

Technological Innovation with External Bone Plastic Fixator for Intertrochanteric Fractures

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Purpose: Hip fractures are a primary cause of disability and death in the elderly. In light of limited existing resources, exacerbated by the COVID pandemic, the availability of inpatient beds, blood products, implants, and other resources critical for the management of intertrochanteric fractures remain problematic. The current study seeks to describe and evaluate the effectiveness of an External Plastic Fixator.

Method: A total of 81 patients presenting with intertrochanteric fractures of the proximal femur treated with the External Plastic Fixator at the Fructuoso Rodriguez Orthopedic Teaching Hospital from April 2020 to November 2021 were evaluated retrospectively. Demographic and outcome data were recorded.

Results: Of the patients evaluated, 54.3% of patients were female. The majority of patients were between the ages of 80-89 (61.7%), followed by the age ranges of 70-79 (25.9%). Most patients (72.8%) did not report pain disproportionate with that expected with the initial injury. Pin site infection (8.6%) was the most frequent complication, followed by pin loosening and loss of fixation (3.7%), fracture instability (3.7%), and death (3.7%). Three patients died, two with complications related to COVID-19 infection, and one from a pulmonary thromboembolism. None of the patients treated with the external fixator required transfusions. All the patients who underwent surgery had an inpatient hospital stay of less than 24 hours, which allowed for a greater number of admissions during a time of limited bed availability. Early signs of fracture repair were observed radiographically between 6-10 weeks, allowing for fixator removal between 8-10 weeks. Pin site wounds healed in all patients by 72 hours following pin removal.

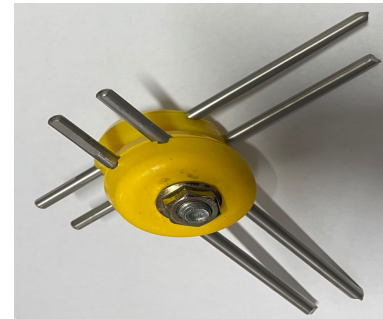


Figure 1. External Plastic Fixator



Figure 2. Pin Insertions

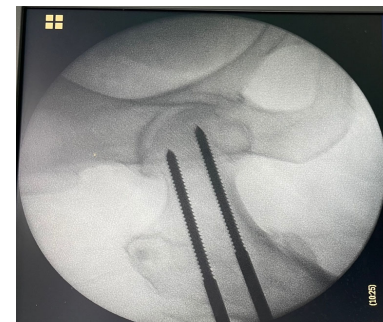


Figure 3. AP Proximal Femur Showing Proximal Pin Insertion

Conclusion: The numerous advantages and few relative complications of the External Plastic Fixator to treat patients with intertrochanteric fractures make it an effective treatment option, particularly in resource-limited conditions.