SUBTALAR JOINT ARTHRODESIS FOR POST-TRAUMATIC OSTEOARTHRITIS

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INDUCE XT®
NMP® BIOIMPLANT

Patient History and Background

A 68-year-old female presented for a second opinion with persistent left subtalar joint pain, which she described as 10/10. She had a calcaneal fracture 15 years prior which was treated with bone cement filler. She underwent multiple conservative treatments with no symptom relief.

Medical comorbidities

Previous smoker, Type II Diabetes (HgA1C 7.0), hypertension

Preoperative Assessment and Treatment Plan

Diagnosis A preoperative CT scan demonstrated extensive post-traumatic osteoarthritis of the left subtalar joint with gastrocnemius equinus and confirmed union of the prior calcaneal fracture.

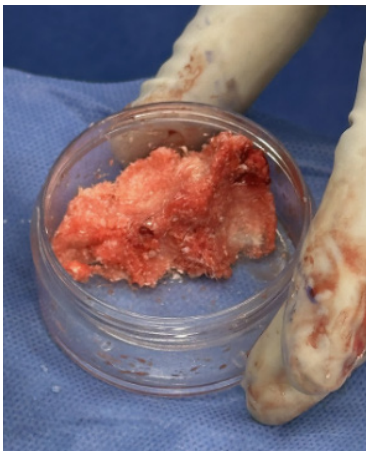
Surgical Plan Gastrocnemius recession, bone marrow aspiration, subtalar joint arthrodesis.

Grafting Material InduceXT NMP Bioimplant (10cc) hydrated with bone marrow aspirate (BMA) placed into subtalar joint.

Preoperative images Weight-bearing radiograph (left) shows narrowing of subtalar joint with advanced post-traumatic arthritis. Non-weight bearing CT scan (right) confirms extent of arthrosis and assesses healing of prior calcaneal fracture. Note lack of posterior facet joint space.

Intraoperative Technique

The subtalar joint was approached through a 3 cm lateral incision after gastrocnemius recession and standard preparation. 10cc of InduceXT was mixed with the patient's BMA and hydrated to a toothpaste-like consistency for moldability and precise placement with forceps. BMA was utilized with this patient due to her past medical history and to provide additional autogenous cells and growth factors. Fixation was achieved using two headless metal screws as well as a fully threaded biointegrative compression screw.



InduceXT hydration with BMA to a toothpaste-like consistency.

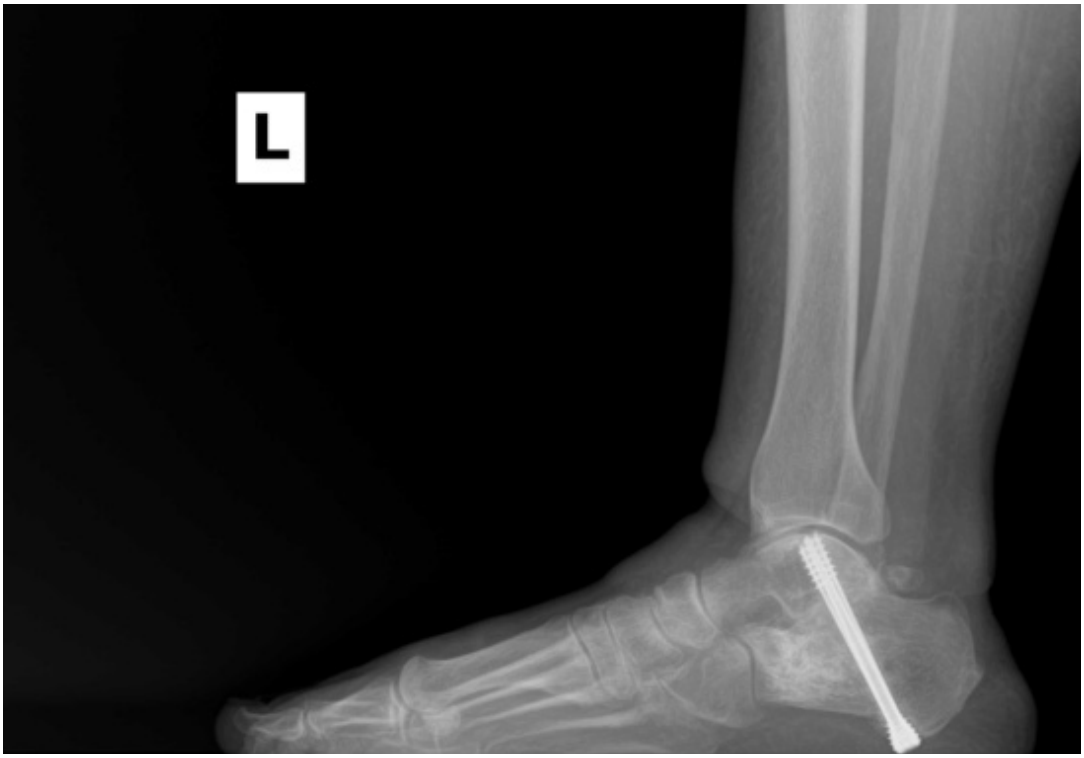
Graft placement of InduceXT into the ankle joint. Note the moldability, consistency and cohesiveness of graft.

Post Operative Protocol

- **0-6 Weeks**: Non-weight bearing to allow osseous bridging and incision healing
- **6-8 Weeks**: Progressive weight-bearing in cast
- **8-10 Weeks**: Transitioned to CAM boot, initiated physical therapy
- **10 Weeks**: Returned to sneakers, lace-up ankle brace

Outcomes at 1 Year Post-Op

Excellent osseous bridging was demonstrated across all arthrodesis sites following grafting with InduceXT. The patient reported intermittent pain as 1.5/10, was ambulating pain-free, and was pleased with the outcome.



Postoperative weight-bearing lateral radiograph showing complete osseous consolidation of the subtalar joint arthrodesis with intact hardware.

CONCLUSION

- Successful arthrodesis at the subtalar joint with no postoperative complications.
- Patient reported her pain as 1.5/10 and tolerable. She is back to activities and very pleased.
- Pain-free ambulation at the 1 year follow up.

This case highlights the capability of InduceXT NMP Bioimplant to facilitate osseous ingrowth for high risk hindfoot fusions in patients with medical comorbidities.