

Strengthening of supinator in Lateral Elbow Tendinopathy management

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EDITORIAL

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One of the most common tendinopathies of the upper limb is Lateral Elbow Tendinopathy (LET). LET is defined as pain in the lateral epicondyle¹ and is characterized by disorganized collagen, an increased presence of fibroblasts, the absence of prostaglandins and inflammatory cells.¹ Thus, this condition is degenerative (failed healing tendon response) and not inflammatory as originally thought.² Diagnosis is reproduced by pain with palpation (e.g., localized pain), specific and clinical tests.^{2,3} However, the appropriate treatment for the rehabilitation of LET does not exist. A conservative approach is advocated by many clinicians.³ Therefore, physical therapy is usually proposed. A plethora of physiotherapy modalities has been recommended for the management of LET such as exercise programmes, manual techniques, physical modalities, external support and soft tissue manipulation.³ The mechanism of action of the above treatments is different, but all improve function and decrease pain. Such a plethora of techniques suggests that the ideal management strategy is unknown, and further research is required to find the most effective treatment strategy in LET patients.

Nowadays, eccentric loading of the problematic tendon, is the recommended conservative treatment in the management of tendon injury.⁴ The most usual affected tendon in LET is the Extensor Carpi Radialis Brevis (ECRB). However, eccentric

strengthening of the problematic only tendon needs to be stopped.⁴ Concentric-eccentric, stretching – eccentric, isolated eccentric and recently isometric loading may be recommended based on factors such as site of tendinopathy, access to equipment, age, function, pain etc.⁴ A progressive loading exercise program should be recommended as a treatment approach in the rehabilitation of LET but further research is required to find the ideal protocol of exercise program.

In LET not only the ECRB but also the supinator may be involved.¹ The exercise program should include exercises not only for ECRB strengthening but also for supinator strengthening. Based mainly on clinical experience, supinator weakness in LET patients is commonly addressed as increasing pain, and decreasing functional ability and hand - grip strength. This means that the causes of LET may not be limited to the ECRB. Functional impingement of the supinator due to altered joint mechanism and muscle imbalance can impair the stabilization of the elbow resulting in overcompensation of the ECRB. This may lead to micro trauma of the soft tissue structures present at the lateral epicondyle thus causing symptoms of LET. It is reasonable that enhancements with gripping might have happened from a blend of enhanced motor control and upgraded muscular power of the supinator. Changes in the supinator may lead to altered and compensatory changes in the ECRB that may overload the ECRB during repetitive movements, thus causing symptoms of LET. Using supinator strengthening loading, usual motion might have been returned, resulting in resolution of pain with actions and a return to painless gripping for the patient.

In writing this editorial, it is not my purpose to raise the data of physiotherapists but rather to cause queries about why they do not use the strengthening of supinator in the rehabilitation of LET. Therefore, the supinator should be strengthened in the management of LET based on clinical practice due to the claims of the previous paragraph. However, there are no studies to support this belief. More research is needed to state the role supinator plays in subjects with LET and to classify which patients may best

profit from this treatment approach. Finally, when the exercise loading, plus strengthening of supinator, is applied as part of the rehabilitation program its efficacy is higher than it is applied as monotherapy. Further research to discover which treatment technique combined with an exercise programme is required to offer the best results in the controlling of LET.

References

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PEER REVIEW

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CONFLICTS OF INTEREST

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