

# Efficacy of Immobilization Strategies for Boxer's Fracture: A Systematic Review

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## Condition

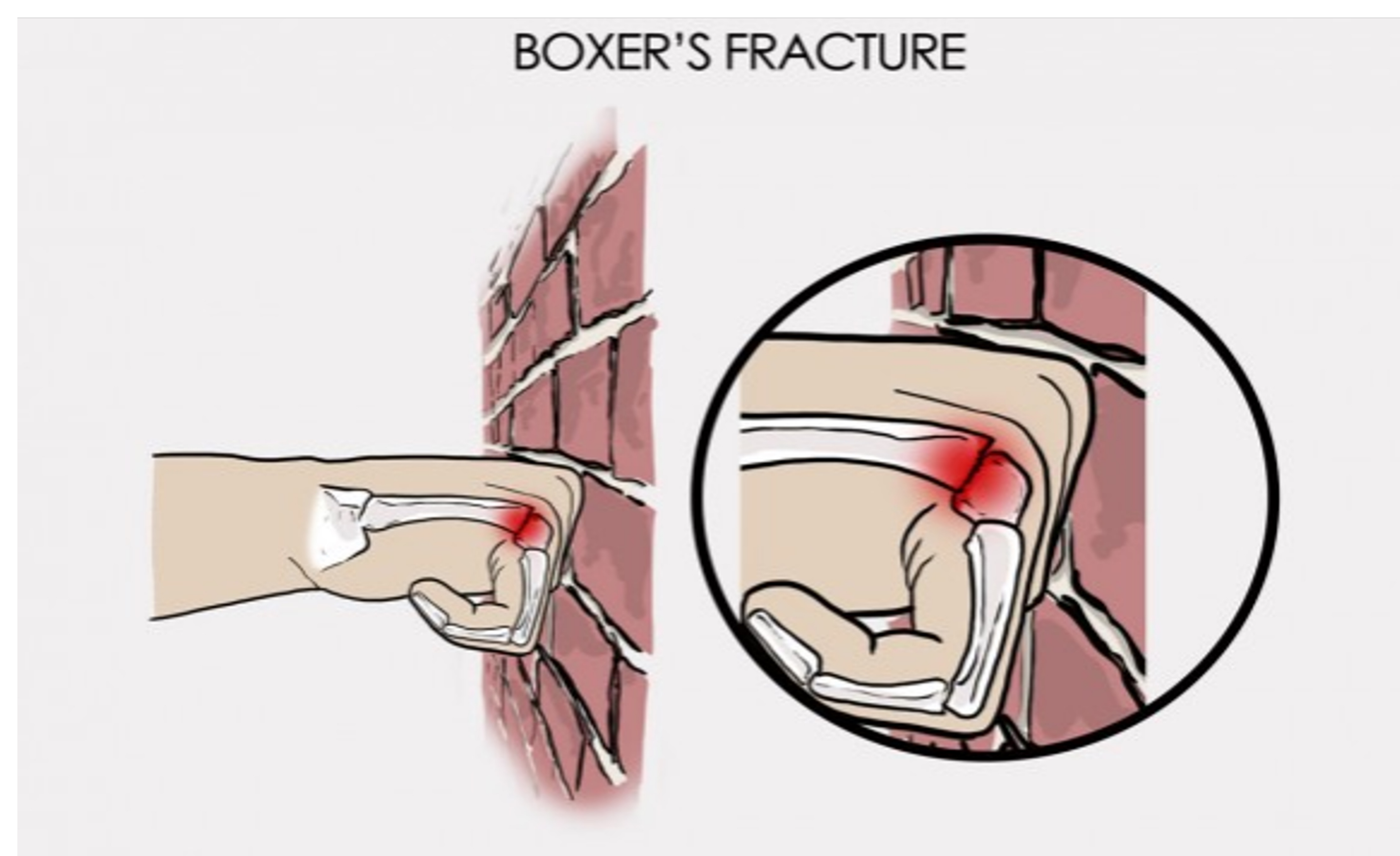
**Overview of the diagnosis/condition:** Break within the neck of the 5th metacarpal

**Etiology:** Boxer fracture occurs due to high-speed force to the hand. Examples include punching something hard with a closed fist.

