# CASE STUDY

## Management of a Calcaneal Non-Union and Sub-Talar Joint Arthrosis from a Calcaneal Fracture with Arthodesis with CERAMENT™|BONE VOID FILLER

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<table>
<thead>
<tr>
<th>PATIENT</th>
<th>42 Year old female</th>
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<td><strong>DIAGNOSIS</strong></td>
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- Right painful rear foot following bilateral calcaneal fracture management after falling from a height of 12 feet/3.7 metres  
- Patient lower extremity arterial circulation had no significant stenotic disease  
- Medical history was significant for hypertension and nicotine dependency |
| **TREATMENT** |  
**Initial Treatment:**  
- Closed reduction with external circular fixation  
- External fixators removed at 8 weeks with minimal initial discomfort  
- 4 weeks of physical therapy  
- Patient experienced progressive increasing pain in right rear foot unresponsive to continued physical therapy, arthrocentesis, and NSAID therapy  
- Radiograph and CT evaluation revealed significant calcaneal fracture non-union and sub-talar joint arthrosis  
- A bone stimulator was used for eight weeks with no clinical improvement  
- The patient continued to smoke during the treatment process  

**Secondary Treatment:**  
- Open calcaneal non-union management and sub-talar joint arthodesis with circular external fixation  
- Calcaneal non-union resected back to the calcaneal body, and the space/void at the area of resection filled with CERAMENT™|BONE VOID FILLER  
- Opposing sub-talar facets resected to healthy cancellous bone, joint surfaces placed in opposition and held with temporary fixation, and filled with CERAMENT™|BONE VOID FILLER |
| **OUTCOME** |  
- External fixator removed at 8 weeks with initiation of physical therapy  
- The patient progressed well with consolidation of the calcaneal non-union and the sub-talar arthodesis |
OUR MISSION is to provide an injectable radiopaque bone substitute that has been proven to rapidly remodel into bone, with the potential to be combined with other substances, and is capable of being delivered percutaneously.