30 Day Readmission Following Orthopaedic Hip & Knee Revision: Analysis of Patient, Surgical, and "Portal of Entry" Characteristics

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INTRODUCTION: Arthroplasty comprises a large majority of elective orthopaedic procedures and generally has positive outcomes. However, while major complications are infrequent, minimizing these complications remains a targeted goal, and continuous improvement and quality metrics are often used to monitor the success rate of orthopaedic programs.

METHODS: A quality improvement analysis was performed for patients readmitted after revision surgery at our institution last year in 2024. Patients were identified through an internal, performance metric system. Chart review collected demographics and other historical/surgical data. Revision surgery was classified as the specific surgical intervention at our institution immediately prior to readmission. All patients were grouped into a portal of entry (PoE) that described how their surgery came to be; the groups were: through the emergency department (ED), transfer from outside, internal clinic, direct in-patient admission from outside, or referral. A surgical urgency was assigned to all cases based on the presence of acute fracture, infection, or arrival through the ED. The presence of an Orthopaedic Medical Optimization Program (OMOP) note was collected and used as a surrogate for medical optimization prior to revision surgery. Reasons for readmission within 30 days were recorded.

RESULTS SECTION: A total of 44 patients were included in the analysis (24 females/20 males), comprised of 27 hip revisions and 17 knee revisions. The average BMI was 32.3 (±8.11). Prosthetic joint infection was the largest cause for readmission (32%) followed by respiratory-related reasons (8%), abnormal lab values (6%), sepsis (6%), gastrointestinal-related (6%), pneumonia (5%), and venous thromboembolism (5%), with other various causes making up the minority of readmissions. 20 of the 23 urgent revision cases were not medically optimized whereas all 13 non-urgent patients were. Many intermediately urgent cases were medically optimized (4 of 8 patients). Of the 19 patients with deep infection specifically, 9 were treated urgently whereas only 7 were medically optimized. 20 patients had a portal of entry of our clinic, 12 from our ED, 9 transferred from an outside ED, 2 were in-patient transfers, and 1 was a referral.

DISCUSSION: Urgent joint revision cases due to prosthetic joint infection appear to make up the largest subset of readmitted patients. Furthermore, patients not medically optimized during urgent surgical hospitalizations appear to be at increased risk of readmission. Although the majority of patients were initially seen in our clinic, the portal of entry did not appear to influence readmission.

SIGNIFICANCE/CLINICAL RELEVANCE: (1-2 sentences): The current quality improvement analysis identified a subset of patients with medical optimization and non-urgent revision surgery who might benefit most from workflow changes within our orthopaedic program whereas those not optimized with an urgent revision may represent a sub-population with low-success potential.

REFERENCES: None

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IMAGES AND TABLES: