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Technical Tip

Avoiding Varus Malposition in 1st MTP Joint Arthrodesis Using Memory Compression Staples: A Technical Tip

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First MTPJ arthrodesis is commonly used to treat advanced hallux rigidus and the technique using cannulated convex/concave reamers in cup/cone arthrodesis compressed with memory staples achieves high fusion rates [1,2]. Traditionally 0 - 90 degree orthogonal staple configuration is used but we noticed that medial staple seems to be biomechanically stronger and after its application when compression starts, the alignment changes into slightly more varus (Figure 1 and 2). To achieve optimal final fusion position of 10 - 15° valgus we advise firstly the dorsal staple to be applied, then the medial staple to be inserted with joint in slightly more valgus (20 - 25°) than the final intended position.

Figure 1: *Intraoperative weightbearing simulated AP view of 1st MTPJ arthrodesis stabilised with Kirschner wire at desired 15 degrees of valgus.*

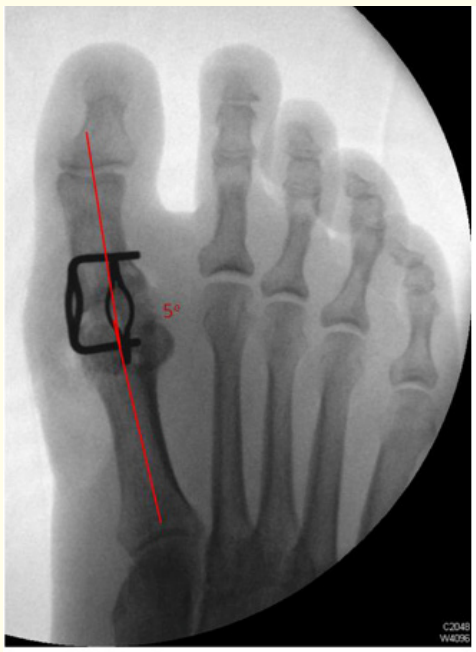

Figure 2: *Final fusion position after staple insertion. The medial staple has pulled the alignment into more varus resulting into 5 degrees of valgus.*

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