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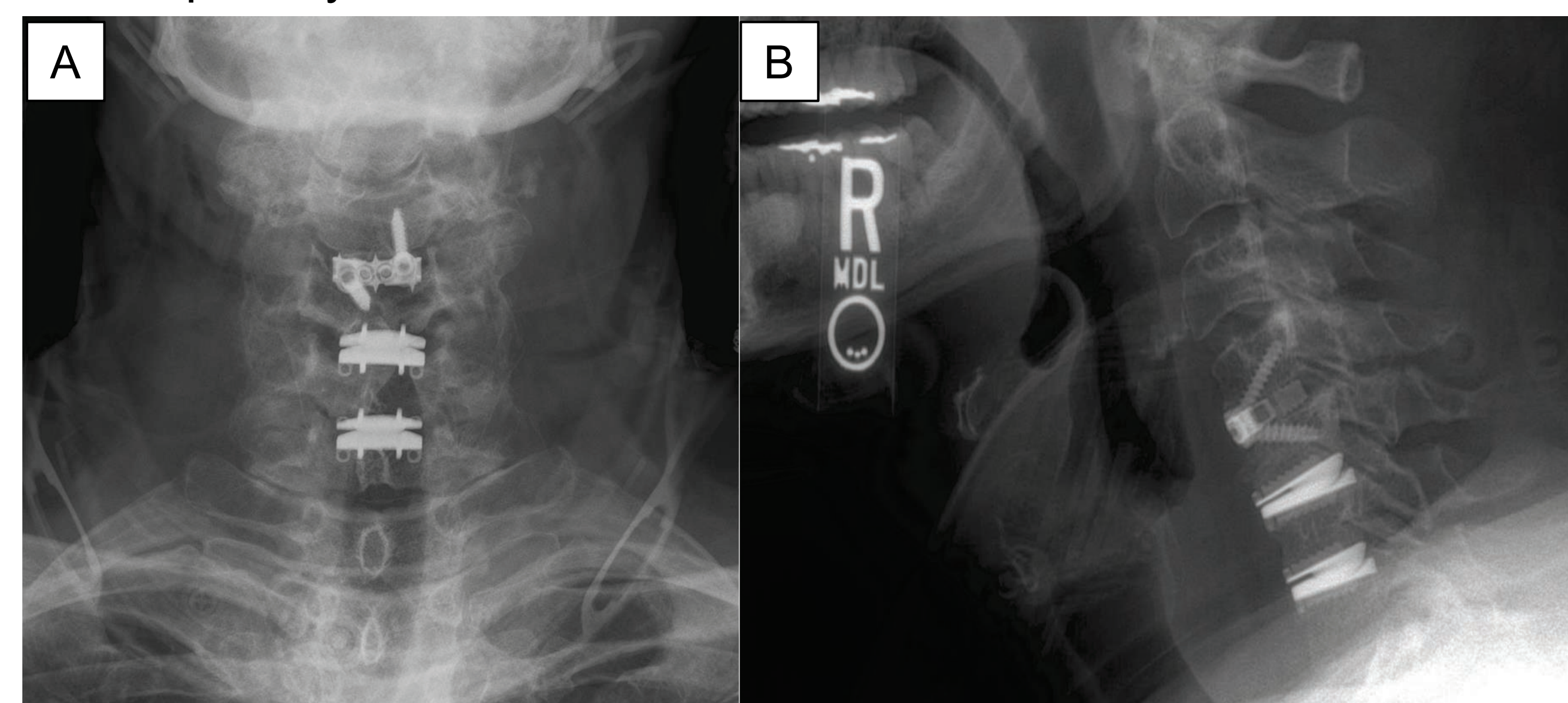
Factors Associated With Increased Discharge Opioid Prescriptions Following Primary Anterior Cervical Spine Surgery

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Introduction

- Opioid overuse is a substantial cause of morbidity and mortality, and orthopaedic surgeons are the third highest prescribers.¹
- Data on factors associated with discharge opioid prescriptions after elective anterior cervical surgery (ACS) is limited.
- ACS includes anterior cervical discectomy and fusion (ACDF) and cervical disk replacement (CDR) for cervical radiculopathy and/or myelopathy.

Figure 1: Anteroposterior (A) and lateral (B) radiographs of a patient status post hybrid C4-5 ACDF and two-level CDR at C5-6 and C6-7.

