Primary Arthroplasty using HINTEGRA Total Ankle: Four-Year Results in 301 Consecutive Patients

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My disclosure is in the Final AOFAS Program Book.

I have a potential conflict with this presentation due to:
Financial/material support from Integra
Ankle Design

Tibial Component

• Anatomical shape
• Full coverage of distal tibia → optimal force transmission
• Resistance against torsional forces → 4 mm of thickness
• Minimal stress shielding → flat contact area with peaks
• Bone ingrowth → double coat
Ankle Design

Talar Component

• Anatomical shape
• Conical shape
  → smaller radius medially
  → larger radius laterally
• Minimal stress shielding
  → small pegs
• Resurfacing
  → medial / lateral gutter
Study Purpose

to determine the four-year results of TAR with the use of the 3rd generation HINTEGRA ankle in a consecutive series of 301 patients
Patients

Data Analysis

• 311 primary TARs in 301 patients

• Gender: female 150
  male 151

• Age: 60.7 years (range: 25.3 to 90.0)

• Etiology: posttraumatic OA 245 ankles
  primary OA 28 ankles
  inflammatory OA 38 ankles

• Mean follow-up: 59.5 months (range: 48 to 108)
Revision Surgeries

N = 23 (7.4%)

- Ankle fusion: n = 5
- Revision TAR: n = 18
- Mean time to revision: 2.8 years (range: 0.5 to 7.1)
- Revision reasons:
  - loosening of one or both components n = 15
  - subsidence of talar component n = 6
  - cyst formation n = 1
  - deep infection n = 1
  - unmanageable instability n = 1
  - painful arthrofibrosis n = 2
Revision Surgeries

- 1st generation: \( n = 11 \)
- 2nd generation: \( n = 9 \)
- 3rd generation: \( n = 3 \)

![Single coat HA](image1)
![Double coat CoCro + HA](image2)
![Double coat Titanium + HA](image3)
Results

- Postoperative pain relief:
  - preop. 6.7 → postop. 1.8 (p < 0.001)
- AOFAS score:
  - preop. 41.7 → postop. 73.7 (p < 0.001)
- Mean ROM:
  - preop. 24.0° → postop. 33.1° (p < 0.001)
Conclusions

- In our study we observed a postoperative revision rate of 7.4% → comparable to other series
- TAR in patients with end-stage ankle OA → pain relief → functional improvement → TAR is a viable and superior alternative to ankle fusion

Saltzman et al., *Foot Ankle Int* (2009), 30:579-96