

# THE IMPORTANCE OF POSTOPERATIVE REHABILITATION IN FUNCTIONAL RECOVERY IN TOTAL ELBOW ARTHROPLASTY DUE TO SUPRAINTERCONDYLAR FRACTURE OF THE HUMERUS

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## Background

Supraintercondylar fractures of the humerus are common in children but rare in adults, accounting for approximately 2% of all adult fractures and about one-third of distal humeral fractures. When there is significant articular involvement, total elbow arthroplasty may be indicated. In young adults, these fractures are typically caused by high-energy direct trauma to the olecranon, whereas in the elderly, they usually result from indirect hyperextension mechanisms

## Case report

We present a 74-year-old female who sustained a supraintercondylar fracture of the left humerus following a fall from standing height. Clinical findings included pain, swelling, and deformity of the left elbow, with no neurovascular deficits and preserved distal mobility. The patient underwent a cemented total elbow arthroplasty (LIMA prosthesis). At one-month post-surgery, the patient had 100° of elbow flexion with a 20° extension deficit. After participating in an intensive rehabilitation program three times per week, her range of motion improved significantly. After five months, she achieved 138° of flexion and full extension (0°). Grip strength measured by dynamometer was 18 kg in the left hand and 23 kg in the right. Quick DASH score improved greatly from 93.25 to 4.5 after the rehabilitation program.

## Conclusion

This case highlights the importance of a structured and intensive postoperative rehabilitation program in the functional recovery of elderly patients undergoing total elbow arthroplasty for distal humerus fractures with joint involvement. The rehabilitation regimen played a crucial role in restoring range of motion and grip strength, ultimately contributing to the functional reestablishment of the affected limb. The combination of appropriate surgical management and physiatric prescription of an appropriate rehabilitation program proved essential for achieving a favorable outcome

**Keywords:** total, elbow, arthroplasty, postoperative, rehabilitation