



## CASE STUDY



# MTP fusion using MTP plates on grade III Hallux rigidus after failed conservative treatment

## The Surgeon

### Mario Herrera-Perrez

Dr. Mario Herrera is a Doctor of Medicine and Surgery from the University of La Laguna and a reference in advanced foot and ankle surgery, as well as arthroscopic surgery. He also has experience in total ankle prosthesis.

He combines his medical work with teaching as associate professor of Traumatology and Orthopaedics at the Faculty of Medicine of the University of La Laguna. He is also a reviewer for the Spanish Journal of Orthopaedic Surgery and Traumatology (RECOT) and a member of the Editorial Committee of the Spanish Journal of Foot Surgery.

He is currently a specialist at the CECOTEN Centre and is head of section of the Functional Foot and Ankle Unit at the University Hospital of the Canary Islands.

## The Case



### Patient Profile

We present a case of a 57 year-old woman suffering from a grade III hallux rigidus for 5 years (Figs. 1 and 2). Several conservative treatments failed, and surgical treatment was considered.



Figure 1



Figure 2

Fig. 1 (left) and 2 (right): AP and lateral WB X-ray showing a hallux rigidus grade III.



### Surgical Treatment

An MTP fusion through medial approach was performed: an interfragmentary screw from plantar to dorsal and a dorsal titanium low profile plate (Medartis APTUS MTP fusion plate) were implanted. The angulation of the plate was 5° of dorsiflexion. After 9 months of follow up the patient was pain free and the X-ray showed fusion of the MTP joint (Figs. 3 and 4).



Figure 3



Figure 4

Fig. 3 (left) and 4 (right): AP and lateral WB X-ray showing a satisfactory MTP fusion using the Medartis MTP fusion plate.



### Postoperative treatment

Immediate weight bearing with a rigid sole shoe was permitted

Weight-bearing AP and lateral of the foot are taken at 6 weeks and 3 months. Normal activity can be resumed at 3 months, leaving sport involving running or jumping for the 6-month follow-up.



### Conclusion

First metatarsophalangeal (MTP-1) joint fusion is a reliable method for the correction of various deformities, including severe hallux valgus and advanced stages of hallux rigidus. Ideal constructs provide high rates of fusion in the desired alignment. Nowadays, the combination of a dorsal locking plate and a lag screw seems to be the most accepted construct because the addition of a lag screw might offer improved stability of the joint in the sagittal plane over time compared with a dorsal plane alone.



### References

- First Metatarsophalangeal Joint Arthrodesis: A Narrative Review of Fixation Constructs and LaCoste KL, Andrews NA, Ray J, Harrelson WM, Shah A. Cureus. 2021 Apr 13;13(4):e14458. doi: 10.7759/cureus.14458.
- Radiographic evaluation of first MTP joint arthrodesis for severe hallux valgus: Does the introduction Pinter Z, Hudson P, Cone B, Motwani G, Prasad K, Shah A. Foot (Edinb). 2017 Dec;33:20-24. doi: 10.1016/j.foot.2017.06.004. Epub 2017 Jul 8. PMID: 29126037
- Quality of Early Union After First Metatarsophalangeal Joint Arthrodesis. Wanivenhaus F, Espinosa N, Tscholl PM, Krause F, Wirth SH. J Foot Ankle Surg. 2017 Jan-Feb;56(1):50-53. doi: 10.1053/j.jfas.2016.09.001. Epub 2016 PMID: 27866887
- Hallux metatarsophalangeal joint arthrodesis with a hybrid locking plate and a plantar neutralization Doty J, Coughlin M, Hirose C, Kemp T.

Disclaimer: This information is intended to demonstrate the Medartis portfolio of medical devices. A surgeon must always rely on her or his own professional clinical judgment when deciding whether to use a particular product when treating a particular patient. Medartis is not giving any medical advice. The devices may not be available in all countries due to registration and / or medical practices. For further questions, please contact your Medartis representative ([www.medartis.com](http://www.medartis.com)). This information contains CE-marked products.  
For US only: Federal law restricts this device to sale by or on the order of a physician.

Medartis AG | Hochbergerstrasse 60E | 4057 Basel / Switzerland | [www.medartis.com](http://www.medartis.com)

Dr. Mario Herrera\_MTP fusion using MTP plates on grade III Hallux rigidus after failed conservative treatment\_2022-03