Treatment of Hallux Valgus with Chevron Osteotomy and Lateral Release

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Precis/Summary:
A chevron osteotomy with lateral release can be used to effectively treat large hallux valgus deformities with minimal risk of first metatarsal head avascular necrosis.

Abstract:
Purpose: Current literature recommends proximal first metatarsal osteotomy for large hallux valgus deformities. Combined distal osteotomy with lateral release can be done and may provide similar degree of correction. The concern with this technique is disruption of the blood supply to the first metatarsal head. We hypothesized that a chevron osteotomy in conjunction with a lateral release is effective in correcting large hallux valgus deformities without causing disruption of the blood supply to the first metatarsal head.

Methods: We reviewed the imaging studies of forty-six patients who underwent a distal chevron osteotomy with lateral release for correction of larger with hallux valgus deformities with incongruent joints. The AP radiographs of the operated foot were measured preoperatively and postoperatively. We documented the degree of correction of the first metatarsalphalangeal (MTP) angle, degree of correction of the intermetatarsal (IM) angle, and improvement in joint congruity.

Results: The mean MTP angles were 30° preoperatively and 16° postoperatively. The mean IM angles were 15° preoperatively and 7° postoperatively. In all cases the first MTP joint was incongruent preoperatively and congruent postoperatively. In the short term follow-up, none of the radiographs showed evidence of avascular necrosis of the first metatarsal head.

Discussion: There are many procedures described for treatment of hallux valgus deformity. Our goal is to identify the procedure which, not only addresses the problem, deformity and pain, but also presents us with the least amount of morbidity. This study has met these goals by correcting deformity and pain in patients with hallux valgus deformity. We did not find evidence of first metatarsal head osteonecrosis following a chevron osteotomy with lateral release in treatment of hallux valgus deformity.

Conclusion: A chevron osteotomy with lateral release can be used to effectively treat large hallux valgus deformities with minimal risk of first metatarsal head avascular necrosis.