

Review Article

Tendon neuroplastic training and motor cortex excitability in patellar tendinopathy: a literature review

Harsh Kaur, Aashima*, Supreet Bindra, Pankajpreet Singh

Department of Physiotherapy, Sri Guru Granth Sahib World University, Fatehgarh Sahib, Punjab, India

Received: 16 September 2026

Accepted: 16 October 2026

*Correspondence:

Dr. Aashima,

E-mail: aashima987222@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Patellar tendinopathy (PT) is a common overuse condition, particularly among athletes involved in jumping and running activities. Although traditionally considered a local tendon disorder, increasing evidence suggests that changes in motor control and corticospinal excitability may contribute to persistent symptoms and impaired function. Tendon neuroplastic training (TNT) combines progressive tendon loading with externally paced exercise or timing cues intended to influence motor-system adaptation. Objectives were to review evidence regarding TNT, exercise-based rehabilitation, and neurophysiological changes associated with PT, with emphasis on the potential relationship between TNT and motor cortex excitability. A literature review was conducted using PubMed, Google Scholar, and ResearchGate. Studies related to PT, TNT, corticospinal excitability, motor cortex excitability, and exercise-based rehabilitation were considered. English-language studies published between 2004 and 2026 were included. Studies unrelated to PT, TNT, motor cortex excitability, or tendon rehabilitation were excluded. The literature was organized into three groups: studies directly investigating TNT, exercise-based rehabilitation studies in PT, and studies investigating motor cortex or corticospinal excitability in PT. Direct TNT studies were predominantly conducted in lateral elbow tendinopathy and reported improvements in pain and function. Studies in PT demonstrated beneficial effects of progressive tendon loading, including eccentric, heavy slow resistance, and isometric exercise. Neurophysiological studies demonstrated alterations in corticospinal and cortical excitability in individuals with PT. TNT represents a promising neurophysiologically informed approach that may complement progressive tendon-loading rehabilitation. However, direct evidence demonstrating that TNT modifies motor cortex excitability or is superior to conventional rehabilitation in PT remains insufficient.

Keywords: Patellar tendinopathy, Tendon neuroplastic training, Motor cortex excitability, Corticospinal excitability, Tendon rehabilitation, Neuroplasticity

INTRODUCTION

Patellar tendinopathy (PT), also referred to as jumper's knee, is a common overuse condition characterized by pain and functional limitation around the patellar tendon. Histopathological findings suggest that chronic PT is primarily a degenerative rather than an inflammatory disorder.¹ PT is therefore used to describe the clinical condition associated with pathological changes and dysfunction of the patellar tendon.²⁻³

PT is commonly observed in athletes participating in jumping and running activities and is characterized by persistent anterior knee pain and impaired lower-limb function.³ Several factors have been associated with the development and persistence of PT, including tendon loading, lower-limb biomechanics, muscle strength and stiffness, and reduced capacity to tolerate mechanical load.³

In addition to local tendon pathology, increasing evidence suggests that neurophysiological adaptations may

contribute to persistent symptoms and impaired motor performance in individuals with PT. Studies have reported alterations in corticospinal and motor-system excitability in athletes with PT, including changes in corticospinal excitability of the quadriceps musculature.⁴⁻⁶

TNT has been proposed as a rehabilitation approach that combines progressive tendon-loading exercises with externally paced or rhythmically controlled movement to potentially influence both tendon adaptation and motor-system function.⁷ The approach was developed from the concept that repeated, appropriately loaded exercise combined with external pacing may provide a stimulus for motor-system adaptation and improved neural drive.⁷

Externally paced exercise using auditory or visual cues has subsequently been investigated as a potential strategy for modifying motor control during tendon rehabilitation.^{7,8} Clinical studies of TNT have reported improvements in pain and functional outcomes, although much of the available direct TNT evidence has been generated in lateral elbow tendinopathy rather than PT.⁹⁻¹²

Despite evidence of altered corticospinal excitability in PT and the proposed neuroplastic mechanisms underlying TNT, direct evidence examining whether TNT specifically modifies motor cortex excitability in individuals with PT remains limited.⁴⁻⁷ Therefore, this review aimed to evaluate the available evidence regarding TNT and its potential effects on motor cortex and corticospinal excitability in PT.

