

The effects of Mulligan Mobilization with Movement and Taping Techniques on Pain, Grip Strength, and Function in Patients with Lateral Epicondylitis.

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Setting the scene:

The aim of this study is to prove and show Mulligan techniques can induce significant treatment effect in patients with LE, including reduction in pain, improvement in PFGS (pain free grip strength), and ability to work.

What did they do?

An experimental design was undertaken. The participants were allocated to either the control or experimental groups, based on their order of coming to the research. Pre and post-test were performed for both groups; a convenience sampling method was used. All patients were recruited from all the west bank cities of Palestine, from Tulkarm in the north to Hebron in the south. All subjects had a diagnosis of LE. The inclusion criteria were (1) a patient with a medical referral of sub-acute LE, and (2) positive results on two or more tennis elbow tests (see later). Individuals who were complaining of lateral pain because of cervical pathologies, post-traumatic LE, or acute LE, were excluded. Informed, written consent was obtained from each participant before data collection. Anonymity and privacy was assured for each subject. In the first session, a subjective assessment was performed, followed by an objective assessment to confirm that the subject indeed had LE, using one of the following tests Active wrist extension test: for screening and to see what the patient may feel in functional activity (pain could indicate both muscular and joint involvement). Cozen's test: In this test, the patient makes a fist, with the forearm in pronation and wrist radially deviated. Stabilising the elbow with one hand, the examiner resisted the patient's radial deviation with the other hand. The positive sign is pain over the lateral aspect of forearm. Thomsen test: With the shoulder flexed to 60, the elbow extended, the fore-arm pronated and the wrist extended about 30, pressure was applied to the dorsum of the second and third meta-carpal bones in the direction of flexion and ulnar deviation to stress the extensor carpi radialis brevis and longus. Resisted middle finger extension test: With the shoulder flexed to 60, the elbow extended, the forearm pronated, and the fingers extended, the middle finger was actively extended against resistance. Mill's

test or passive stretching: stretching the extensor muscles of the wrist by putting the elbow in full extension position and forearm in pronation and then flexing the wrist to get a maximum stretch. A total of 34 patients were successfully recruited to participate in this study. The subjects were assigned to the experimental or control group alternately, until we reached our target sample of 34. The experimental group received a combination of traditional treatment (thermal treatment, massage, and US, as well as strengthening and stretching exercises) and MWM and taping techniques. For the MWM component, the patient was placed in supine position, with elbow in full extension and forearm in pronation, the therapist stabilised the distal part of the arm, and a sustained lateral glide of the forearm was applied. The patient was then asked to make a fist as the therapist maintained the lateral glide. This mobilisation technique was done a total of 36 times. A short rest period (a few seconds) was given after every 12 repetitions. The MWM was followed by taping, which was applied on the origin of extensor carpi radialis when the elbow is in slight flexion and forearm in pronation. At the beginning of taping, there should be a lateral gliding of the extensor muscles group, then putting the hypo fix to prevent skin irritation, and then putting the rigid leukotape tap firmly over it. The intervention in the experimental group was applied by physiotherapists who had received training by the researchers. On the other hand, the control group received the traditional treatment only. Both groups had three treatment sessions per week, for 4 weeks, and the total time for every session was about 30-45 minutes.

Take away message:

Both the traditional physiotherapy treatment (thermal treatment, massage, and US, as well as strengthening and stretching exercises) and the experimental treatment (MWM) and taping techniques. For the MWM component, the patient was placed in supine position, with elbow in full extension and forearm in pronation, the therapist stabilised the distal part of the arm, and a sustained lateral glide of the forearm was applied. The patient was then asked to make a fist as the therapist maintained the lateral glide. This mobilisation technique was done a total of 36 times. A short rest period (a few seconds) was given after every 12 repetitions) can induce a significant reduction in pain intensity and improvement in daily function and grip strength in patients with LE. Moreover, adding Mulligan techniques to traditional treatment is more superior to the Traditional treatment alone in improving pain and daily function.