

Joint Replacement Improvement Initiative



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Abstract

Prior to FY2015, the joint replacement program was largely uncoordinated with very limited success in achieving market place necessary outcomes. The Multi-disciplinary Joint Reconstruction Quality Team (MJRQT) was initiated to focus on improving care to patients undergoing Joint Replacement (JR). Baseline data was obtained for key areas including Length of Stay (LOS), Venous Thromboembolism (VTE), and Cost. The team focused on pre-operative care including mandatory joint replacement class, early and frequent mobility post-op, multimodal pain management and review of implant costs to enhance the value of care provided to patients. Results demonstrate improvement in LOS, VTE, patient satisfaction and Costs by FY17 that have been sustained or improved currently.

Objectives

- 1) Develop interdisciplinary approach to manage patients undergoing JR
- 2) Decrease LOS for patients following JR
- 3) Reduce the rate of VTE
- 4) Reduce Costs of Care
 - a) Implant
 - b) Transitions of Care
- 5) Improve patient experience

Methods

The MJRQT initiated regular meetings in addition to sub-committees with links to organizational committees. The teams focused on improving pre-operative education, LOS, VTE, Surgical Site Infections (SSI) and cost associated with JR.

Opportunities were identified and worked on by appropriate team members including:

- 1) Standardizing post-op orders including VTE prophylaxis
- 2) Requiring patients to attend Joint Education Class where VTE prevention, importance of early mobility, LOS and multimodal pain management expectations were set.
- 3) Early and frequent mobility with patients dangling within 8 hours of surgery with nursing and mobilized by physical and occupational therapy multiple times a day.
- 4) Root cause analysis of every VTE, SSI and LOS outlier cases with process improvement opportunities implemented as identified
- 5) Standardization of implant usage and cost structures for implants
- 6) Optimizing transition of care to home
- 7) Multi-modal pain management

Acknowledgements

The MJRQT is lead by Dr. Mark Gonzalez, the Department head of Orthopedics, and includes JR physicians, nursing, orthopedic clinic, anesthesiology, quality, safety, hospital administration, rehabilitation services, social work

Results

Results of this coordinated effort include:

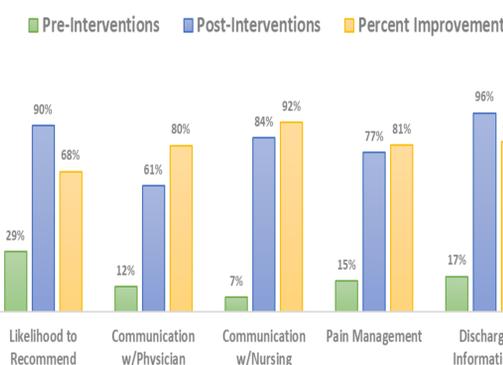
- 1) Improvement in observed over expected (o/e) index for LOS for JR patients which was 1.33 in FY15 to 1.01 in FY17 and sustained at 1.03 FY19YTD.
- 2) Post-Op Day (POD) one discharges (D/C) increased from 0% in FY15 to 6% in FY17. With increased mobility of patients on POD0, discharges POD1 are up to 35% in FY19YTD.
- 3) Rate of VTE per 1000 surgeries was 32.6 in FY15; improved to 0.0 in FY17 with 14 months straight with no VTE and currently in 13.3 in FY19YTD with 1 VTE.
- 4) Prior to implementation of the MJRQT, pre-operative patient education was occurring for <10% of patients, following implementation in CY2016 we have 100% attendance that continues through today.
- 5) Prior to implementation of a coordinated care plan and message to patients undergoing JR, only 50% of patients went home following JR. From FY17 to current nearly 70% of patients are going home.
- 6) From FY15 to FY17, there was a \$4,000 reduction in cost per case due to focus on decreasing implant costs and reducing LOS and aftercare costs. There was a slight uptick in costs in FY18 with renewed cost reduction focus in FY19.
- 7) Patient satisfaction improved for 'likelihood to recommend' by 68%, 'communication with doctors' by 80%, 'communication with nursing' by 92%, 'pain management' by 81% and 'discharge information' by 82%.

Joint Replacement Patient Outcomes

Outcome/Time Period	FY15 (Pre)	FY17 (Post)	FY19 YTD
LOS (O/E)	1.33	1.01	1.03
Percent D/C POD1	0%	6%	35%
VTE Rate	32.6	0.0	13.3
Pre-Op Patient Education	10%	100%	100%
Cost per Case	\$14,967	\$10,826	TBD

Joint Replacement Patient Satisfaction

From FY14 to FY18



Conclusion

Through coordinated efforts, the MJRQT was able to positively impact the care patients receiving JR receive from FY15 to FY17. Data comparison shows an improvement in patient outcomes related to LOS, VTE, discharge destination, patient satisfaction as well as a reduction in cost related to implants and excessive LOS. Through continued refinement, outcomes have been sustained or improved for the care of patients receiving JR through today.