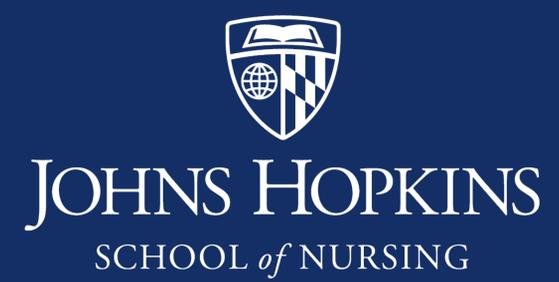


# Impact of Enhanced Preoperative Education Bundle for Patients Undergoing Rotator Cuff Repair

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## Introduction

- Rotator cuff tears are among the most common shoulder disorders, affecting 30-50% of persons over 50 years old and frequently requiring surgical management.
- Rotator cuff repair (RCR) is one of the most common orthopaedic procedures in the United States. Unlike other orthopaedic surgeries, full functional recovery can take up to a year following appropriate care including preoperative patient education.<sup>1</sup>
- Standardized preoperative patient education for RCR does not exist, leading to increased patient phone calls and emails to providers and causing patient dissatisfaction.
- Literature shows a well-developed preoperative patient education can improve surgical outcomes, reduce confusion, and increase patient satisfaction, knowledge and self-care.<sup>2-5</sup>

## Purpose and Aims

- The purpose of this quality improvement project evaluated the impact of enhanced preoperative education bundle (EPEB) for patients undergoing rotator cuff repair.
- The **aims** of the study were:
  - To **increase** patient satisfaction
  - To **decrease** the number of patient phone calls and emails to providers
  - To **decrease** providers' time spent answering phone calls and emails

## Methods

- Design and Setting:** Pre/post-intervention design at an urban clinic in the Mid-Atlantic United States conducted April 2019 thru January 2020.
- Intervention:** EPEB entails pain management, physical activity restrictions, physical therapy (PT) plan and home exercises program. Patients were provided with EPEB in person and by email.
- Measures:** *Satisfaction survey* consisted of 5 questions collected at the end of first postoperative visit in clinic. *Number of emails and phone calls* abstracted from patient's electronic medical record chart review. *Time spent emailing and calling* (in minutes) manually logged by providers to keep track of patient interaction.
- Analysis:** Descriptive statistics, t-tests, and Mann-Whitney U tests were used with alpha set at .05. All data were recorded into an excel spreadsheet, then imported to SPSS for analysis.

## Sample

- A total of 70 participants were included with 35 participants in the pre- and post-intervention groups. See Figure 1 for sample characteristics.

