Original article

Evaluation of early postoperative care outcomes and quality of recovery in patients undergoing hand extensor tendon repair

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Abstract

Background: Early recovery after hand extensor tendon repair encompasses surgical-site condition, pain, and patient-reported well-being.

Objective: To describe clinical characteristics, early postoperative care outcomes, and quality of recovery following hand extensor tendon repair.

Materials and Methods: This prospective descriptive study included 35 patients undergoing hand extensor tendon repair at Hue University of Medicine and Pharmacy Hospital between October 2025 and April 2026. Surgical-site status and pain were assessed on postoperative days (PODs) 1, 3, and 5; Quality of Recovery-15 (QoR-15) scores were assessed on PODs 3 and 5. Paired scores were compared in 32 patients; three were discharged before POD 5. Exploratory associations with POD 5 recovery categories were examined using exact tests.

Results: Mean age was 37.74 ± 12.61 years; 65.7% were male. Forty-two extensor tendons were injured, most commonly in zone IV (28.6%). Dry surgical sites were recorded in 22.9% of patients assessed on POD 1 and 81.3% on POD 5. Among 32 patients assessed on POD 5, 53.1% reported no or mild pain and one (3.1%) had a superficial surgical-site infection. Paired mean QoR-15 scores increased from 112.69 ± 12.89 to 127.81 ± 12.05; the mean increase was 15.13 points (95% CI, 14.32 - 15.93; $p < 0.001$). On POD 5, 71.9% had good or excellent recovery and 28.1% had moderate recovery. Smoking history, comorbidity, surgical-site exudate or infection, and incomplete early mobilization were associated with moderate recovery (all $p < 0.001$).

Conclusion: Early inpatient observations showed favorable surgical-site and pain patterns, with improved paired QoR-15 scores. These findings do not establish long-term tendon healing or individual intervention effectiveness. Associations were exploratory and do not establish independent risk factors.

Keywords: *Extensor tendons; hand injuries; postoperative care; quality of recovery; QoR-15.*

1. INTRODUCTION

The hand is essential for work and activities of daily living because of its fine motor function and highly developed sensory system. As the hand is directly involved in many activities, it is particularly susceptible to injury. Damage to tendons, blood vessels, nerves, bones, or joints may have substantial consequences for function, work capacity, and quality of life [1]. Among acute tendon injuries of the hand and wrist, extensor tendon injuries are more common than flexor tendon injuries, with working-age adults and men being affected most frequently [2].

The extensor tendon system lies superficially on the dorsum of the hand and is therefore vulnerable to sharp-object injuries and occupational, domestic, or road traffic accidents. One or multiple tendons may be involved, with or without associated skin, bone, joint, vascular, or nerve injuries. Tendon repair aims to restore anatomical continuity and facilitate recovery of extension; however, outcomes also depend on injury characteristics, repair technique, protective immobilization, and the postoperative rehabilitation program [3-6].

During the early postoperative period, surgical-site condition, pain, swelling, circulation, and distal sensation require monitoring. Appropriate immobilization, wound care, medication administration, and exercise guidance are also necessary [7]. Early inpatient assessments can identify immediate care needs; they do not establish tendon healing or exclude later adhesions, rerupture, and restricted motion. Pain can be quantified using the Visual Analogue Scale (VAS) [8]. Patient-reported recovery adds information beyond the surgical-site

examination.

The Quality of Recovery-15 (QoR-15) is a 15-item patient-reported outcome measure covering physical comfort, emotional state, physical independence, psychological support, and pain. Its original development and subsequent surgical studies support its use for assessing postoperative recovery [9,10]. However, the measurement properties of a translated version require consideration when applying the instrument in a different language and clinical population.

Vietnamese studies have described injury patterns and surgical outcomes after hand extensor tendon repair [3–6]. Evidence specifically describing early inpatient care and patient-reported recovery remains limited**.** Therefore, we conducted this study with two objectives:

- To describe the clinical characteristics and distribution of extensor tendon injuries in patients undergoing hand extensor tendon repair.

- To describe early inpatient postoperative outcomes, including surgical-site status, pain intensity, and QoR-15 scores.

