ISAKOS CONGRESS 2025 | MUNICH GERMANY June 8–11

Clínica Santa Sofía
Grupo Médico Vargas C.A. Rif: J-00068377-8

Dynamometric Testing of Index Finger Distal Phalanx Flexion Strength Endurance Yields Diagnostic Potential for Lacertus Syndrome in Recreational Athletes

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FACULTY DISCLOSURE INFORMATION

- Member of the Editorial Board of International Orthopaedics and the Journal of Experimental Orthopaedics (JEO).
- Member of the Registry Steering Committee and Patient Registry Manager for the International Cartilage Regeneration & Joint Preservation Society (ICRS).
- Member of the Communications Committee and Biologics Task Force in the International Society of Arthroscopy, Knee Surgery, and Orthopaedic Sports Medicine (ISAKOS).

OBJECTIVES

- To assess the index finger distal phalanx flexion strength endurance with a dynamometer in recreational athletes with lacertus syndrome.

METHODS

- Retrospective study of prospectively collected data.
  - Recreational athletes diagnosed with lacertus syndrome.
  - From April 2023 to August 2024.
- Inclusion criteria: (1) had weakness in the flexor carpi radialis (FCR), flexor pollicis longus (FPL), and flexor digitorum profundus to the index finger (FDP II); (2) had a positive provocative sensory testing (scratch collapse test); and (3) had pain and/or positive Tinel's test at the level of the nerve compression (elbow).
- Exclusion criteria: (1) had bilateral symptoms; or (2) had any additional injury that limited their ability to perform the dynamometric testing.

METHODS

- Bilateral index fingers' distal phalanx flexion strength was assessed for 30 seconds with a dynamometer (Tindeq®, BLIMS AS, Norway) with full forearm pronation at diagnosis and two weeks after surgery.

ISAKOS CONGRESS 2025 | MUNICH GERMANY June 8–11

METHODS

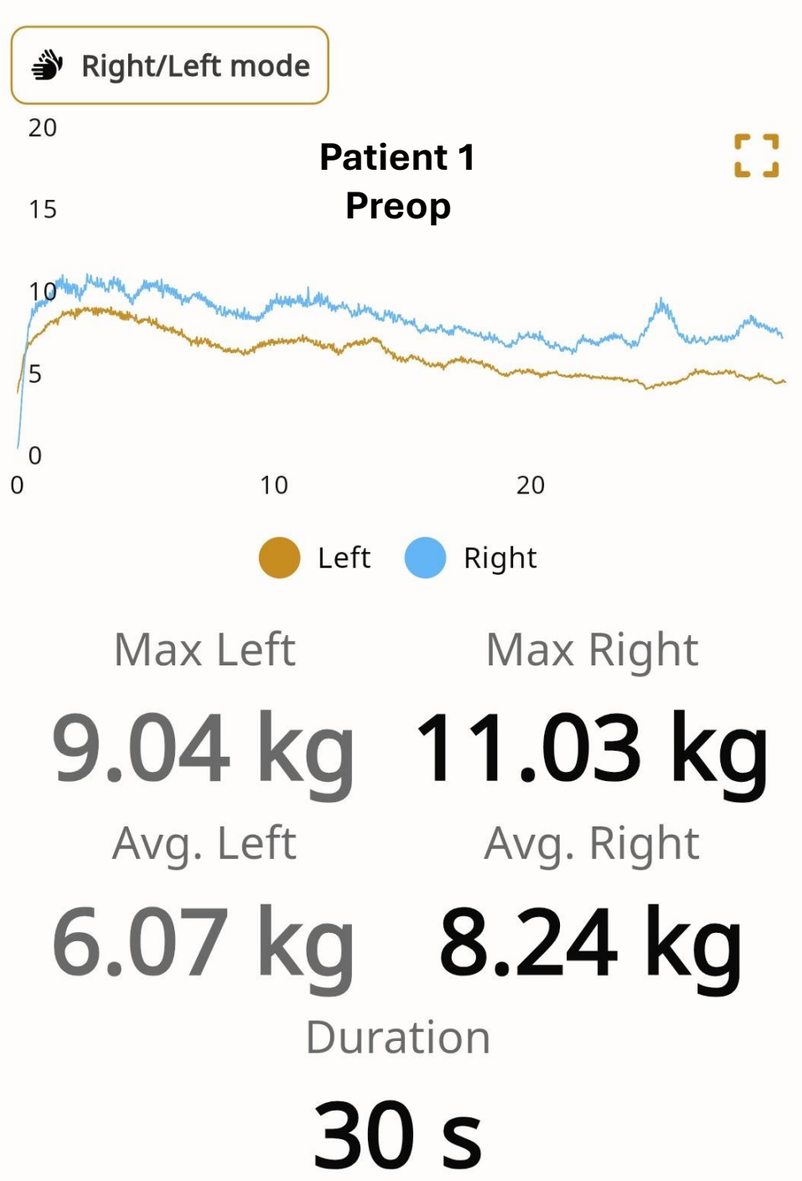
- Patient demographic data, sports type, Disabilities of the Arm, Shoulder and Hand (DASH) score, maximum strength, and average strength during the 30-second dynamometric test were recorded.
- Patient data was summarized using means and standard deviations. Healthy (control) and lacertus-affected index finger distal phalanx flexion strength during the 30-second dynamometric testing results were compared using paired mean differences (MD) and expressed as 95% confidence intervals (CI).

