Patients’ Expectations of Foot and Ankle Surgery: Variations by Diagnosis

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Disclosures

No conflicts to disclose
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Our disclosures are in the AOFAS Mobile App
We have no potential conflicts with this presentation

Patients’ Expectations of Foot and Ankle Surgery: Variations by Diagnosis
Background

• Managing patients’ preoperative expectations may improve their ultimate satisfaction with surgery\(^1,2\)

• In a previous study, we developed a valid and reliable patient-derived expectations survey for patients undergoing foot & ankle surgery\(^3\)

• We found that worse functional status and anxiety/depression were associated with higher expectations\(^4\)

• However, the diverse diagnoses in foot and ankle surgery may also influence expectations
Purpose

We aimed to analyze differences in patients’ expectations among the major surgical diagnoses seen in foot and ankle practices.
Methods

- All adult patients scheduled for elective foot or ankle surgery by 1 of 6 orthopaedic foot and ankle surgeons were screened for inclusion over eight months.
- All patients completed the HSS Foot & Ankle Surgery Expectations Survey, which contains 23 expectations categories and is scored from 0 to 100, with higher scores indicating greater expectations.
- Patients also completed the Foot & Ankle Outcome Score (FAOS), Short Form (SF)-12, Patient Health Questionnaire (PHQ)-8, Generalized Anxiety Disorder 7-item scale (GAD-7), and pain visual analog scale (VAS).
- Demographic data and clinical characteristics, including primary diagnosis, were collected from patient interviews and chart review.
Distribution of Diagnoses

Hallux valgus, n = 92 (26%)
Hallux rigidus, n = 39 (11%)
Pes planus, n = 38 (11%)
Ankle arthritis, n = 35 (10%)
Chronic tendon injury, n = 28 (8%)
Ankle instability or osteochondral lesion (OCL), n = 27 (8%)
Other, n = 93 (26%)

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Results

- 352 patients with an average age of 55 ± 15 (range, 18-86) were enrolled.
- Patients with a diagnosis of ankle instability or osteochondral lesion (OCL) had higher expectations scores ($p = 0.004$) and more often expected complete improvement ($p = 0.024$) compared to patients with other diagnoses.
- Patients with hallux valgus had lower expectations scores ($p = 0.005$) than patients with other diagnoses.
- Patients with mid- or hindfoot arthritis also had lower expectations scores ($p = 0.006$) and an average of only 2.4 expectations with “complete improvement” expected, while all other patients averaged 8.4 ($p < 0.001$).
## Demographics & Questionnaire Scores by Diagnosis

