Anterior Cruciate Ligament Reconstruction Outcomes: An Evaluation of PROMIS Milestones

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Introduction

• As delivery of healthcare shifts to a value-based model, it is important for surgeons to demonstrate the value of elective operations using patient-reported outcomes measures (PROMs)

• PROMIS Physical Function (PROMIS-PF) has been used to assess recovery in patients undergoing anterior cruciate ligament (ACL) reconstruction

• Purpose: To determine the time points at which ACL reconstruction patients achieve certain clinical milestones reflected by the PROMIS-PF questionnaire

Methods

• Inclusion Criteria
  • Underwent ACL reconstruction surgery (CPT code 29888)
  • Completed PROMIS-PF forms within 15 months post-operatively

• Exclusion Criteria
  • Patients who did not communicate in English or were physically unable to complete the form
  • Pre-operative PROMIS scores

• Analysis
  • Five most frequently asked PROMIS-PF questions were identified
  • Percentage of patients choosing the top two responses (4 or 5) were identified for each question
  • Chi-square tests of homogeneity and t-tests were performed between patient demographics, number of days post-operatively surveys were administered, and responses

Table 1. Shows 5 most commonly asked PROMIS-PF questions.

<table>
<thead>
<tr>
<th>Question</th>
<th>Months Postop at which &gt;50% of Patients Achieved Milestone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does your health now limit you in doing two hours of physical labor?</td>
<td>5</td>
</tr>
<tr>
<td>Does your health now limit you in doing yard work like raking leaves,</td>
<td>3</td>
</tr>
<tr>
<td>weaving, or pushing a lawn mower?</td>
<td></td>
</tr>
<tr>
<td>Does your health now limit you in hiking a couple of miles (3km) on</td>
<td>4</td>
</tr>
<tr>
<td>uneven surfaces, including hills?</td>
<td></td>
</tr>
<tr>
<td>Are you able to do chores such as vacuuming or yard work?</td>
<td>3</td>
</tr>
<tr>
<td>Does your health now limit you in walking more than a mile (1.6km)?</td>
<td>3</td>
</tr>
</tbody>
</table>

Results

• All 5 questions showed statistically significant associations between number of days postoperatively the survey was administered and patient responses (p<.05).

• Initially we hypothesized that demographics would have a significant effect on milestone achievement, but this was not the case

• ACLR patients achieved PROMIS PF milestones 3-5 months postoperatively for the 5 most commonly asked questions

Conclusion

• Previous studies have not utilized PROMIS items but rather other clinical criteria

• Utilizing PROMIS in such context can be an improvement upon current quantitative milestone measures in ACLR

• Incorporation of PROMIS PF milestone achievement has potential as a new metric for assessing post-operative ACLR recovery in a clinical orthopedic setting

References