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## **Internal fixation of displaced intra-articular fractures of the hallux through a dorsomedial approach: a case series**

Danilo Ryuko Cândido Nishikawa<sup>1</sup>, Fernando Aires Duarte<sup>2</sup>, Guilherme Honda Saito<sup>3</sup>, Augusto César Monteiro<sup>1</sup>, Bruno Rodrigues de Miranda<sup>1</sup>, Marcelo Pires Prado<sup>3</sup>

1. Hospital do Servidor Municipal de São Paulo, São Paulo, SP, Brazil.

2. Clínica de Ortopedia Ortocity, São Paulo, SP, Brazil.

3. Hospital Israelita Albert Einstein, São Paulo, SP, Brazil.

### **ABSTRACT**

**Introduction:** Intra-articular fractures of the hallux are usually treated nonoperatively, except when the fragments are displaced and the joint is incongruent. Displaced fractures treated nonoperatively can result in degenerative arthritis of the interphalangeal joint, causing pain and range of motion limitation. The aim of this study is to present the results of the surgical treatment of displaced interphalangeal joint (IPJ) fractures of the hallux using a dorsomedial approach. It is our understanding that this approach minimizes injury to the soft tissue envelope without the need to detach or create a tenotomy of the extensor hallucis longus tendon (EHL), allowing rigid fixation and early weight bearing and range of motion.

**Methods:** A retrospective case series was performed of 5 patients with displaced IPJ fractures of the hallux treated with the dorsomedial approach from July 2013 to October 2017. Two patients were male and three female, with a mean age of 37,4 years and a mean follow-up of 36 months. The surgical indication for open reduction and internal fixation through a dorsomedial approach of the IPJ was displaced (>2mm) bicondylar fractures of the proximal phalanx of the hallux. The incision was performed along the medial border of the EHL tendon without the need to detach or create a tenotomy of this tendon. In the postoperative period, follow-up included clinical evaluation and radiographic exams. All patients were assessed by visual analog scale (VAS) scores for pain and the American Orthopaedic Foot and Ankle Society (AOFAS) score.

**Results:** All patients presented bone consolidation and returned to their previous activities without limitations. At the final follow-up, the mean VAS score was 0, and the mean AOFAS score was 92,6. Clinical evaluation revealed preservation of approximately 50% of the range of motion of the IPJ compared with the contralateral side.

**Conclusion:** We concluded that a dorsomedial approach should be considered in the surgical management of displaced intra-articular fractures of the hallux. It preserves soft tissue and most of the IPJ motion, preventing postoperative joint pain and stiffness.

**Keywords:** Hallux; Intra-articular fractures; Surgical procedure.

