

Effectiveness of Mulligan Mobilization with Movement in the Management of Lateral Epicondylitis: A Case Report

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ABSTRACT

Background: Tennis elbow, also known as lateral epicondylitis, is a common musculoskeletal issue affecting the common extensor tendon at the outer part of the elbow. The key symptoms include pain, soreness, reduced grip strength, and limitations in wrist extension and forearm supination. Manual therapy techniques such as Mulligan Mobilization with Movement (MWM) have gained popularity for their rapid pain relief and improvement in function, alongside other conservative treatments.

Objective: To see if Mulligan Mobilization with Movement, when combined with regular physiotherapy, can effectively reduce pain and improve function in a patient with lateral epicondylitis.

Case description: A 42-year-old homemaker who is right-hand dominant reported soreness on the outer side of her right elbow for three months. Activities like gripping, lifting household items, wringing clothes, carrying grocery bags, and repetitive wrist extension made the pain worse. An exam revealed decreased grip strength, painful wrist extension, discomfort over the lateral epicondyle, a positive Cozen's test, and a positive Mill's test.

Intervention: The patient underwent a structured four-week physiotherapy program that included Mulligan Mobilization with Movement, Cyriax Deep Transverse Friction Massage, stretching exercises, strengthening exercises, and education on activity changes.

Results: The Numerical Rating Scale (NRS) showed a drop in pain intensity from 7/10 to 2/10 at the end of treatment. The strength of the wrist extensor muscles improved from Grade 4/5 to Grade 5/5. The patient reported significant improvement in functional activities and grip tasks.

Conclusion: Mulligan Mobilization with Movement appears to be an effective method for reducing pain and restoring function in patients with lateral epicondylitis when used alongside traditional physiotherapy.

Keywords: Tennis Elbow, Lateral Epicondylitis, Mulligan Mobilization, Manual Therapy, Physiotherapy Rehabilitation

INTRODUCTION

Lateral epicondylitis is one of the most common causes of elbow pain seen in orthopedic and physical therapy clinics. It primarily affects the extensor carpi radialis brevis tendon at the origin of the wrist extensor muscles. Tendon degeneration and pain arise from repetitive microtrauma, heavy mechanical loading, and overuse of the wrist extensors.

This condition is most common in people aged 35 to 55, with a prevalence of 1% to 3% in the general populace. While it is generally associated with racquet sports, it is often seen in homemakers, manual lab-

orders, carpenters, painters, plumbers, mechanics, and computer workers.

Common signs include pain during wrist extension exercises, reduced grip strength, challenges lifting objects, and discomfort over the lateral elbow. Functional limitations significantly impact daily living and work performance.

Conservative care is still the main treatment approach and involves exercise therapy, manual therapy, electrotherapy, bracing, taping, and patient education. Mulligan Mobilization with Movement has shown potential in correcting postural issues and restoring pain-free movement.

This case report outlines the effective use of Mulligan Mobilization with Movement along with standard physiotherapy techniques for treating a patient with lateral epicondylitis.

CASE PRESENTATION

A 42-year-old female housewife who is right-hand dominant came to the Physiotherapy Outpatient Department, complaining of soreness on the outer side of her right elbow for about three months.

The symptoms gradually emerged and were tied to repetitive household tasks such as gripping, lifting, carrying heavy objects, washing clothes, and repetitive wrist movements. The patient had no history of neurological disorders, systemic inflammatory diseases, fractures, dislocations, or direct trauma.

She described the pain as dull and aching, with occasional severe flare-ups during lifting and gripping actions. Pain intensity increased during activities requiring wrist extension against resistance and eased at rest.

The patient noted difficulties with daily tasks, including: Lifting buckets, Using kitchen utensils, Carrying grocery bags, Opening tightly closed jars, Wringing clothes, Performing repetitive activities in the kitchen. There were no reports of cervical issues or sensory changes.

PHYSIOTHERAPY ASSESSMENT

Observation

On visual inspection, the patient showed: Limited movement of the affected upper limb, Reduced use of the right hand, A slightly protective posture during grasping activities.

There was no visible swelling or discoloration.

Palpation

Findings included: Tenderness over the lateral epicondyle, Sensitivity at the origin of the common extensor tendon, Tightness in the forearm extensor muscles, No warmth in the area, No swelling.

Palpable pain was described as moderate to severe.

