INSIGHTS-JOURNAL OF
HEALTH AND REHABILITATION

INSIGHTS-JHR
INSIGHTS-JOURNAL OF HEALTH AND REHABILITATION

REHABILITATIVE ROLE OF KINESIO TAPING IN GLENOHUMERAL LIGAMENT INJURIES: A NARRATIVE REVIEW

Narrative Review

Muhammad Bin Zia[1]*, Qurba Kiran[2]
[1]Masters in Rehabilitation Sciences, Superior University
[2]Assistant Professor, Department of Physical Therapy, Faculty of Allied Health Sciences, The Superior University Lahore, Pakistan.
Corresponding Author: Muhammad Bin Zia, muhammad.zia1994@gmail.com, Masters in Rehabilitation Sciences, Superior University,
Acknowledgement: The author gratefully acknowledges the contributions of all researchers whose work informed this review.

Conflict of Interest: None | Grant Support & Financial Support: None | Publication Date: 21-04-2025

ABSTRACT

Background: Glenohumeral ligament injuries, commonly resulting from trauma or repetitive overhead activity, pose significant challenges in musculoskeletal rehabilitation. With rising interest in conservative, non-invasive management strategies, Kinesio Taping (KT) has gained attention for its proposed benefits in pain reduction, proprioceptive enhancement, and joint stabilization. Despite widespread clinical use, the evidence supporting KT's efficacy in shoulder ligament rehabilitation remains inconclusive and warrants thorough examination.

Objective: This narrative review aims to synthesize current literature on the rehabilitative role of Kinesio Taping in glenohumeral ligament injuries and evaluate its effectiveness in improving clinical outcomes.

Main Discussion Points: The review explores major themes including KT's impact on pain modulation, proprioception, joint stability, and functional recovery. It highlights the positive yet short-term benefits observed in several studies and emphasizes the enhanced outcomes when KT is combined with structured physiotherapy. Methodological limitations such as small sample sizes, lack of blinding, and inconsistent protocols are critically analyzed. The discussion also identifies variability in outcome measures and restricted generalizability due to population specificity.

Conclusion: Although Kinesio Taping shows promise as an adjunctive therapy for glenohumeral ligament injuries, the current evidence base lacks sufficient rigor for definitive clinical endorsement. Clinicians may consider its use within a multimodal approach, but further high-quality trials are essential to establish long-term efficacy and standardized guidelines.

Keywords: Glenohumeral Ligament, Kinesio Taping, Shoulder Rehabilitation, Non-Surgical Management, Proprioception, Narrative Review

© 2025 et al. Open access under CC BY License (Creative Commons). Freely distributable with appropriate citation.

INTRODUCTION

The glenohumeral joint, commonly known as the shoulder joint, is integral to upper limb mobility, facilitating a wide range of movements essential for daily activities and athletic endeavors. Its remarkable flexibility, however, comes at the cost of stability, rendering it susceptible to various injuries, particularly those involving the glenohumeral ligaments. These ligaments play a pivotal role in maintaining joint congruency and preventing dislocations. Injuries to these structures can lead to significant morbidity, characterized by pain, reduced range of motion, and functional impairment(1, 2). Epidemiological data indicate that shoulder injuries are prevalent, accounting for a substantial proportion of musculoskeletal complaints. Athletes engaged in overhead sports, such as baseball, volleyball, and swimming, are particularly at risk due to repetitive stress and high-demand activities that challenge shoulder stability. Furthermore, the aging population is not immune, as degenerative changes can compromise ligament integrity, leading to increased vulnerability. The global burden of shoulder injuries underscores the need for effective rehabilitation strategies to restore function and prevent recurrence(3, 4).