2. MATERIALS AND METHODS

2.1. Study participants

The study included patients with traumatic hand extensor tendon injuries who underwent tendon repair in the Department of Orthopaedics and Thoracic Surgery, Hue University of Medicine and Pharmacy Hospital.

Patients were eligible if they had a traumatic extensor tendon injury requiring primary repair, underwent surgery within 24 hours of injury, had medical records sufficient to establish eligibility, and provided informed consent. Isolated injuries and injuries associated with vascular, nerve, bone, or joint damage were eligible. Missing a later assessment because of discharge did not exclude a patient from the cohort or from earlier assessments.

Exclusion criteria were firearm injuries, severe soft-tissue crush injuries, infection at admission, presentation more than 24 hours after injury, partial lacerations involving less than 50% of tendon width, multiple-level lacerations of the same tendon, and tendon defects greater than 5 mm that could not be repaired directly. Injuries related to burns, necrosis, infection, or pathological conditions, pre-existing limitation of hand motion, and inability to complete the questionnaires were also excluded.

2.2. Study period and setting

This single-center prospective longitudinal descriptive study was conducted from October 2025 to April 2026 in the Department of Orthopaedics and Thoracic Surgery, Hue University of Medicine and Pharmacy Hospital. Follow-up for the reported outcomes was limited to the early inpatient period, through POD 5 or earlier discharge. Tendon healing and outcomes after discharge were not assessed.

2.3. Study methods

2.3.1. Sample size and sampling

Consecutive sampling was used to include eligible patients during the defined study period, yielding 35 patients. The sample size was determined by the number of eligible cases available during this period; no formal a priori sample-size calculation was performed. The study was intended to describe local practice and generate hypotheses, and was not powered to establish differences between subgroups. In particular, nonsignificant exploratory tests cannot exclude clinically relevant associations.

The patient was the unit of analysis for demographic characteristics, care activities, surgical-site status, pain, and quality of recovery. The injured tendon was the unit of analysis for distributions by digit and extensor tendon zone.

2.3.2. Data collection

Data were collected using a standardized case report form through face-to-face interviews, clinical observation, and medical record review. Nurses collected QoR-15 and pain assessments using consistent instructions. Demographic, medical-history, and injury data were recorded at admission; surgical-site status and pain were assessed on PODs 1, 3, and 5, and QoR-15 on PODs 3 and 5. Interview data were checked against clinical observations and medical records where applicable.

Three patients were discharged before POD 5 because their condition was stable and did not undergo a POD 5 assessment. All 35 patients contributed POD 1 and POD 3 data, whereas 32 contributed POD 5 data. Early discharge was recorded as the reason for missing POD 5 observations; it was not assigned an assumed QoR-15 score or recovery category. For the patient with a superficial surgical-site infection identified on POD 5, the subsequent inpatient course to discharge was retrieved from the clinical record and reported descriptively.

2.3.3. Patient and injury variables

Patient variables comprised age, sex, occupation, smoking history, recorded comorbidities, and length of hospital stay. Injury and surgical variables comprised mechanism, injured side, wound characteristics, number of injured tendons, affected digit and zone,

associated injuries, and repair technique. Smoking history and comorbidity status were based on the recorded clinical history. Associated injuries included fractures, vascular injuries, and dislocations. Tendon-level distributions were analyzed separately from patient-level characteristics.

2.3.4. Postoperative care activities

The study observed routine postoperative care and did not assign a standardized experimental intervention. Recorded activities included nutritional and hygiene support, surgical-site monitoring and care, limb positioning and protective splinting, prescribed antibiotics and anti-inflammatory or anti-edema medications, and guidance on mobilizing limbs and joints not involving the repaired tendon. These were observed care variables; a recorded frequency of 100% does not imply a prospectively enforced research protocol or quantify the intensity or quality of care. Mobilization guidance was distinguished from mobilization of the repaired tendon itself.

