A RETROSPECTIVE COMPARISON OF HALLUX VALGUS RECURRENCE IN FIRST METATARSAL-CUNEIFORM FUSION WITH AND WITHOUT A DISTAL SOFT TISSUE PROCEDURE

Hillary V. Tudor, DPM, AACFAS¹
Christopher F. Hyer, DPM, MS, FACFAS²

¹Gentle Foot Care, Columbus, OH
²Orthopedic Foot & Ankle Center, Columbus, OH
Disclosure

A Retrospective Comparison of Hallux Valgus Recurrence in First Metatarsal Cuneiform Fusion with and without a DSTP

Hillary V. Tudor, DPM, AAFACS

Our disclosures are in the Final AOFAS Program Book. There are no potential conflicts with this presentation.
Purpose

• Determine if distal soft tissue procedure (DSTP) is necessary to obtain correction of hallux valgus
  – Based on radiographic angles.
• Determine if DTSP is needed to maintain correction.
Hypothesis

• Initial radiographic measurements following Lapidus bunionectomy with and without DSTP will be similar.

• However, the correction would not be maintained in those without DTSP.
Methodology

- Patients who had a Lapidus bunionectomy as an initial HV correction.
- Retrospective data collected:
  - IMA 1-2 angle, 1st MT-MC, TSP, and HA.
    - Measurements taken pre-op, 1st post-op visit, and final visit.
- Two groups: DSTP (30) and those without (9)
Literature Review

- Painful HV= condition often requires surgery
- Lapidus bunionectomy for the correction of HV.
  - Indicated where the IMA 1-2 angle is equal to or exceeds 15 degrees
  - Hypermobility at 1st met.
  - Recurrent bunion deformity
  - Long 1st met.
- Benefits of procedure
  - Correction in 3 planes
    - Adduction, plantarflexion, and rotation
  - Increased medial column
- Optimal correction= performed with DSTP.

Risks of DSTP
- AVN, neuritis, and decreased ROM of the MTPJ.
# Results

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Group A (DSTP)</th>
<th>Change</th>
<th>Group B (non-DSTP)</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average pre-op IMA</td>
<td>13.17</td>
<td>-</td>
<td>9.44</td>
<td>-</td>
</tr>
<tr>
<td>Average 1st post-op visit IMA</td>
<td>8.55</td>
<td>4.62</td>
<td>7.78</td>
<td>1.67</td>
</tr>
<tr>
<td>Average final post-op visit IMA</td>
<td>9.6</td>
<td>-1.05</td>
<td>9.4</td>
<td>-1.62</td>
</tr>
<tr>
<td>Average pre-op 1st MT-MC</td>
<td>155.1</td>
<td>-</td>
<td>156.7</td>
<td>-</td>
</tr>
<tr>
<td>Average 1st post-op visit 1st MT-MC</td>
<td>162.5</td>
<td>-7.4</td>
<td>160.1</td>
<td>-3.4</td>
</tr>
<tr>
<td>Average final post-op visit 1st MT-MC</td>
<td>161.8</td>
<td>0.7</td>
<td>160.8</td>
<td>-0.7</td>
</tr>
<tr>
<td>Average pre-op TSP</td>
<td>5.3</td>
<td>-</td>
<td>5.2</td>
<td>-</td>
</tr>
<tr>
<td>Average 1st post-op TSP</td>
<td>2.75</td>
<td>2.55</td>
<td>2.2</td>
<td>3</td>
</tr>
<tr>
<td>Average final visit TSP</td>
<td>3.4</td>
<td>-0.65</td>
<td>3.7</td>
<td>-1.5</td>
</tr>
<tr>
<td>Average pre-op HA</td>
<td>32.8</td>
<td>-</td>
<td>29.3</td>
<td>-</td>
</tr>
<tr>
<td>Average 1st post-op visit HA</td>
<td>11</td>
<td>21.8</td>
<td>14</td>
<td>15.3</td>
</tr>
<tr>
<td>Average final post-op visit HA</td>
<td>19.4</td>
<td>-8.4</td>
<td>24.7</td>
<td>-10.7</td>
</tr>
</tbody>
</table>
Figure 1: Average change in pre-op to 1st post-op measurements

Figure 2: Average change in 1st post-op to final visit measurements

Figure 3: Linear mixed model analysis of intermetatarsal 1-2 angle
Analysis & Discussion

• Lee et al, compared chevron osteotomies with/without DSTP.
  – DSTP may not be needed in correction of mild or moderate HV deformities.
• Initial correction is similar with/without DSTP.
• Tendency towards recurrence without the DSTP.
  – Most significant in HA angle.
• Better correction HV when a Lapidus bunionectomy is performed with DSTP.
References