

CASE 2

**SEPTIC  
NON-UNION IN  
DIAPHYSEAL TIBIA**

Courtesy of BG Unfallklinik Duisburg,  
Germany

# DIAPHYSEAL TIBIA (CASE 2)

- **Patient:** 69-year-old female
- **Preoperative status:** Closed tibial fracture, initial ORIF, shortening of the leg, multiple revisions with autologous bone and several external fixators. Diagnosis of tibial osteomyelitis 7 months after injury. Nearly two years of treatment with failure of all performed treatment measures. Sent to BG Duisburg for amputation. Use of bioactive glass in limb salvage trial.
- **Bacterial culture:** *Staphylococcus aureus*, which had become resistant during the treatment.

# DIAPHYSEAL TIBIA (CASE 2)

Status of patient after first revision and insertion of antibiotic releasing beads



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- **Operation:** Two years and four months after accident, reaming and application of gentamycin coated nail (Synthes Tibia Expertnail; Length: 255mm, Diameter: 13mm). The remaining bone defect was the shape of a corkscrew (8cm long) in the tibial diaphysis. Two months after the nail fixation, implantation of 10 cc bioactive glass with equal amount of autologous bone.

# DIAPHYSEAL TIBIA (CASE 2)

2 years and 4 months after injury



Post-op after implantation of bioactive glass



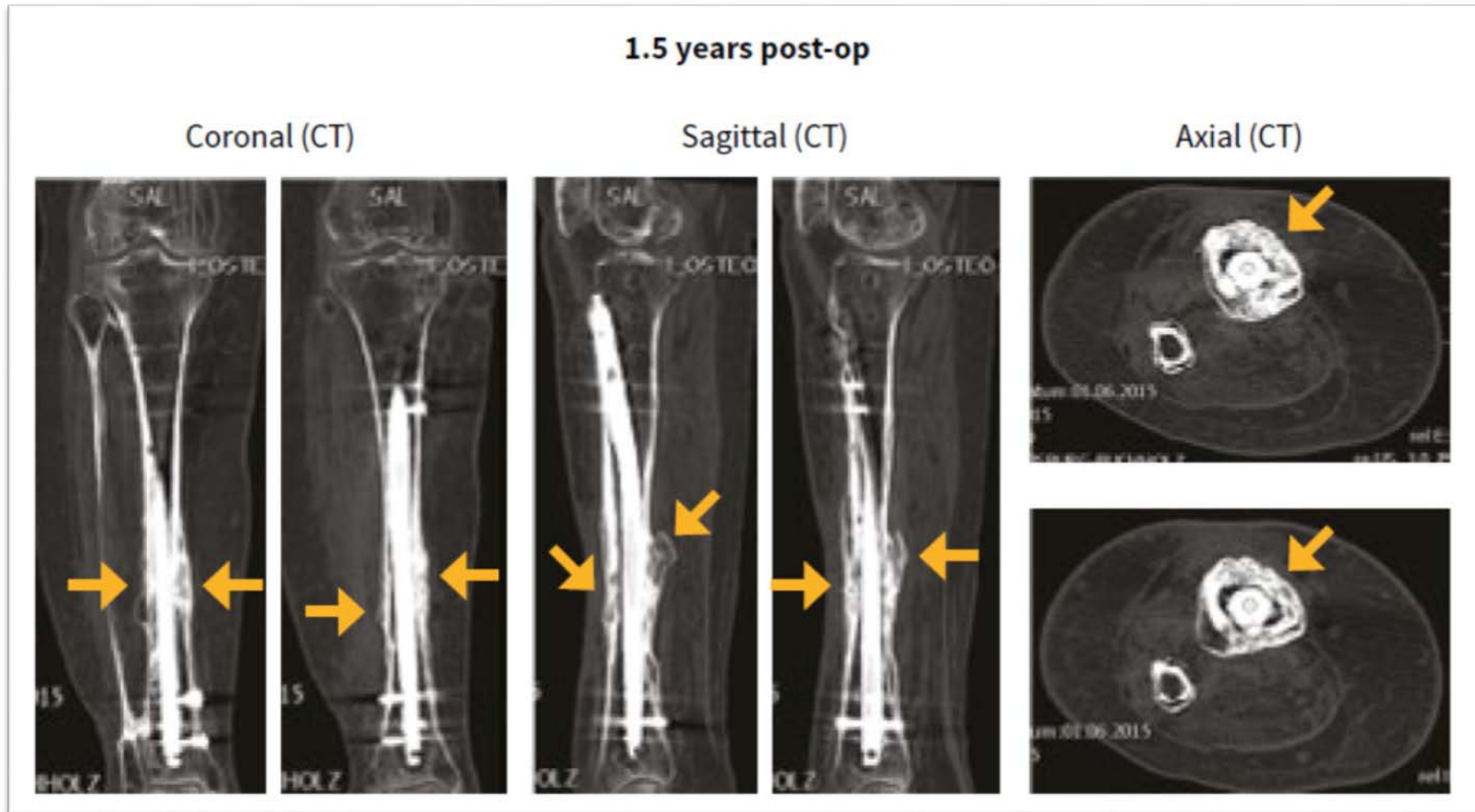
# DIAPHYSEAL TIBIA (CASE 2)

- **Clinical outcome:** Positive progression of healing with new bone and cortex formation at 6 months postoperatively. Full consolidation can be observed at 1.5 years postoperatively with CT.

