



# Elbow Joint Manipulation and Exercise for Post-Operative Medial Epicondylectomy: A Case Report

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## BACKGROUND PURPOSE:

Medial epicondylectomy combined with ulnar nerve decompression is a common surgical procedure used for symptomatic cubital tunnel syndrome (Figure 1).<sup>1,2,3</sup> A paucity of research exists for rehabilitation strategies following medial epicondylectomy. Joint manipulation has been used to improve range of motion (ROM), decrease pain, and improve function in patients with a wide variety of upper extremity diagnoses.<sup>4</sup>

The purpose of this case report is to describe joint manipulation and exercise progressions post-medial epicondylectomy.

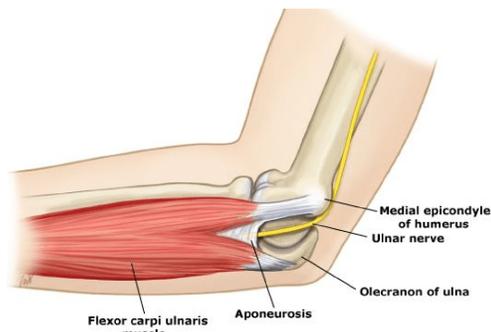


Figure 1: Anatomy of the cubital tunnel

## CASE DESCRIPTION:

A 57-year old male mechanic presented post-operative medial epicondylectomy and ulnar nerve decompression. Treatment included a lateral humeroulnar mobilization with movement (MWM) technique with gripping exercise (Figure 2) and a three-phase therapeutic exercise program for six weeks.



Figure 2: Lateral humeroulnar MWM with gripping exercise

## INTERVENTIONS:

	Intervention 1	Intervention 2	Intervention 3	Intervention 4
Initial Phase (Weeks 1-2)	Scar mobilization	Pain-free passive and active elbow and wrist ROM	Ulnar and median nerve mobilizations (Figures 3-4)	Lateral humeroulnar MWM with gripping
Intermediate Phase (Weeks 3-4)	Keyboard typing	Screwing bolts on bolt box	Active pronation and supination with flex bar	Theraputty gripping
Final Phase (Weeks 5-6)	Power Web gripping	Theraband resisted wrist exercises	Flex bar wringing and breaking	Peg board overhead reaching

Table 1: Intervention progressions



Figure 3: Ulnar neuromobilization technique



Figure 4: Median neuromobilization technique

## RESULTS:

The patient's Numeric Pain Rating Scale outcomes demonstrate an overall 30% improvement in symptoms throughout the course of rehabilitation. A reduction of approximately two points or 30% on this scale represents a clinically important difference.<sup>5</sup> Although he demonstrated a significant improvement in grip strength, the patient did not achieve the minimum clinically importance difference of 6.5 lb. as determined in prior studies.<sup>6</sup>

Outcome Measure	Week 1	Week 6
Numeric Pain Rating Scale	8/10	5/10
Grip Strength	6 lb	10 lb
Pain rating scale with gripping	9/10	5/10

Table 2: Outcome Measures

## DISCUSSION:

Following manipulation to the elbow joint and therapeutic exercises for the upper extremity, the patient was able to improve grip strength with decreased pain. The duration of treatment may have been a factor influencing the lack of grip strength improvement exceeding the established minimal clinically important difference. Further research is needed to support the use of manual techniques in treatment following medial epicondylectomy.

## CONCLUSION:

There is an overall lack of evidence to support joint mobilization for upper extremity conditions, especially for dysfunction following medial epicondylectomy. This case report identifies the importance of utilizing unique intervention techniques that have established effectiveness in treating common upper extremity conditions.

## REFERENCES:

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