LITERATURE REVIEW

Search strategy

A literature review was conducted to identify published evidence related to TNT, PT, exercise-based rehabilitation, and motor cortex or corticospinal excitability. Literature searches were conducted using PubMed, Google Scholar, and ResearchGate. The search terms included combinations of the following keywords: “patellar tendinopathy,” “tendon neuroplastic training,” “TNT,” “motor cortex excitability,” “corticospinal excitability,” “cortical inhibition,” “tendon rehabilitation,” “eccentric exercise,” “heavy slow resistance,” and “isometric exercise.”. The search was limited to studies published between 2004 and 2026.

Eligibility criteria

Studies were considered eligible when they addressed at least one of the following areas: TNT or externally paced training in tendinopathy; exercise-based rehabilitation of PT; or motor cortex, corticospinal, or related neurophysiological changes in individuals with PT. Published full-text articles in the English language were considered for inclusion. Randomized controlled trials, controlled clinical trials, observational studies, case reports, and relevant review articles were considered when

they provided information directly related to the objectives of the review. Studies were excluded if they were not available in English, were available only as abstracts, or were unrelated to PT, TNT, tendon rehabilitation, or motor/corticospinal excitability.

Titles and abstracts identified through the searches were screened for relevance to the review objective. Potentially relevant articles were subsequently assessed according to the predefined eligibility criteria. Relevant information was extracted from the included studies, including study design, participant characteristics, intervention or assessment method, outcome measures, principal findings, and conclusions. Because of differences in study populations, interventions, outcome measures, and study designs, the findings were synthesized narratively rather than quantitatively. The evidence was organized into three categories: studies investigating TNT, exercise-based rehabilitation studies in PT, and studies investigating motor cortex or corticospinal excitability in PT.

Literature search and study selection

A literature search was conducted to identify studies investigating TNT, rehabilitation interventions for PT, and neurophysiological changes associated with PT. The literature identified studies addressing three main areas: TNT in tendinopathy, exercise-based rehabilitation in PT, and motor cortex and corticospinal excitability in PT.

The identified evidence was therefore organized into three groups according to the primary focus of each study rather than combining all interventions under TNT. Studies examining TNT were predominantly conducted in individuals with lateral elbow tendinopathy, whereas studies involving PT primarily investigated eccentric loading, heavy slow resistance training, isometric exercise, progressive tendon loading, and other rehabilitation interventions.

A smaller group of studies specifically investigated corticospinal or cortical excitability in individuals with PT.

The identified literature was organized into three evidence groups based on study focus: TNT, exercise-based rehabilitation in PT, and motor cortex/corticospinal excitability in PT.

TNT STUDIES

Four studies specifically examining TNT in tendinopathy were identified. These included randomized controlled studies and case reports involving predominantly lateral elbow tendinopathy/lateral epicondylitis as seen in Table 1.

However, these studies were conducted primarily in lateral elbow tendinopathy rather than PT. Therefore, the available clinical evidence for TNT cannot be considered direct evidence of its effectiveness in PT.

Table 1: Studies investigating TNT in tendinopathy.

Studies	Condition	Design/sample	Intervention	Main outcomes	Key finding
Welsh 2018¹²	Lateral elbow tendinopathy	2 case reports	8-week TNT programme incorporating externally paced resistance exercise	Pain and functional outcomes	Clinically meaningful improvements in pain and function were reported; findings are preliminary because of the case-report design.
Stasinopoulos 2019¹¹	Lateral elbow tendinopathy	Case report	Rehabilitation programme incorporating TNT	Pain and function	Improvement in clinical symptoms was reported; controlled studies are required to establish efficacy.
Lokhande et al 2020¹⁰	Chronic lateral epicondylitis	Randomized controlled study	TNT + conventional treatment vs conventional treatment	Pain and functional disability	TNT combined with conventional treatment produced greater improvement in pain and disability.
Khan et al 2025⁹	Lateral epicondylitis	RCT; n=34	TNT vs active control for 4 weeks	Pain, grip strength, disability	TNT produced greater improvement in pain and disability; grip-strength improvement was not clearly superior.

EXERCISE-BASED REHABILITATION IN PT

The second group comprised studies evaluating exercise-based and adjunct rehabilitation interventions in PT. These studies investigated eccentric exercise, progressive tendon loading, heavy slow resistance training, isometric exercise,

NMES, inertial flywheel training, therapeutic ultrasound, and comparisons between different loading strategies (Table 2). These findings provide evidence supporting progressive tendon loading as an important component of PT rehabilitation, but they should not be interpreted as evidence specifically demonstrating effectiveness of TNT.

