APOA Foot & Ankle Council Presents..

Case of the Fortnight

1st October 2022

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Presented by:

Mr. Mark Blackney

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East Melbourne, Victoria, Australia

Learning Points:

- Arthrodesis is a good option for severe Hallux Valgus.
- To move the toes laterally shift the metatarsal medially with some shortening and vice versa. You are using the osteotomy to adjust the muscle action. Additional corrective osteotomies can be performed in the toes as well if required.
- Some DMMO procedures do not use K wires but with deformity correction fixation for 3 to 4 weeks is recommended followed by taping or splinting for an additional 4 to 6 weeks.
- When performed correctly MI surgery can correct multiple deformities in a single procedure without the complication risk of traditional techniques

Title:

Correction of a Difficult Forefoot deformity using Minimally Invasive Surgery

*Upcoming Case of the Fortnight on **15th October 2022***

Presented by:

Astuti Pitarini, MD
St. Carolus Bone and Joint Centre,
St. Carolus Hospital
Lecturer at Faculty of Medicine
Atmajaya University
Jakarta, Indonesia

Title:

FHL tenosynovitis and its variants: the common cause of posteromedial ankle pain

Want to present a case? Write to...

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Correction of a Difficult Forefoot deformity using Minimally Invasive Surgery

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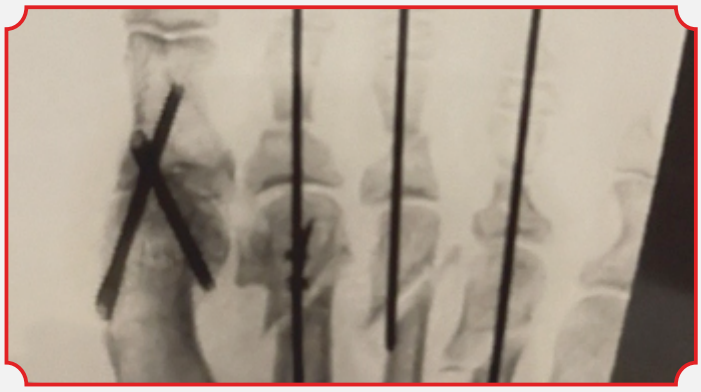
This elderly lady had had corrective surgery to her right foot 8 years previously by another specialist. While initially corrected the deformity slowly recurred and ended up with more problems. Her bunion had recurred and her lesser toes were drifting into varus ***(Fig. 1)***. The toes were now crossed over and she was having a lot of problems with foot wear and pain while walking.

(Fig. 1)
Her bunion had recurred and her lesser toes were drifting into varus



(Fig. 2)
X-ray showing arthrodesis of the 1st metatarsophalangeal joint with 2 screws and oblique osteotomies (DOMMO) of the 2, 3 and 4 metatarsals with internal fixation with k-wires

Given the extent of recurrence it was felt that there was too much instability to recommend a revision hallux valgus correction. So an arthrodesis was chosen. The patient had already had a Weil osteotomy with recurrence. A minimally invasive oblique metatarsal osteotomy offers ability to correct these deformities so this was chosen. If any further correction would be required this could be done using phalangeal MIS osteotomies.

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At surgery a small incision was made to remove the previous metalware from the great toe but beyond this MIS techniques were used. The 1st MTP joint was prepared using a 3mm wedge Burr to remove cartilage and long Shannon burr to drill the bone. 3mm cannulated fully threaded cross screws were used for fixation. Normally 4mm screws are used but the patient was quite thin.

The oblique osteotomies (DOMMO) are used to translate the bone to adjust the pull of the long tendons. A long Shannon burr is used. Medial translation will pull the toe into valgus and vice versa. Osteotomies of the phalanges were also performed with a valgus tilt. You can see that the MTP joints have naturally reduced into anatomical position.

Many DMMO techniques do not use internal fixation but it is the author's preference to use 1.6mm k wires for 3 weeks. This minimises swelling and ensures solid union. The wires do not have to be totally exact but need to hold the foot in good clinical and radiological position.

Post-operative care involved a weight bearing short camwalker for 4 weeks to assist with union of the 1st MTP arthrodesis. The wires were removed at week 3 and a taping of the toes to assist with soft tissue healing was used for another 4 weeks.

The image and X-ray are taken 14 weeks after surgery. You can see there is minimal swelling or wounds visible. The scar on top of the foot is from the previous surgery ***(Fig. 3)***. She has no pain and is walking well in shoes. The osteotomies are healing well and the 1st MTP joint is solid. With MIS surgery bone remodeling progresses over many months and full remodeling will not be seen on X-ray until at least 6 months. This is one of the mental hurdles of taking on MIS surgery.

(Fig. 3)

Image and X-ray at post-op 14 weeks showing minimal swelling or wounds visible. The scar on top of the foot is from the previous surgery. The osteotomies are healing well and the 1st MTP joint is solid.

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Given the amount of deformities requiring correction here an MIS technique offers many advantages. The pain from surgery is greatly reduced. There is little stress around wound healing or infection. The amount of soft tissue scarring is minimal allowing early return of range of motion.