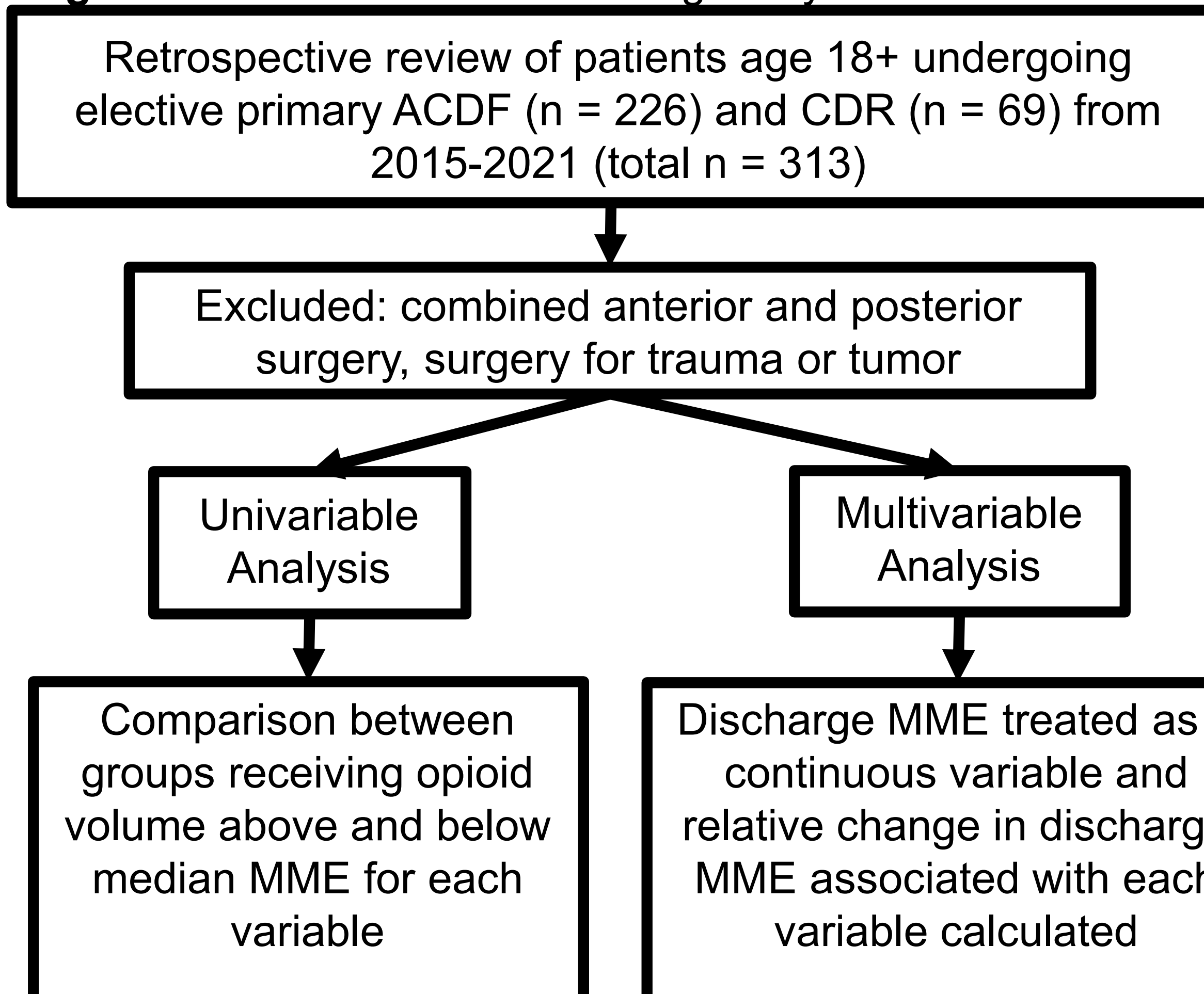


Objectives

- To evaluate the volume of postoperative opioids prescribed and factors associated with increased volume after ACS.

