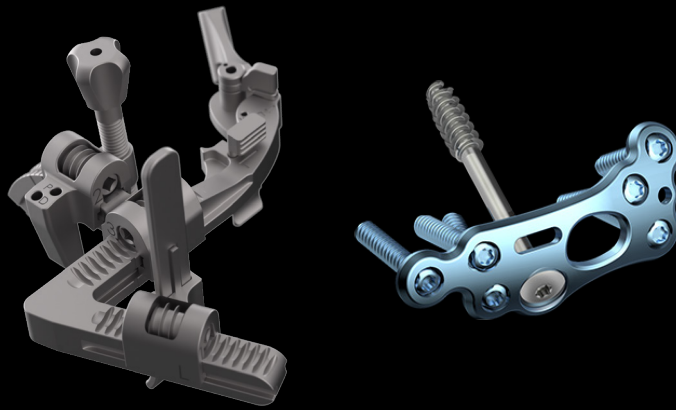


CASE STUDY



Revision of Recurrent Hallux Abducto Valgus with LapiPrep System and APTUS 2.8 TriLock TMT-1 Fusion Plate

The Surgeon

John Stevelinck, DPM

John M. Stevelinck is a board-certified Doctor of Podiatric Medicine specializing in surgical treatment of the foot and ankle. He serves as the Section Head for the Department of Podiatry at St. Joseph Mercy in Brighton, Michigan. Dr. Stevelinck completed his residency training at Kaiser Permanente Medical Center-Oakland and earned his doctoral degree from Ohio College of Podiatric Medicine.

The Case



Patient Profile

The patient is a 61-year-old female who presented to the office with left midfoot pain. The patient is healthy with no significant past medical history. Eight months prior, the patient had a Lapidus bunionectomy of the left foot as well as an osteotomy to the proximal phalanx of the left hallux. Since the time of surgery, the patient has noted a return of her bunion deformity. More concerning is that the patient has had ongoing pain to the arthrodesis site of the 1st tarsometatarsal joint. She is unable to ambulate free of pain.

On initial exam, there is a clinical bunion deformity with significant abduction of the hallux at the 1st MTP joint. Additionally, there is edema noted to the area of arthrodesis with significant pain on palpation. X-rays of the foot show internal fixation with plate and screws at the 1st TMT joint with an increase in the IM 1-2 angle, poor sesamoid position, and abduction of hallux at the MTP. (Figures 1 and 2)

Due to concern for nonunion of the 1st TMT, a CT scan was ordered. The results of the CT scan showed no significant osseous bridging at the arthrodesis site. The decision was made to perform a revision arthrodesis of the 1st TMT with the LapiPrep system.



Imaging and Diagnosis



Figure 1: Pre-Op A/P View



Figure 2: Pre-Op Lateral View



Surgical Treatment

A full-length linear incision was made centered over the 1st tarsometatarsal joint and extended distally to the level of the 1st MTP joint. A standard lateral release was performed at the 1st MTP to allow for reduction of the sesamoid complex with correction of the frontal plane. Attention was then directed to the 1st TMT. All hardware from the initial surgery was removed with the exception of the distal portion of the screw which had broken off and remained in the intermediate cuneiform. (Figure 3)

The joint was exposed, and soft tissue release of the joint was performed using scalpel and osteotome. Next, the LapiPrep system was placed and secured with temporary pins. Intraoperative x-ray was utilized to ensure proper placement of the jig. The jig was then utilized for joint preparation and reduction of the hallux abducto valgus deformity.

Following joint preparation, the deformity was reduced in the frontal, transverse, and sagittal planes. X-ray was used to confirm proper reduction of the deformity including sesamoid position. With the LapiPrep system still in place, initial fixation was performed utilizing a headless 4.0 CCS compression screw from dorsal distal to plantar proximal across the TMT joint. Next, an APTUS 2.8 TriLock TMT-1 Fusion Plate was placed at the dorsal medial aspect of the 1st TMT joint and fixated with 2.8 TriLock locking screws. Finally, a headless 4.0 CCS compression screw was placed from the medial cuneiform to the intermediate cuneiform. The LapiPrep system was then removed and X-ray confirmed excellent reduction of the deformity.



Figure 3: Intra-Operative Hardware Removal



Post-Operative Treatment

The patient was heel-touch weight bearing for approximately two weeks. At two weeks, she was allowed protected weight bearing in a CAM boot. The patient remained in a CAM walker until post-op week six. Over the following two weeks, the patient transitioned into regular footwear with full weight bearing, as tolerated, beginning at eight weeks.



Figure 4: 3-Month Post-Op A/P View

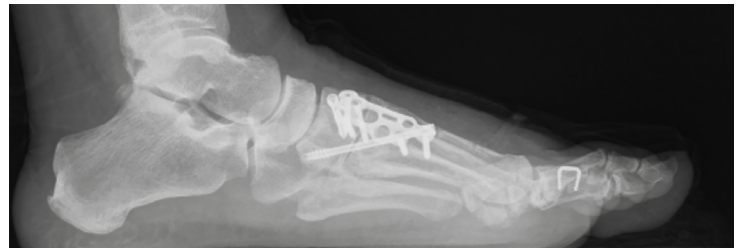


Figure 5: 3-Month Post-Op Lateral View



Conclusion

The LapiPrep system allows for correction of the hallux abducto valgus deformity in all three planes and maintains correction while allowing fixation to be applied while the system is in place. As this case demonstrates, the Medartis LapiPrep system provides intraoperative flexibility, allowing surgeons to utilize a range of fixation options to meet the requirements of the case.

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