My Ankle Fusion Hurts: Can You Convert it to Replacement?

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Disclosures
- Wright Medical- Royalty, consulting
- Amniox medical- consulting, research support
- DJO- royalty
- Arthrex- royalty

Why Consider?
- Painful fusion
  - Subtalar/TN disease
  - Malunion
- Fusion non Unions
Why Consider?

- Painful fusion
  - Subtalar/TN disease

Why Consider?

- Painful fusion
  - Malunion

Why Consider?

- Fusion Non Union
Why Consider?

- Easier than an ankle fusion

Case

- 67 YO with 9 year history of good function after ankle fusion
- Now pain in subtalar joint

2008

2011
Case

- 67 YO with 9 year history of good function after ankle fusion
  - Now pain in subtalar joint
- Options???
  - TTC
  - More injections

Conversion to a TAR: 3 years

Literature: Agility

  - 19 ankles in 18 patients at an average followup of 39 months
- 3 Amputations
- 16 did OK
  - Best results if had a definable cause of pain
  - E.g. subtalar pain
  - No fibula bad
Literature: Mobile Bearing

  - 30 painful ankles in 28 patients (average age, 58.2 years)
  - Minimum of thirty-six months (average, 55.6 months)
  - Twenty-four patients (82.7%) were satisfied with the results
  - 5 ankles were completely pain-free
  - 21 ankles were moderately painful
  - 3 remained painful.

Pre Op Planning

- Joint level
  - CT Helps
- Malleodi
- Estimate the gutters
- Subtalar fusion??

Reasons not to do a subtalar fusion

- 40% Non Union Rate
  - Can do it later if you need to
5 years post scope fusion
Subtalar pain

Rotation based on best guess mortise

Size to spare medial mal and talus
If no malunion can perform coupled cut

Talus Same
Gutters key

10 Weeks Medial Mal Stress Fx
- 52 yo
- MVA
- Tibia fx, med malleolus fx
- Delayed healing at tibia
- Eventually healed tibial shaft

- Progressive collapse and DJD at ankle
- Ankle fusion

- Developed nonunion
Revised with anterior plate
Bone graft
Bone stimulator

9 months s/p revision fusion

What are our options???
• 5 patients
  • Average age at conversion: 62.2 years old
  • Average time between attempted fusion and conversion: 1.74 years

• Prospectively evaluated at a minimum of 12 months from surgery (average follow-up: 21.3 months)

• INBONE® total ankle replacement (Wright Medical Technologies, Inc., Arlington, TN)
  • Fixed bearing implant
  • Intramedullary implant

Results

• Complications:
  • No in-hospital complications requiring additional procedures
  • 1 post-op complication: wound excoriation that resolved with local wound care

• AOFAS ankle-hindfoot score
  • Average: 82.6
  • Range: 66-90

• Foot Function Index
  • Average: 28.2%
  • Range: 7-49%

• VAS pain levels
  • Average: 31.1/100
  • Range: 16.2- 44.3
Results

- 4/5 very satisfied or satisfied with surgery
  - 1 dissatisfied patient has rheumatoid arthritis and takes daily narcotics because of her disease
- 5/5 would have the operation again
- No evidence of tibial/talar loosening or talar subsidence in any case at final follow-up

Is there a better way?

Case: DA. 9 years after a Successful Fusion

- 62, F
- Hx: s/p R ankle fusion, pain
- Dx: Right subtalar/ TN DJD, painful fusion
- Better with injections but after 4 injections
  - no good
Challenges

- Gutters / Stiffness

Challenges

- Muscle atrophy
Challenges

- Malleoli

Challenges: Malleoli

- Protect

Challenges: Subtalar Joint

2 Years After Conversion
NO Subtalar complaints
Challenges:
Heterotopic Ossification

6 Weeks Post Op
2 Years Post Op

Challenges:
Heterotopic Ossification

Challenge:
- Axis of rotation
- Joint line
Is there a role for Fusion to TAR in 2016?

- Yes
- Need longitudinal data
- Cautious Optimism
- Go Anterior with fusion
- Leave the malleoli when you fuse
- Protect the malleoli when do TAR
- Prophecy