Material & Methods

Figure 2: Flowchart demonstrating analysis



Results

Figure 3: Distribution of Total Opioid Prescription Volumes for All Patients

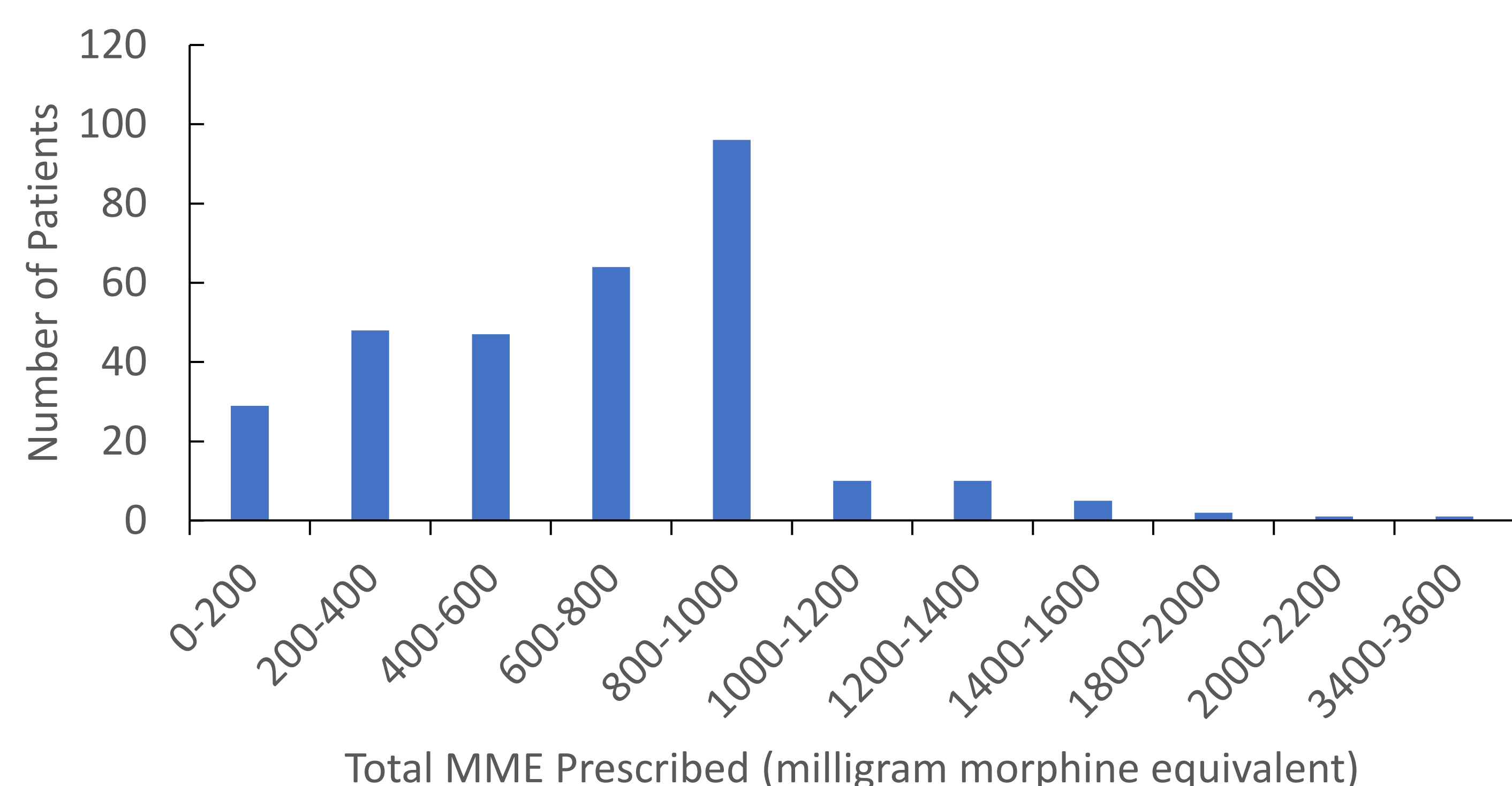


