

## **Syndesmotic Fixation in Unstable Ankle Fractures: Does Early Postoperative Weight Bearing Affect Radiographic Outcomes?**

*Khalid Al-Hourani, MD; Michael Thomas Stoddart, MBBS; Timothy Chesser, MB, BS, FRCS  
North Bristol NHS Trust, Bristol, United Kingdom*

**Purpose:** Syndesmotic ankle injuries are unstable, leading to tibiofibular diastasis. The decision to weight-bear patients following stabilization of ankle fractures with syndesmotic instability remains controversial and varies both within and between centers. We aimed to analyze whether early full weight bearing following syndesmotic fixation affected early and late radiographic PP suggestive of diastasis.

**Methods:** This was a retrospective comparative cohort study of 86 patients, over a 2-year period in a Level- I trauma center. The primary outcome measure was early diastasis. The secondary outcomes were late diastasis, wound complications, and reoperation. Analysis of variance was used for the predictor variable of weight- bearing status. We assumed a priori that P values <0.05 were significant.

**Results:** Median age was 36 years (interquartile range [IQR] 30), with 54 males and 32 females. Median follow- up was 12 weeks (IQR 6). There was no significant difference when comparing weight-bearing status and change in radiographic measurements intraoperatively compared to 6 and 12-week follow-up radiographs (tibiofibular clear space P = 0.799, tibiofibular overlap P = 0.733, and medial clear space P = 0.261). There was no association with weight-bearing status and late diastasis or secondary outcomes.

**Conclusion:** After surgical stabilization of an unstable syndesmotic injury, full weight bearing did not lead to syndesmotic diastasis in the early postoperative period. Full weight bearing is recommended following ankle fixation, which includes syndesmotic fixation.