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Technique Tip: Interfragmentary Compression with Mini Screws for Comminuted Distal Fibular Fractures

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INTRODUCTION

Ankle fractures are among the most common fractures of load-bearing joints. Comminution involving the distal fibula is frequent and creates difficulty in fracture reduction and fixation. Small bone fragments are reduced and usually temporarily fixed with Kirschner wires before definitive fixation. The replacement of the Kirschner wires by 2.7-mm or 3.5-mm small fragment screws fracture the bone fragment, making fracture fixation more difficult. Smaller 2-mm mini-fragment screws can replace 1.5-mm Kirschner wires, promoting fragment compression by lag screw technique, thus enhancing fixation stability.¹ Because of their smaller head size, the neutralization plate can be easily placed over the mini-screws and left in place; because of their low profile, they usually do not cause discomfort. None of our patients have required mini-fragment screw removal so far.

OPERATIVE TECHNIQUE

The distal fibular fracture is approached through a lateral ankle incision, with the least possible bone fragment devitalization. The fracture is reduced and provisionally fixed by 1.5-mm Kirschner wires. After adequate fracture reduction is confirmed, the Kirschner wires are removed and the near cortex is overdrilled with a 2-mm drill. Two or three mini-fragment, 2-mm screws are inserted with a lag screw technique to provide interfragmentary compression. A neutralization plate can be placed over the screws because of their relatively small heads (Figure 1).



Fig. 1: A, Anteroposterior and B, lateral radiographs of a comminuted distal fibular fracture. C, Postoperative radiograph showing combined interfragmentary mini-screws, neutralization plate, and small fragment screws used for fibular fixation.

REFERENCE

1. **Perren, SM:** Principles of Surgical Stabilization. Mueller, ME; Allgower, M; Schneider, R; Willenegger, H (eds.). *Manual of Internal Fixation*, 3rd edition. Springer-Verlag, Berlin, pp. 23–45, 1990.

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