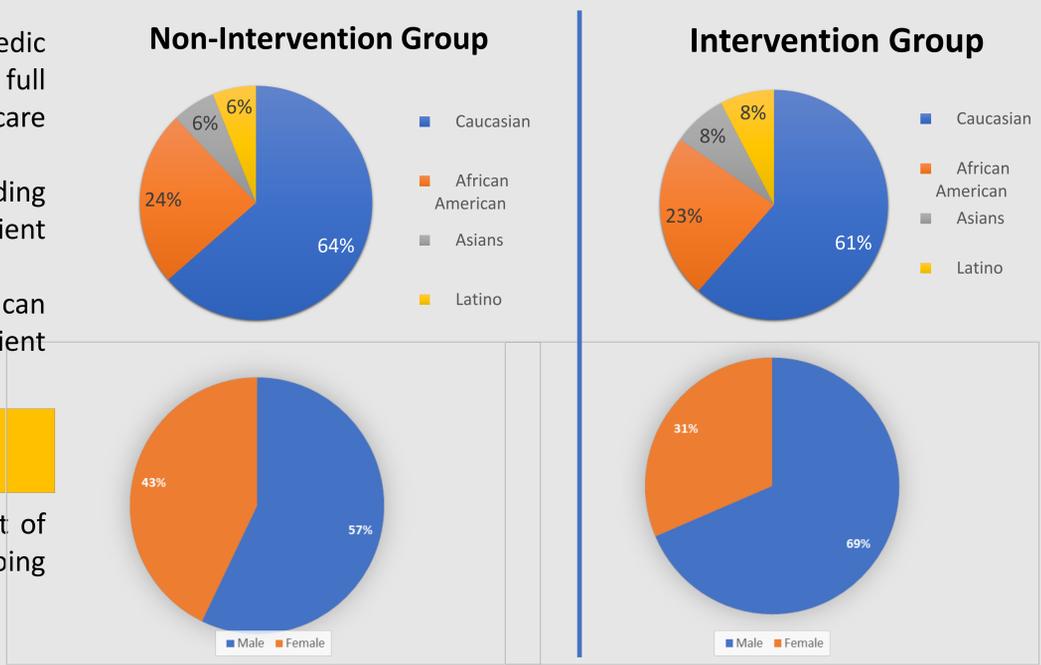


Figure 1. Sample Characteristics by Group Status

## Results

- See Table 1 below for details.

Aim	Pre-Intervention Mean (SD)	Post-Intervention Mean (SD)	Mean Difference	p
Aim 1: Patient Satisfaction	11.31 (1.51)	15.66 (0.87)	-4.34	p<0.01
Aim 2a: Number of Emails	1.31 (1.13)	0.71 (0.75)	0.6	p<0.05
Aim 2b: Number of Phone Calls	1.34 (1.26)	0.34 (0.59)	1.0	p<0.01
Aim 3a: Minutes Spent Emailing	4.83 (4.21)	3.69 (3.89)	1.14	p<0.24
Aim 3b: Minutes Spent Calling	9.63 (10.14)	1.77 (3.15)	7.86	p<0.01

- Satisfaction ↑ by **29%**
- Emails ↓ by **11.4%**
- Phone calls ↓ by **31.4%**
- Time spent ↓ by **82%**



## Conclusion

- This quality improvement project demonstrated that an EPEB can reduce the number of patient emails and phone calls, thereby reducing providers' time spent responding to patients, all while increasing patient satisfaction.
- This supports the literature, which shows that a good preoperative education can improve outcomes, reduce confusion, and increase patient satisfaction, knowledge and self-care.<sup>2-5</sup>
- While this project focused on patients undergoing RCR, it is likely that other patient populations could benefit from an EPEB.
- Ultimately, giving patients more pre-op education has little upfront costs to providers, yet saves a significant amount of time responding to patients post-op, and has the added benefit of reducing patient anxiety, confusion, and increasing patient satisfaction.

## Sustainability

- Streamline accessibility of EPEB in the EMR (electronic medical record) and AVS (after visit summary).
- Customize to patients (available in different languages, delivery method, etc).
- Team Approach

**References:** 1. Fermont, A. J., Wolterbeek, N., Wessel, R. N., Baeyens, J. P., & De Bie, R. A. (2014). Prognostic factors for successful recovery after arthroscopic rotator cuff repair: a systematic literature review. *Journal of Orthopaedic & Sports Physical Therapy*, 44(3), 153-163. 2. Edwards, P. K., Mears, S. C., & Barnes, C. L. (2017). Preoperative education for hip and knee replacement: never stop learning. *Current reviews in musculoskeletal medicine*, 10(3), 356-364. 3. Heikkinen, K., Leino-Kilpi, H., Vahlberg, T., & Salanterä, S. (2012). Ambulatory orthopaedic surgery patients' symptoms with two different patient education methods. *International Journal of Orthopaedic and Trauma Nursing*, 16(1), 13-20. 4. Hoppe, D. J., Denkers, M., Hoppe, F. M., & Wong, I. H. (2014). The use of video before arthroscopic shoulder surgery to enhance patient recall and satisfaction: a randomized-controlled study. *Journal of Shoulder and Elbow Surgery*, 23(6), e134-e139. 5. Syed, U. A. M., Aleem, A. W., Wowkanech, C., Weekes, D., Freedman, M., Tjoumakaris, F., ... & Austin, L. S. (2018). Neer Award 2018: the effect of preoperative education on opioid consumption in patients undergoing arthroscopic rotator cuff repair: a prospective, randomized clinical trial. *Journal of shoulder and elbow surgery*, 27(6), 962-967.