World Journal of Physical Medicine and Rehabilitation

ISSN: 2688-9382

Editorial

Bilateral Strengthening in Unilateral Lateral Elbow Tendinopathy

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Editorial

Lateral Elbow Tendinopathy (LET) commonly referred as tennis elbow or lateral epicondylitis is a common musculoskeletal/sports injury. LET is usually defined as a syndrome of pain in the area of the lateral epicondyle which may be degenerative rather than inflammatory [1]. The main complaints of patients with LET are pain and decreased function both of which may affect daily activities [2]. Physiotherapy is usually recommended for the management of LET. A plethora of physiotherapy techniques, electrotherapeutic and non-electrotherapeutic modalities, has been recommended for the management of LET. These treatments have different theoretical mechanisms of action, but all have the same aim, to reduce pain and improve function. Therefore, more research is needed to find out the most effective treatment approach in LET patients since this variety of treatment techniques suggests that the most proper treatment technique is not known.

Heavy-slow resistance exercise programme for the injured limb is the most promising treatment approach in the management of LET. Malliaras et al. [3] concluded that clinicians should consider eccentric-concentric loading alongside or instead of eccentric loading. Martinez-Silvestrini et al. [4] stated that, unlike Achilles tendinopathy, LET is often related to forceful grip activities requiring isometric contraction, which would be more beneficial than the eccentric contraction in LET. Recently, isometric exercises have been recommended to reduce and manage tendon pain, increasing the strength at the angle of contraction without producing inflammatory signs [5]. The exercise program in LET should include exercises not only for Extensor Carpi Radialis Brevis (ECRB) strengthening, the most commonly affected structure, but also for supinator, rotator cuff, and scapular muscle strengthening [6,7]. Moreover, patients with LET have also reduced proprioception [8], Techniques to improve reduced proprioception are also recommended. Finally, Tendon Neuroplastic Training (TNT) is needed to combine isometric or isotonic strength training with an externally paced audio or visual cue [9]. Finally, stretching has positive effects in the management of tendon injuries such as LET [10]. The heavy-slow resistance exercise programme is individualized on the basis of the patient's description of pain experienced during the procedure. When the heavy-slow resistance exercise programme is applied as part of the rehabilitation process, combined with a range of physical therapy modalities such as electrotherapeutic modalities, manual therapy techniques, bracing/taping and acupuncture, its effectiveness is higher than it is applied as monotherapy [11-13].

On the other hand, sensory and motor system deficits are common in the non-injured limb of patients with unilateral LET [14]. This suggests that there could be benefit from rehabilitation that addresses motor and sensory system features on both sides. Specific training of the contralateral limb may also provide additional benefits to the affected limb through cross education. Cross education is a process that unilateral exercise leads to strength and skill adaptations bilaterally [15]. To our knowledge, there have been no studies to examine the effectiveness of a heavy-slow resistance exercise programme in patients with unilateral LET on both limbs. Future well designed studies are needed to assess the effectiveness of bilateral strengthening in patients with unilateral LET.

Keywords: Lateral elbow tendinopathy; Limb; Pain; Rehabilitation

Citation: Stasinopoulos D. Bilateral Strengthening in Unilateral Lateral Elbow Tendinopathy. World J Phys Med Rehabil. 2020; 2(1): 1010.

Publisher Name: Medtext Publications LLC

Manuscript compiled: Apr 23rd, 2020

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References

1. Bisset LM, Vicenzino B. Physiotherapy management of lateral epicondylalgia. J Physiother. 2015;61(4):174-81.
2. Coombes BK, Bisset L, Vicenzino B. Management of Lateral Elbow Tendinopathy: One Size Does Not Fit All. J Orthop Sports Phys Ther. 2015;45(11):938-49.
3. Malliaras P, Barton CJ, Reeves ND, Langberg H. Achilles and patellar tendinopathy loading programmes: a systematic review comparing clinical outcomes and identifying potential mechanisms for effectiveness. Sports Med. 2013;43(4):267-86.
4. Martinez-Silvestrini JA, Newcomer KL, Gay RE, Schaefer MP, Kortebein P, Arendt KW. Chronic lateral epicondylitis: comparative effectiveness of a home exercise program including stretching alone versus stretching supplemented with eccentric or concentric strengthening. J Hand Ther. 2005;18(4):411-9.
5. 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.
6. Stasinopoulos D. Strengthening of supinator in the management of Lateral Elbow Tendinopathy. AMJ. 2017;10(4):373-4.
7. Stasinopoulos D. Scapular and rotator cuff strengthening in patients with lateral elbow tendinopathy. Hong Kong Physiother J. 2017;37:25-6.
8. Juul-Kristensen B, Lund H, Hansen K, Christensen H, Danneskiold-Samsøe B, Bliddal

H. Poorer elbow proprioception in patients with lateral epicondylitis than in healthy controls: a cross-sectional study. J Shoulder Elbow Surg. 2008;17(1 Suppl):72S-81S.

9. Rio E, Kidgell D, Moseley GL, Giada 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.

10. Stasinopoulos D, Stasinopoulos I. Comparison of effects of eccentric training, eccentric-concentric training, and eccentric-concentric training combined with isometric contraction in the treatment of lateral elbow tendinopathy. J Hand Ther. 2017;30:13-9.

11. Sims SE, Miller K, Elfar JC, Hammert WC. Non-surgical treatment of lateral epicondylitis: a systematic review of randomized controlled trials. Hand (N Y). 2014;9(4):419-46.

12. Weber C, Thai V, Neuheuser K, Groover K, Christ O. Efficacy of physical therapy for the treatment of lateral epicondylitis: a meta-analysis. BMC Musculoskelet Disord. 2015;16:223.

13. Stasinopoulos D, Stasinopoulou K, Johnson MI. An exercise programme for the management of lateral elbow tendinopathy. Br J Sports Med. 2005;39(12):944-7.

14. Heales LJ, Lim EC, Hodges PW, Vicenzino B. Sensory and motor deficits exist on the non-injured side of patients with unilateral tendon pain and disability--implications for central nervous system involvement: a systematic review with meta-analysis. Br J Sports Med. 2014;48(19):1400-6.

15. Lee M, Carroll TJ. Cross education: possible mechanisms for the contralateral effects of unilateral resistance training. Sports Med. 2007;37:1-14.