Figure 5: Total Opioid Prescriptions, By Prescriber Type

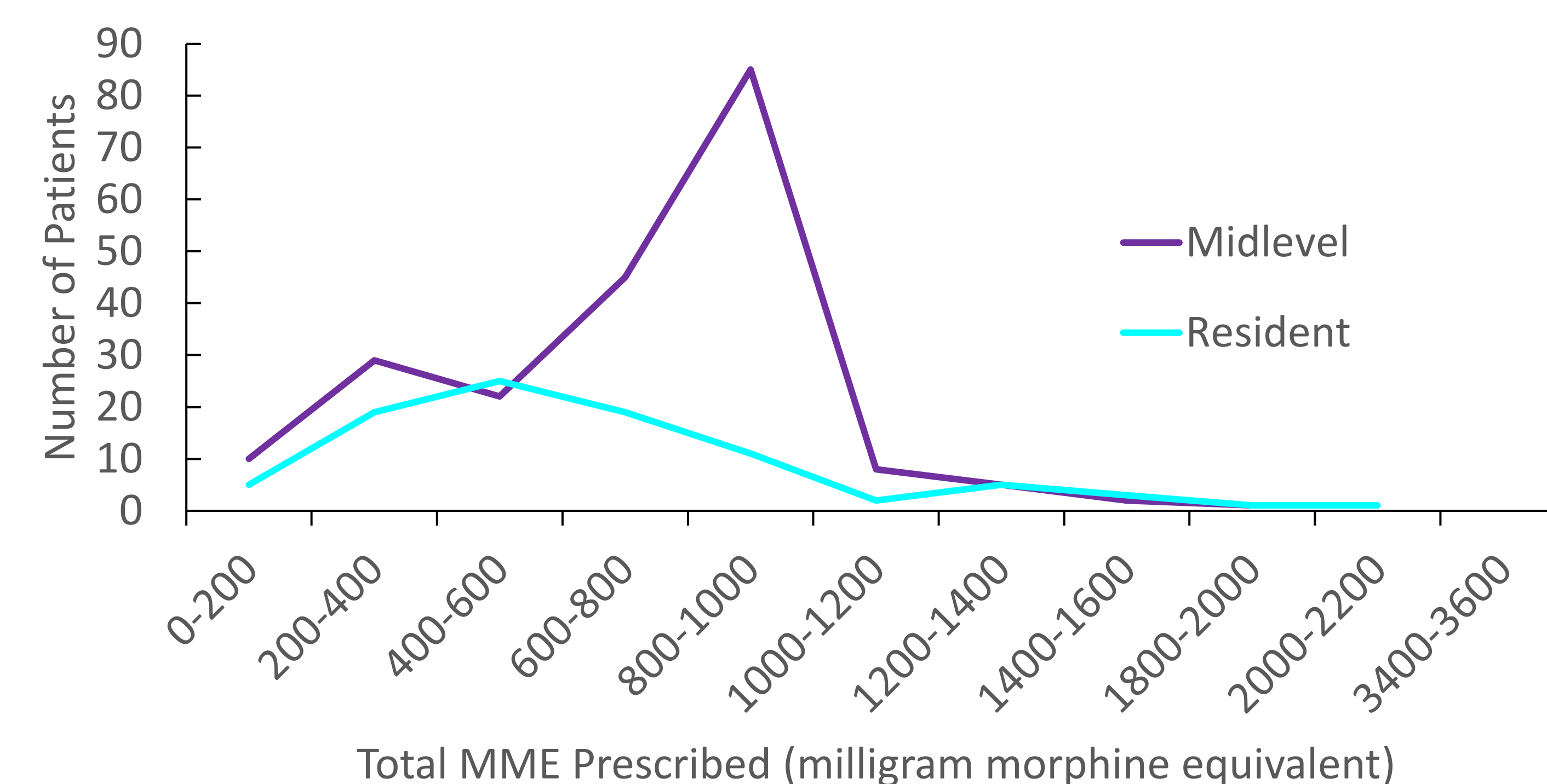


Figure 7: Total Opioid Prescriptions, by Presence or Absence of Preoperative Radiculopathy

