

January 2021

When do Patients Achieve PROMIS Milestones Following Anterior Cruciate Ligament Reconstruction?

Kareem Elhage
cq7219@wayne.edu

Nikhil R. Yedull
Wayne State University, nikhil.yedulla@med.wayne.edu

Nabil Mehta
Rush University, mehta.nabil@gmail.com

David N. Bernstein
Harvard University, bernsteindavidn@gmail.com

Eric C. Makhni
Henry Ford Health System, emakhni1@hfhs.org

Follow this and additional works at: https://digitalcommons.wayne.edu/som_srs

 Part of the [Orthopedics Commons](#), and the [Sports Medicine Commons](#)

Recommended Citation

Elhage, Kareem; Yedull, Nikhil R.; Mehta, Nabil; Bernstein, David N.; and Makhni, Eric C., "When do Patients Achieve PROMIS Milestones Following Anterior Cruciate Ligament Reconstruction?" (2021). *Medical Student Research Symposium*. 104.

https://digitalcommons.wayne.edu/som_srs/104

This Research Abstract is brought to you for free and open access by the School of Medicine at DigitalCommons@WayneState. It has been accepted for inclusion in Medical Student Research Symposium by an authorized administrator of DigitalCommons@WayneState.



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

Tables and Figures

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

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

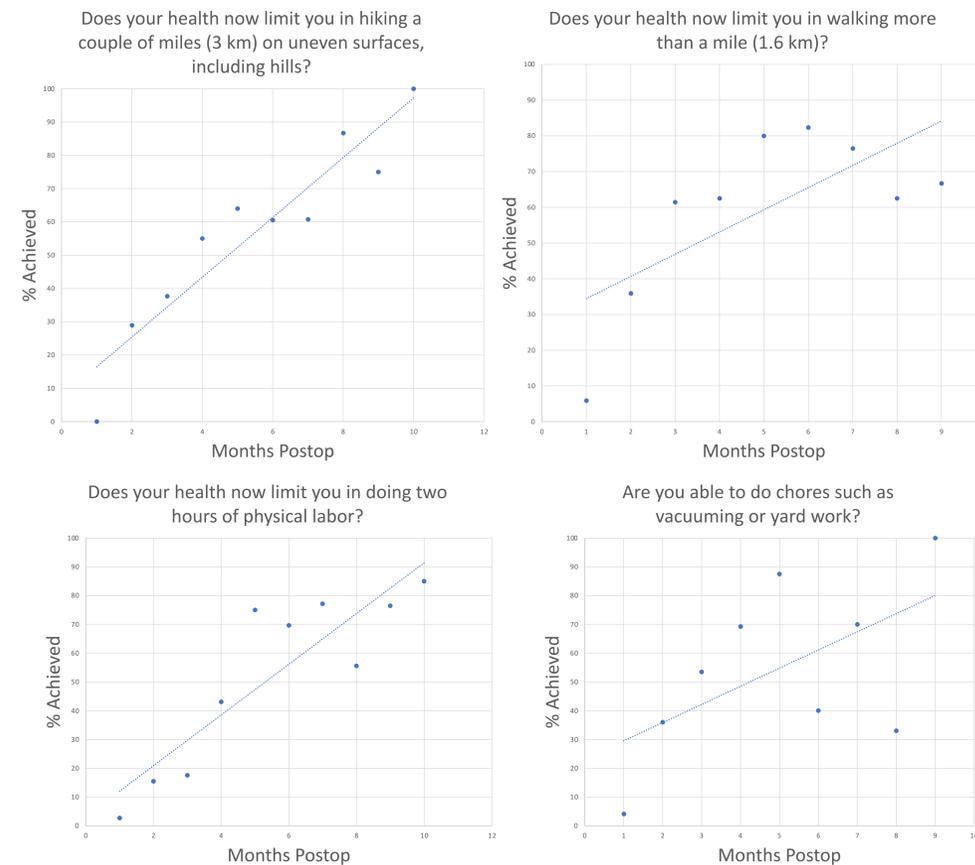


Figure 1. Scatter plots comparing months postop to percent of patients who achieved each milestone.



Figure 1 (cont.).

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

- Ardern, C.L., et al., 2018 *International Olympic Committee consensus statement on prevention, diagnosis and management of paediatric anterior cruciate ligament (ACL) injuries*. Br J Sports Med, 2018. **52**(7): p. 422-438.
- Greenberg, E.M., et al., *Anterior Cruciate Ligament Reconstruction Rehabilitation Clinical Practice Patterns: A Survey of the PRISM Society*. Orthop J Sports Med, 2019. **7**(4): p. 2325967119839041.