# Bridging The Gap

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## INTRODUCTION:

In chronic osteomyelitis management, bone resection of affected segments is necessary, often leaving large bone defects. Though distraction osteosynthesis is an established method in managing these bone defects, dead space management poses a significant challenge. We present a case of a patient with chronic osteomyelitis treated with bone resection, distraction osteosynthesis and antibiotic loaded calcium sulphate.

## REPORT:

A 43 year old male with no underlying medical illness had an alleged motor vehicular accident and sustained closed left comminuted tibia and proximal third fibula fracture. He underwent cerclage wiring and interlocking nail of left tibia.

During follow up 3 months post operation, patient was diagnosed with chronic osteomyelitis of left tibia. He underwent wound debridement, removal of implant and external fixation of left tibia and was started on antibiotics regime based on sensitivity of intraoperative culture.

However, his condition did not improve. Patient then underwent wound debridement, bone resection of left tibia, antibiotic coated intramedullary rod insertion, calcium sulphate loaded with antibiotic insertion over resection site and Ilizarov external fixation of left tibia.

3 months post operation, the calcium sulphate pellets at resection site was completely absorbed, distraction osteosynthesis was ongoing and patient's wounds had healed. Inflammatory markers showed marked improvement.

**Figure 1:**
Intraoperative pictures:
-Intramedullary rod coated with antibioticcement
-Calcium sulphate pelletsloaded with antibiotics (defect site measuring 6.4cm)

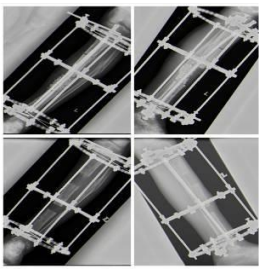

**Figure 2:**
Calcium sulphate loaded with antibiotics, completely absorbed after 3 months

## CONCLUSION:

Chronic osteomyelitis management encompasses both surgical debridement and appropriate antibiotic treatment. Bioabsorbable carriers, such as calcium sulphate are an effective mode of local antibiotics delivery. When applied at the site of infection, it helps eradicate infection while simultaneously filling up the dead space.

## REFERENCES:

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