Clinical Summary

Early Experience in Collateral Ligament Repair of the Hand with the Use of a Novel Bio-Composite Scaffold: Technique and Outcomes

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Journal: Journal of Orthopaedic Experience & Innovation

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Aim:

To evaluate the early clinical and functional outcomes of a small cohort using a novel bio-composite scaffold (BioBrace®) in the surgical repair of hand collateral ligament injuries, particularly in high-level athletes.

Diagnosis & Clinical History

Condition: Acute or chronic collateral ligament injuries of the hand, especially the thumb UCL and RCL.
Population: 13 patients (mean age 21), 85% of whom were high-level athletes.
Symptoms: Pain, instability, reduced pinch strength, and limited range of motion.

Surgical Technique

- Technique:
  - Surgical repair or reconstruction using BioBrace® , a bio-inductive, bioresorbable scaffold
  - Anchored with all-suture anchors to minimize bone damage
  - Post-op care included splinting and early mobilization

Results

- **QuickDASH:** Improved from 81.5 pre-op to 4.1 at 6 weeks.
- **VAS Pain:** Decreased from 4.3 to 0.6.
- **ROM:** Non-limiting by 4–6 weeks.
- **Pinch Strength:** >85% of contralateral side.
- **Return to Sport:** 82% returned by 8 weeks; all by 12 weeks.
- **Complications:** No infections, osteolysis, or re-injuries. Two cases of mild erythema resolved with splint adjustment.

Key Takeaways

- BioBrace® offers a promising alternative to non-absorbable suture augmentation by:
  - Reducing stress shielding
  - Avoiding complications from large polymer anchors
  - Supporting early mobilization and return to sport
- Early outcomes show excellent functional recovery, minimal complications, and high patient satisfaction.

Potter, D. C., Hanson, Z., & Lourie, G. M. (2025). Early experience in collateral ligament repair of the hand with the use of a novel bio-composite scaffold: Technique and outcomes. Journal of Orthopaedic Experience & Innovation, 6(1). https://doi.org/10.60118/001c.124069

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