

## Optimal Time To Weight Bearing And Movement After Ankle ORIF

Trauma / Foot & Ankle Trauma / Miscellaneous

**Rory Hammond**<sup>1</sup>, Yahya Ibrahim<sup>2</sup>, Ashok Acharya<sup>3</sup>, Satish Janipireddy<sup>4</sup>, Parag Garg<sup>3</sup>, Henry Atkinson<sup>4</sup>

1. Royal Free NHS Trust, London, United Kingdom
2. Royal National Orthopaedic Hospital, London, United Kingdom
3. Barking, Havering and Redbridge University Hospitals NHS Trust, London, United Kingdom
4. North Middlesex University Hospital NHS Trust, London, United Kingdom

Keywords: Ankle, Open Reduction And Internal Fixation, Weight Bearing, Range Of Motion, Rehabilitation, Fracture

### Background

Postoperative rehabilitation protocols following ankle fracture open reduction and internal fixation (ORIF) vary widely.

### Objectives

This study aims to provide an evidence-based postoperative regimen to guide the initiation of range of motion (ROM) exercises and weight-bearing (WB), respectively.

### Study Design & Methods

A systematic review of level 1 randomised controlled trials was performed. The methodological quality of the included literature was assessed using the CASP tool and Jadad scoring system. The timing of the initiation of ROM exercises and WB respectively was recorded. The rates of complications, return to work time and quality of life scores were tabulated. Outcomes were compiled and analysed with regards to their effects on ROM exercises and WB, respectively.

### Results

Defined searches, combined with citations from the bibliographies of harvested literature; yielded 2495 papers. Following systematic screening, 10 articles were finally included. Five articles investigated the effects of varying the time spent in rigid immobilisation postoperatively. Three articles reported the effects of the timing of WB. Two articles investigated the effects of varying both WB and ROM in conjunction.

Early (but not immediate) ankle ROM exercises (at 10-14 days) resulted in the lowest complication rates and the fastest return to work/daily activities and best quality of life. No DVTs were observed in those patients allowed to WB before 14 days, after that time the risk of developing a DVT remained fairly constant. No significant relationship was observed between WB and wound complications. Early ROM and immediate WB conferred higher OMAS and quality of life scores. All secondary outcome measures are demonstrated to benefit from more aggressive rehabilitation timelines.

### Conclusions

The initiation of ROM exercises once the wound has healed (at 10-14 days) and immediate WB is safe after ankle fracture surgery and confers the lowest risk of complications and revision surgery. When

there are specific concerns regarding fracture stability or wound/bone healing these should be assessed on a case-by-case basis and the reasons for deviations from this protocol should be explained. We would advocate for an update to the current BOAST guidance to reflect this protocol.