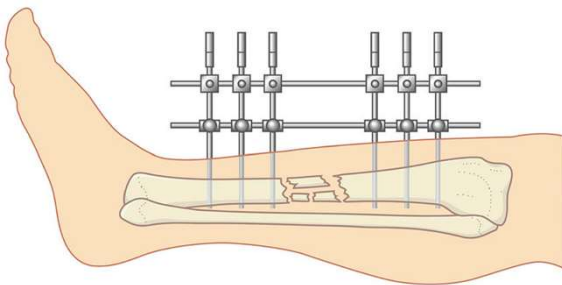


# Outcomes of external fixator as treatment for traumatic fracture in middle- and low-income countries: a scoping review

## Introduction

- Lower extremity traumatic fractures disproportionately affects patients from low socioeconomic status.
- Surgical management of lower extremity fracture provides better patient outcomes compared to non-surgical outcomes, such as casting.
- Intramedullary nailing is the gold standard for tibia and femur fracture management.
- In low- and middle- income countries (LMICs), external fixation is a common solution due to its low cost and ease of implementation.



## Aims

This study aims to compare clinical outcomes of external fixation versus surgical management of traumatic tibia and femur fractures in LMICs to provide insight into the ideal management strategies in low-resource settings.

## Methods

- **Study type:** A scoping review was carried out on articles published from 2000-present
- **Review Method:** All abstracts and selected full-texts are reviewed by two independent reviewers. Any differences in selection criteria or data extraction will be resolved based on the decision of a third reviewer.
- **Databases:** PubMed, EMBASE, EBSCO Global Health Database, and Global Index Medicus, including their regional databases: African Index Medicus, Index Medicus for the Eastern Mediterranean region, Index Medicus for the South-East Asia region, Latin America and the Caribbean Literature on Health Sciences, Western Pacific Region Index Medicus.

## Criteria

### Inclusion Criteria:

- Tibia and femur fractures
- Articles with data on: Number of non-unions, number of mal-unions, duration of hospital stay, cost of the intervention, duration of the treatment and satisfaction rate of the patient on external fixator and nailing/plating in an LMIC are included.

### Exclusion Criteria:

- Pediatric fractures (16 years and below), hip fractures, periprosthetic fractures, and pathological fractures

## Results

- A total of 6200 articles were extracted. Full text screening articles include cross-sectional, case series and from all 5 continents.
- Most studies demonstrate nailing as the common treatment in LMICs for traumatic lower extremity fracture
- Primary outcomes: number of non-unions and number of malunions
- Secondary outcomes: duration of hospital stay, cost of the intervention, duration of the treatment and satisfaction rate of the patient