

# SEX-BASED DISPARITIES IN POSTOPERATIVE PAIN AND REHABILITATION EFFICIENCY AFTER ELBOW ARTHROLYSIS: INSIGHTS FROM A MOROCCAN RETROSPECTIVE COHORT

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## Background and Aims

Elbow arthrolysis is a standard intervention for post-traumatic stiffness, with pain management critical to functional recovery. While sex-based differences in pain perception are documented, their impact on postoperative outcomes after elbow arthrolysis remains understudied in North African populations. This study evaluated sex disparities in acute pain control, use of different analgesic classes, and rehabilitation metrics following elbow arthrolysis.

## Methods

A retrospective cohort study included 120 patients (60 males, 60 females, aged 18–65 years) undergoing elbow arthrolysis between January 2020 and January 2025 at CHU Ibn Rochd's Physical Medicine Department. Exclusions: chronic pain or preoperative analgesic use. Pain intensity (Visual Analog Scale, VAS), consumption of analgesics (categorized by class, converted to standardized equivalents), rehabilitation duration, and range of motion (ROM) were assessed at 24h, 72h, 1 week, 3, and 6 months.

## Results

Mean VAS scores at 24h were  $7.2 \pm 1.1$  in females and  $6.5 \pm 1.3$  in males ( $*p^* = 0.003$ ), decreasing to  $5.8 \pm 1.0$  (females) and  $5.1 \pm 0.9$  (males) at 72h ( $*p^* = 0.02$ ). At 1 week, scores were  $3.4 \pm 1.2$  (females) and  $3.1 \pm 1.0$  (males) ( $*p^* = 0.15$ ). Total analgesic consumption (standardized equivalents) was higher in females ( $35.2 \pm 8.5$  vs.  $28.4 \pm 7.1$ ,  $*p^* < 0.001$ ). Rehabilitation duration averaged  $32 \pm 6$  days in females and  $28 \pm 5$  days in males ( $*p^* = 0.01$ ). ROM at 3 months measured  $95^\circ \pm 12^\circ$  (females) and  $105^\circ \pm 14^\circ$  (males) ( $*p^* = 0.004$ ), with 6-month values at  $125^\circ \pm 15^\circ$  (females) and  $128^\circ \pm 13^\circ$  (males) ( $*p^* = 0.18$ ). Residual pain at 6 months was reported by 22% of females and 12% of males ( $*p^* = 0.04$ ).

## Conclusion

Sex-based disparities in acute pain, analgesic requirements, and early rehabilitation progress were observed post-elbow arthrolysis. These findings support sex-specific protocols to enhance postoperative care.

**Keywords:** Elbow arthrolysis, Postoperative pain, Analgesics