The Influence of Surgeon Handedness on the Outcomes of Hallux Valgus Correction

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Erin E Klein, DPM, MS

My disclosure is in the Final AOFAS Program Book. I have no potential conflicts with this presentation.
INTRODUCTION

- The effect of surgeon handedness on patient outcomes of total knee replacements has been documented\(^1\).

- There is not a published report discussing the influence of surgeon handedness on the outcomes of surgical correction of foot deformity.

- Therefore, the **purpose of this study** is to:
  - Investigate the effect of surgeon handedness on outcomes of bilateral hallux valgus correction.
METHODS

- Inclusion criteria:
  - Concurrent bilateral scarf procedures
  - Follow up of at least 1 year

- Surgeon handedness:
  - 25 patients (50 feet) - right handed surgeon
  - 25 patients (50 feet) - left handed surgeon

- Analysis:
  - Pre-operative FAOS scores
  - Post-operative FAOS scores
  - Pre-operative radiographs
  - Post-operative radiographs
**RESULTS**

- Pre and post-operative radiographic variables exhibited similar changes.

<table>
<thead>
<tr>
<th></th>
<th>Right Foot</th>
<th>Left Foot</th>
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<tbody>
<tr>
<td></td>
<td>Pre - Operative</td>
<td>Post - Operative</td>
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<tr>
<td></td>
<td>Post - Operative</td>
<td>Pre - Operative</td>
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<tr>
<td>Right Handled</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surgeon</td>
<td>IM angle</td>
<td>14.3° ± 2.9°</td>
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<tr>
<td></td>
<td>HV angle</td>
<td>26.0° ± 9.3°</td>
</tr>
<tr>
<td>Left Handled</td>
<td>IM angle</td>
<td>13.7° ± 3.6°</td>
</tr>
<tr>
<td>Surgeon</td>
<td>HV angle</td>
<td>27.6° ± 9.5°</td>
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# Results

- The right handed surgeon – higher post op FAOS scores on the right foot.
- The left handed surgeon – higher post op FAOS scores on the left foot.

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<thead>
<tr>
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<th>Right Foot</th>
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<th>Left Foot</th>
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<tbody>
<tr>
<td></td>
<td>Pre-Op FAOS Scores</td>
<td>Post-Op FAOS Scores</td>
<td>Pre-Op FAOS Scores</td>
<td>Post-Op FAOS Scores</td>
</tr>
<tr>
<td>Right Handed Surgeon</td>
<td>71.3 ± 20.4</td>
<td>90.3 ± 11.5</td>
<td>73.5 ± 15.2</td>
<td>85.1 ± 9.8</td>
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<tr>
<td></td>
<td>p = 0.450</td>
<td></td>
<td>p = 0.355</td>
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<tr>
<td>Left Handed Surgeon</td>
<td>75.9 ± 13.0</td>
<td>89.1 ± 8.6</td>
<td>73.3 ± 17.0</td>
<td>94.7 ± 7.8</td>
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<tr>
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<td>p = 0.238</td>
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<td>p &lt; 0.05</td>
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</tbody>
</table>
RESULTS

- Pre-operative FAOS scores were similar.

- Right handed surgeon
  - Higher post-operative FAOS scores on right foot.

- Left handed surgeon
  - Higher post-operative FAOS scores on left foot.

- The magnitude of change between pre- and post-operative FAOS scores were higher on the right foot for the right handed surgeon and the left foot for the left handed surgeon.
DISCUSSION

- The effect of surgeon handedness on bilateral foot surgery has not been investigated.

- Similar to previously presented research\(^1\), surgeon handedness **does** have an impact on patient outcome.

- Surgeon handedness **does not** have an impact on the ability to correct the deformity.

- Unlike previously presented research that utilized only one surgeon’s outcomes, this study presents outcomes from both a right and left handed surgeon who both performed bilateral hallux valgus correction on this cohort of patients.
CONCLUSION

- Surgeon handedness does have an impact on patient outcomes. As surgeons, equipment and body positions should be utilized that decrease differences in technique between the right and the left foot.
REFERENCES