Table 2: Exercise-based and adjunct rehabilitation interventions in PT.

Author(s), year	Study design / sample	Intervention	Outcome measures	Key findings /conclusion
López-Royo et al 2021¹³	Randomized controlled trial	Eccentric exercise with adjunct interventions	VISA-P, pain, function	Adjunct interventions combined with eccentric exercise produced improvements in clinical outcomes in patients with PT.
Fendri et al 2026¹⁴	Randomized clinical trial	Progressive tendon-loading eccentric exercise	Pain, quadriceps strength, postural control	Progressive eccentric loading improved pain, quadriceps strength and postural control in athletes with PT.
Jing 2025¹⁵	Randomized controlled trial	Progressive eccentric training	Pain, function, strength, jumping performance	Progressive eccentric training improved pain, functional recovery, strength and jumping performance.
Xiao et al 2024¹⁶	Randomized single-blind controlled trial	Heavy slow resistance training and therapeutic ultrasound	Pain, function, tendon-related outcomes	All intervention groups demonstrated improvement, with combined heavy slow resistance training and ultrasound showing greater sustained benefits.
Labanca et al 2022¹⁷	Controlled clinical study	NMES superimposed on movement vs heavy slow resistance training	Pain, VISA-P, functional outcomes	NMES combined with movement produced improvements comparable to heavy slow resistance training in individuals with PT.

Continued.

Author(s), year	Study design / sample	Intervention	Outcome measures	Key findings /conclusion
Agergaard et al 2021¹⁸	Randomized clinical trial	Moderate- and high-load resistance training	Pain, VISA-P, tendon structure/function	Both moderate- and high-load resistance training improved clinical outcomes, with no significant between-group differences.
Ruffino et al 2021¹⁹	Randomized trial	Inertial flywheel training vs heavy slow resistance training	Pain, VISA-P, function	Both flywheel and heavy slow resistance training improved clinical outcomes in PT.
Holden et al 2020²⁰	Randomized crossover trial	Isometric/resistance exercise	Pain, pressure-pain threshold	Exercise produced short-term reductions in pain and increases in pressure-pain thresholds, although sustained differences were limited.
van Ark et al 2016²¹	Randomized clinical trial	Isometric vs isotonic exercise	Pain, VISA-P/function	Both isometric and isotonic exercise reduced pain, with no significant difference between the groups.
Kongsgaard et al 2009²²	Randomized controlled trial	Eccentric decline squat vs heavy slow resistance vs corticosteroid injection	Pain, VISA-P, tendon structure/function	Eccentric and heavy slow resistance training produced more sustained clinical benefits than corticosteroid injection.
Jonsson and Alfredson 2005²³	Prospective randomized study	Eccentric vs concentric quadriceps training	Pain, function	Eccentric training produced superior clinical outcomes compared with concentric training in patients with jumper's knee.
Young et al 2005²⁴	Comparative intervention study	Eccentric decline squat vs traditional eccentric protocol	VISA-P, pain, function	The eccentric decline-squat protocol produced superior improvement at follow-up compared with the traditional eccentric protocol.
Stasinopoulos et al 2012²⁵	Controlled clinical trial	Eccentric training vs eccentric training + static stretching	Pain, function	Combining eccentric training with static stretching improved clinical outcomes in PT.

MOTOR CORTEX AND CORTICOSPINAL EXCITABILITY IN PT

Separate group of studies investigated neurophysiological

changes associated with PT. These studies used neurophysiological techniques to examine corticospinal excitability, cortical inhibition, and excitability at different levels of motor pathway (Table 3).

Table 3: Motor cortex and corticospinal excitability in PT.

Studies	Design/ population	Neurophysiological assessment	Main finding	Relevance to review
Rio et al 2016⁶	Cross-sectional; 29 jumping athletes: PT n=11, other AKP n=10, controls n=8	TMS; quadriceps corticospinal excitability, active motor threshold, Mmax	PT demonstrated higher corticospinal excitability than both controls and other AKP groups ($p<0.001$).	Provides direct evidence of altered corticospinal excitability in PT.
Rio et al 2015⁵	Clinical exercise study in PT	Measures related to cortical inhibition following isometric exercise	Isometric exercise produced analgesia and reduced inhibition.	Supports the relationship between exercise-induced analgesia and cortical inhibition.
Vallance et al 2024⁴	Athletes with PT vs asymptomatic controls	Intracortical, corticospinal and alpha-motoneuron excitability	Investigated multiple levels of the corticospinal system in PT.	Directly relevant to the neurophysiological component of PT.