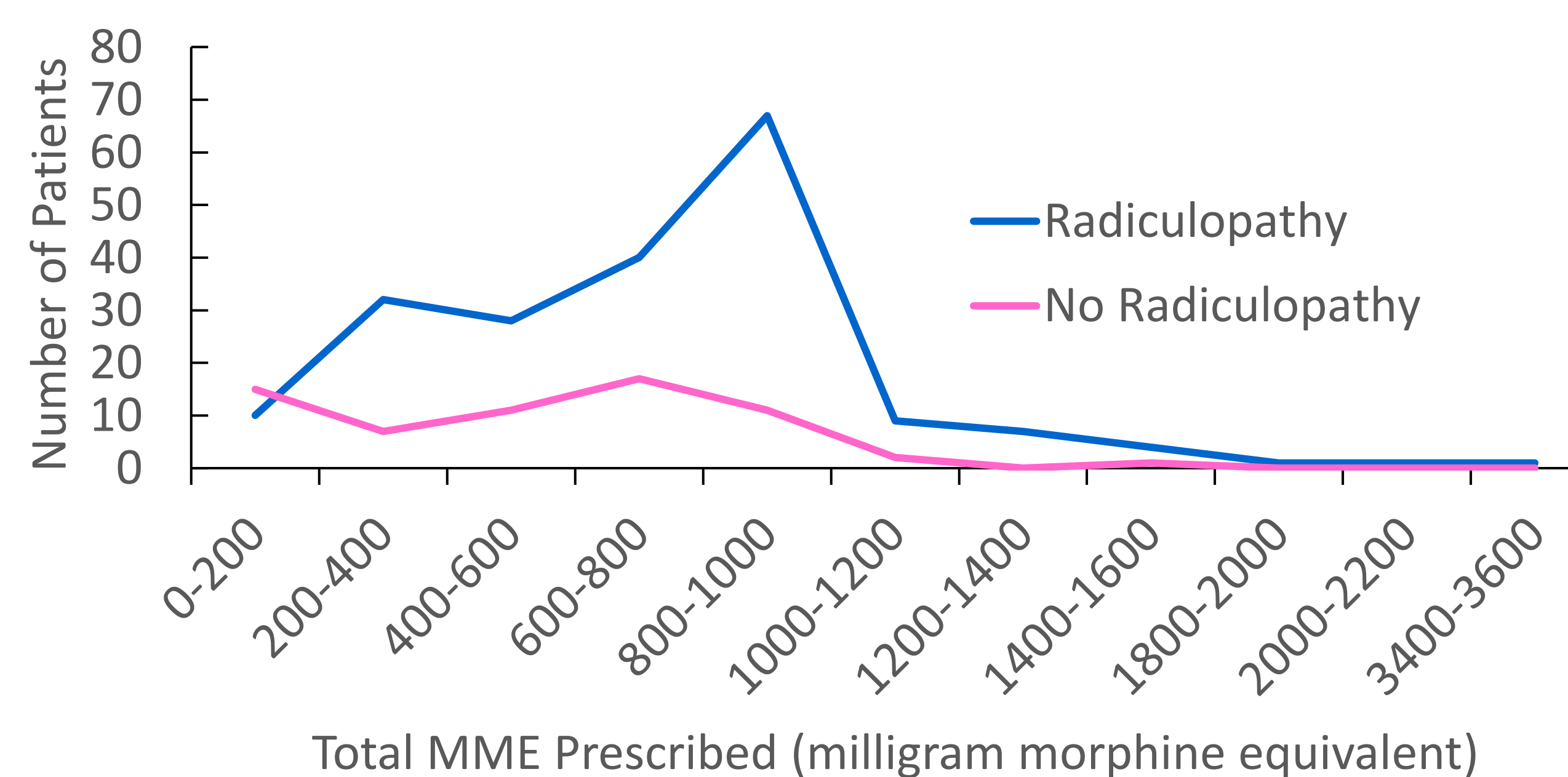


Figure 4: Total Opioid Prescriptions, By Procedure Type

