



CASE REPORT



Treatment of a severe hallux valgus, MTP2 dislocation and bunionette treated with a MTP1 fusion, Weil osteotomies and a M5 percutaneous osteotomy.

The Surgeon

Jean-Luc Besse MD PhD

Dr Jean-Luc Besse is an orthopaedic surgeon who has specialized in foot and ankle surgery, at the Lyon-Sud University Hospital, France.

Dr Besse graduated from the Alexis-Carrel Medical School–Lyon I University (1978-1984) and completed his residency in surgery, graduating in orthopaedic surgery and traumatology in 1989. He has achieved certification in biology and sport medicine, microsurgery and biology qualified in animal experimentation. From 1995-1999 he was an assistant professor and since then Hospital Practitioner in charge of foot and ankle surgery. He also has a PhD in Biomechanics/Biomaterials (Aix-Marseille II 1995), certification to direct research (Lyon 2005), and belongs to Lyon I IFSTTAR-LBMC UMRT-9406 Biomechanics research unit.

Dr Besse is past president (2011-2012) of the French Association of Foot Surgery (AFCP) and during his term, he was responsible for building the French Total Ankle Replacement Registry, which he still administers. He is also a member of the American Orthopaedic Foot and Ankle Society (AOFAS), and the education committee chairman of the European Foot and Ankle Society (EFAS).

He has published 93 peer-reviewed articles, participated in over 70 book chapters, and received three awards for his published work.

The Case



Patient History

A 68-year-old female with bilateral severe hallux valgus with associated MTP2 dislocation, metatarsalgia, and M5 bunionette. Due to an episode of ulceration of the 2nd toe and a large arthro-synovial cyst of the hallux with severe bursitis, we proposed a surgical treatment starting with the right foot.



Figures 1–2: Preoperative AP WB view (right side: M1P1 52° with osteoarthritis, M1M2 26°, MTP2 dislocation, M1M5 52°, M5P1 33°) and lateral WB view

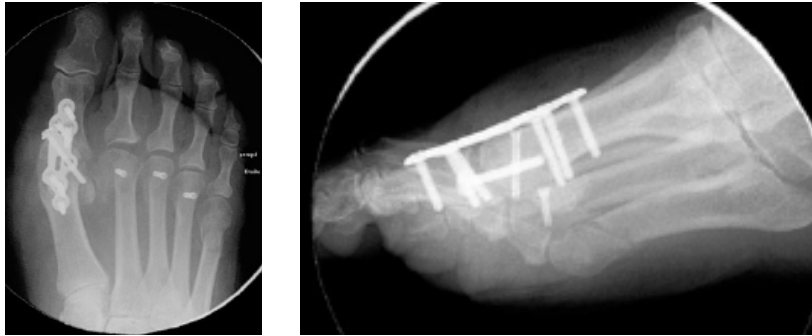


Surgical Treatment

Through a medial approach, we performed an MTP1 arthrodesis by implanting an APTUS MTP-1 fusion locking plate (4 locking screws and 2 cortical screws) and an oblique metatarsophalangeal screw^{1,2}.

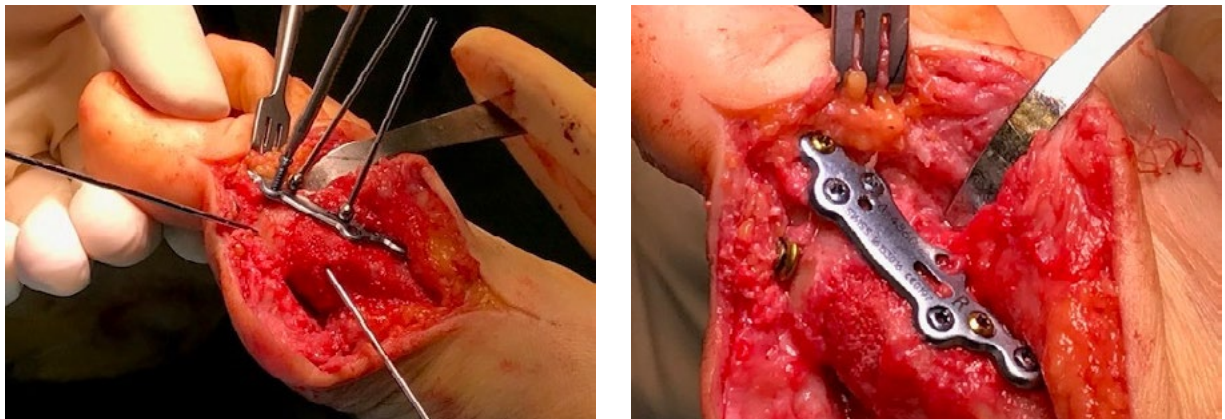
By a dorsal transverse incision, we completed Weil osteotomies of M2, M3, and M4 (6 mm M2 shortening, 4 mm M3, and 3 mm M4) fixed with CCS 2.2 screw (11 mm – 10 mm – 10 mm respectively)³.

Due to the extensive surgery and the age of the patient, we preferred to correct the bunionette with a percutaneous osteotomy.



Figures 3–4: Intraoperative radiographic control

- AP view checking the position of the MTP-1 fusion plate and the correction of the metatarsal 2–4
- sagittal view monitoring the dorsiflexion of MTP1 fusion



Figures 5–6: Intraoperative images



Postoperative Treatment

Full weight-bearing is started immediately with a stiff-soled rocker-bottom shoe worn for 6 weeks.



Conclusion

The patient had the same procedure on the left side 6 months after the initial surgery.

At one-year and 18-month follow-up, the patient is satisfied with the MTP1 correction arthrodesis (Right side: valgus 15° – DF 25 – M1M2 8°. Left side: valgus 15° – DF 26° – M1M2 9°). On the left side, the callus of the percutaneous osteotomy of M5 is slightly protruding but has no associated clinical conflict.

Figures 7–9: Postoperative WB X-rays at 1 year (left side) and 18 months (right side)



References

- 1) Dalat F, Cottalorda F, Fessy MH, Besse JL. Does arthrodesis of the first metatarsophalangeal joint correct the intermetatarsal M1M2 angle? Analysis of a continuous series of 208 arthrodeses fixed with plates. *Orthop Traumatol Surg Res.* 2015;101(6):709-714. doi:10.1016/j.otsr.2015.06.021
- 2) Gaudin G, Coillard JY, Augoyard M, et al. Incidence and outcomes of revision surgery after first metatarsophalangeal joint arthrodesis: Multicenter study of 158 cases. *Orthop Traumatol Surg Res.* 2018;104(8):1221-1226. doi:10.1016/j.otsr.2018.08.011
- 3) Besse JL. Metatarsalgia. *Orthop Traumatol Surg Res.* 2017;103(1S):S29-S39. doi:10.1016/j.otsr.2016.06.020

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