DISCUSSION

The present review evaluated the role of TNT, exercise-based rehabilitation, and neurophysiological changes associated with motor cortex and corticospinal excitability in PT. The included literature comprised studies investigating TNT, eccentric exercise, heavy slow resistance (HSR) training, progressive tendon loading, isometric exercise, and neurophysiological changes related to corticospinal excitability and cortical inhibition. Overall, the evidence suggests that progressive tendon-loading approaches can improve pain and functional outcomes in PT, while neurophysiological studies demonstrate alterations in corticospinal and cortical excitability.^{4-6,13-25}

The evidence regarding TNT should be interpreted cautiously. The studies directly investigating TNT were predominantly conducted in lateral elbow tendinopathy and reported improvements in pain and functional outcomes.⁹⁻¹² These findings provide preliminary support for the clinical potential of TNT; however, they cannot be directly extrapolated to PT. Therefore, the current evidence does not establish that TNT is superior to conventional rehabilitation specifically in individuals with PT.

Eccentric exercise was among the most frequently investigated interventions in the included PT literature. Studies examining eccentric decline-squat training and other eccentric protocols generally reported improvements in pain, function, VISA-P scores, and muscular performance.^{13-15,22-25} The findings support eccentric loading as an important component of PT rehabilitation. Stasinopoulos et al also investigated the addition of static stretching to eccentric exercise, suggesting that combined approaches may provide additional clinical benefit.²⁵

HSR training and progressive tendon loading were also associated with improvements in pain, function, and patient-reported outcomes.^{16-19,22} The findings from studies comparing different loading intensities suggest that both moderate- and high-load resistance training can provide clinical benefits, while flywheel and HSR approaches may produce comparable improvements.^{18,19} These findings support progressive loading as a central component of rehabilitation for PT, although the optimal loading strategy may vary according to individual clinical presentation.

Isometric exercise also demonstrated potential clinical and neurophysiological benefits. Rio et al reported that isometric exercise induced analgesia and reduced inhibition in individuals with PT.⁵ Holden et al subsequently investigated isometric exercise and pain-related outcomes, providing further evidence regarding the short-term effects of resistance exercise in this population.²⁰ van Ark et al found that both isometric and isotonic exercise reduced pain, with no significant difference between the two exercise approaches.²¹ These findings suggest that isometric loading may have a role

during rehabilitation, particularly when short-term symptom modulation is required.

An important finding of the review was the evidence of altered motor-system excitability in individuals with PT. Rio et al. reported increased quadriceps corticospinal excitability in athletes with PT compared with athletes with other anterior knee pain and asymptomatic controls.⁶ Rio et al also demonstrated reduced inhibition following isometric exercise, suggesting a relationship between exercise-induced analgesia and cortical inhibition.⁵ More recently, Vallance et al investigated intracortical, corticospinal, and α -motoneurone excitability in athletes with PT, further supporting the relevance of neurophysiological adaptations in this condition.⁴

Overall, the evidence supports progressive tendon loading, including eccentric and HSR exercise, as important components of PT rehabilitation.^{13-19,22-25} Isometric exercise may provide additional short-term analgesic and neurophysiological benefits.^{5,20,21} At the same time, evidence of altered corticospinal and cortical excitability provides a neurophysiological rationale for investigating interventions such as TNT.⁴⁻⁷ However, direct clinical evidence demonstrating that TNT modifies motor cortex excitability in patients with PT remains insufficient.

Limitations

The present review has several limitations. First, the evidence directly evaluating TNT in PT is limited, with most available TNT studies being conducted in lateral elbow tendinopathy. Therefore, findings from these studies cannot be directly generalized to individuals with PT. Second, considerable heterogeneity was observed across the included studies with respect to study design, sample characteristics, intervention protocols, exercise dosage, outcome measures, and duration of follow-up. Third, the available neurophysiological evidence is limited, with only a small number of studies directly assessing corticospinal or cortical excitability in PT. Finally, differences in methodological quality and sample sizes across studies may influence the strength and generalizability of the conclusions. Consequently, the findings should be interpreted cautiously, and larger, well-designed randomized controlled trials are required to establish the effectiveness and neurophysiological effects of TNT in PT.

