Heel Varus after Hindfoot
Reconstructive Procedures –
How to Correct It

Kristen Kuratnick, MS, DO
Parisa Morris, MD
Arthur Manoli, II, MD
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Reconstructive Procedures – How to Correct It

- Kristen Kuratnick, MS, DO
  - My disclosures are in the final AOFAS mobile app
  - No potential conflicts related to this presentation

- Parisa Morris, MD
  - No potential conflicts related to this presentation

- Arthur Manoli, II
  - No potential conflicts in regards to this presentation
Residual Hindfoot Varus

- Difficult problem for patient and surgeon
  - Causes patient to walk with a supinated foot
  - Lose tripod effect
- Deformity is often:
  - Cavus alignment due to hindfoot malposition AND a contracted posterior tibial tendon
  - First ray may be elevated
- Hindfoot reconstruction is often necessary after certain traumatic, congenital, and degenerative skeletal changes
- Procedures include
  - Ankle fusion
  - Subtalar fusion
  - Subtalar bone block fusion
  - Triple arthrodesis
Patient Demographics

- Case series
- 5 patients
- Residual varus deformities
  - Pain, gait disturbance, loss of balance

Previous procedures included:
- 2 triple arthrodeses
  - Old clubfoot
  - Post-traumatic
- 1 Subtalar distraction bone block fusion
- 1 Subtalar fusion
- 1 Revision talar ORIF
39yo WM, triple arthrodesis as a teen for residual clubfoot deformity

PREOP ANKLE/FOOT DEFORMITY

POSTOP ANKLE FUSION
22 yo WF, MVA with R calcaneus fracture, subtalar fx/disloc and subsequent triple arthrodesis.

Initial Triple Arthrodesis

Revision Triple Arthrodesis with excision of PTT
45yo WM, STDBB fusion for post-traumatic arthritis after calc fx, residual varus
29yo WF, MCC with R pilon fx & calc fx
ORIF pilon, nonop calc→subtalar fusion→
revision subtalar fusion, resection of PTT & FHL
59yo WF, MVA with talus fx ORIF → revision ORIF talus for malunion → AVN talar body

Initial Talar ORIF

Revision Talar ORIF

Blair Fusion & resection of PTT
Results

- Procedures
  - 1 Ankle fusion
  - 1 Revision triple
  - 1 Revision STDBB
  - 1 Revision subtalar fusion
  - 1 Blair fusion

- Improvement:
  - Foot alignment
  - Pain relief
  - Function
  - Gait

- Common findings:
  - Contracted posterior tibial tendon
  - 4/5 patients had an elevated first ray
Posterior Tibial Tendon Contracture

**CAUSES:**
- Unrecognized compartment syndrome of the deep posterior compartment of the leg in traumatic cases
- Long-standing positional shortening in traumatic, congenital, or degenerative cases

**Don’t overlook PTT**
- Resection of the posterior tibial tendon is often necessary when correcting hindfoot varus during revision or initial surgery
- If one encounters difficulty with varus deformity correction
  - Look for soft tissue restraints- PTT

