

Readmission After Radical Prostatectomy: Characterizing Timing and Etiology to Identify Quality Improvement Targets

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Introduction and objectives:

Preventable readmissions after radical prostatectomy (RP) are an important target for quality improvement (QI). Nonetheless, specific timing and cause of readmission, which are not reflected in a gross figure such as readmission rate, have distinct implications for potential intervention. We sought to identify actionable QI targets by characterizing the timing and reason for post-RP readmission.

Methods:

We identified patients who underwent RP in the Michigan Urological Surgery Improvement Collaborative (MUSIC) registry between 1/2014 and 6/2023. The timing and reason for admission were characterized for readmissions within 30 days of discharge. We compared patient and disease factors and readmission etiology between early (0-7 days) and delayed (8-30 days) readmission via the Wilcoxon rank sum test, Fisher's exact test, or Pearson's chi-squared test as appropriate.

Results:

Amongst 19,736 RP patients, 784 (4.0%) were readmitted. Of these readmissions, 446 (57%) were early and 338 (43%) were delayed (Figure 1). Patient and disease characteristics were similar between readmission groups, except Charlson score, which was lower in early readmissions ($p=0.020$). Infection (29%), gastrointestinal (GI) cause (23%), and urine leak (16%) were the most common reasons for readmission. GI-related causes were significantly more common amongst early readmissions (35% vs 8.3%, $p<0.001$), while infection (23% vs 37%, $p<0.001$), and urine leak (13% vs 20%, $p=0.004$) were more common amongst delayed readmissions.

Conclusions:

Over half of post-RP readmissions occurred within the first week following discharge. These early readmissions were frequently driven by GI issues (e.g., ileus), which may be potentially preventable. Efforts targeting GI causes, such as improved patient education and opioid-sparing pain management, represent a high yield area to decrease readmissions.

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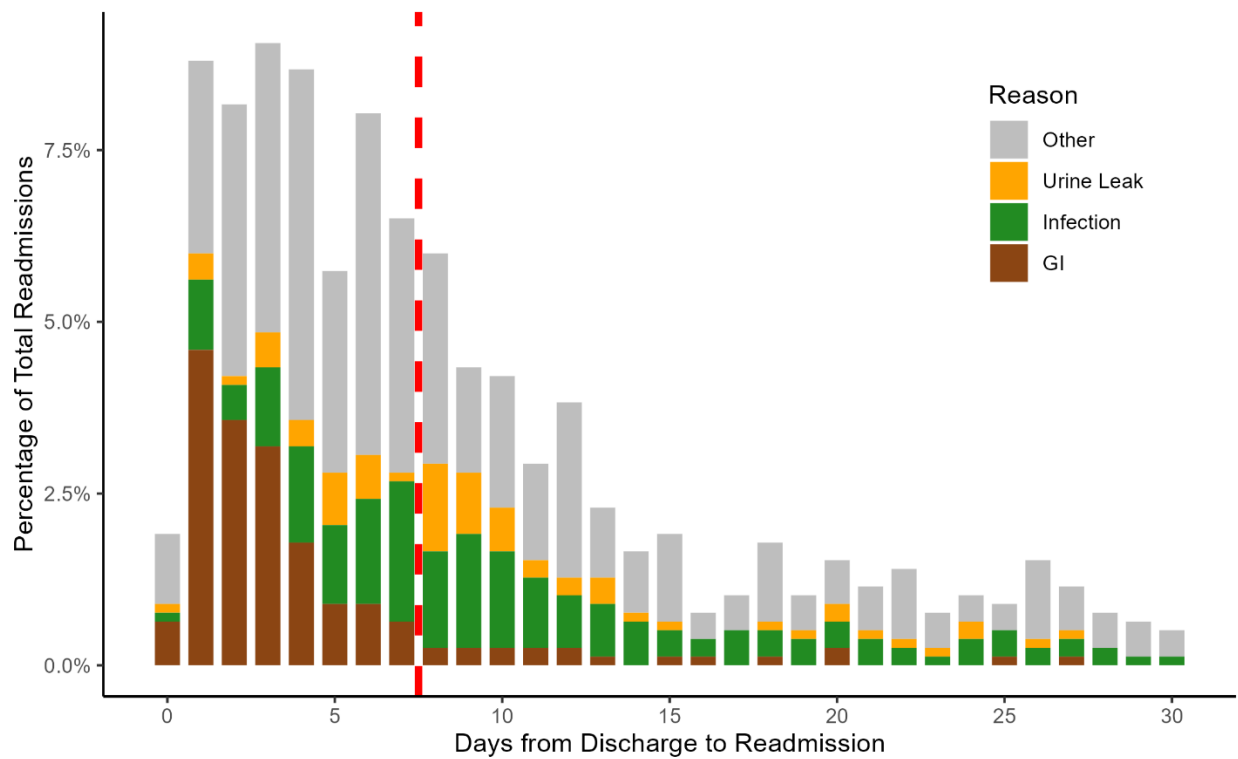


Figure 1. Distribution of readmission over time since discharge, by reason for admission. Vertical dashed line distinguishes early (0-7 days) from late (8-30 days) readmissions.