Percutaneous Fixation of Partial Incongruous LisFranc Injuries in Athletes: A Retrospective Analysis

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My disclosure is in the Final AOFAS Program Book.

I have a potential conflict with this presentation due to:

Paid Consultant: Wright Medical, Bacterin International
Introduction

- Lisfranc fracture dislocations account for less than 1% of all fractures\(^1\)
- Open reduction has been the traditional gold standard in LisFranc repair in athletes
- Rigid internal fixation is the keystone for successful repair of these injuries
- Rigid internal fixation has consistently shown more favorable long term outcomes\(^2\)
- The authors report a series of 13 athletes treated with percutaneous reduction and solid screw fixation of partial incongruous LisFranc injuries utilizing a radiolucent targeting guide
Methods

- A retrospective analysis was performed on 13 athletes treated with a percutaneous approach.
- Only Hardcastle/Myerson B. B-type (partial incongruous) injuries were included.
- 1 Surgeon performed all 13 procedures.
- The same radiolucent reduction/targeting guide and a 3.7mm or 4.3mm solid screw was used.
- Pain was measured using the visual analog scale; functional activity was evaluated using a standard questionnaire, and time to weight-bearing was evaluated.
- Postoperative radiographic deviation was measured and recorded by an independent surgeon.
- All patients remained non-weight bearing for 6 weeks postoperatively.
Radiolucent Targeting Guide
Reduction Technique

Percutaneous Reduction

4.3mm Solid Screw
Patient Demographics

- 12 males, 1 Female
- Average age = 21.9
Results

- Average return to sport in 16.6 weeks
- Consistent reduction across population maintained
- No intra-operative or post-operative complications were encountered
Conclusion

- Percutaneous approach reduces the risk of post-operative complications

- Use of a targeting-reduction guide allows for precise reduction of the injury and a more predictable outcome

- Return to sport in a similar timeframe was observed in our small high-level athletic population, while avoiding the need for an extensive open approach in partial incongruous Lisfranc injuries
References