**Mechanism of injury:** Blunt traumas, motor/vehicle accidents, falls, and other accidents

**Signs/symptoms:** Pain, swelling/bruising, limitation of range of motion (ROM) of the pinky, and pinky misalignment

**Precautions/Contraindications:** Immobilization causes decreased ROM and decreased grip strength



## Method

Five studies met the inclusion criteria. The articles were assessed for quality and risk of bias using Cochrane guidelines. The systematic review adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) and incorporated recommended processes for conducting a systematic review.

## Results

Results of this systematic review suggest that patients that received buddy taping treatment displayed enhanced functional outcomes. This is evidenced by quicker return to work, fewer follow-up appointments, and cost effectiveness compared to other interventions.

Ulnar gutter casts(UGC) and functional metacarpal splints (FMS) had similar clinical outcomes to buddy taping, but buddy taping was more cost-effective. UGC was noted to be restrictive on the joints compared to FMS.

Overall, buddy taping offers a practical and efficient treatment option for boxer's fractures, enhancing patient recovery and reducing healthcare costs. Further research is needed to confirm long-term benefits and refine treatment protocols.

## Discussion & Implications for OT Practices

Buddy taping is a preferred method of immobilization because it:

- Leads to improved functional mobility in a short timeframe
- Is cost effective
- Requires less resources
- Requires fewer follow-up appointments

Implications for Occupational Therapy

- Buddy taping is effective to improve functional outcomes.
- The QuickDASH is an accurate assessment tool.
- It is important to monitor patients' progress and modify the treatment plan as needed.
- Client's pain level and overall satisfaction should be evaluated.

## References

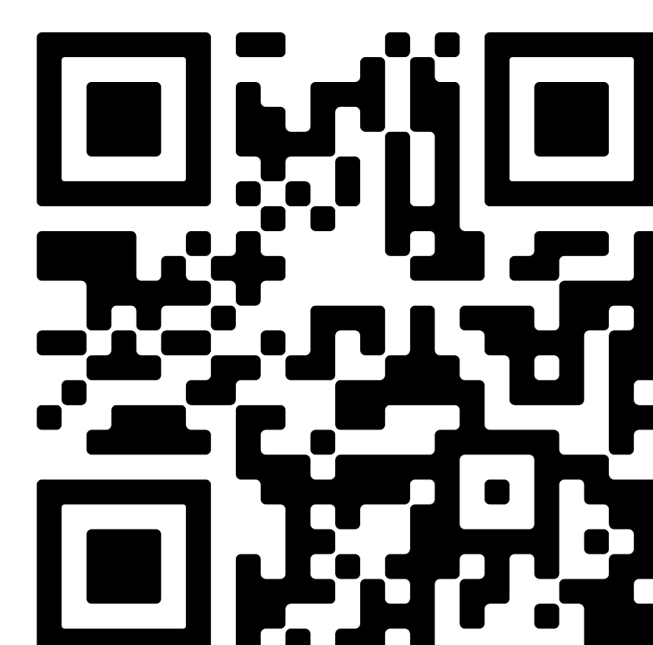


References

## Evidence-Based Interventions & HEP

**Physical Agent Modalities (PAMS) Precautions/Contraindications (Ice Pack):** Wounds, hypertension, Raynaud's disease, hypersensitivity, intolerance, peripheral nerve injury, peripheral vascular disease, impaired circulation, impaired cognition

- Buddy taping led to good clinical results when compared to closed reduction and cast immobilization in adults with acute fifth metacarpal fractures (Martínez-Catalán et al., 2020).
- Ulnar gutter splinting resulted in similar improvement in patient reported outcomes when compared to buddy taping (Khashaba et al., 2020).
- Functional metacarpal splinting may result in better patient compliance than ulnar gutter splinting due to having less restriction of the joints (Kaynak et al., 2019).



HEP2GO Exercises

## OT Assessments

- Disability of Arm, Shoulder, and Hand Outcome questionnaire (DASH/QuickDASH)
- Grip Strength
- Range of Motion (ROM)

## Research Question

Does buddy taping have effective functional outcomes for individuals who have sustained a boxer's fracture?

Figure 1

Flow Diagram