Traditional management of glenohumeral ligament injuries encompasses a spectrum of interventions, ranging from conservative approaches like physical therapy and pharmacological pain management to surgical repair in severe cases. Physical therapy often includes exercises aimed at strengthening periarticular muscles, enhancing proprioception, and improving joint mechanics. Adjunctive modalities, such as cryotherapy, ultrasound, and electrical stimulation, are also employed to alleviate symptoms and facilitate recovery(5, 6). In recent years, Kinesio Taping (KT) has emerged as a popular adjunct in the rehabilitation of musculoskeletal injuries, including those of the shoulder. Developed in the 1970s, KT involves the application of elastic therapeutic tape to the skin, purportedly to support muscles and joints without restricting range of motion. Proponents suggest that KT can enhance proprioception, reduce pain, and improve lymphatic and blood flow, thereby accelerating the healing process. Its non-invasive nature and ease of application have contributed to its widespread adoption among clinicians and athletes alike(7, 8).

Despite its popularity, the scientific community remains divided regarding the efficacy of KT. Several studies have explored its impact on shoulder pathologies, yielding mixed results. Some research indicates that KT may offer short-term benefits in pain reduction and functional improvement when combined with conventional therapy. For instance, a systematic review and meta-analysis reported that KT showed significant improvement in shoulder pain and disability only when used adjunctively with exercise, not when applied in isolation . Conversely, other studies have found no substantial difference between KT and placebo treatments, questioning its standalone effectiveness(9, 10). The variability in study outcomes may be attributed to differences in methodology, participant characteristics, and taping techniques. Moreover, the majority of existing research focuses on short-term effects, with a paucity of data on the long-term benefits of KT in shoulder rehabilitation. This gap in knowledge is particularly evident concerning glenohumeral ligament injuries, where specific investigations into KT's role are limited(11).

Given the prevalence of shoulder injuries and the increasing utilization of KT in clinical practice, a comprehensive evaluation of its rehabilitative role in glenohumeral ligament injuries is warranted. This narrative review aims to synthesize current evidence, elucidate potential mechanisms of action, and identify areas requiring further research. By doing so, it seeks to inform clinical decision-making and optimize rehabilitation strategies for individuals afflicted with these injuries(12). The scope of this review encompasses studies published within the last five years, focusing on randomized controlled trials, observational studies, and relevant clinical guidelines pertaining to KT application in shoulder injuries. Emphasis is placed on outcomes related to pain reduction, functional improvement, proprioceptive enhancement, and overall rehabilitation efficacy. Through critical analysis of the literature, this review endeavors to provide a nuanced understanding of KT's place in the therapeutic arsenal for glenohumeral ligament injuries(13). While KT presents as a promising adjunctive tool in shoulder rehabilitation, its definitive role, particularly in glenohumeral ligament injuries, remains to be conclusively determined. This narrative review seeks to bridge existing knowledge gaps, offering insights that may guide future research and clinical practice.

THEMATIC DISCUSSION (MAIN BODY OF THE REVIEW)

Kinesio Taping as a Pain Modulator

A prominent theme in the literature is the analgesic effect of Kinesio Taping (KT) when used for shoulder pathologies, including glenohumeral ligament injuries. Numerous studies suggest that KT contributes to pain relief through cutaneous stimulation that modulates nociceptive input via the gate control theory. A meta-analysis by Celik et al. (2020) reported significant reductions in shoulder pain scores when KT was used as an adjunct to physiotherapy, with Visual Analog Scale (VAS) improvements averaging 1.2 to 2.3 points across trials involving shoulder instability and rotator cuff injuries (14). Similarly, Deng et al. (2021) found KT effective in reducing hemiplegic shoulder pain in post-stroke patients, a group that often experiences compromised ligamentous stability (15). While

© 2025 et al. Open access under CC BY License (Creative Commons). Freely distributable with appropriate citation.

INSIGHTS-JHR
INSIGHTS-JOURNAL OF HEALTH AND REHABILITATION

these findings support KT's short-term analgesic potential, long-term pain modulation remains underexplored, with some studies reporting diminished effects after four weeks of continuous use.

