

TIBIOTALOCANEAL ARTHRODESIS & INTRAMEDULLARY NAILING FOR HINDFOOT ARTHRITIS

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Patient History and Background

A 64-year-old female presented with left lower extremity pain for many years and difficulty walking due to pain, which she described as 10/10. She had an ankle fracture 45 years ago which was treated non-operatively.

Medical comorbidities

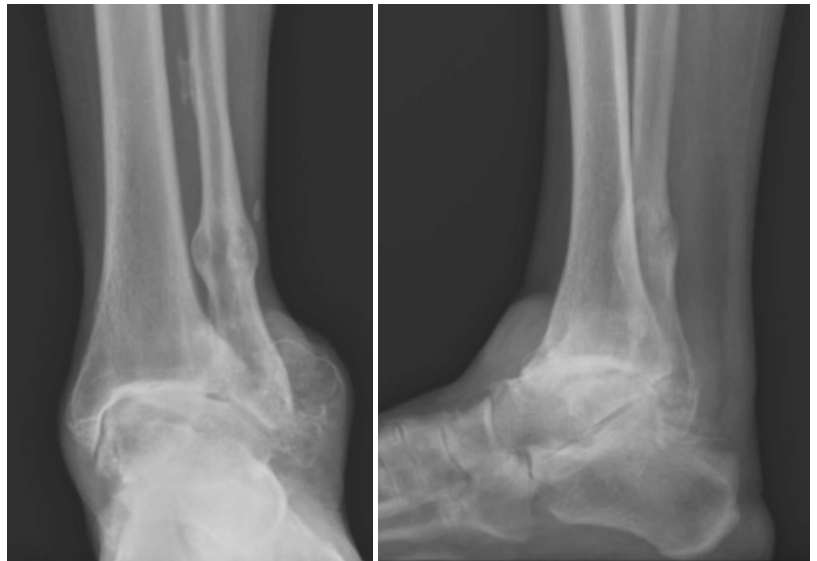
Hypertension, lupus, and daily tobacco use (½ pack a day for 30 years).

Preoperative Assessment and Treatment Plan

Diagnosis An MRI of the left ankle revealed extensive arthritis of both the ankle and subtalar joints, extensive cystic formation within the talus in addition to a large exostosis overlying her lateral malleolus.

Surgical Plan Due to the extent of her arthritis, and the osseous integrity of her talus, she was recommended for tibiotalocalcaneal arthrodesis via intramedullary nailing.

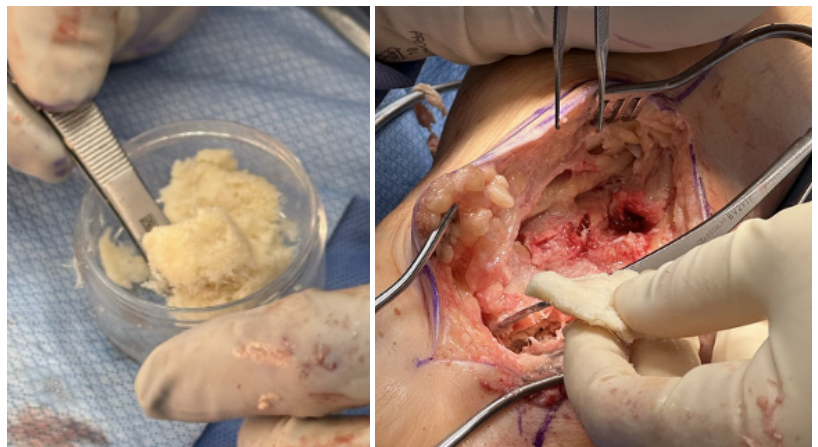
Grafting Material InduceXT NMP Bioimplant (20cc) was placed into both the ankle and subtalar joints to promote fusion.



Preoperative weight-bearing images of ankle demonstrating advanced ankle arthritis with wearing of the lateral talus and large osteophyte formation laterally. Note the joint space narrowing of the ankle and subtalar joints.