2.3.5. Outcome definitions

The outcomes were early inpatient surgical-site status, pain intensity, and patient-reported quality of recovery. Surgical-site status was assessed by observation on PODs 1, 3, and 5 and reported as a dry surgical site, exudate soaking the dressing, or clinically diagnosed surgical-site infection. Infection required compatible local findings and diagnosis by the treating physician. A dry surgical site was an early clinical observation and was not interpreted as complete wound or tendon healing. For exploratory analysis, exudate soaking the dressing and surgical-site infection were grouped together and compared with dry surgical sites.

Pain was assessed using the reported 0–10 VAS, with 0 indicating no pain and 10 the worst imaginable pain [8]. The categories were no or mild pain (0–3), moderate pain (4–6), and severe pain (7–10), consistent with the results tables.

Quality of recovery was assessed on PODs 3 and 5 using the 15-item QoR-15 [9]. Total scores range from 0 to 150, with higher scores indicating better recovery. Its five domains are physical comfort (five items), emotional state (four), physical independence (two), psychological support (two), and pain (two). The questionnaire was administered in Vietnamese; Trang et al. provided a reference for its use in Vietnamese postoperative patients [11]. Prior use alone was not considered evidence that the exact version used in this cohort had undergone formal linguistic and psychometric validation. Recovery categories were excellent (136–150), good (122–135), moderate (90–121), and poor (0–89), following Kleif and Gögenur [12].

2.3.6. Statistical analysis

Data were analyzed using SPSS version 20.0. Categorical variables were summarized as frequencies and percentages using the number of patients assessed at each time point as the denominator. Continuous variables were summarized as means and standard deviations in the supplied results. Day-specific descriptions used available observations; three patients without POD 5 data remained in the earlier analyses. No assumed outcomes were assigned to patients discharged early.

Unadjusted associations between moderate recovery and good-to-excellent recovery on POD 5 were explored using Fisher's exact test, with the Fisher–Freeman–Halton exact extension for age group. The nominal significance threshold was $p < 0.05$. These analyses were exploratory, were not adjusted for multiple comparisons, and did not identify independent predictors. Interpretation was limited by the small cohort, sparse cells, and absence of multivariable adjustment.

2.4. Ethical considerations

The study was approved by the Biomedical Research Ethics Committee of Hue University of Medicine and Pharmacy on October 2, 2025 (approval No. H2025/667). Departmental and hospital approval was obtained before study initiation. Informed consent was obtained before participation.

3. RESULTS

3.1. Patient characteristics and clinical features

The study included 35 patients with a mean age of 37.74 ± 12.61 years (range, 19-63 years). Men accounted for 65.7% and women for 34.3%. Eleven patients (31.4%) had a history of smoking, five (14.3%) had hypertension, and one (2.9%) had diabetes mellitus.

Industrial workers were the largest occupational group (11 patients, 31.4%), followed by farmers (8 patients, 22.9%) and self-employed manual workers (4 patients, 11.4%). The mean length of hospital stay was 6.41 ± 2.29 days. Occupational accidents were the most common mechanism of injury (40.0%), followed by domestic accidents (34.3%).

Table 1. Clinical and surgical characteristics of patients (N=35)

Category		n	%
Injured side	Left hand	23	65.7
	Right hand	11	31.4
	Bilateral	1	2.9
Wound characteristics	Sharp, clean	26	74.3
	Ragged, contaminated	9	25.7
Repair technique	Becker	14	40.0
	Kessler	9	25.7
	Adelaide	12	34.3
Associated injury	Yes	13	37.1
	No	22	62.9

Note: Associated injuries included fractures, vascular injuries, or dislocations.

Left-hand injuries were the most common (65.7%). Most patients had sharp, clean wounds (74.3%) and no associated injuries (62.9%). The Becker technique was the most frequently used repair method (40.0%).

3.2. Distribution of injured extensor tendons

A total of 42 extensor tendons were injured in 35 patients: 29 patients had one injured tendon, five had two injured tendons, and one had three injured tendons.

Table 2. Distribution of extensor tendon injuries by zone and digit (N = 42 tendons)

Injury zone	Thumb	Index finger	Middle finger	Ring finger	Little finger	Total	%
Zone II	0	3	4	0	1	**8**	19.0
Zone III	1	2	2	0	0	**5**	11.9
Zone IV	1	5	3	1	2	**12**	28.6
Zone V	2	1	1	2	1	**7**	16.7
Zone VI	0	3	2	0	3	**8**	19.0
Zone VII	0	0	0	1	1	**2**	4.8
Total	**4**	**14**	**12**	**4**	**8**	**42**	**100.0**

Note: The injured tendon was the unit of analysis; an individual patient could have more than one injured tendon.

