**Introduction**
There are ongoing issues getting subtalar fusions to heal. The reported non-union rate varies from 5-45%. In the largest study in the literature, by Myerson and co-workers, the union rate was 84% (154 of 184) overall, 86% (134 of 156) after primary arthrodesis, and 71% (twenty of twenty-eight) after revision arthrodesis. Rigid internal fixation with one or two screws was used for all feet.). Currently, both AlloStem and autologous bone graft are accepted methods for management of degenerative arthritis of the hindfoot requiring primary or revision arthrodesis. The current accepted method of fixation for subtalar arthrodesis is with one or two solid or cannulated 6.5mm or 7mm screws. For the purpose of this study two cannulated screws, both inserted from the calcaneus into the talus were used. Coughlin and coowrkers compared standard radiographs to CT scan in evaluating subtalar fusions. The mean observed fusion of the posterior facet of the subtalar joint ranged from 41% at 6 weeks to 61% at 12 weeks and to 86% at 6 months on the radiographs; the mean fusion of the posterior facet on the CT scans ranged from 23% to 48% to 64% at the same time intervals. The agreement between the two methods was poor. Arthrodesis of the subtalar joint has an unpredictable outcome, with a nonunion rate of approximately 15% reported, ranging from 7% to as high as 30%. The rates of nonunion have been reported to be higher for patients with risk factors such as smoking, following high energy injury, avascular necrosis, and diabetes.

**Study Objectives**
The purpose of this clinical trial is to evaluate the outcome of implanting AlloStem Graft with appropriate rigid internal fixation hardware as an alternative to distal tibial autograft with rigid fixation in subtalar arthrodesis procedures. The primary objective of this clinical trial is to compare the overall fusion rate of the investigational to the control treatment.

**Trial Conduct**
This study was conducted in compliance with the protocol approved by the IRB.

**Population**
Patients between 18 and 80 years of age who qualify for a subtalar fusion procedure will be randomized to AlloStem or autologous bone graft. A subtalar arthrodesis is indicated for patients with a diagnosis of degenerative arthritis, such as osteoarthritis or post-traumatic arthritis, inflammatory arthritis or other condition of the hindfoot requiring primary or revision arthrodesis to be treated with rigid internal fixation.

**Randomization**
Patients were randomized according to a randomization schedule and treatment randomization will be 1:1, and stratified by each investigational site. Patients will be randomized using the randomization tools on wwwrandomizer.org.<br The AOFAS hindfoot and/or ankle scale, FFI-R, as well as the SF-12 will be used as the outcome criteria. These will be completed pre-operatively and at 3 months, 6 months, and annually. Standard weight bearing X-rays will be done pre-operatively and at 6, 12 and 24 weeks and yearly after the surgery. Radiographs will include 3 views of the ankle. A CT scan will be obtained at 24weeks. The 3-month radiographs and CT scan will be examined by an independent examiner.

**Results**
78 patients are currently enrolled.
Paper Session 13: OCD TALUS

Moderators:
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ALLOSTEM
19 patients with minimum 6 months and CT scan done. AOFAS score changed from mean pre-op 42 to 72 at 6 months. SF 12: pre-op 63 to 70 and FFI-R 193 pre-op to 173 at 6 months. CT scans show an average of 22% of the joint surface fused at 6 months.

AUTOGRAFT
24 patients with a minimum of 6 months follow-up and CT scan. AOFAS changed from 40 to 72 mean, SF-12 from 63 to 67 and FFI-R from 208 to 170. CT scans show 18.2% of the joint surface fused at 6 months.

At 6 months there is no statistical difference between the two groups for any parameter measured.