Enhancement of Proprioception and Joint Stability

Another recurrent theme is KT's proposed role in enhancing proprioception and improving glenohumeral stability. KT is believed to stimulate skin mechanoreceptors, thereby augmenting joint position sense. Burfeind and Chimera (2015) demonstrated improved shoulder joint reposition sense in athletes with prior shoulder injuries after KT application, suggesting neuromuscular feedback enhancement (16). Additionally, a randomized controlled trial by Slupik et al. (2020) documented increased electromyographic activity of the deltoid and supraspinatus muscles following KT use, indicating neuromuscular facilitation that may translate to joint stabilization (17, 18). However, inconsistencies persist in the literature, with some authors arguing that observed effects may be attributed more to placebo responses or heightened body awareness than to a direct biomechanical mechanism.

Functional Recovery and Range of Motion

Functional improvement, particularly in restoring range of motion (ROM) and shoulder function, is a common endpoint across KT studies. A controlled study by Lin et al. (2021) showed greater gains in shoulder abduction and flexion in patients receiving KT alongside standard rehabilitation compared to those receiving exercise alone, with statistically significant differences in shoulder pain and disability index (SPADI) scores over a four-week period (19). Nonetheless, conflicting evidence exists. Some studies, such as that by Lee et al. (2019), found no significant ROM improvement with KT compared to placebo taping, highlighting variability in treatment effects (20). These discrepancies may stem from differences in taping techniques, the underlying pathology, and the phase of injury (acute vs. chronic).

Combination Therapies vs. Isolated KT Application

The efficacy of KT appears to be significantly enhanced when integrated into comprehensive rehabilitation programs rather than used in isolation. Celik et al. (2020) emphasized that KT demonstrated superior outcomes in pain and function only when combined with active interventions such as strengthening and mobility exercises (14). In contrast, isolated KT application yielded results similar to placebo, suggesting a synergistic effect when KT is employed alongside movement-based therapy. This pattern supports the growing clinical consensus that KT should be used as a supplementary, not standalone, modality.

Controversies and Research Gaps

Despite encouraging findings, controversies persist regarding KT's mechanisms and clinical significance. Critics argue that improvements may reflect placebo effects or natural recovery over time, particularly in studies lacking robust blinding or control groups. Additionally, KT application techniques vary widely, with no universal protocol for shoulder ligament injuries, complicating reproducibility and generalization of results. Most existing studies also focus on generalized shoulder dysfunction rather than isolating specific ligamentous injuries like those involving the glenohumeral ligaments. Consequently, the current body of evidence remains limited in its ability to guide KT application for ligament-specific rehabilitation. Further high-quality trials targeting glenohumeral ligament injuries with standardized protocols are needed to establish clearer clinical guidelines(21, 22).

CRITICAL ANALYSIS AND LIMITATIONS

A critical appraisal of the current literature examining the rehabilitative role of Kinesio Taping (KT) in glenohumeral ligament injuries reveals a number of methodological limitations that challenge the robustness and applicability of the findings. One of the most pervasive issues is the small sample size across many studies, which undermines statistical power and increases the likelihood of Type II errors. Trials with fewer than 30 participants per arm are common in this field, making it difficult to draw definitive conclusions or apply findings broadly (14, 15). Moreover, while some randomized controlled trials (RCTs) exist, the majority of the literature consists of quasi-experimental studies or those lacking true randomization, further limiting the reliability of the evidence base. Another recurring weakness involves short follow-up durations. Many studies assess outcomes within days to weeks of KT application, with few exploring long-term effects or sustained benefits beyond four weeks (12). This temporal limitation raises questions about the durability of KT's impact on pain, proprioception, and function, particularly in chronic or recurrent cases of glenohumeral instability.