Zone IV was the most commonly affected zone, accounting for 12 tendons (28.6%), followed by zones II and VI, each involving eight tendons (19.0%). The index and middle fingers had the highest numbers of injured tendons, with 14 and 12 tendons, respectively.

3.3. Early postoperative care and clinical outcomes

All 35 patients had normal oral intake and recorded hygiene support, surgical-site care, limb positioning and splint immobilization, and prescribed antibiotic and anti-inflammatory/anti-edema therapy. Early mobilization of limbs and joints not involving the repaired tendon was recorded in 30 patients (85.7%); 33 patients (94.3%) remained afebrile and two (5.7%) developed fever during observation.

Table 3. Surgical-site status and pain intensity at the assessed postoperative time points

	Outcome	POD 1 (N = 35) n (%)	POD 3 (N = 35) n (%)	POD 5 (N = 32) n (%)
Surgical-site status	Dry surgical site	8 (22.9)	19 (54.3)	26 (81.3)
	Exudate soaking the dressing	27 (77.1)	16 (45.7)	5 (15.6)
	Surgical-site infection	0 (0.0)	0 (0.0)	1 (3.1)

Pain intensity	No or mild pain, VAS 0 - 3	3 (8.6)	14 (40.0)	17 (53.1)
	Moderate pain, VAS 4 - 6	23 (65.7)	18 (51.4)	14 (43.8)
	Severe pain, VAS 7 - 10	9 (25.7)	3 (8.6)	1 (3.1)

Note: POD: postoperative day; VAS: Visual Analogue Scale. Percentages use the denominator at each time point. Three patients were discharged before POD 5; their POD 5 outcomes were not observed.

Dry surgical sites were recorded in 22.9%, 54.3%, and 81.3% of assessed patients on PODs 1, 3, and 5, respectively. Corresponding proportions with no or mild pain were 8.6%, 40.0%, and 53.1%. One clinically diagnosed superficial surgical-site infection was recorded among the 32 patients assessed on POD 5. The patient continued dressing care and antibiotic treatment; the surgical site was clinically healed at discharge on POD 10. These are time-specific descriptions, not a completed paired comparison.

3.4. Quality of recovery

Table 4. QoR-15 recovery categories and scores on postoperative days 3 and 5

Recovery category	POD 3: full cohort (n = 35)	POD 3: paired cohort (n = 32)	POD 5: paired cohort (n = 32)
Excellent, n (%)	2 (5.7)	1 (3.1)	9 (28.1)
Good, n (%)	9 (25.7)	7 (21.9)	14 (43.8)
Moderate, n (%)	23 (65.7)	23 (71.9)	9 (28.1)
Poor, n (%)	1 (2.9)	1 (3.1)	0 (0.0)
QoR-15 score, (mean ± SD)	114.40 ± 13.59	112.69 ± 12.89	127.81 ± 12.05

Note: POD, postoperative day; QoR-15, Quality of Recovery-15; SD, standard deviation. The paired cohort comprised the same 32 patients with scores available at both time points. Three patients had no POD 5 score; their POD 3 scores were 128, 136, and 134, corresponding to good recovery in two patients and excellent recovery in one. Percentages were calculated using the denominator for each column.

Among the 32 patients assessed at both time points, the mean QoR-15 score increased from 112.69 ± 12.89 on POD 3 to 127.81 ± 12.05 on POD 5, with a mean paired increase of 15.13 points (95% CI, 14.32 - 15.93; paired t-test, $p < 0.001$). The proportion with good or excellent recovery increased from 25.0% to 71.9%. No patient had poor recovery on POD 5.