Clinical implications

The findings of this review have several implications for clinical physiotherapy practice. Progressive tendon loading, including eccentric and heavy slow resistance exercise, should remain an important component of rehabilitation for PT, as these approaches consistently demonstrate improvements in pain, function, and physical performance. Isometric exercise may also be considered when short-term pain modulation is required, particularly during the early or irritable stages of rehabilitation.

The evidence of altered corticospinal and cortical excitability in PT suggests that rehabilitation should not be considered exclusively from a local tendon perspective. TNT may provide potential neuro-physiologically informed approach by combining tendon loading with externally paced movement; however, it should currently be considered an emerging approach rather than an established superior treatment for PT. Clinicians may therefore consider externally paced/rhythmically controlled exercise as an adjunct to conventional tendon-loading rehabilitation when clinically appropriate, while recognizing that direct evidence in PT remains insufficient.

CONCLUSION

TNT represents a promising neurophysiologically informed approach to tendon rehabilitation by combining progressive tendon loading with externally paced movement. The available evidence indicates that progressive eccentric and heavy slow resistance exercise remain important components of rehabilitation for PT, with consistent improvements in pain, function, and physical performance. Neurophysiological studies also demonstrate alterations in corticospinal and cortical excitability in individuals with PT, providing a potential rationale for incorporating neuroplastic principles into rehabilitation. However, direct evidence evaluating the effects of TNT on motor cortex or corticospinal excitability specifically in PT remains limited. Furthermore, most clinical TNT studies have been conducted in lateral elbow tendinopathy, limiting their direct applicability to PT. Therefore, TNT should currently be considered a promising adjunct rather than an established superior treatment. Future well-designed randomized controlled trials in patients with PT should directly examine the effects of TNT on motor cortical excitability alongside clinical outcomes such as pain, function, strength, and tendon-related disability.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

REFERENCES

1. Larsson ME, Käll I, Nilsson-Helander K. Treatment of patellar tendinopathy-a systematic review of randomized controlled trials. *Knee Surg Sports Traumatol Arthrosc.* 2012;20(8):1632-46.
2. Crossley KM, Thancanamootoo K, Metcalf BR, Cook JL, Purdam CR, Warden SJ. Clinical features of patellar tendinopathy and their implications for rehabilitation. *J Orthop Res.* 2007;25(9):1164-75.
3. Malliaras P, Cook J, Purdam C, Rio E. Patellar tendinopathy: clinical diagnosis, load management, and advice for challenging case presentations. *J Orthop Sports Phys Ther.* 2015;45(11):887-98.
4. Vallance P, Malliaras P, Vicenzino B, Kidgell DJ. Determining intracortical, corticospinal and alpha motoneurone excitability in athletes with patellar tendinopathy compared to asymptomatic controls. *Scand J Med Sci Sports.* 2024;34(2):e14579.
5. Rio E, Kidgell D, Purdam C, Gaida J, Moseley GL, Pearce AJ, et al. Isometric exercise induces analgesia and reduces inhibition in patellar tendinopathy. *Br J Sports Med.* 2015;49(19):1277-83.
6. Rio E, Kidgell D, Moseley GL, Cook J. Elevated corticospinal excitability in patellar tendinopathy compared with other anterior knee pain or no pain. *Scand J Med Sci Sports.* 2016;26(9):1072-9.
7. Rio E, Kidgell D, Moseley GL, Gaida J, Docking S, Purdam C, et al. Tendon neuroplastic training: changing the way we think about tendon rehabilitation: a narrative review. *Br J Sports Med.* 2016;50(4):209-15.
8. Carmody D, Conanan A, Moeller D, Khoblall S, Keating C. Efficacy of externally paced training on pain in tendinopathy: a systematic review and meta-analysis. *Cureus.* 2023;15(6):e39994.
9. Khan H, Razzaq A, Afridi A, Sheraz S, Awan WA. Innovative neuroplastic healing: tendon neuroplastic training role in pain alleviation and boosting strength in lateral epicondylitis: a randomized controlled trial. *BMC Musculoskelet Disord.* 2025;26(1):949.
10. Lokhande G, Afle GM, Golhar S. Effect of tendon neuroplastic training on pain and functional disability in chronic lateral epicondylitis patients at the end of 6 weeks: a randomized control trial. *J Med Health Res.* 2020;6(4):56-62.
11. Stasinopoulos D. The management of lateral elbow tendinopathy using tendon neuroplastic training: a case report. *Acta Sci Orthop.* 2019;2(3):2-5.
12. Welsh P. Tendon neuroplastic training for lateral elbow tendinopathy: 2 case reports. *J Can Chiropr Assoc.* 2018;62(2):98-104.
13. López-Royo MP, Ríos-Díaz J, Galán-Díaz RM, Herrero P, Gómez-Trullén EM. A comparative study of treatment interventions for patellar tendinopathy: a randomized controlled trial. *Arch Phys Med Rehabil.* 2021;102(5):967-75.
14. Fendri T, Beaune B, Rebai H, Chaari F, Harrabi MA, Rahmani A, et al. Progressive tendon-loading eccentric exercise therapy in athletes with patellar tendinopathy improves postural control, quadriceps strength, and pain: a randomized clinical trial. *J ISAKOS.* 2026;18:101105.
15. Jing Q. Effects of progressive eccentric training on pain relief and functional recovery in boxing athletes with patellar tendinopathy: a randomized controlled trial. *J Biotech Res.* 2025;21:203-13.
16. Xiao L, Zhou H, He J, Liu H, Li Y, Liu Z, et al. Comprehensive assessment of heavy slow resistance training and high-dose therapeutic ultrasound in managing patellar tendinopathy: a randomized single-blind controlled trial. *BMC Sports Sci Med Rehabil.* 2024;16:213.
17. Labanca L, Rocchi JE, Carta N, Giannini S, Macaluso A. NMES superimposed on movement is equally effective as heavy slow resistance training in patellar