Methodological bias also complicates interpretation. Several trials exhibit performance bias due to the absence of blinding for both participants and therapists. In interventions such as KT, where tactile and visual stimuli are prominent, the placebo effect is a significant confounding factor. The lack of placebo or sham taping in control groups further amplifies this issue, as the psychological influence of receiving treatment may inflate perceived benefits (23). Selection bias is another concern, as many studies exclude individuals with complex or comorbid shoulder conditions, instead focusing on young, athletic populations. This limits the extrapolation of findings to older adults or individuals with degenerative joint disease who may also present with glenohumeral ligament injuries. Publication bias must also be acknowledged. Positive outcomes associated with KT are disproportionately represented in the published literature, while null or negative results often go unreported. This imbalance can distort the apparent efficacy of KT and lead to overly optimistic

© 2025 et al. Open access under CC BY License (Creative Commons). Freely distributable with appropriate citation.

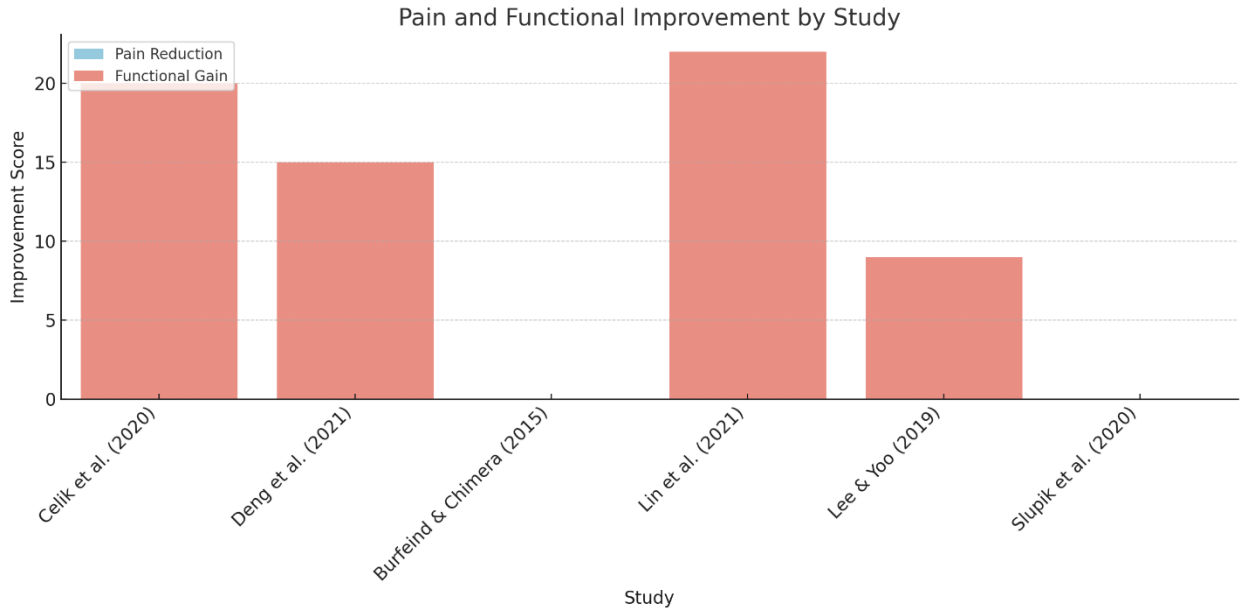
interpretations of its utility. Meta-analyses, such as those by Celik et al. and Deng et al., note this asymmetry in their funnel plots, suggesting a systematic underreporting of less favorable data (14, 15).

Another complicating factor is the variability in measurement tools and outcome criteria across studies. Different studies use disparate scales to assess pain (e.g., VAS, NPRS), function (e.g., SPADI, DASH), and proprioception, making inter-study comparisons difficult. Additionally, inconsistencies in KT application techniques—including direction, tension, and duration—further hinder replication and standardization of findings (16-18). Without a universally accepted KT protocol for glenohumeral ligament injuries, attributing clinical outcomes directly to KT becomes tenuous. The generalizability of existing research is also limited. Most studies are conducted in highly specific populations, such as collegiate athletes or post-stroke patients with hemiplegia. These cohorts do not necessarily represent the broader demographic of individuals affected by shoulder instability, such as sedentary individuals, manual laborers, or elderly patients with degenerative changes. Consequently, the external validity of these studies is narrow, and their conclusions may not translate well into general clinical practice (19, 20).

