

# INTRODUCTION

Hallux rigidus or hallux limitus can be defined as a limitation of sagittal plane motion of the first metatarsophalangeal joint due to soft tissue or osseous factors. It is said to be the second most common structural foot deformity after hallux valgus.<sup>1</sup> The incidence of hallux limitus has been reported as 1:300 in the 15-30 year age group with an equal male : female ratio. In the 31-60 year age group the incidence is reported to be 1:60 with a male: female ratio of 8:1, and over the age of 60 years it increases to 1:45, with a male : female ratio of 2:1.<sup>2</sup>

Most contemporary surgical procedures to correct mild to moderate cases of hallux limitus involve shortening and/or plantar flexion of the first metatarsal, decreasing retrograde forces of the hallux on the first metatarsal head to decompress the joint and potentially increase the range of motion and reduce pain.<sup>3,4,5,6</sup> The Youngswick modification of the Austin or Chevron bunionectomy, first described in 1982, consists of a distal transverse "V" metaphyseal osteotomy of the first metatarsal, with an additional osteotomy parallel just proximal to the dorsal arm of the initial osteotomy to shorten and plantar flex the first metatarsal head, see Figure 1.<sup>3</sup> Youngswick reported on the short to medium term results of the operation on ten feet on a series of six patients, maintaining overall good results with the only reported complications being two cases of delayed healing.<sup>3</sup>

Post-operative metatarsalgia and the formation of stress fractures of the second metatarsal are recognized complications of this type of surgery.<sup>7</sup> This paper describes two cases of acquired stress fracture of the second metatarsal following the Youngswick procedure for hallux limitus and discusses the potential implications of shortening the first metatarsal.

**Keywords:** hallux limitus, Youngswick osteotomy, metatarsal stress fracture, foot surgery

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