

Acute Definitive Nailing of Open Femoral Shaft Fractures is Safe and Effective

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INTRODUCTION: There is limited literature examining the outcomes of acute, intramedullary nailing (IMN) of open femoral shaft fractures. The purpose of this study is to detail the outcomes and complications of a cohort of patients who underwent definitive fixation with IMN at their initial irrigation and debridement.

METHODS: After Institutional Review Board approval was obtained, we retrospectively identified all open femoral shaft fractures presenting to our level 1 trauma center between 2008 and 2021. All patients were treated by a fellowship-trained orthopaedic trauma surgeon. The main outcomes measures were union rates and any complication requiring additional procedures.

RESULTS: We identified 72 patients who sustained open femoral shaft fractures and 53 (75%) were treated with acute IMN. The average age was 35.0 years (range 19-74) and there were 42 males (77.8%). The mean follow up was 18 months. Of the 53 patients, 6 patients (11.3%) developed a postoperative complication requiring an additional procedure. Three patients (5.6%) developed a nonunion and underwent exchange nailing and subsequently went on to complete union. The other three patients developed osteomyelitis, of which one had an above-knee amputation. Four patients had superficial wound infections that resolved without an additional surgical procedure. The remaining 43 patients had no complications and went on to union.

DISCUSSION AND CONCLUSION: Acute, definitive treatment of type three open femoral shaft fractures with IMN is safe and effective without posing additional risk to the patients in either the perioperative or postoperative periods.