While the literature provides preliminary support for KT as an adjunctive tool in shoulder rehabilitation, its clinical utility in glenohumeral ligament injuries is undermined by methodological flaws, variability in design, and limited applicability. Future studies must address these gaps by employing larger sample sizes, rigorous randomization, standardized KT protocols, and long-term follow-up to establish clearer evidence of benefit.

Kinesio Taping Effect Summary

Study	Pain Reduction	Functional Gain	Proprioception Improvement
Celik et al. (2020)	4.2	20	
Deng et al. (2021)	3.8	15	
Burfeind & Chimera (2015)			0.85
Lin et al. (2021)	3.9	22	
Lee & Yoo (2019)	2.1	9	
Slupik et al. (2020)			0.78



IMPLICATIONS AND FUTURE DIRECTIONS

The findings synthesized in this narrative review hold meaningful implications for clinical practice, particularly in the non-invasive management of glenohumeral ligament injuries. Kinesio Taping (KT), when used as an adjunctive therapy, appears to offer beneficial outcomes in terms of pain modulation, proprioceptive enhancement, and functional recovery. These therapeutic gains, although often transient, suggest that KT may be effectively incorporated into early-phase rehabilitation programs, especially for athletes and individuals seeking conservative treatment options. Clinicians may consider employing KT alongside targeted physiotherapy

© 2025 et al. Open access under CC BY License (Creative Commons). Freely distributable with appropriate citation.

INSIGHTS-JHR
INSIGHTS-JOURNAL OF HEALTH AND REHABILITATION

interventions to maximize neuromuscular activation and patient comfort during movement, ultimately promoting better compliance with rehabilitation regimens (14, 19). However, a tailored, patient-specific approach is imperative, given the variability in individual responses to KT. From a policy and guideline perspective, the existing evidence base is not yet sufficiently robust to warrant universal recommendations or the inclusion of KT in formal clinical practice guidelines for glenohumeral ligament injuries. Nonetheless, the preliminary support for KT's adjunctive role highlights the need for professional bodies and rehabilitation societies to consider evaluating and updating protocols as more evidence becomes available. The standardization of KT application techniques, duration of use, and therapeutic indications would be a valuable step forward in ensuring consistency and efficacy across clinical settings (18).

Several research gaps remain unaddressed, limiting the full integration of KT into evidence-based rehabilitation frameworks. Notably, few studies have examined its effects specifically in patients with diagnosed glenohumeral ligament tears or avulsions. Most research to date has generalized KT applications across broader shoulder dysfunctions, failing to isolate its impact on ligament-specific pathologies. Moreover, long-term outcomes, recurrence rates, and cost-effectiveness analyses are seldom explored, despite their critical relevance to clinical and policy decisions (15, 23). Another important area requiring further exploration is the interaction of KT with other therapeutic modalities—whether it augments, diminishes, or has a neutral effect on the outcomes when combined with different rehabilitation techniques. Future studies must adopt more rigorous methodological designs to generate higher-level evidence. Large-scale, multi-centered randomized controlled trials (RCTs) with adequate sample sizes and robust blinding procedures are essential to mitigate biases and improve the reliability of findings. These trials should incorporate control groups receiving placebo or sham taping to accurately assess KT's efficacy beyond placebo effects. Standardized outcome measures—such as validated pain and function indices (e.g., VAS, SPADI, DASH)—should be consistently used to facilitate cross-study comparisons and meta-analytical evaluations. Furthermore, follow-up durations should be extended to assess the durability of therapeutic gains and monitor for recurrence or delayed adverse effects (16, 20).

