Lehigh Valley Health Network Total Joint Replacement Clinical Pathway: Pre-Admission Expansion to Target Patient Education

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Background

Each year nearly one million total joint replacements (TJR) are performed nationally with an expected growth of 10-15% annually. At Lehigh Valley Health Network (LVHN), over 3,000 total knee replacements (TKR) and over 1,000 total hip replacements (THR) are performed annually, accounting for 2.24% of the net revenue of LVHN. TJR clinical pathways improve both quality and cost-effectiveness. Data have shown pre-operative patient education classes to have a positive impact on TJR length of stay (LOS). This correlation demands the protocolization of LVHN pre-admission patient education classes and its inclusion in the LVHN TJR Clinical Pathway.

Problem Statement

The timeline of the LVHN TJR clinical pathway was expanded to include pre-admission patient education classes for all patients receiving a primary, elective, unilateral TJR; this initiative was selected in response to LVHN orthopedic staff survey and interview responses.

Methodology

This was an internal quality improvement project, thus exempt from IRB approval. All work was approved by the LVHN Department of Surgery. Retrospective chart review was performed to describe the scope of TJR at LVHN. Standardized surveys were conducted with a cross-section of the LVHN orthopedic staff at the Cedar Crest, Muhlenberg, and Tilghman sites. Additionally, individual interviews were conducted with TJR surgeons and physician assistants. The interviews and surveys were used to identify issues that the respondents observed to be most common contributors to a prolonged length of stay. Pre-admission patient education class attendance was reviewed both retrospectively and prospectively to assess patient attendance before and after an implemented change in class scheduling protocol. Readability of all patient education materials was assessed by the Flesch-Kincaid Grade Level.

Results

Over 3,000 TKRs and 1,000 THRs are performed annually at LVHN, the majority being performed by a core of 5 total joint replacement surgeons. Twenty-seven surveys were collected, and respondents included 16 nurses and 11 physical therapists/occupational therapists (PT/OT). Cedar Crest, Muhlenberg, and Tilghman sites were all polled, with 7, 8, and 12 respondents, respectively. The top four factors believed to contribute the most to an increased length of stay (LOS) were pain management, PT/OT goals, discharge planning, and patient expectations. The least significant factors were thought to be medical comorbidities, post-operative complications, physician preference, and physician/PA communication. Similar themes were discovered through individual interviews with total joint surgeons and associated physician assistants. Class attendance rose from 15% prior to the new scheduling protocol to 40% following the scheduling change - a 167% increase. Patient education booklets for TKR and THR measured at a Flesch-Kincaid Grade Level of 6.6.

Conclusions and Future Implications

Patient education has been demonstrated to decrease length of stay for TJR. We report a subjective observation of this phenomenon from the LVHN orthopedic staff. Moreover, we implemented multiple changes to increase the alignment between TJR patient expectations and reality by increasing attendance at pre-admission patient education classes. These findings may be adopted by other services that conduct pre-operative patient education classes. Further study will be conducted on the correlation between pre-admission patient education and short- and long-term clinical outcomes. Additional avenues of patient education may be explored such as an interactive website or a mobile phone application.