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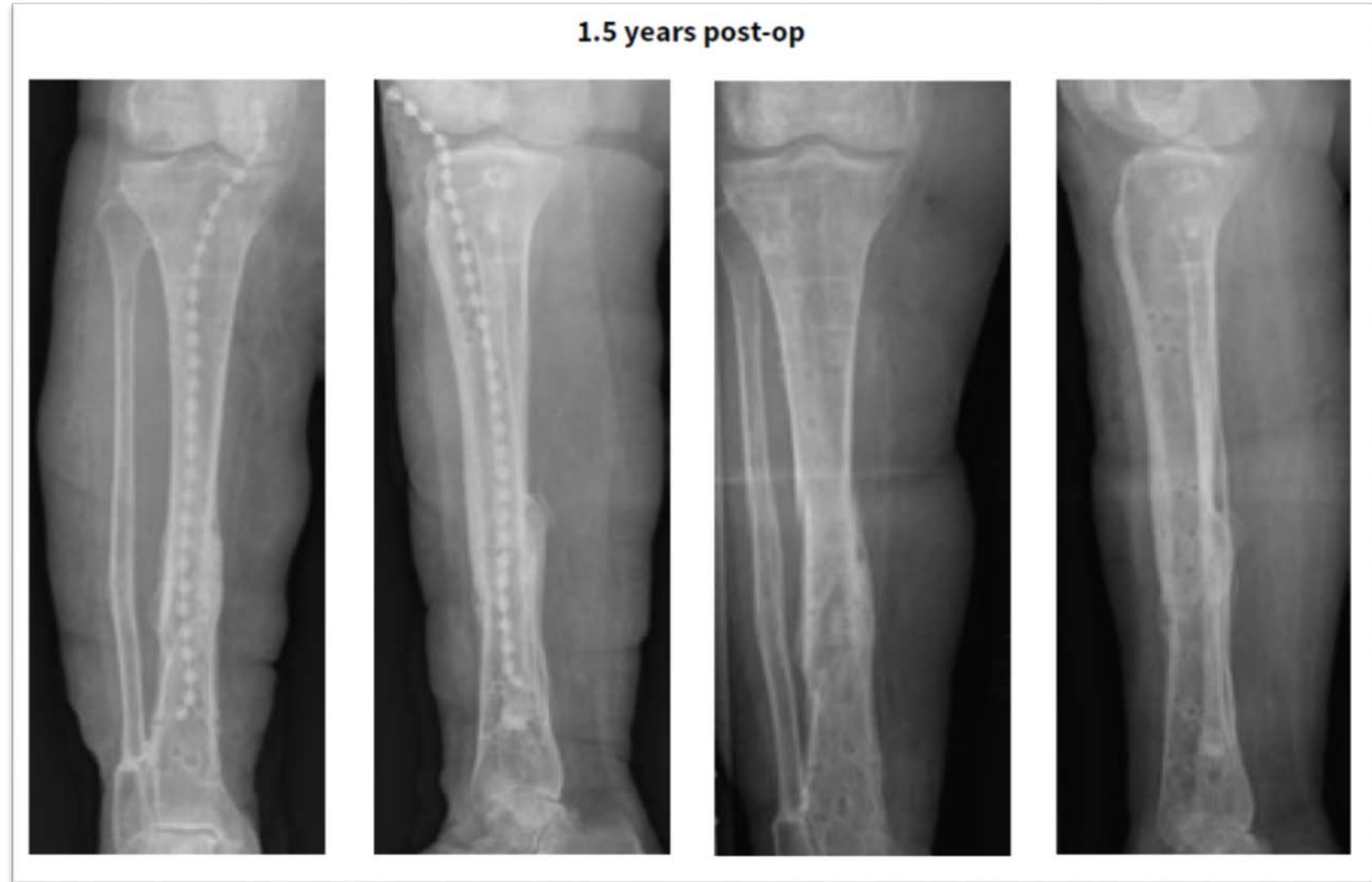
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- **Final clinical outcome:**  
Removal of the nail and insertion of temporary precautionary antibiotic loaded beads. 1.5 years postoperatively the leg was fully load bearing.



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