

SYNDESMOTIC INJURIES TREATED WITH AN APERTURE FIXATION DEVICE

Desai S. *Techniques in Foot & Ankle Surgery*. 2020;19(2):96-103.

Desai (2020)¹ presented a case series of 14 patients who received a FIBULINK® Implant for syndesmotom injury (mean age 48 [range 26-77]; 8 males, 6 females).

Key Takeaways:

1. The aperture fixation (joint line fixation) device was used to treat 9 supination external rotation, 2 pronation external rotation, 1 Maisonneuve, and 2 isolated syndesmotom injuries.
2. American Orthopedic Foot and Ankle Society (AOFAS) scores at follow-up (average 9.5 months) were favorable (mean 94), varying slightly by type of injury, gender, and age (range 87-100).
3. There were no reported complications.

Patient Cohorts

Supination external rotation injuries (SER) (n=9) – open reduction internal fixation (ORIF) of the fibula and medial malleolus fracture if present; fluoroscopy, cotton test and external rotation stress test confirmed syndesmotom disruption; syndesmotom stabilized with 1 aperture fixation device

Pronation external rotation injuries (PER) (n=2) – ORIF of fibula, repair of deltoid if found to be disrupted, followed by ORIF of syndesmotom with 1 aperture fixation device

Isolated syndesmotom (n=2) and Maisonneuve fractures (n=1) – ORIF of syndesmotom with a 3-hole buttress plate and 2 aperture fixation devices

Postoperative treatment

Discharge – short-leg splint and non-weight-bearing

1 week (if swelling amenable) – pneumatic boot and continued non-weight-bearing

3 weeks – sutures removed and range of motion (ROM) physical therapy, avoiding aggressive external rotation of the foot

6 weeks – weightbearing as tolerated in a walker boot and swimming/bicycle

2-3 months, bony union confirmed on x-ray – lace-up ankle brace and full rehabilitation including ROM, strengthening, and proprioceptive exercises

4-6 months, full function of foot/ankle

demonstrated – athletic activity without restriction; lace-up brace for additional 6 months during sports

Postoperative outcomes

Mean duration of follow-up was 9.5 months.

- Mean American Orthopedic Foot and Ankle Society (AOFAS) score was 94
 - PER patients had slightly higher AOFAS scores vs SER patients (96 vs 93)
 - AOFAS scores were lower in the female group, patients older than 50, and patients with syndesmotic injuries accompanied by medial malleolus fractures or ankle dislocations
 - Isolated syndesmosis and Maisonneuve injuries had the highest AOFAS scores
- Mean Visual Analog Scale (VAS) score at final follow-up was 1.1
- There were no instances of loss of reduction, hardware removal, repeat surgeries, wound issues, or other complications

Conclusion

A case series of 14 patients was presented with no complications at a mean follow-up of 9.5 months. Although the short-term data are promising, longer-term data are needed. A prospective randomized trial comparing the FIBULINK System to suture button constructs would be beneficial in the future.

Figure 1



AP PER Injury



9-month follow-up

Figure 2



AP SER Injury



12-month follow-up

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