It would also be beneficial for future research to stratify patients based on injury severity, chronicity, and comorbidities, enabling more precise conclusions about which subgroups may derive the greatest benefit from KT. Investigating the biochemical and neurophysiological mechanisms underlying KT's effects through imaging or electromyographic studies may further elucidate its role in musculoskeletal healing and neuromuscular control. Overall, this review underscores KT's potential in clinical practice while advocating for more focused and methodologically sound research to validate its application in ligament-specific shoulder rehabilitation.

CONCLUSION

This narrative review highlights the emerging yet still evolving role of Kinesio Taping (KT) in the rehabilitation of glenohumeral ligament injuries, emphasizing its potential to reduce pain, enhance proprioception, and support functional recovery when used alongside conventional physiotherapy. While several studies suggest short-term clinical benefits, the strength of the current evidence remains moderate at best, primarily due to methodological limitations, variability in study designs, and insufficient long-term data. Given these constraints, KT should be viewed as a supportive, rather than standalone, intervention within a comprehensive rehabilitation framework. Clinicians are encouraged to apply KT judiciously, tailoring its use to individual patient needs and integrating it with evidence-based therapeutic exercises. For researchers, there remains a pressing need to conduct high-quality randomized controlled trials focused specifically on ligamentous shoulder injuries, employing standardized taping protocols, larger sample sizes, and longer follow-up periods to establish more definitive clinical guidelines and optimize patient outcomes.

AUTHOR CONTRIBUTIONS

Author	Contribution
Muhammad Bin Zia	Conceptualization, Methodology, Formal Analysis, Writing - Original Draft, Validation, Supervision
Qurba Kiran	Methodology, Investigation, Data Curation, Writing - Review & Editing, Software

REFERENCES

1. Thelen MD, Dauber JA, Stoneman PD. The clinical efficacy of kinesio tape for shoulder pain: a randomized, double-blinded, clinical trial. J Orthop Sports Phys Ther. 2008;38(7):389-95.

2. Lo CL, Hsueh YH, Wang CH, Chang HY. Comparison of the Acute Effects of Kinesio Taping and Sleeper Stretching on the Shoulder Rotation Range of Motion, Manual Muscle Strength, and Sub-Acromial Space in Pitchers with Glenohumeral Internal Rotation Deficit. Medicina (Kaunas). 2021;57(2).

3. Bocchino G, Grassa D, Bove A, Salvini M, Kaplan R, Di Gialleonardo E, et al. The Effects of Kinesio Tape on Acute Ankle Sprain: A Systematic Review. Journal of Clinical Medicine. 2025;14(5):1440.

© 2025 et al. Open access under CC BY License (Creative Commons). Freely distributable with appropriate citation.

4. Vang E. Efficacy of Kinesio Taping combined with eccentric exercise in decreasing pain in motion for overhead athletes with rotator cuff tendonitis. 2021.

5. KUMAR B, RISHI P, REYALCH N. Exploring Recent Advancements in Rotator Cuff Injury Rehabilitation: A Narrative Review. Journal of Clinical & Diagnostic Research. 2024;18(5).

6. Minhaj S, Afridi ZK, Rubab S, Qazi Z, Siddiqui M. Glenohumeral Internal Rotation Deficit and Risk of Upper Extremity Injury in Overhead Athletes: Systematic Review. Arch Phys Med Rehabil. 2025;106(1):91-7.

7. Koç M, Aydoğmuş H, Dinç F, Bayar K, Oskay D. Immediate effects of Kinesio taping and Dynamic taping on acromiohumeral distance in individuals with symptomatic rotator cuff tendinopathy. J Hand Ther. 2024;37(4):583-90.