Intraoperative Technique

During the procedure, the joints were prepared with a rasp and osteotome. InduceXT Bioimplant was hydrated with normal saline on the back table to a toothpaste-like consistency. The graft material was placed into both the ankle and subtalar joints prior to fixation with an intramedullary nail.



InduceXT hydration with normal saline to a toothpaste-like consistency, making it easy to handle and mold.

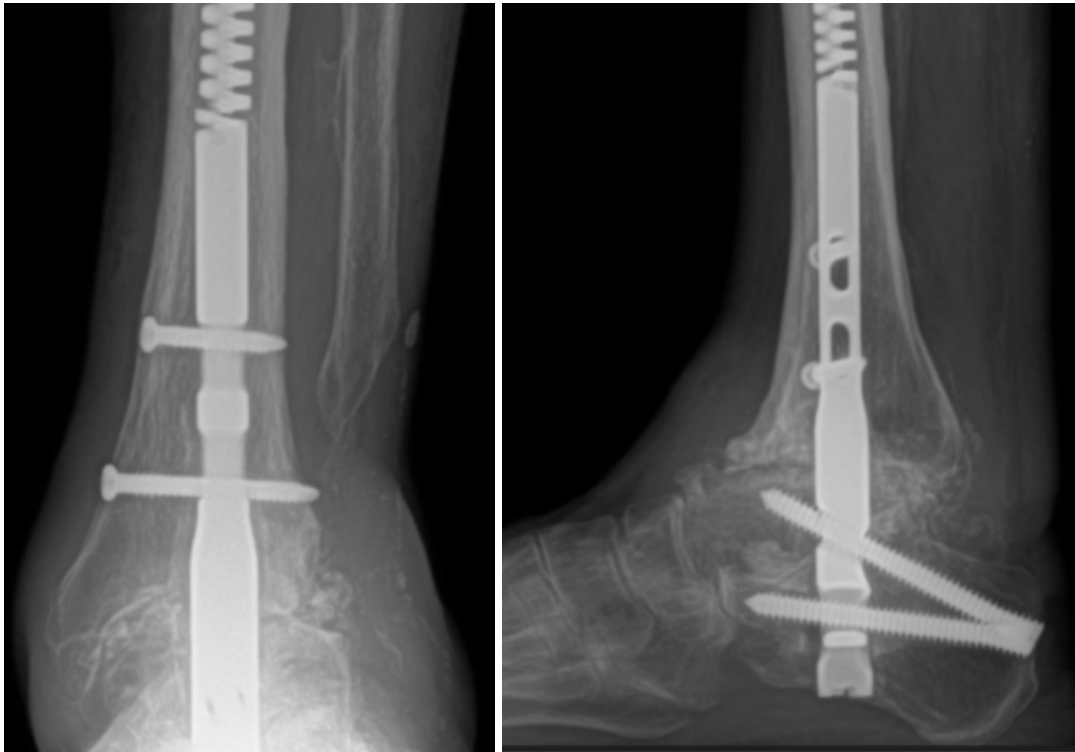
Graft placement of InduceXT into the ankle joint. Note the moldability.

Post Operative Protocol

- **0-8 Weeks:** Non-weight bearing to allow osseous bridging and incision healing
- **8-10 Weeks:** Progressive weight-bearing in cast
- **10-12 Weeks:** Transitioned to CAM boot, initiated physical therapy
- **12 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 pain as 1.5/10, was back to activities of daily living, and was pleased with the outcome.



Postoperative weight-bearing images of ankle demonstrating excellent alignment, bone healing, and a well-positioned TTC fusion.

CONCLUSION

- Successful osseous consolidation across the joints in tibiotalocalcaneal arthrodesis with no postoperative complications.
- Integration of InduceXT to help with solid osseous fusion and facilitate healing, especially in patients with multiple medical comorbidities.
- No pain during ambulation and patient was back to full activities.

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

