

Higher Complication Rate after Nail Compared to Plate Fixation of Ankle Fractures in Patients 60 Years or Older: A Prospective, Randomized Controlled Trial

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INTRODUCTION:

Intramedullary nail fixation of lateral malleolar fractures has been suggested as an appealing alternative in patients with compromised soft tissues and a high risk of wound complications. Elderly patients have an increased risk due to poor skin conditions and preexisting comorbidities. High-quality studies are needed to conclude on the effect of nail fixation in the elderly population.

METHODS: In this multicenter study, 120 patients of 60 years or older with acute unstable Arbeitsgemeinschaft für Osteosynthesefragen / Orthopaedic Trauma Association (AO/OTA) type B ankle fracture were randomized to nail or plate fixation and followed for 24 months after surgery. Primary outcome measure was American Orthopaedic Foot and Ankle Society (AOFAS) Ankle-Hindfoot Scale. Secondary outcome measures were Manchester-Oxford Foot Questionnaire (MOxFAQ), Olerud and Molander Ankle (OMA) Scale, EuroQol-5d (Eq5d), visual analogue scale (VAS) for pain, complications, fracture reduction, nonunion, and osteoarthritis (OA).

RESULTS:

At 24 months, median AOFAS score was equivalent in the two groups (nail 90 (82–100), plate 95 (87–100), $P=.478$). The number of complications and secondary surgical procedures were higher after nail than plate fixation ($P=.024$, $P=.028$, respectively). No between-group differences could be observed for any of the other outcomes.

DISCUSSION AND CONCLUSION:

The functional outcome after nail and plate fixation was equivalent; however, the complication rate and number of secondary surgical procedures was higher after nail fixation. These results suggest that plate fixation should be the treatment of choice for unstable ankle fractures in the elderly population in general.