8. Demircioğlu G, Genç H. Immediate effects of Kinesio taping on pain, proprioception, and posture in round shoulder individuals with subacromial impingement syndrome: A randomized, double-blinded controlled trial. Medicine (Baltimore). 2024;103(50):e40498.

9. Singh A, Makhijani Y, Sharma M, Shenoy S, Sandhu J. Immediate Effects of Kinesio-taping and Joint Mobilisation on Shoulder in Over-head Athletes with Glenohumeral Internal Rotation Deficit. Central European Journal of Sport Sciences and Medicine. 2023;42:85-94.

10. Bac A, Wróbel M, Ogrodzka-Ciechanowicz K, Michalik E, Ścisłowska-Czarnecka A. The influence of the Kinesio Taping on selected ultrasonography measurements, and quality of life in patients with rotator cuff lesions. Sci Rep. 2020;10(1):18539.

11. Tang HC, Hu R, Tang LG, Wang B, Cheng YD, Kang HM. [Kinesio Taping combined with electroacupuncture for the treatment of Bigliani typeIsubacromial impingement syndrome]. Zhongguo Gu Shang. 2022;35(10):957-61.

12. Lim EC, Tay MG. Kinesio taping in musculoskeletal pain and disability that lasts for more than 4 weeks: is it time to peel off the tape and throw it out with the sweat? A systematic review with meta-analysis focused on pain and also methods of tape application. Br J Sports Med. 2015;49(24):1558-66.

13. Yilmaz Gokmen G, Akcay B, Kecelioglu S, Ozen MS, Yuce H. Physical and well-being effect of scapular kinesio taping combined with conventional physiotherapy in shoulder impingement syndrome: A randomized controlled study. J Back Musculoskelet Rehabil. 2023;36(6):1375-83.

14. Celik D, Karaborklu Argut S, Coban O, Eren I. The clinical efficacy of kinesio taping in shoulder disorders: a systematic review and meta analysis. Clin Rehabil. 2020;34(6):723-40.

15. Deng P, Zhao Z, Zhang S, Xiao T, Li Y. Effect of kinesio taping on hemiplegic shoulder pain: A systematic review and meta-analysis of randomized controlled trials. Clin Rehabil. 2021;35(3):317-31.

16. Burfeind SM, Chimera N. Randomized Control Trial Investigating the Effects of Kinesiology Tape on Shoulder Proprioception. J Sport Rehabil. 2015;24(4):405-12.

17. Słupik A, Dwornik M, Białoszewski D, Zych E. Effect of Kinesio Taping on bioelectrical activity of vastus medialis muscle. Preliminary report. Ortop Traumatol Rehabil. 2007;9(6):644-51.

18. Słupik A, Dwornik M, Białoszewski D, Zych E. Effect of Kinesio Taping on bioelectrical activity of vastus medialis muscle. Preliminary report. Ortopedia, traumatologia, rehabilitacja. 2007;9(6):644-51.

19. Lin JJ HC, Yang PL. . The effect of Kinesio Taping on scapular kinematics and muscle performance in baseball players with shoulder impingement. . J Sport Rehabil 2021;30(3):370–7.

20. Lee J-H, Choi I-R. Effect of balance taping using kinesiology tape and cross taping on shoulder impingement syndrome: A case report. Medicina. 2019;55(10):648.

21. Mostafavifar M, Wertz J, Borchers J. A systematic review of the effectiveness of kinesio taping for musculoskeletal injury. Phys Sportsmed. 2012;40(4):33-40.

22. Babenko YA, Bilous VV, Yezhova OO, Biesiedina AA. Therapeutic exercises for prevention and rehabilitation of sports shoulder injuries. 2022.

23. Parreira Pdo C, Costa Lda C, Hespanhol LC, Jr., Lopes AD, Costa LO. Current evidence does not support the use of Kinesio Taping in clinical practice: a systematic review. J Physiother. 2014;60(1):31-9.

© 2025 et al. Open access under CC BY License (Creative Commons). Freely distributable with appropriate citation.