

# TECHNIQUE FOR BUNIONECTOMY WITH MINITIGHTROP

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## INTRODUCTION

The Mini TightRope (Arthrex, Naples, FL) consists of #2 FiberWire suture threaded through 2 metallic buttons to create a 4-suture strand bridge between the 2 buttons (Figure 1). The device is used in bunion correction to maintain the soft tissue correction of the modified McBride bunionectomy without performing an osteotomy. It has been used in over 300 cases over the past 2 years with very promising results.

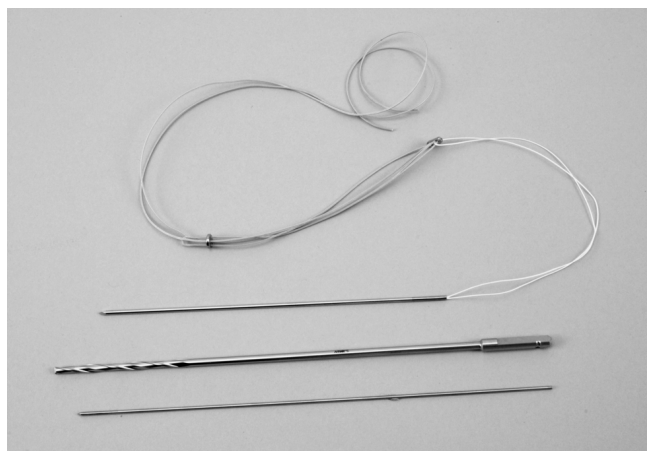


Figure 1. Contents of the Mini TightRope package: Mini TightRope with passing needle, guide wire, and canulated 2.7 mm drill bit.

## OPERATIVE TECHNIQUE

The McBride procedure is performed with or without fibular sesamoidectomy depending on the presence of articular erosions or extensive lateral soft tissue contractures. Following resection of the dorsomedial first metatarsal eminence, a prepackaged guide wire is inserted proximal to the metatarsal neck from medial to lateral perpendicular to the long axis of the first metatarsal (Figure 2). The intermetatarsal angle is manually reduced and the pin is then advanced through the second metatarsal cortices. A second linear incision is made over the second metatarsal shaft to view the wire placement in the second metatarsal. The wire should pass through the central portion of the metatarsal shafts to avoid creating a fracture through the dorsal or

plantar cortex (Figure 3). The 2.7-mm canulated drill bit is then passed over the guide wire, and a hole is created through the first and second metatarsals (Figure 4). The drill bit and guide wire are removed.

The Mini TightRope is then passed from lateral to medial through the second and first metatarsals (Figure 5). The passing wire is removed from the Mini TightRope and the intermetatarsal angle is reduced and the suture is tightened (Figure 6) and secured with knots (Figure 7). An intra-operative C-arm fluoroscopic picture is taken to confirm desired correction prior to tying the knots.

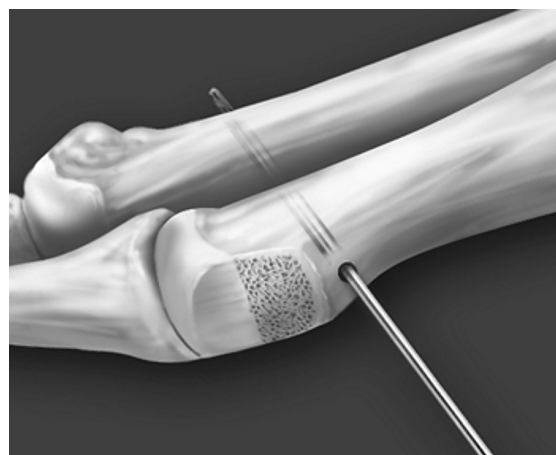


Figure 2. Placement of guide wire after soft tissue release and manual reduction of the intermetatarsal angle.