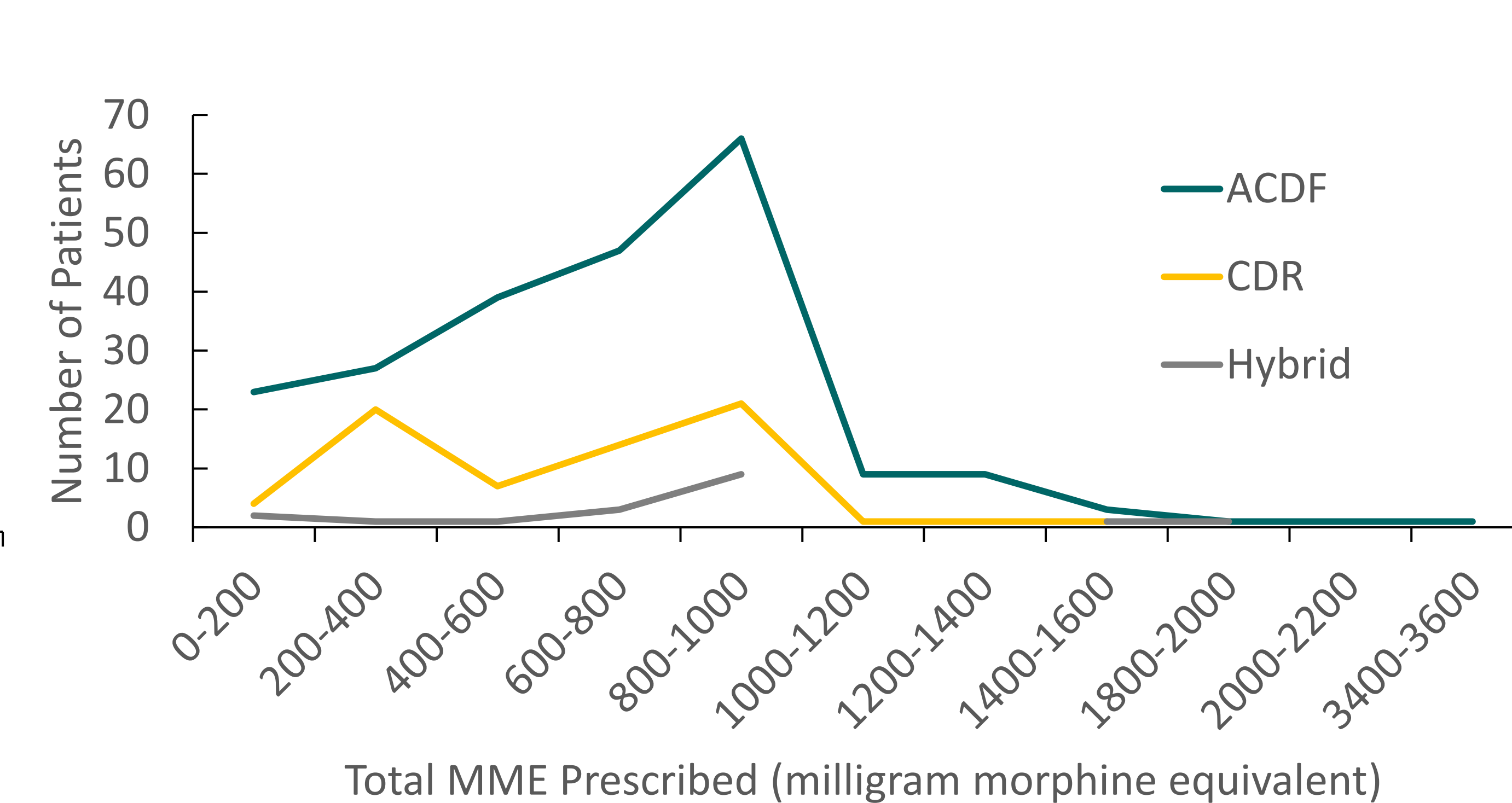


Figure 6: Total Opioid Prescriptions, By Pre-Op Opioid Use

