

## Salvaging Diabetic Osteomyelitis of The Foot

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### INTRODUCTION:

Managing diabetic foot ulcers (DFU) can pose challenges to many experienced surgeons. Despite a thorough wound debridement and appropriate antibiotics, the toes are still at risk of gangrene in view of poor healing potential and concurrent peripheral vascular disease in diabetic patients. We would like to share our experience in treating the florid infection of the forefoot by using an antibiotic-impregnated cement spacer, as described by Melamed EA et al.<sup>1</sup>

### REPORT:

This patient presented to us with a DFU of the left forefoot with fifth metatarsal bone osteomyelitis. Extensive wound debridement was performed, and the metatarsal bone was nibbled until reaching hard cortical bone. Polymethylmethacrylate was mixed with vancomycin powder in a 1:1 ratio. The antibiotic-impregnated cement spacer (ACS) was shaped to match the bony defect to fill the void following debridement.

The patient was allowed to bear weight on the foot upon discharge from the hospital. The wound healed by primary intention 2 weeks following the surgery. There was no drifting of adjacent toes and no new ulcer forming over the foot upon review in the clinic.

The ACS was intentionally left in situ to allow “auto-extrusion” by progressive filling of the void with fibrous tissue. 5 months following the surgery, the ACS was extruded and a foot pad formed by fibrosis over the operated site.



**Figure 1:** The ACS filled the bone gap at the left 5<sup>th</sup> metatarsal bone



**Figure 2:** The ACS auto-extruded and bone gap filled by fibrosis.

We propose retaining the ACS in-situ for the long term to provide structural support. Extrusion of ACS should not be removed immediately. Progressive extrusion of the ACS allows fibrosis of the void, forming a foot pad capable of bearing weight.

### CONCLUSION:

Antibiotic impregnated cement spacer is a viable and effective method to preserve the toes in the treatment of DFU with osteomyelitis of the forefoot.

### REFERENCES:

1. Melamed EA, Peled E. Antibiotic Impregnated Cement Spacer for Salvage of Diabetic Osteomyelitis. *Foot Ankle Int.* 2012;33(3):213-219. doi:10.3113/FAI.2012.0213