3.5. Exploratory associations with recovery

Table 5. Exploratory analysis of factors associated with QoR-15 recovery status on postoperative day 5 (N = 32)

Factor	Category	Moderate recovery (n = 9)	Good-to-Excellent recovery (n = 23)	p
Sex	Female	3	7	1.000
	Male	6	16	
Age group	18 - 39 years	5	14	0.840
	40 - 59 years	4	7	
	≥ 60 years	0	2	
Injured side	Right hand	4	7	0.681
	Left hand	5	16	
Smoking history	Yes	7	2	**< 0.001**
	No	2	21	

Comorbidity	Yes	6	0	**< 0.001**
	No	3	23	
Surgical-site status	Dry	3	23	**< 0.001**
	Exudate soaking the dressing or surgical-site infection	6	0	
Early mobilization	Performed	4	23	**< 0.001**
	Not fully performed	5	0	

Note: Values are patient counts. Moderate recovery corresponded to QoR-15 scores of 90 – 121, and good-to-excellent recovery to scores of 122 – 150. No patient had poor recovery on postoperative day 5. Two-sided Fisher's exact tests were used for binary factors, with the Fisher–Freeman–Halton exact test for age group. These post hoc exploratory analyses were unadjusted for confounding and multiple comparisons.

Smoking history, comorbidity, surgical-site exudate or infection, and incomplete early mobilization were associated with moderate rather than good-to-excellent recovery on postoperative day 5 (all $p < 0.001$). No statistically significant associations were observed for sex, age group, or injured side. These exploratory findings do not establish independent predictors or causal relationships.

4. DISCUSSION

4.1. Clinical context and scope

This study describes early inpatient observations in 35 patients undergoing repair of 42 hand extensor tendons. Most patients were working-age adults, and men predominated. This pattern is consistent with the demographic distribution of traumatic hand tendon injuries reported by de Jong et al. [2]. Occupational and domestic accidents were the leading mechanisms in this cohort, underscoring the relevance of prevention and postoperative guidance for patients who use their hands in daily work.

Sharp, clean wounds predominated, whereas 37.1% of patients had associated injuries. These differences in injury complexity may affect care requirements and recovery. Becker, Adelaide, and Kessler repairs were used, but the study was not designed to compare techniques. Differences between this cohort and previous reports [3–6] should be interpreted in light of case selection, injury location, and associated damage.

The mean hospital stay was 6.41 ± 2.29 days. Assessments through POD 5 characterize immediate surgical-site condition, pain, and patient-reported recovery. They cannot determine long-term tendon healing, tendon gliding, adhesions, rerupture, range of motion, or return to work. Accordingly, the title and interpretation are restricted to early postoperative outcomes.

4.2. Care activities and clinical observations

Most recorded care activities were present in all patients and were therefore summarized in the text rather than retained as a separate table. These observations describe routine practice; they do not demonstrate that a research care protocol was applied uniformly or that each care component was effective. Limited variation also prevents meaningful comparisons between patients receiving different combinations of care.

Early mobilization of limbs and joints not involving the repaired tendon was recorded in 30 patients (85.7%). This activity should be distinguished from mobilization of the repaired tendon itself; the findings therefore cannot be used to compare tendon rehabilitation protocols.

The proportion of assessed patients with a dry surgical site was higher at later observations, and fewer patients had moderate or severe pain. One infection was identified on POD 5. A dry incision is a useful early finding but is not evidence of completed tendon healing, and the short observation period cannot provide a comprehensive postoperative infection rate. Systematic pain assessment remains relevant to wound care and patient comfort [7,8].

The day-specific distributions are compatible with favorable early recovery, but the denominators differ because three patients were discharged before POD 5. For surgical-site status and pain, these findings remain descriptive because no paired longitudinal analysis was performed. In contrast, within-patient change in QoR-15 was assessed in the 32 patients with observations at both time points. The absence of a comparison group also prevents attribution of the observed pattern to nursing care, medication, splinting, or mobilization independently of natural recovery and the effects of surgery.

