Radiographic Results of Intramedullary Nails for Lateral Malleolus Fractures

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Introduction

- Plating the lateral malleolus yields predictable outcomes and anatomic reductions with an efficient procedure.
- However, large incisions and prominence result in wound complications in 5% to 16% of patients.
- To avoid wound complications in high-risk patients, rudimentary intramedullary (IM) fixation has been utilized for decades.
- New IM nail devices are now available with broader indications.
- These nails promise to reduce wound issues while holding accurate reductions and allowing faster patient rehabilitation.
Goals and Hypothesis

Goal: To determine if an IM nail could provide sound reductions while reducing wound complications and providing faster rehabilitation in a variety of ankle fracture classifications.

Hypothesis: Reductions would be radiographically anatomic. Patients would exhibit faster rehabilitation with no incidence of wound infections.
Methods

- 40 ankle fracture patients were repaired with a FibuLock™ ankle nail (Sonoma Orthopedics) from March 2015 through October 2016.
- Patients were followed for a minimum of six weeks.
- Radiographs were retrospectively reviewed for fracture healing, mortise alignment and fibular length.
- The group was comprised of SER 2, 3, 4, PER, uni, bi-malleolar and tri-malleolar.
- Most reductions were performed percutaneously, however a small-incision was used to reduce older fractures or those that could not be reduced without direct visualization.
Nail Surgical Technique

1. Wire up canal
2. Ream canal
3. Insert nail
4. Release talons
5. Insert distal screws
6. Final
Results

- 100% of all fractures appeared to have union at 6 weeks post-operatively.
- All reduction were deemed anatomic by independent reviewer.
- None of the fractures had loss of reduction or fixation, even with aggressive early weight-bearing protocols.
- No wound infections or other complications presented.
- Patients experienced reduced pain with early weight-bearing.
Conclusion

- Modern IM nails can deliver excellent results and provide an important part of a surgeon’s treatment armamentarium for lateral malleolus fractures.
- The nails are especially valuable for non-compliant patients or those with comorbidities that negatively affect skin healing.
References
