The Shape of the Lateral Edge of the First Metatarsal Head as a Risk Factor for Recurrence of Hallux Valgus

Reference:

Scientific Literature Reviews

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Podiatric Relevance: This article provides the reader with a radiographic classification system, which may be used to evaluate the metatarsal head in patients and determine their susceptibility to developing a bunion or having a recurring bunion.

Methods:
One hundred women's feet were studied. Sixty control subjects had normal feet, and 51 subjects had hallux valgus. The study was conducted between July 1994 and November 2002. Those patients in the control group had no history of trauma or disease of the foot. Those with hallux valgus were treated with a proximal metatarsal osteotomy. Patients were excluded from the study if they had a history of previous foot surgery, rheumatoid arthritis, or hallux rigidus. The surgical technique consisted of release of the distal soft tissues, excision of medial eminence, plication of medial capsule, proximal crescentic osteotomy of first metatarsal, adductor tendon dissection from insertion and release of transverse intermetatarsal ligament.

A classification system was used as a guideline and basis for the study, which described the shape of the lateral aspect of the 1st metatarsal head as either being round, angular, or intermediate. Metatarsal head with round shape was considered positive.

Results:
The round shape was positive for nineteen feet on the early follow-up radiographs and had increased on the most recent follow-up. Whereas those feet that had a negative round sign at early follow-up had no change in hallux valgus or intermetatarsal angle at the most recent follow up radiographs. Recurrence of hallux valgus deformity was observed in fifteen feet at the most recent follow-up. Of these fifteen, eleven had a positive round sign at the early follow-up visit.

Conclusions:
These findings show that patients with a positive round sign are more prone to HAV deformity and are also more at risk for recurrence. This information could be useful knowledge in that if a positive round sign can be identified and treated intra-operatively then an appropriate surgical procedure may be performed to reduce risk of recurrence.