



## Article Appraisal

**Article:** Three week versus six week immobilization for stable Weber B type ankle fractures: randomized, multicentre, non-inferiority trial

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**Resident Reviewer Name(s) and Residency Affiliation:** Riley Golby – PGY3 FRCPC EM Program

**Faculty Methodology/Bio-statistics Resource Person:** Dr. Andrew Kestler

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### Background and Study Objective(s):

Increasing evidence suggests that biomechanical stress in stable fractures promotes healing, and that reduced immobilization may reduce adverse events such as stiffness and rates of DVT. Management for Weber B fractures has evolved through time, with some countries insisting on emergent CT and MRI imaging to influence decision-making. Within the Canadian healthcare environment, our pattern of practice is aggressive non-operative treatment for the majority of these injuries – without the use of advanced imaging. This study examined different management strategies for isolated stable Weber B fractures. Specifically, 6 versus 3-week casting as well as 6-week casting versus 3-week orthosis were compared. The study objective was to show non-inferiority amongst these comparisons with regard to validated functional outcomes and adverse event rates.

### Study Design:

This was a randomized non-inferiority trial, whereby eligible patients were randomized to one of three treatment arms: 6-week casting, 3-week casting, or 3-week orthosis, with all options weight-bearing as tolerated. Participants were followed at the 3, 6, 12, and 52 week interval, with the primary and secondary outcomes formally assessed at the 52-week mark.

### Results:

The primary outcome (OMAS functional score) revealed non-inferiority between treatment arms at 52 weeks, with a slight statistical advantage shown only in 3-week casting vs. 6-week casting. Secondary outcomes showed improved plantar flexion 3-week orthosis vs. 6-week casting, and borderline significant reduced DVT rates for 3-week cast vs. 6-week casting.

### Validity of Results:

This trial had a clear and focused research question with excellent study design. The authors appropriately randomized patients to treatment arms and subjects who entered the trial were well accounted for. The trial was able to answer its research question, albeit within the constraints of their enrolment method.

### Generalizability of Results:

The limitations of this study largely pivot on its poor generalizability to a Canadian healthcare setting. The majority of Emergency Departments will not have in-house consultation for orthopaedic services for Weber B fractures let alone external rotation fluoroscopy testing. Additionally, with limited baseline characteristics on past medical history within Table 1, it is difficult to know if lurking variables influenced the non-inferiority result or not.

#### **The Bottom Line:**

Dogmatic management strategies are difficult to change, and this study adds further evidence to shift away from excessive investigations and immobilization for stable Weber B fractures. Given the poor generalizability to the Canadian Emergency Department setting, the current strategy of splinting with orthopaedic follow-up remains a safe and conservative option for most of these injuries as stability can be re-assessed as an outpatient.