<table>
<thead>
<tr>
<th></th>
<th>Hallux valgus (n=92)</th>
<th>Hallux rigidus (n=39)</th>
<th>Pes planus (n=38)</th>
<th>Ankle arthritis (n=35)</th>
<th>Chronic tendon injury (n=28)</th>
<th>Ankle instability or OCL (n=27)</th>
<th>Mid- or hindfoot arthritis (n=19)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (years) ± SD</strong></td>
<td>58.6 ± 11.3</td>
<td>53.9 ± 14.4</td>
<td>59.7 ± 11.1</td>
<td>62.5 ± 11.4</td>
<td>54.4 ± 13.1</td>
<td>39.9 ± 14.3</td>
<td>56.8 ± 11.5</td>
</tr>
<tr>
<td><strong>% Male</strong></td>
<td>13%</td>
<td>41%</td>
<td>45%</td>
<td>51%</td>
<td>32%</td>
<td>48%</td>
<td>42%</td>
</tr>
<tr>
<td><strong>BMI ± SD</strong></td>
<td>24.8 ± 5.0</td>
<td>26.3 ± 3.8</td>
<td>31.0 ± 5.4</td>
<td>31.2 ± 6.8</td>
<td>29.4 ± 6.2</td>
<td>28.5 ± 4.4</td>
<td>29.0 ± 4.5</td>
</tr>
<tr>
<td><strong>Expectations Score ± SD</strong></td>
<td>55.5 ± 19.2</td>
<td>56.1 ± 17.0</td>
<td>62.9 ± 13.4</td>
<td>63.0 ± 17.8</td>
<td>66.5 ± 18.5</td>
<td>70.1 ± 18.6</td>
<td>48.9 ± 16.1</td>
</tr>
<tr>
<td><strong>Number of Expectations with “Complete Improvement” Expected ± SD</strong></td>
<td>7.7 ± 6.6</td>
<td>7.9 ± 6.5</td>
<td>7.1 ± 6.4</td>
<td>7.2 ± 6.5</td>
<td>9.5 ± 7.3</td>
<td>11.1 ± 7.4</td>
<td>2.4 ± 4.0</td>
</tr>
<tr>
<td><strong>% Expecting to “Go Back to Normal”</strong></td>
<td>48%</td>
<td>46%</td>
<td>37%</td>
<td>31%</td>
<td>57%</td>
<td>44%</td>
<td>16%</td>
</tr>
<tr>
<td><strong>FAOS - Pain</strong></td>
<td>69.5 ± 20.6</td>
<td>55.5 ± 23.4</td>
<td>52.7 ± 18.2</td>
<td>48.0 ± 20.3</td>
<td>50.3 ± 21.6</td>
<td>53.9 ± 20.9</td>
<td>43.2 ± 16.1</td>
</tr>
<tr>
<td><strong>FAOS - Symptoms</strong></td>
<td>82.2 ± 15.7</td>
<td>63.0 ± 22.0</td>
<td>65.2 ± 19.3</td>
<td>47.0 ± 19.9</td>
<td>62.0 ± 19.7</td>
<td>58.1 ± 21.7</td>
<td>52.9 ± 19.1</td>
</tr>
<tr>
<td><strong>FAOS - Daily Activities</strong></td>
<td>84.5 ± 17.9</td>
<td>74.4 ± 22.2</td>
<td>64.0 ± 20.1</td>
<td>57.6 ± 22.2</td>
<td>60.9 ± 20.9</td>
<td>71.4 ± 22.5</td>
<td>60.5 ± 19.4</td>
</tr>
<tr>
<td><strong>FAOS - Sports</strong></td>
<td>58.5 ± 28.8</td>
<td>43.4 ± 26.6</td>
<td>34.2 ± 24.3</td>
<td>24.2 ± 26.1</td>
<td>28.9 ± 24.1</td>
<td>38.7 ± 30.1</td>
<td>23.7 ± 20.3</td>
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<tr>
<td><strong>FAOS - QoL</strong></td>
<td>44.5 ± 20.2</td>
<td>35.3 ± 26.6</td>
<td>26.5 ± 18.2</td>
<td>18.6 ± 19.3</td>
<td>26.3 ± 21.4</td>
<td>24.7 ± 16.1</td>
<td>25.1 ± 18.8</td>
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<tr>
<td><strong>SF-12 PCS</strong></td>
<td>44.8 ± 10.2</td>
<td>42.2 ± 10.5</td>
<td>35.0 ± 9.2</td>
<td>30.7 ± 10.2</td>
<td>35.3 ± 10.7</td>
<td>36.9 ± 9.9</td>
<td>33.3 ± 10.5</td>
</tr>
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<td><strong>SF-12 MCS</strong></td>
<td>53.9 ± 9.8</td>
<td>52.4 ± 10.8</td>
<td>53.1 ± 12.6</td>
<td>55.5 ± 12.8</td>
<td>53.5 ± 12.7</td>
<td>50.1 ± 9.7</td>
<td>57.5 ± 10.6</td>
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<tr>
<td><strong>GAD-7</strong></td>
<td>3.8 ± 4.3</td>
<td>5.6 ± 5.7</td>
<td>6.6 ± 6.1</td>
<td>3.4 ± 4.3</td>
<td>4.8 ± 5.7</td>
<td>6.3 ± 5.4</td>
<td>4.0 ± 5.7</td>
</tr>
<tr>
<td><strong>PHQ-8</strong></td>
<td>2.2 ± 3.0</td>
<td>3.5 ± 5.0</td>
<td>5.3 ± 6.4</td>
<td>2.9 ± 4.1</td>
<td>3.5 ± 5.7</td>
<td>4.6 ± 5.5</td>
<td>3.4 ± 4.4</td>
</tr>
</tbody>
</table>
Results

- Following multivariate regression analysis, factors that were significant contributors to higher expectations included **female sex** ($p = 0.001$), **non-Caucasian race** ($p = 0.031$), **diagnosis of ankle instability/OCL** ($p < 0.001$), and **lower scores (worse function) on the FAOS daily activities subscale** ($p = 0.024$).

- Age, BMI, assistive device use, history of orthopedic surgery, sports participation, other FAOS subscales, and the GAD-7 score were not significant predictors of expectations scores.

- **Diagnosis had the largest effect on expectations scores**, explaining 10.5% of the variation in expectations scores.
Results

- Expectations that were relatively unique to specific diagnoses included:
  - Increased shoe variety for hallux valgus and hallux rigidus
  - Improved appearance for hallux valgus
  - Improved ability to run for exercise for ankle instability or OCL
Conclusions

- Patients’ expectations of foot and ankle surgery vary widely by diagnosis.

- Higher expectations among patients with ankle instability / OCL may be related to worse functional and mental health status.

- Lower expectations among patients with hallux valgus and mid- or hindfoot arthritis may be due to patients’ recognition of the difficulty of treating their condition and appropriate pre-operative counseling by their surgeons.

- We can use the findings of this study to predict what expectations are most important to patients with different diagnoses and to guide how we counsel them prior to surgery.