RESULTS

- Five patients were included in the final assessment, five recreational athletes (4 males and 1 female; weightlifting 3, Pilates 1, cycling 1), with a mean age of 35.2 years (range 28-53), and a mean DASH score of 26.63 at diagnosis.
- The mean healthy index finger maximum strength was 9.08 ± 2.29 Kg, and average strength was 5.92 ± 1.6 Kg during the 30-second test, while the mean lacertus-affected index finger maximum strength was 7.27 ± 2.10 Kg and average strength was 4.74 ± 1.44 Kg during the 30-second test.

RESULTS

- Patients showed lower maximum strength and average strength during the 30-second dynamometric testing in the lacertus-affected index finger at diagnosis (95% CI [0.11, 3.5] and [-0.33, 2.69], respectively).



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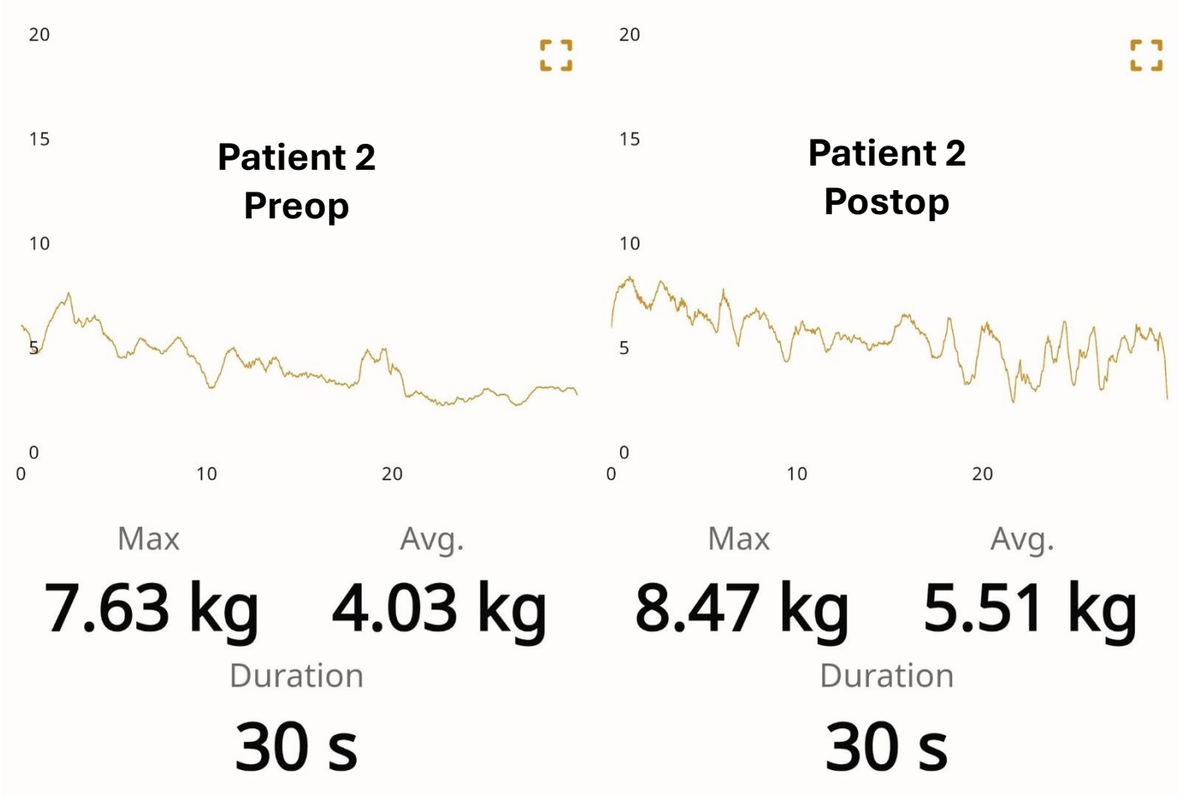
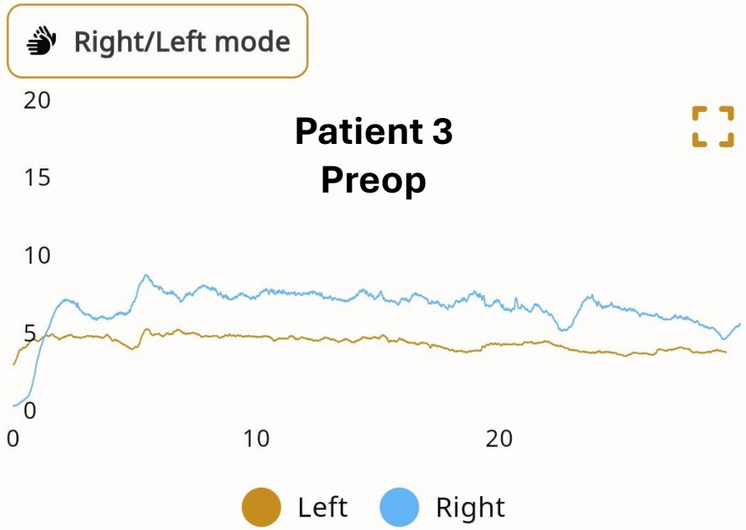
RESULTS