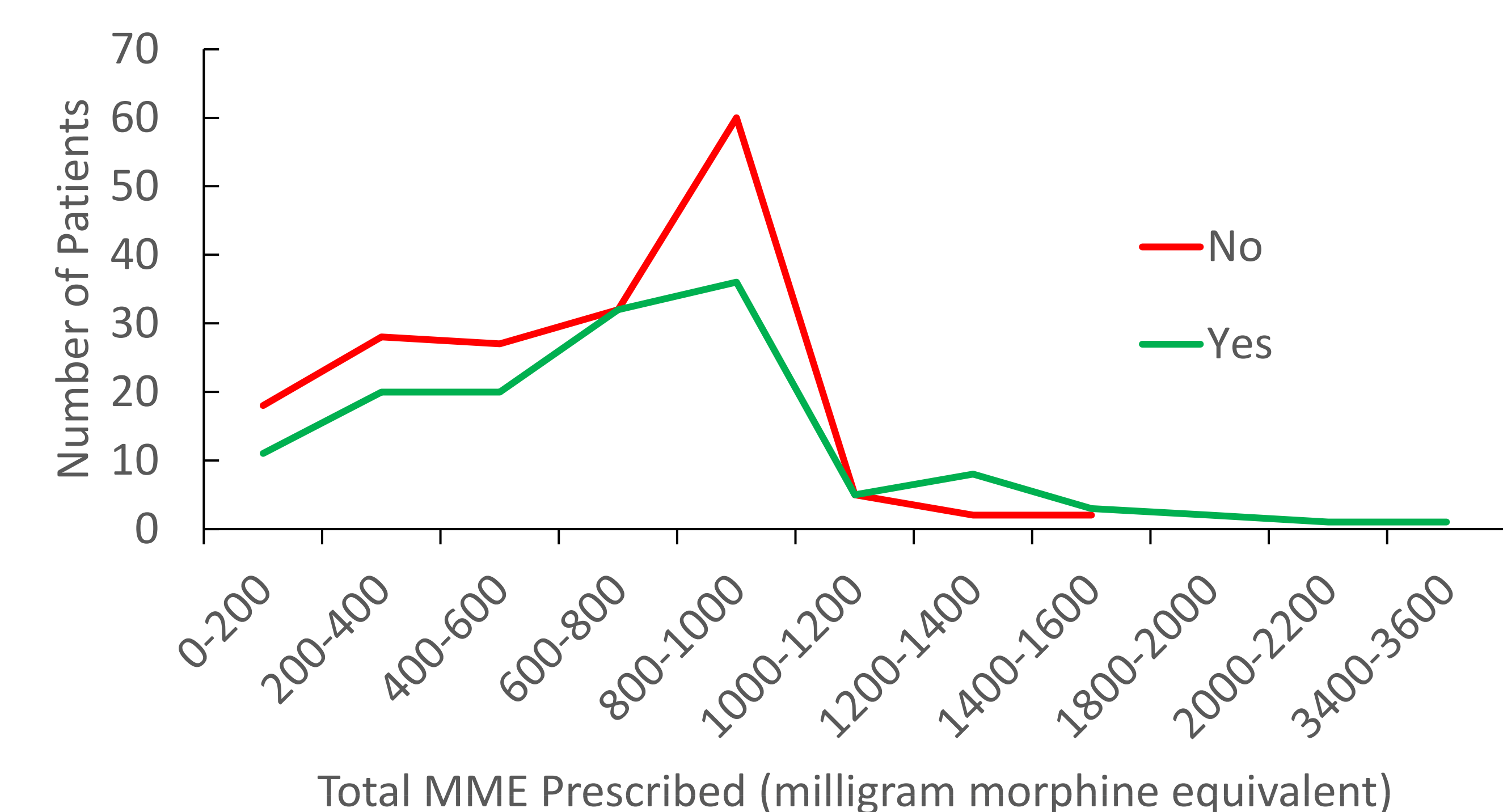
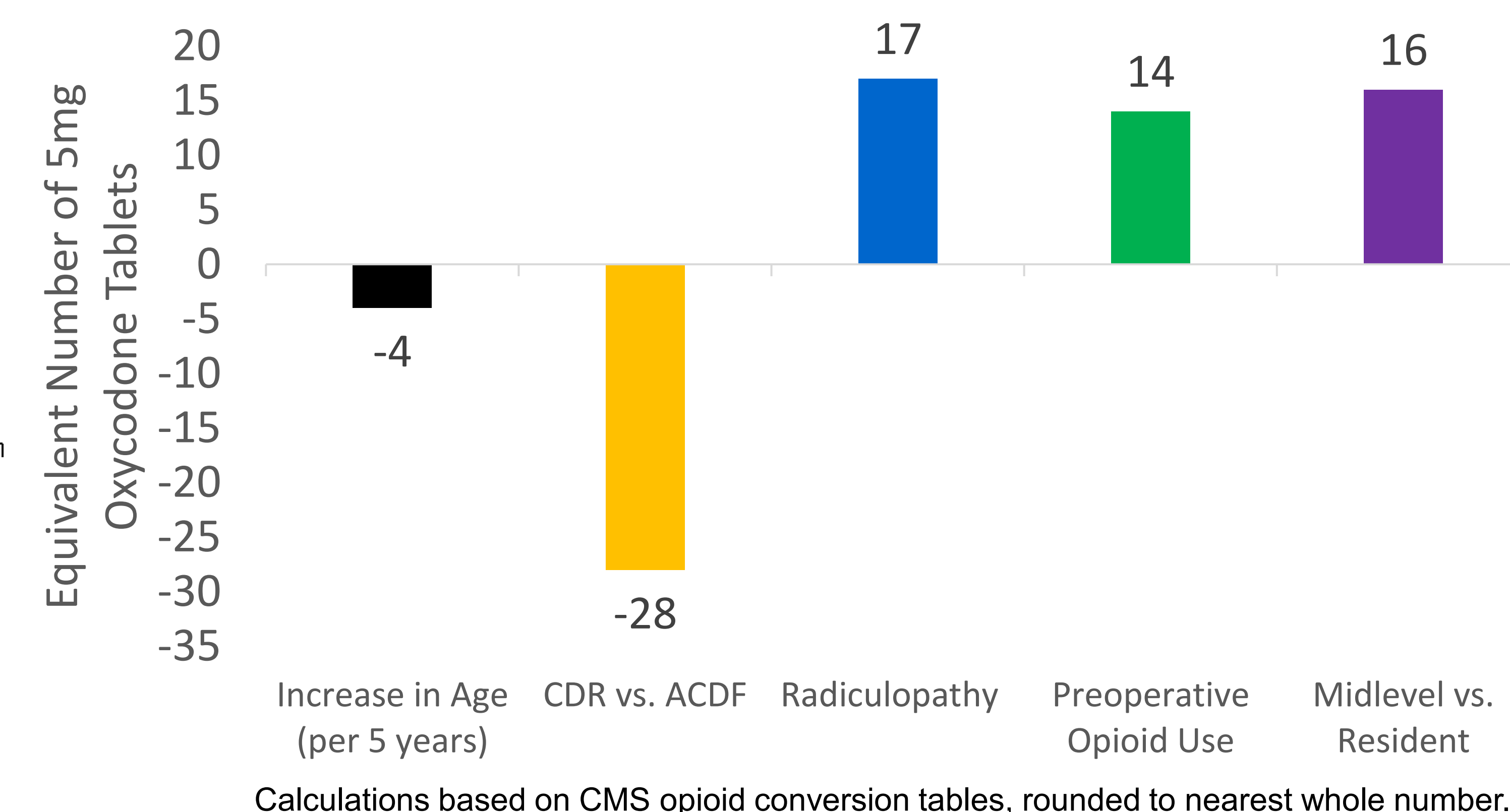