4.3. Patient-reported recovery and exploratory associations

The QoR-15 captures several dimensions of patient experience beyond the appearance of the incision [9,10]. Use in Vietnamese surgical patients has been described [11], but this does not by itself validate the exact translation administered in this study. Recovery categories were assigned using individual total scores according to the published thresholds [12]. Among the 32 patients assessed at both time points, the mean QoR-15 score increased from 112.69 ± 12.89 on POD 3 to 127.81 ± 12.05 on POD 5. The mean paired increase was 15.13 points (95% CI, 14.32–15.93; $p < 0.001$), demonstrating improvement in patient-reported recovery within the observed cohort. The proportion with good or excellent recovery increased from 25.0% to 71.9%, and no patient had poor recovery on POD 5. Published estimates of the minimal clinically important difference provide context for interpreting this change [13], although their applicability to this specific population and Vietnamese questionnaire version requires caution. The observed improvement does not establish the effectiveness of any individual care intervention.

The three patients discharged before POD 5 had POD 3 scores of 128, 136, and 134, corresponding to good recovery in two patients and excellent recovery in one. Their relatively favorable earlier scores suggest that discharge-related missingness may have selected patients with less favorable recovery for continued inpatient assessment. Restricting the longitudinal comparison to the same 32 patients avoids comparing different patient sets, but it does not eliminate this selection issue or establish the POD 5 outcomes of the full cohort.

The POD 5 exploratory analysis compared nine patients with moderate recovery with 23 patients with good or excellent recovery. Smoking history, comorbidity, surgical-site exudate or infection, and incomplete early mobilization were associated with moderate recovery (all $p < 0.001$). No statistically significant associations were observed for sex, age group, or injured side. These findings should be regarded as hypothesis-generating.

Smoking and diabetes can impair tissue oxygenation, inflammatory responses, and wound repair, providing biological plausibility for less favorable recovery [14]. However, the presence of a recorded comorbidity does not establish impaired microcirculation in an individual patient, and these mechanisms were not measured in this study. Furthermore, the analysis considered comorbidity as a combined category and cannot establish separate associations for hypertension or diabetes.

Exudate soaking the dressing or clinical infection may coexist with pain, discomfort, anxiety, and reduced independence, all of which can affect QoR-15 responses. Because surgical-site status and QoR-15 were assessed at the same time, their association cannot establish temporal direction or causation. Pain and emotional symptoms are also components of the recovery instrument, so clinical overlap should be considered when interpreting associations.

Incomplete early mobilization was also associated with moderate recovery. However, patients experiencing more pain, greater injury-related limitations, or less favorable recovery may have been less able to perform the recorded activities. This association may therefore reflect differences in clinical condition and ability to participate, rather than an independent benefit of mobilization. The study did not establish whether mobilization preceded improvement in recovery.

Small subgroups, only nine patients in the moderate-recovery category, and zero counts in several contingency-table cells limit statistical precision. Fisher's exact test is appropriate for small contingency tables but does not eliminate low power, confounding, or the risk of false-positive findings from multiple tests. Failure to detect an association with sex, age group, or injured side must not be interpreted as evidence that these factors are irrelevant. No independent risk factors can be established from these analyses.

Hand injuries may have psychological as well as physical consequences [15], and recovery may continue after discharge [16]. Follow-up incorporating validated hand-function measures would be needed to determine whether early patient-reported recovery corresponds to later function and participation.

4.4. Limitations

This single-center descriptive study included only 35 patients, had no comparison group, and ended follow-up at POD 5 or earlier discharge. Small subgroups and sparse contingency-table cells limit precision, increase the risk of type II error, and preclude reliable multivariable adjustment; multiple exploratory tests also increase the risk of chance associations. The three patients discharged early had good or excellent recovery on POD 3, suggesting potentially informative missingness. Although the paired QoR-15 analysis used the same 32 patients,

it could not resolve the absence of POD 5 outcomes in these three patients. Surgical-site and pain trajectories were described without paired statistical testing. The exact Vietnamese QoR-15 version was not shown to have formal validation, and interviewer involvement may introduce response bias. Limited variation in most care activities and possible reverse causation in the mobilization–recovery association prevent conclusions about the effectiveness of individual care components. Late complications, tendon healing, hand function, and return to work were not assessed.