- tendinopathy. *J Musculoskelet Neuronal Interact.* 2022;22(4):474-85.
18. Agergaard AS, Svensson RB, Malmgaard-Clausen NM, Couppé C, Hjortshøj MH, Doessing S, et al. Clinical outcomes, structure, and function improve with both heavy and moderate loads in the treatment of patellar tendinopathy: a randomised clinical trial. *Am J Sports Med.* 2021;49(4):982-93.
 19. Ruffino D, Malliaras P, Marchegiani S, Campana V. Inertial flywheel vs heavy slow resistance training among athletes with patellar tendinopathy: a randomised trial. *Phys Ther Sport.* 2021;52:30-7.
 20. Holden S, Lyng K, Graven-Nielsen T, Riel H, Olesen JL, Larsen LH, et al. Isometric exercise and pain in patellar tendinopathy: a randomized crossover trial. *J Sci Med Sport.* 2020;23(3):208-14.
 21. van Ark M, Cook JL, Docking SI, Zwerver J, Gaida JE, van den Akker-Scheek I, et al. Do isometric and isotonic exercise programs reduce pain in athletes with patellar tendinopathy in-season? A randomised clinical trial. *J Sci Med Sport.* 2016;19(9):702-6.
 22. Kongsgaard M, Kovanen V, Aagaard P, Doessing S, Hansen P, Laursen AH, et al. Corticosteroid injections, eccentric decline squat training and heavy slow resistance training in patellar tendinopathy. *Scand J Med Sci Sports.* 2009;19(6):790-802.
 23. Jonsson P, Alfredson H. Superior results with eccentric compared to concentric quadriceps training in patients with jumper's knee: a prospective randomized study. *Br J Sports Med.* 2005;39(11):847-50.
 24. Young MA, Cook JL, Purdam CR, Kiss ZS, Alfredson H. Eccentric decline squat protocol offers superior results at 12 months compared with traditional eccentric protocol for patellar tendinopathy in volleyball players. *Br J Sports Med.* 2005;39(2):102-5.
 25. Stasinopoulos D, Manias P, Stasinopoulou K. Comparing the effects of eccentric training with eccentric training and static stretching exercises in the treatment of patellar tendinopathy: a controlled clinical trial. *Clin Rehabil.* 2012;26(5):423-30.

Cite this article as: Kaur H, Aashima, Bindra S, Singh P. Tendon neuroplastic training and motor cortex excitability in patellar tendinopathy: a literature review. *Int J Res Med Sci* 2026;14:5538-44.