Clin Orthop Relat Res (2017) 475:1424–1426 / DOI 10.1007/s11999-016-5190-8

Clinical Orthopaedics and Related Research®
A Publication of The Association of Bone and Joint Surgeons®

Published online: 24 February 2017

CORR Insights

CORR Insights®: Are Readmissions After THA Preventable?

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Where Are We Now?

Despite decades of data suggesting that preventing readmissions is extremely difficult [4, 5], both public and private payors are increasingly targeting readmission rates as a focus for quality improvement and cost savings. As the number of THAs performed in the United States continues to rise, so too, do the expenses associated with this intervention. Because of this, the Centers for Medicare & Medicaid Services (CMS) highlighted THA as a potential area of quality improvement and cost saving [3].

Numerous studies [9, 11, 13, 14] have reported on the predictors of, and complications associated with, post-THA readmissions. Mednick and colleagues [9] evaluated more than 9000 patients who underwent primary THA and reported a readmission rate within 30 days of just under 4%. Patient characteristics associated with readmission included BMI ≥ 40 kg/m^2, preoperative corticosteroid use, and low serum albumin levels. The adverse events most associated with readmission included superficial surgical-site infection, pulmonary embolism, deep vein thrombosis, and sepsis [9].

Sibia and colleagues [11] found a 5% rate of unplanned emergency room visits, with the most common complaints being pain/swelling (36%) and medication-related side effects (22%). They further reported a 30-day readmission rate of 3%, with ileus (23%) and wound infection (18%) as the two most-common reasons for readmission.

Finally, in a general THA cohort of Medicare patients from a single institution, Williams and colleagues reported a 6% readmission rate at 90 days, and found that a hospital length of stay of greater than 4 days was a predictor of 90-day readmission [14].

Value-based healthcare is not limited to the United States. Canada's single-payer health system is also looking at cost-saving measures through hospital readmission prevention [1, 13]. In a large Canadian study [13], van Walraven and colleagues reviewed nearly 5000 hospital discharges and reported a 6-month readmission rate of 13%. After expert review, only 16% of readmissions were deemed preventable. Most interestingly, when hospitals were ranked by readmission rates, the authors did not find a correlation between hospital rankings and the proportion of patients with preventable readmissions [13].

While readmission rate may not be the ideal surrogate for hospital quality [8], this metric likely is here to stay.

This CORR Insights® *is a commentary on the article* "Are Readmissions After THA Preventable?" *by Weinberg and colleagues available at:* DOI: 10.1007/s11999-016-5156-x.

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This *CORR* Insights® comment refers to the article available at DOI: 10.1007/s11999-016-5156-x.

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Where Do We Need To Go?

Adopting a presurgical multidisciplinary approach (HbA1C, nutritional status) and standardizing perioperative care pathways to minimize regional variations in care (using such interventions as tranexamic acid and standardized anticoagulation protocols) can help prevent complications [2, 7]. But our responsibilities do not end there. By improving our coordination of postoperative care, we can further limit complications and mitigate unnecessary emergency room visits and readmissions.

The current research [9, 10] examines straight-line relationships between single predictive factors and readmissions, but does not identify risk groups. Can patients be stratified into risk groups (high/medium/low) for complications? Employing an evidence-based, risk-stratified approach to reporting readmission rates to payors allows more-accurate comparisons between hospitals.

Weinberg and colleagues demonstrated that only 4% of all complications were perhaps preventable. Further work is needed to confirm these findings, including an estimation of the expected hospital costs associated with implementing strategies to mitigate these readmissions. Penalizing hospitals for incurring readmissions after THA has the potential to decrease access to care for patients with known risk factors. But we must understand that not all risk factors are modifiable (increasing age is one such nonmodifiable factor, but certainly not the only one), and thus, some readmissions will always occur.

Currently, there is a trend toward enhanced recovery after surgery and earlier discharge. Though laudable and necessary, early discharge must be monitored against increasing readmission rates. Present evidence suggests enhanced recovery after surgery is safe for patients and saves costs [6, 12], but risk-stratified, evidenced-based approaches are still needed to ensure high-quality care at efficient costs.

How Do We Get There?

Based on identified prediction models, patients considered for THA must undergo a risk stratification process to determine the likelihood of readmission. A tailored, cost-effective, approach should then be applied that ties the intensity of the readmission reduction intervention to the patient's risk [2]. Data from both administrative registries and individual institutions are needed. The strength of registry data with large patient samples, could provide the necessary power to stratify patients by all relevant preoperative patient factors. With single-institutional data, a greater depth of predictors are available; including pain and function and laboratory values. Further, individual subjects can be reviewed to determine how preventable a readmission could be. Once identified, interventional trials can then be designed to enhance these patient factors preoperatively and the quality of care and cost benefits can then be measured.

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