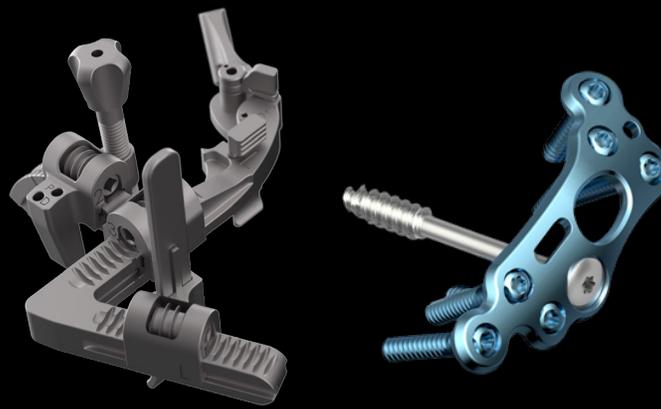


# CASE STUDY



## Treatment of hallux valgus deformity with LapiPrep and TriLock Medial Fusion Plate

### The Surgeon

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Dr. Sachs is a board-certified foot and ankle surgeon with extensive experience in reconstructive foot and ankle surgery, total ankle replacement, arthroscopy, trauma, and sports medicine. Dr. Sachs practices at Rocky Mountain Foot and Ankle Center in Wheat Ridge, Colorado.

#### **Introduction**

Hallux abducto valgus is a common deformity that is treated by foot and ankle surgeons. There have been over 200 different types of surgical procedures in the literature for the correction of a bunion deformity.<sup>1-3</sup> The modified Lapidus bunionectomy procedure, 1st tarsometatarsal joint arthrodesis, is a common surgery performed for recurrent and severe deformities, 1st ray hypermobility, and insufficiency of the 1st ray.<sup>1</sup> The LapiPrep system was utilized to facilitate joint preparation and correction of the bunion deformity in all three planes.

### The Case



#### **Patient Profile**

The patient is a 56-year-old female who had experienced a painful hallux abducto valgus deformity of the left foot for over 10 years. The pain and bunion deformity had gradually worsened and she had pain with shoe gear and activity. The patient had attempted several conservative treatments without success. The patient was very active and felt that the pain was affecting her everyday life. She was interested in surgical correction of the bunion.



## Imaging and Diagnosis



Figure 1: Pre-op



## Surgical Treatment

A standard linear longitudinal incision was made and the 1<sup>st</sup> tarsometatarsal joint was exposed. The LapiPrep system was utilized to facilitate joint preparation and reduction of the hallux valgus deformity. The 1st metatarsal frontal plane rotation was addressed and corrected and the intermetatarsal angle was reduced with the LapiPrep system. A 4.0 headed CCS Short Thread interfragmentary screw was placed from dorsal-distal to plantar-proximal across the arthrodesis site. The Medartis 2.8 TriLock TMT-1 Medial Fusion Plate was placed and fixated with 2.8 TriLock Screws. There was residual intercuneiform instability present following fixation of the 1st tarsometatarsal joint. Therefore, a 4.0 Transfixation Screw was placed through a recessed hole in the plate from the base of the first metatarsal to the base of the second metatarsal.



## Post-Operative Treatment

The patient was non-weight bearing for approximately two weeks in a posterior splint. At two weeks post-op, she began partial protected weight bearing in a CAM boot. Physical therapy was initiated at that time. The patient was transitioned into regular shoe gear with progressive full weight bearing as tolerated at six weeks. She was able to return to full activity at three months following surgery.



Figure 2: One month post-op



Figure 3: Three months post-op



## Conclusion

First tarsometatarsal joint arthrodesis is a well-established procedure for the treatment and correction of hallux abductovalgus deformity. The modified Lapidus procedure has recently gained popularity in the literature. There have been several advancements in fixation techniques and constructs. An ideal fixation construct would allow for stable rigid fixation, promote fusion, and maintain correction over time. A lag screw and medial locking plate have been reliable forms of fixation. LapiPrep is an innovative system that allows for correction in all three planes. The system also facilitates joint preparation and allows surgeons to use their own preferred form of fixation.

## References

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3. Do DH, Sun JJ, Wukich DK. Modified Lapidus Procedure and Hallux Valgus: A Systematic Review and Update on Triplanar Correction. *Orthopedic Clinics*. 2022 Sep 14.