Revision Hallux Valgus Surgery:
Results of an algorithm of treatment

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• Revision Hallux Valgus Surgery: Results of an algorithm of treatment
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• My disclosure is in the Final AOFAS Mobile App.
• I have no potential conflicts with this presentation.
Introduction

• Currently, there is no universally accepted algorithm of treatment for revision hallux valgus surgery

• Objective:
  • Develop an algorithm for Revision Hallux Valgus
    • Based on our experience in primary hallux valgus surgery
    • Focused on obtaining the best and more reproducible result with the least invasive procedure
Methods

• Retrospective review
  • 2006 – 2012
  • 18 months minimum follow up
  • 20 patients
    • All women
    • 1st surgery at 44 years old (mean)
    • Revision at 50 years old (mean)
    • 3 patients with bilateral surgery

• Revision Surgery
  • Mean 6 years from primary surgery
  • AOFAS preop 57
Methods

- Algorithm considers:
  - Primary surgery preformed
  - Angle needed to be corrected
  - Altered DMAA
  - Tarsal – Metatarsal instability
  - Posibility to obtain the best result with the least morbility

<table>
<thead>
<tr>
<th>Surgical Technique</th>
<th>%</th>
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<tbody>
<tr>
<td>Scarf Osteotomy</td>
<td>33</td>
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<tr>
<td>Proximal Crescent Osteotomy</td>
<td>28</td>
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<tr>
<td>Distal Chevron Osteotomy</td>
<td>14</td>
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<tr>
<td>McBride Soft Tissue Procedure</td>
<td>5</td>
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<tr>
<td>Poscow Osteotomy</td>
<td>15</td>
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<tr>
<td>Proximal Metatarsal Open Wedge Osteotomy</td>
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Angle needed to be corrected:

- **Angle needed to be corrected**: degrees of displacement needed in order to leave the 1st metatarsal head over the sesamoids, measured between line drawn following the 1st metatarsal axis and second line drawn from the same starting point at base of 1st metatarsal and extending distally through the middle of sesamoid complex.

- **Taking into account the correction capacity of each technique, the following algorithm was developed**:
  - For 1 to 4 degrees of correction needed: **Chevron technique**
  - For 5 to 9 degrees of correction needed: **Rotational Scarf technique**
  - For more than 9 degrees of correction needed: **Poscow technique**

- Angle needed to be corrected: 6 degrees
- Angle needed to be corrected: 12 degrees
Distal Metatarsal Articular Angle

- When elevated, consider surgical techniques that can correct it:
  - Biplanar Chevron
  - Rotational Scarf

DMAA: 15 degrees
Tarsal – Metatarsal Instability

- Observed in the radiological evaluation
- NOT observed clinically
- When present: consider perform the Original Lapidus arthrodesis technique
Results

Revision Surgery

- Distal Chevron OTT: 24%
- Akin OTT: 24%
- Biplanar Chevron OTT: 12%
- Poscow OTT: 12%
- Lapidus Arthrodesis: 8%
- Modified Scarf OTT: 20%
Results

• Post op AOFAS: 80.3
  • 17 satisfied patients that would recommend revision surgery
  • 3 patients would not recommend revision
  • 2 unsatisfied patients (2 revision procedures)

• Complications
  • 1 screw loosening
  • 3 partial correction loss
  • 1 hallux cock up deformity
  • 1 post op clinically significant MTP stiffness
  • 3 wound dehiscence
Summary

• Selected technique:
  • Angle needed to be corrected
  • DMAA
  • Tarsal – Metatarsal Instability
  • Consider patient expectations

• In our series: Distal Chevron most frequently performed technique

• Re-revision surgery
  • Least reliable
  • Consider 1st MTP joint arthrodesis
References

1. Bock, P; Lanz, U; Kroner, A; Grabmeier, G; Engel, A. The Scarf Osteotomy. A salvage procedure for recurrent Hallux Valgus in selected cases. CORR 468:2177-2187, 2010