- Two patients were assessed two weeks after surgery, showing increased maximum and average strength on the operated side compared to preoperative values (MD 0.82 Kg, range 0.79-0.84; and MD 0.99 Kg, range 0.51-1.48, respectively).

RESULTS



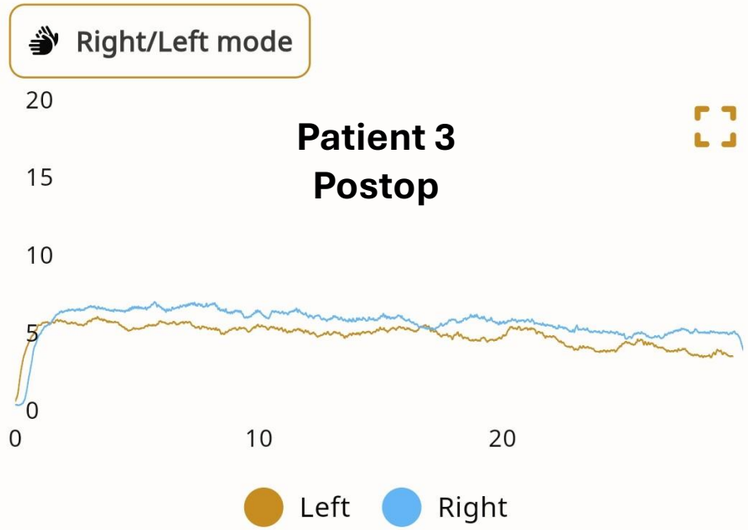
Max Left
5.16 kg

Max Right
8.67 kg

Avg. Left
4.26 kg

Avg. Right
6.50 kg

Duration
30 s



Max Left
5.95 kg

Max Right
6.91 kg

Avg. Left
4.77 kg

Avg. Right
5.61 kg

Duration
30 s

CONCLUSIONS

- Dynamometric testing of index finger distal phalanx flexion strength endurance reveals lower maximum and average strength in the lacertus-affected side at diagnosis and maximum and average strength recovery after surgery.
- Dynamometric testing of index finger distal phalanx flexion strength endurance might have diagnostic and recovery assessment potential for lacertus syndrome in recreational athletes.

REFERENCES

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