Immediate weight bearing after correction of moderate hallux valgus deformities using a Ludloff osteotomy stabilized with a locking plate

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Ludloff Osteotomy…

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My disclosure is in the Final AOFAS Program Book.

I have a potential conflict with this presentation due to:

Consulting relationship and Royalties from MERETE, inc
Ludloff: Proximal Metatarsal Osteotomy

- Indicated for moderate HV
  - HV angle 30-40°
  - IM angle 13-20°
- Traditionally stabilized with screws
- Traditionally NON-WEIGHT-BEARING post-op
Ludloff Osteotomy Complications

- Malunion (1-5%)
- Nonunion (1-2%)
- Loss of correction
Hypothesis

• A hybrid locked plate (compression + locked screws) will stabilize a Ludloff 1\textsuperscript{st} metatarsal osteotomy allowing safe early weight-bearing
Biomechanical Study

- Biomechanical study (e-poster - AOFAS summer meeting 2011) showed that the hybrid plate could withstand loads similar to weightbearing situations (70 N @ 1000 cycles on a MTS machine) without failure.
Consecutive Series of Ludloff Plates

  - Single surgeon
  - [9 additional cases eliminated (missing preop Xrays)]
  - Avg age: 58
    - 72 female / 8 male
  - Average preop VAS 5.2 (1-10 scale)
  - Stabilized with hybrid locking plate

Avg. pre-op angles:
- HV – 27.58 °
- IM - 14.35 °
Methods

• **Post-op protocol**
  – Immediate weight-bearing in boot
  – 10 day post-op weight-bearing x-ray
  – 4-6 week post-op weightbearing x-ray
  – 2-3 month post-op weightbearing x-ray
Results

• 95% -> unrestricted activity by 2-3 months
• All osteotomies healed
• All patients relatively pain free by 2 months

  * Postop HV angle: 6.12°
  * Postop IM angle: 5.95°

Complications:

• Painful Hardware – 2 cases
• Loss of Correction – 2 cases
• Hallux Varus Development – 2 cases
CONCLUSION:

Hallux Valgus Correction with a Ludloff Osteotomy:

Immediate Weight-bearing can be allowed with the use of a hybrid locking plate

References:
Bae Sy, Schon LC. Foot & Ankle Int. 2007;28 (1)
Chiodo et al. Foot & Ankle Int. 2004;25(8):532-6
Saxena A, McCammon. J Foot Ankle Surg. 1997;36(2)100-105
Rmka et al. JBJSa 2008;90(3);531-539