

Postoperative recovery of trigger finger release comparing two surgical techniques: ultrasound-guided and open release

Submission date 07/02/2026	Recruitment status No longer recruiting	☐ Prospectively registered ☒ Protocol
Registration date 25/02/2026	Overall study status Ongoing	☐ Statistical analysis plan ☐ Results
Last Edited 23/02/2026	Condition category Musculoskeletal Diseases	☐ Individual participant data ☒ Record updated in last year

Plain English summary of protocol

Plain English summary of protocol not provided at time of registration

Contact information

Type(s)

Public, Scientific, Principal investigator

Contact name

Dr Michiel Cromheecke

Contact details

Buitenring-Sint-Denijs 30
Gent
Belgium
9000
+32498855836
michiel.cromheecke@mijnziekenhuis.be

Additional identifiers

Study information

Scientific Title

Clinical outcomes after trigger finger release: a prospective comparison of ultrasound-guided and open techniques

Acronym

RECOVER-TF

Study objectives

Ethics approval required

Ethics approval required

Ethics approval(s)

Approved 14/07/2025, Ethics Committee AZ Maria Middelaes - AZ Sint-Vincentius Deinze (Buitenring-Sint-Denijs 30, Gent, 9000, Belgium; +3292461910; ethisch.comite@mijnziekenhuis.be), ref: MMS.2025.027

Primary study design

Observational

Secondary study design

Cohort study

Study type(s)

Health condition(s) or problem(s) studied

Trigger finger

Interventions

This study is designed as a prospective, observational cohort study including all patients undergoing surgical treatment for trigger finger at a single referral hand surgery centre (Maria Middelaes Hospital, Ghent, Belgium) beginning in May 2025. A minimum of 100 patients (50 per treatment arm) will be enrolled and managed using one of two established surgical techniques for trigger finger release: open release or ultrasound-guided release.

Allocation to surgery

Treatment allocation followed a pragmatic, patient-preference design. Patients selected their treating surgeon, and since each participating surgeon exclusively performed one standardized technique, this results in an expertise-based allocation model. Although non-randomized, this design reflects real-world clinical practice and minimizes the "learning curve" bias often seen in randomized trials. To minimize intra-group variability, all participating surgeons are fellowship-trained hand surgeons with high annual volumes in their respective techniques.

Accordingly, two cohorts were defined:

- Group A: Open trigger finger release performed by surgeon P.C.
- Group B: Ultrasound-guided release performed by M.C., J.G. and P.B.D.K.

This pragmatic allocation method ensures that each technique is performed by a highly skilled surgeon while minimizing variability within treatment groups. In addition, surgeon-related variation will be addressed analytically as described in the statistical analysis section below. Preoperative and postoperative assessments were standardized, and all patients received the same postoperative rehabilitation protocol and analgesics.

Patients will be followed prospectively using standardized questionnaires and clinical examinations at the following postoperative time points: 1, 2, 3 and 4 weeks, 3 months, and 6

months. Clinical follow-up will be performed preoperatively, at 4 weeks, and at 3 months. Outcomes will be measured by QuickDASH, Patient and Observer Scar Assessment Scale (POSAS) and Visual Analog Scale (VAS) as well as standard clinical tests such as grip strength.

Statistical analysis will be performed on anonymized data using IBM® SPSS® Statistics. A two-sided p-value < 0.05 will be considered statistically significant except where multiplicity adjustments are needed. Descriptive and comparative analyses will be performed. All primary analyses will follow an intention-to-treat (ITT) principle, with patients analysed in the group corresponding to the surgical technique performed. A per-protocol analysis will be performed as sensitivity analysis.

Baseline characteristics will be summarized using descriptive statistics. Between-group comparisons (open versus ultrasound-guided trigger finger release) will be performed using independent-samples t-tests or Mann–Whitney U tests for continuous variables, and chi-square or Fisher's exact tests for categorical variables, as appropriate.

Analysis of covariance (ANCOVA) will be used to compare between-group outcomes while adjusting for baseline values of the outcome measure, in order to account for potential baseline imbalance and to increase statistical power in this non-randomized study design.

