 32165280.
5. Gracias, Alisha; Shobhalakshmi, S.I. Immediate Effect of Kinesio Taping on Pain and Grip Strength in Individuals with Lateral Epicondylitis. *Indian Journal of Physical Therapy and Research* 1(1):p 24-28, Jan–Jun 2019. | DOI: 10.4103/ijptr.ijptr\_19\_19
6. Koçak FA, Kurt EE, Şaş S, Tuncay F, Erdem HR. Short-Term Effects of Steroid Injection, Kinesio Taping, or Both on Pain, Grip Strength, and Functionality of Patients With Lateral Epicondylitis: A Single-Blinded Randomized Controlled Trial. *Am J Phys Med Rehabil*. 2019 Sep;98(9):751-758. doi: 10.1097/PHM.0000000000001184. PMID: 30920398.
7. Balevi ISY, Karaoglan B, Batur EB, Acet N. Evaluation of short-term and residual effects of Kinesio taping in chronic lateral epicondylitis: A randomized, double-blinded, controlled trial. *J Hand Ther*. 2023 Jan-Mar;36(1):13-22. doi: 10.1016/j.jht.2021.09.001. Epub 2021 Nov 1. PMID: 34736818.

- 
8. Shakeri H, Soleimanifar M, Arab AM, Hamneshin Behbahani S. The effects of KinesioTape on the treatment of lateral epicondylitis. *J Hand Ther.* 2018 Jan-Mar;31(1):35-41. doi: 10.1016/j.jht.2017.01.001. Epub 2017 Feb 28. PMID: 28256305.
  9. Cho YT, Hsu WY, Lin LF, Lin YN. Kinesio taping reduces elbow pain during resisted wrist extension in patients with chronic lateral epicondylitis: a randomized, double-blinded, cross-over study. *BMC Musculoskelet Disord.* 2018 Jun 19;19(1):193. doi: 10.1186/s12891-018-2118-3. PMID: 29921250; PMCID: PMC6010177
  10. Foundation of Clinical Research, Application to Evidence-Based Practice by Leslie G. Portney