Corrective Realignment
Arthrodesis of the 1st Tarsometatarsal Joint Without Wedge Resection

Christopher F. Hyer, DPM
Jeffrey E. McAlister, DPM
Kyle S. Peterson, DPM

Advanced Foot and Ankle Surgical Fellowship
Orthopedic Foot and Ankle Center, Westerville, Ohio
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Our disclosures are in the Final AOFAS Mobile App. There are no potential conflicts with this presentation.
Modified Lapidus Procedure

• Fusion of the 1\textsuperscript{st} Tarsometatarsal Joint (1\textsuperscript{st} TMT)\textsuperscript{1}

• Hallux Valgus
  – Hypermobility
  – 1\textsuperscript{st} TMT DJD/instability
Surgical Approaches

• 2 techniques
  – Joint curettage
  – Wedge joint resection

• Majority of literature describes wedge joint resection\textsuperscript{2-6}
Complications with wedge joint resection

- Excessive shortening of metatarsal
- Inadequate bone to bone contact
- Sesamoiditis
- Malposition
- Transfer metatarsalgia
Hypothesis

• Realignment of angular measurements during 1st TMT arthrodesis is possible without wedge resection
• Correction is maintained through follow-up
Retrospective Study

- IRB-approved chart and radiograph review
- Inclusion
  - All patients undergoing 1st TMT fusion for hallux valgus repair
- January 2010 - December 2012
- Exclusion
  - Patients with concomitant midfoot, hindfoot, or ankle procedure
Retrospective Study

- Radiographic measurements
  - Intermetatarsal angle (IMA)
  - Hallux Valgus angle (HVA)
  - Tibial Sesamoid Position (TSP)
- Pre-operative, immediate post op, and 6 month post op films
  - change in IMA, HVA, and TSP
- Statistical significance, p<.05
Clinical Results

- 91 patients (100 feet)
- 13 M; 78 F
- Mean age 54.7 years
- Avg f/u time: 5 ±2.5 months

- Mean time to radiographic fusion: 3.2 months
- 2% (2 of 100) nonunion rate
Radiographic Results

- **Pre-operative**
  - IMA: 15.8°
  - HVA 32.2°
  - TSP 5.0°

- **1st Post-op**
  - IMA: 8.4°
  - HVA 14.5°
  - TSP 2.1°

- **Final Post-op**
  - IMA: 10.6°
  - HVA 18.0°
  - TSP 3.0°

* Significant decrease for all angles from Pre-op to both 1st and Final Post-op measurements (p<0.001)

* 1st Post-op to Final Post-op increased for all angles (p<0.001), however, all measurements still within normal limits for final post op measurement.
Discussion-Take Home Points

• All radiographic measurements fully corrected without wedge joint resection
• Curettage technique gives surgeon ability to “dial-in” amount of correction without wedge resection
• Correction of deformity is maintained in short-term follow-up
Thank You

References
1. Lapidus PW. Surg Gynecol Obstet. 58:183-191, 1934