

**Reverse Oblique Intertrochanteric Femoral Fractures (AO/OTA 31-A3) Treated with the Cephalomedullary Nail**

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**Purpose:** Few studies with limited numbers exist that examine the increased trend towards using long cephalomedullary nails for the treatment of reverse oblique fractures (AO/OTA 31-A3). The purpose of this study was to review the clinical and radiographic outcomes of cephalomedullary nailing in 148 reverse obliquity intertrochanteric fractures at two different Level I trauma centers, comprising the largest retrospective study to date.

**Methods:** Patients with AO/OTA 31-A3 fractures that were identified from the comprehensive database at two Level I trauma institutions were included. Pathologic fractures were excluded. Outcomes for each patient were reviewed using the electronic medical record. The tip-apex distance (TAD) and quality of alignment were assessed from the final follow-up radiographs.

**Results:** According to the AO/OTA classification, 53 fractures were 31-A31, 24 were 31-A32, and 72 were 31-A33. Average follow-up was 53 months. One patient was lost to follow-up. The average age was 69.9 years. The injury mechanism was a simple fall in 118 patients and non-fatal high energy in 31 patients. There was one intraoperative fracture. The postoperative complication rate was 12% (n = 18) and 12 patients (8%) required reoperations. The quality of reduction was anatomic in 57 patients (38%), good in 64 patients (43%), and poor in 28 patients (19%). The average TAD for all patients measured 21 mm (range, 8-36). Two of the 24 patients (8%) with a TAD  $\geq 25$ mm had postoperative complications. The 30-day, 6-month, and 1-year mortality rates were 4.7%, 8.7%, and 10.1%, respectively. None of the 30 patients less than 60 years died within the first year.

**Conclusion:** Long cephalomedullary nails demonstrate acceptable complication rates, low reoperation rates, and high rates of healing in the treatment of reverse oblique fractures. The TAD did not play a significant role in postoperative healing. The 1-year mortality of 10% in this group remained low compared to other types of hip fractures.

- The FDA has not cleared this drug and/or medical device for the use described in this presentation (i.e., the drug or medical device is being discussed for an "off label" use). For full information, refer to page 600.