Radiographic Results of Intramedullary Nails for Lateral Malleolus Fractures

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Introduction/Purpose: Plating the lateral malleolus yields predictable patient outcomes and anatomic reductions with an efficient surgical procedure. However, large incisions and prominence result in wound complications in 5% to 16% of patients. Although rudimentary intramedullary fixation has been applied for these fractures for decades, new intramedullary devices have become available with broader indications. These nails have the promise of holding accurate reductions and faster patient rehabilitation with virtually non-existent wound issues due to the minimal incisions required for implantation. The aim of this study was to determine if a new intramedullary nail could provide radiographically sound reductions while reducing wound complications and providing faster rehabilitation in a variety of ankle fracture classifications.

Methods: We retrospectively reviewed the x-rays of 40 ankle fracture patients repaired by two surgeons at different institutions from March 2015 through October 2016. Patients were followed for a minimum of six weeks. Radiographs were reviewed for fracture healing, mortise alignment and fibular length (figure 1). The group was comprised of usual fracture patterns SER 2, 3, 4, PER, uni bimalleolar and trimalleolar. 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.

Results: All fractures appeared to have complete union and radiographically anatomic reductions. No wound infections presented, and patients experienced reduced pain with early weight-bearing.

Conclusion: Modern intramedullary 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.

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