Figure 8: Increased Number of 5mg Oxycodone Tablets Prescribed at Discharge for ACS Patients for Each Factor



Demographic, Surgical, and Prescriber Information			Number	%
Total			313	100.0%
Age (years, average)			57.2	N/A
Male			157	50.2%
Female			156	49.8%
Pre-operative Opioid Use				
No			174	55.6%
Yes			139	44.4%
Surgical Indication				
Radiculopathy			199	63.6%
Myelopathy			60	19.2%
Myeloradiculopathy			51	16.3%
Procedure Type				
ACDF			226	72.2%
CDR			69	22.0%
Hybrid			18	5.8%
Prescriber Type				
Midlevel Prescriber			208	69.6%
Resident Prescriber			91	30.4%

Abbreviations: ACDF: anterior cervical discectomy and fusion, CDR: cervical disc replacement

- Factors independently associated with greater discharge opioid prescription volume:
 - Younger age ($p = 0.010$)
 - Procedure type (ACDF, $p < 0.001$)
 - Preoperative radiculopathy ($p = 0.029$)
 - Preoperative opioid use ($p = 0.012$)
 - Prescription written by a midlevel provider ($p = 0.010$)

Summary & Conclusions

- There is wide variability in prescription opioid discharge volumes after ACS surgery.
- Several patient, procedure, and perioperative factors associated with increased discharge opioid volumes were identified.
- These factors should be considered when designing protocols and interventions to reduce and optimize postoperative opioid use after ACS surgery.

Acknowledgements

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References

1. Volkow ND, McLellan TA, Cotto JH, Karithanom M, Weiss SR. Characteristics of opioid prescriptions in 2009. *Jama*. Apr 6 2011;305(13):1299-301. doi:10.1001/jama.2011.401

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Calculations based on CMS opioid conversion tables, rounded to nearest whole number.