KEY PROCEDURES

THE USE OF A TRIPLANAR METATARSAL ROTATIONAL OSTEOTOMY TO CORRECT HALLUX VALGUS DEFORMITIES

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Published outcomes of this procedure can be found at: *Foot Ankle Clin.* 2018 Jun;23(2): 205-17, and *Tech Foot Ankle Surg.* 2017 Mar;16(1):3-10.

Investigation performed at Clínica Alemana de Santiago—Universidad del Desarrollo, Santiago, Chile

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Abstract

Proximal rotational metatarsal osteotomy (PROMO) is a technique that allows the surgeon to correct the varus and pronation of the first metatarsal that is observed in most patients with hallux valgus deformity. Persistent metatarsal pronation is a recognized recurrence factor for operatively treated hallux valgus. The indication for this technique is a mild-moderate hallux valgus deformity (i.e., intermetatarsal angle $<18^\circ$ and hallux valgus angle $<40^\circ$) in which pronation is present. (Note that according to the literature, 10% to 20% of patients do not have pronation.) The PROMO is performed via a single proximal oblique metatarsal incision. Following completion of the osteotomy, the distal metatarsal segment is supinated (external rotation), correcting pronation and varus deviation, which is achieved as a result of the oblique nature of the osteotomy (i.e., rotation through an oblique plane). Step 1: Preoperative planning: measure the intermetatarsal angle and the metatarsal rotation. For the latter, use the published classification (mild, moderate, severe). With both values, use the table included in the PROMO tray to know which osteotomy angulation should be used. Step 2: medial foot incision. Step 3: drive the guidewire 1 cm distal to the tarsometatarsal joint. Step 4: Under fluoroscopy, ensure that the wire is parallel to the sole of the foot and perpendicular to the metatarsal. Step 5: use the positioning jig to drive a Kirschner wire with the chosen pronation correction. Step 6: slide the osteotomy jig with the previously chosen osteotomy angulation. Step 7: perform the osteotomy. Step 8: use the rotation jig with the desired pronation correction. Step 9: derotate and correct the metatarsal deformity, leaving both wires parallel to each other. Step 10: perform osteotomy transient fixation with 2 Kirschner wires. Step 11: apply a medial locking plate and an interfragmentary screw at the osteotomy site. The expected outcome is complete correction of the first metatarsal varus and pronation.

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