5. CONCLUSION

In this descriptive cohort of 35 patients undergoing hand extensor tendon repair, among the 32 patients assessed on postoperative day 5, 81.3% had dry surgical sites, 53.1% reported no or mild pain, and one had a clinically diagnosed surgical-site infection. In the paired cohort, the mean QoR-15 score increased by 15.13 points from postoperative day 3 to day 5 (95% CI, 14.32–15.93; $p < 0.001$). These findings describe early inpatient recovery rather than tendon healing or long-term functional outcomes. Associations with quality of recovery remain exploratory and do not establish independent risk factors or the effectiveness of individual care interventions.

6. RECOMMENDATIONS

Early postoperative care should emphasize surgical-site assessment, pain management, protective immobilization, and individualized rehabilitation guidance consistent with the tendon repair. Patient-reported recovery may help identify additional physical and emotional support needs. Larger studies using a validated Vietnamese QoR-15 version, paired longitudinal assessments, and scheduled follow-up that includes patients discharged early are needed to characterize recovery trajectories and their relationship with longer-term hand function.

Conflict of Interest Statement: The authors declare that there are no conflicts of interest regarding the publication of this article.

REFERENCES

1. Nguyen Viet Tien. Plastic, aesthetic, and reconstructive surgery of the hand [in Vietnamese]. Hanoi: Medical Publishing House; 2018.

2. de Jong JP, Nguyen JT, Sonnema AJ, Nguyen EC, Amadio PC, Moran SL. The incidence of acute traumatic tendon injuries in the hand and wrist: a 10-year population-based study. Clin Orthop Surg. 2014;6(2):196-202.

3. Hoang Quoc Quan. Surgical outcomes of traumatic extensor tendon injuries of the hand at Viet Duc University Hospital [master's thesis, in Vietnamese]. Hanoi: Hanoi Medical University; 2012.

4. Thieng Pisith, Ngo Van Toan, Nguyen Moc Son. Surgical outcomes of wrist and hand extensor tendon injuries at Viet Duc University Hospital [in Vietnamese]. Vietnam Med J. 2022;521(1):114-118.

5. Vu Hong Ai, Hoang Van Dung, Vu Manh Cuong, Nguyen Ngoc Sinh, Ta Van Cong. Surgical outcomes of hand extensor tendon lacerations at Thai Nguyen National Hospital [in Vietnamese]. Vietnam Med J. 2023;525(1A):158-162.

6. Tran Nhat Tien, Quang Huy Hoang. Outcomes of hand extensor tendon repair using the Becker technique [in Vietnamese]. Hue J Med Pharm. 2026;16(1):72-78.

7. Crouch M. Pain management in wound care: taking a holistic approach. Br J Nurs. 2025;34(20):S12-S17.

8. Carlsson AM. Assessment of chronic pain. I. Aspects of the reliability and validity of the visual analogue scale. Pain. 1983;16(1):87-101.

9. Stark PA, Myles PS, Burke JA. Development and psychometric evaluation of a postoperative quality of recovery score: the QoR-15. Anesthesiology. 2013;118(6):1332-1340.

10. Chazapis M, Walker EMK, Rooms MA, Kamming D, Moonesinghe SR. Measuring quality of recovery-15 after day case surgery. Br J Anaesth. 2016;116(2):241-248.

11. Trang NTT, Thosingha O, Chanruangvanich W. Factors associated with recovery among patients after abdominal surgery. Nurs Sci J Thail. 2017;35(3):4-12.

12. Kleif J, Gögenur I. Severity classification of the quality of recovery-15 score-an observational study. J Surg Res. 2018;225:101-107.

13. Myles PS, Myles DB, Galagher W, Chew C, MacDonald N, Dennis A. Minimal clinically important difference for three quality of recovery scales. Anesthesiology. 2016;125(1):39-45.

14. Guo S, DiPietro LA. Factors affecting wound healing. J Dent Res. 2010;89(3):219-229.

15. Grob M, Papadopulos NA, Zimmermann A, Biemer E, Kovacs L. The psychological impact of severe hand injury. J Hand Surg Eur Vol. 2008;33(3):358-362.

16. Berg K, Kjellgren K, Unosson M, Årestedt K. Postoperative recovery and its association with health-related quality of life among day surgery patients. BMC Nurs. 2012;11:24.