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Opioid Prescribing Patterns and Post-Prostatectomy Readmission

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Introduction and objectives:
Preventable readmissions after radical prostatectomy (RP) are an important target for quality improvement. Readmissions for gastrointestinal problems are common, and these may be exacerbated by opioid use. Here, we sought to describe the relationship between post-op opioid prescription and readmission.

Methods:
We reviewed RP patients in the Michigan Urological Surgical Improvement Collaborative (MUSIC) registry from 5/2018 to 6/2023, during which time opioid prescription was disclosed by patients as a part of prospectively collected patient reported outcomes (PROs). Patients who completed pre-op and 1 month post-op PROs, including a question about opioid prescription, were included. Opioid prescription was categorized as 0 pills, 1-6 pills, and >6 pills. Patient, disease, operative, and hospitalization characteristics were tabulated and compared by opioid prescription category via the Kruskal-Wallis rank sum test or Pearson's chi-squared test, as appropriate. A multivariable mixed-effects logistic regression model analyzed the relationship between opioid prescription categories and post-op readmission.

Results:
Our analysis included 2239 patients; characteristics across opioid prescription categories were similar, besides statistically but not clinically significant differences in age, race, comorbidities, practice type, and length of stay. The unadjusted readmission rate was 1.7%, 3.1%, and 4.1% for 0 pill, 1-6 pill, and >6 pill categories, respectively. After adjusting for demographic, clinical, and operative variables, opioid-free RP (0 pills prescribed) was associated with a lower odds of readmission compared with >6 pills prescribed (OR=0.37, 95% CI, p<0.001 Table 1).

Conclusions:
We demonstrate a robust association between opioid-free RP and decreased odds of post-op readmission. Further work will elucidate mechanisms by which post-op opioid use may cause this effect.

Table 1. Results of multivariable mixed-effects logistic regression model for the odds of 30-day readmission, adjusting for age, body mass index, Charlson score, biopsy Gleason grade, pelvic lymph node dissection at RP, and post-op length of stay. Note that model accounts for practice and surgeon as nested random effects.

	OR (95% CI)	p-value	Group p-value
Pill Category (ref: >6 pills)			0.020
1-6 pills	0.71 (0.36,1.37)	0.3	
0 pills	0.34 (0.16,0.73)	0.005	