

Clinical and Functional Outcomes Following Posterior Malleolus Fracture

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Purpose: Ankle fractures with posterior malleolus fracture (PMF) have higher risk of post-traumatic arthrosis (PTA), but functional outcomes have not been well studied. The purpose was to assess the clinical, radiographic, and functional outcomes after PMF.

Methods: 779 adults had open reduction and internal fixation (ORIF) with (n = 293) and without (n = 486) PMF and were assessed for complications, ankle pain, and employment. Functional outcomes were assessed with Foot Function Index (FFI) and Short Musculo-skeletal Function Assessment (SMFA) surveys.

Results: Mean age was 44.6 years, with 13% open fractures. 76.4% were 44B and 23.6% 44C with PMF, and 71.3% were 44B and 28.7% 44C without PMF. Six patients with PMF and 3 without had inadequate reduction, and 12 patients with PMF and 9 without healed with malalignment. 76.9% of those developed PTA; half had a PMF. PMFs more frequently had symptomatic malunion (2.2% vs 0.5% without PMF, P = 0.06), but had similar PTA (35.5% vs 32.5% without PMF) and complications (14.9% vs 12.4%). Mean PMF size was 5.0 mm (15.0% of the articular surface). PMF fragment sizes of <5 mm, 5-10, and >10 had 30.2%, 36.7%, and 58.3% incidence of PTA (P = 0.16) versus 33.3% without PMF. Patients with PMF involving >15% of the articular surface were more likely to develop PTA (52.4% vs 28.1%, P = 0.04). Patients with PMF >10 mm had trends for unemployment (20% vs 2.2%, P = 0.05) and pain after 1 year (90% vs 55.6%, P = 0.074), but no associations between PMF and outcome scores.

Conclusion: PMF fragments involving >15% of articular surface had a higher risk of developing PTA, and fragments larger than >10 mm had trends for more pain and employment limitations. However, presence and size of PMF did not impact outcomes.



See pages 401 - 442 for financial disclosure information.