Outcomes in Patients with Traumatic Floating Knee Injury: A Single Center Review of 20 Cases

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Introduction

- Floating knee injuries, defined as ipsilateral femoral and tibial shaft fractures, are rare and often result from high-energy trauma.
- These injuries carry significant morbidity due to the extent of soft-tissue damage and the complexity of management.
- Limited data exist on long-term outcomes and complication rates following operative fixation.

Objective

- Report surgical and postoperative outcomes among patients treated operatively for traumatic floating knee injuries at a single Level 1 trauma center.

Methods

- **Design:** Retrospective review of patients treated between 2013 and 2023.
- **Identification:** Patients identified using ICD-9 and CPT codes for tibial and femoral shaft fractures.
- **Data collected:**
  - Demographics (age, sex, BMI)
  - Past medical and social history
  - Surgical details (procedure type, operative time)
  - Postoperative course (length of stay, readmissions, complications, revisions, discharge disposition)
- **Analysis:** Descriptive statistics used to summarize patient characteristics and outcomes.

Results

Sample: 20 patients (median age 46, range 18–71).

- 14 male (70%) and 6 female (30%); mean BMI 29.1.
- All underwent intramedullary nail fixation.

Operative metrics:

- Mean OR time: 224 minutes
- Mean hospital stay: 15.9 days

Complications:

- 3 patients (15%) readmitted within 30 days
- 12 patients (60%) experienced at least one complication
- Most common: blood loss anemia (4 patients)

Reoperations:

- 11 patients (55%) required revision surgery
- Mean time to revision: 138.7 days

Discharge disposition:

- 8 to skilled nursing facilities
- 4 to rehabilitation centers
- 4 discharged home

Follow-up:

- Mean duration: 7.4 months (range 0.5–20)
- 10 patients (50%) reported persistent pain at last follow-up

Conclusion

- Floating knee injuries are complex, high-morbidity cases with prolonged recovery and high complication rates.
- More than half of patients required revision surgery, highlighting the need for multidisciplinary management and close follow-up.
- Larger multicenter studies are needed to better define risk factors and optimize surgical and rehabilitation protocols.

Key Takeaways

✓ Rare, high-energy injuries with significant complication rates
✓ Over half required revision surgery within approximately 4 months
✓ Blood loss anemia was the most frequent postoperative complication
✓ Persistent pain common at long-term follow-up
✓ Emphasizes the need for standardized care pathways and continued monitoring