Power calculation and sample size rationale for the primary outcome (QuickDASH change at 4 weeks) was performed. We plan a pragmatic, prospective, 2-arm study with equal allocation to open and ultrasound-guided trigger finger release. Assuming a literature-derived minimal clinically important difference (MCID) of 14 points and a standard deviation of 20 points, a two-sample t-test with a two-sided $\alpha = 0.05$ requires 32 patients per group to achieve 80% power. To account for an anticipated 10% loss to follow-up and to increase the robustness and reliability of the findings, we plan to include 50 patients per group. Since ANCOVA typically increases power the above power calculation should be sufficient.

To address potential confounding due to non-randomized treatment assignment multivariate regression models will adjust for baseline characteristics such as age, sex, symptom duration, hand dominance, diabetes, severity scores, occupation (manual vs administrative). Propensity score matching or weighting may be performed as sensitivity analysis if group imbalance occurs. Results will include estimates, 95% CIs and exact p-values. We will follow STROBE guidelines for observational cohort reporting and provide a flowchart of included/excluded patients.

Intervention Type

Procedure/Surgery

Primary outcome(s)

1. Early functional recovery measured using the Quick Disabilities of the Arm, Shoulder and Hand (QuickDASH) at baseline and 4 weeks
2. Early functional recovery measured using a Visual Analog Scale (VAS) at baseline and 4 weeks
3. Early functional recovery measured using Grip strength (Kg) at baseline and 4 weeks

Key secondary outcome(s)

1. Early postoperative pain measured using a Visual Analog Scale (VAS) at daily for the first 2 weeks

2. Scar characteristics and patient satisfaction measured using the Patient and Observer Scar Assessment Scale (POSAS) at 4 weeks, 3 months and 6 months
3. Use of analgesics postoperative (duration and cumulative dose) measured using a questionnaire to collect data recorded on dose at 1 week, 2 weeks, 4 weeks, 3 months, 6 months
4. Time to return to daily activities, return-to-work measured using a questionnaire (days) at 1 week, 2 weeks, 4 weeks, 3 months
5. Patient satisfaction measured using a 5-point Likert scale at 1 week, 2 weeks, 4 weeks, 3 months, 6 months
6. Postoperative complication rate, including, but not limited to, nerve injuries, infection, persistent symptoms, etc. measured using data recording (type) at 1 week, 2 weeks, 4 weeks, 3 months, 6 months
7. Revision surgery rate and indications for revisions measured using a questionnaire to record yes/no at 3 and 6 months
8. Longer term functional outcome measured using QuickDASH, grip strength, and VAS scales at 3 and 6 months

Completion date

04/07/2027

Eligibility

Key inclusion criteria

1. Age between 18 and 99 years
2. All consecutive patients receiving surgical treatment for solitary trigger finger release
3. Undergoing surgery at VZW AZ Maria Middelaes hospital

Healthy volunteers allowed

No

Age group

Mixed

Lower age limit

18 Years

Upper age limit

99 Years

Sex

All

Total final enrolment

0

Key exclusion criteria

1. Concomitant surgical procedures in the same hand
2. Symptomatic osteoarthritis of the hand or wrist
3. Symptomatic confounding pathology of elbow or shoulder
4. Pregnancy
5. Dupuytren's disease with symptomatic MCP or PIP contracture
6. Bilateral trigger finger surgery within a 3-month interval
7. Active chemotherapy or malignancy
8. Inability to complete the follow-up questionnaires (language barrier, cognitive impairment, etc.)
9. Revision surgery

Date of first enrolment

15/07/2025

Date of final enrolment

01/06/2026

Locations

Countries of recruitment

Belgium

Study participating centre

VZW AZ Maria Middelaes hospital

Buitenring-Sint-Denijs 30

Gent

Belgium

9000

Sponsor information

Organisation

AZ Maria Middelaes

ROR

<https://ror.org/048pv7s22>

Funder(s)

Funder type**Funder Name**

Investigator initiated and funded

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Protocol file			09/02/2026	No	No