Range of Motion Examination

Elbow Joint

Movement | ROM | Findings

Flexion | Full | Pain free

Extension | Full | Mild discomfort

Wrist joint

Movement | Findings

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Flexion | Full

Extension | Painful

Radial Deviation | Mild discomfort

Ulnar Deviation | Pain free

Manual Muscle Testing

Muscle Group | Grade

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Wrist Extensors | 4/5

Wrist Flexors | 5/5

Elbow Flexors | 5/5

Elbow Extensors | 5/5

Special test

The Cozen Test: The patient was asked to perform resisted wrist extension with the forearm pronated.

Outcome: Positive, pain replicated over the lateral epicondyle.

The Mill Test: The therapist passively extended the elbow and flexed the wrist.

Outcome: Positive, pain replicated at the common extensor tendon origin.

Outcome Measure

Numerical Rating Scale (NRS)

Initial pain score: 7/10.

CLINICAL IMPRESSION

Based on the patient's history, physical examination findings, and positive special tests, a diagnosis of: Right Lateral Epicondylitis (Tennis Elbow) was made.

TREATMENT GOALS

Short-term goals:

Reduce pain, Decrease tenderness, Improve grip function, Improve wrist extensor flexibility.

Long-term goals:

Restore muscle strength, Enhance functional activities, Prevent recurrence, Return to pain-free household tasks.

INTERVENTION

The patient received treatment five times a week for four weeks.

Mulligan Movement-Based Mobilization

The patient engaged in pain-free gripping and wrist extension movements while the therapist applied a sustained lateral glide to the proximal forearm.

Dosage:

Three sets, ten repetitions, 30-second rest intervals.

Justification:

MWM aims to correct minor elbow joint position errors, leading to: Pain reduction, Better joint mechanics, Improved mobility, Enhanced neuromuscular control.

Cyriax Deep Massage with Transverse Friction

Deep transverse friction was applied over the common extensor tendon origin.

Duration: Ten minutes per session.

Goal: Promote movement in the area, Reduce adhesions, Increase tissue extensibility, Support tendon healing.

Stretching Activities**Extensor Stretch for the Wrist**

Position: Extended elbow, Pronated forearm, Flexed wrist.

Dosage: Hold for thirty seconds, five repetitions.

Goal: Reduce muscle tension, Increase flexibility.

Strengthening Activities

Phase I: Isometric wrist extension, Hold for ten seconds, ten repetitions.

Phase II: Resistance exercises using Theraband, Wrist extension, Radial deviation, Supination.

Phase III: Functional strengthening, Squeeze a soft ball, Simulate towel wringing, Perform grasping activities.

Patient education

The patient received guidance on: Ergonomic adjustments, Avoiding repetitive gripping, Gradual activity levels, Safe lifting methods, Home exercise routines.

RESULTS

After four weeks of intervention, significant improvements were noted.

Outcome Measure

| Pre-Treatment | Post-Treatment |

| --- | --- |

| Pain (NRS) | 7/10 | 2/10 |

| Tenderness | Severe | Mild |

| Wrist Extensor Strength | 4/5 | 5/5 |

| Grip Function | Reduced | Improved |

| Functional Activities | Limited | Independent |

The patient reported: Easier gripping of objects, Improved lifting ability, Less pain during household tasks, Increased confidence using the affected limb.

No adverse events occurred during treatment.

DISCUSSION

This case study indicates that patients with lateral epicondylitis can achieve significant improvements when Mulligan Mobilization with Movement is combined with standard physiotherapy techniques.

The reduction in pain may result from correcting positional errors and activating pain inhibition processes associated with Mulligan techniques. The immediate pain-free movement achievable during treatment may help in normalizing motor patterns and improving functional performance.

Cyriax Deep Transverse Friction Massage likely facilitated tendon healing by encouraging circulation and reducing soft tissue adhesions. Gradual strengthening enhanced muscle endurance and the tendon's ability to bear load, while stretching exercises improved muscle flexibility.

The significant improvement in strength and pain reduction from 7/10 to 2/10 supports earlier findings on the effectiveness of Mulligan Mobilization for treating lateral epicondylitis.

CONCLUSION

This case study demonstrates how a four-week physiotherapy program that included Cyriax Deep Transverse Friction Massage, Mulligan Mobilization with Movement, stretching, strengthening exercises,

and activity modification effectively reduced pain and improved function in a patient with lateral epicondylitis. Further randomized controlled trials with larger sample sizes are recommended to evaluate the long-term effectiveness and broader application of these findings.

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