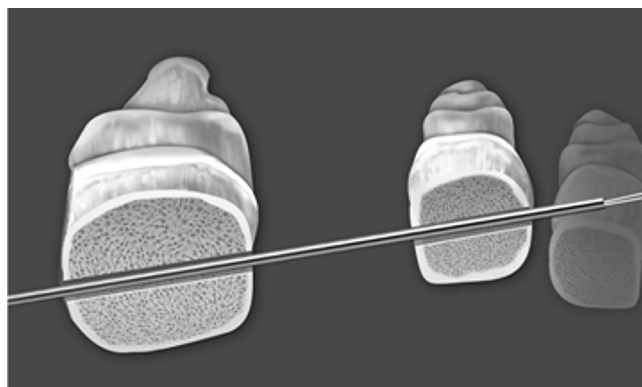


Figure 3. Desired position of the guide wire through the first and second metatarsals.

Standard medial capsulorrhaphy and adductor tendon transfer are performed as necessary. Closure of capsule and skin are performed with absorbable suture.

A splint dressing is applied for the first postoperative week, and then a removable splint is then applied for the

next 5 weeks. Ambulation is allowed as tolerated with a postoperative shoe for the first 2 to 3 weeks. Ambulation in a lace-up gym shoe is allowed between postoperative weeks 2 and 4 depending on edema. Postoperative radiographs are taken as indicated (Figures 8-10).



Figure 4. The 2.7 mm drill bit is placed over the guide wire and drilled through the first and second metatarsals.

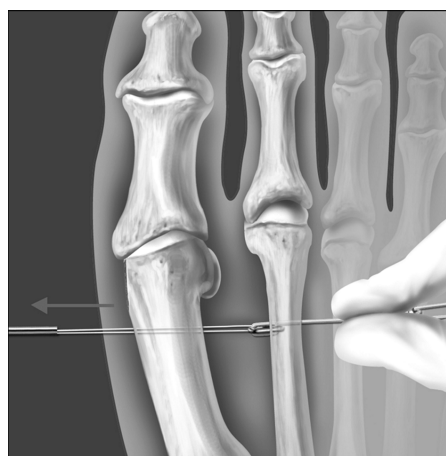


Figure 5. The passing needle is passed through the second and first metatarsals from lateral to medial and the Mini TightRope is pulled through the drill holes.

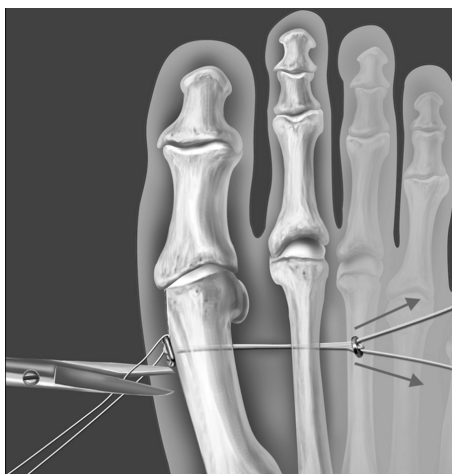


Figure 6. The suture ends are pulled apart at a 90 degree angle to one another tightening the apparatus and closing the distance between the buttons.

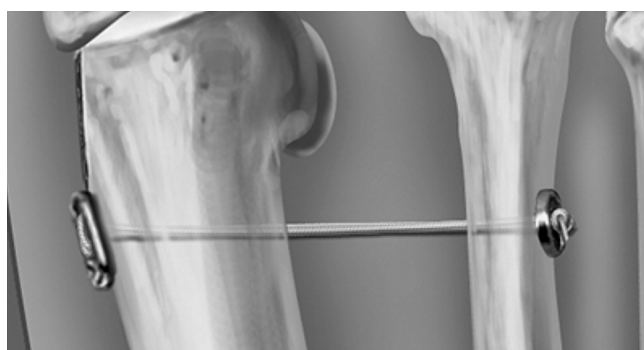


Figure 7. The suture is secured with knots and the ends are cut.



Figure 8. Preoperative dorsal-plantar radiograph.



Figure 9. Postoperative dorsal-plantar radiograph.



Figure 10. Postoperative dorsal-plantar radiograph of proximal placement of apparatus.