

Supplemental Tables

Supplemental Table 1. Patient demographics.

Characteristic	Patients, n = 180
Age, median (IQR)	64 (54, 71)
Sex, n (%)	
Male	100 (55.6%)
Female	80 (44.4%)
BMI (kg/m ²), median (IQR)	25.4 (21.9, 30.2)
ASA PS, n (%)	
II	19 (10.6%)
III	150 (83.3%)
IV	11 (6.1%)
Anesthesia duration, minutes, median (IQR)	296.5 (254.8, 349.3)
Total surgery time, minutes, median (IQR)	189 (143.8, 227.3)
Intraoperative opioid, MME, median (IQR)	30.5 (20, 50.6)
Spine operative site, n (%)	
Cervical	40 (22.2%)
Thoracic	94 (52.2%)
Lumbar	73 (40.6%)
Multiple spinal regions	33 (18.3%)
Hospital duration, days, median (IQR)	5 (3, 8)

Patients were categorized as opioid tolerant if they were prescribed at least 60 mg PO morphine per day, 25 mcg transdermal fentanyl per hour, 30 mg PO oxycodone per day, 8 mg PO hydromorphone per day, 25 mg PO oxymorphone per day, or an equianalgesic dose of another opioid. This was a modified definition of the Food and Drug Administration's guidelines, as it did not take into account whether the aforementioned pain medications and dosages were taken by the patient for one week or longer.¹ ASA PS = American Society of Anesthesiologists physical status; BMI = body mass index; IQR = interquartile range; MME = morphine milligram equivalent.

Supplemental Table 2. Bland-Altman analyses comparing POD@MN and 24i methods.

Time Interval	Bias (MME)	SD of Bias (MME)	95% Limits of Agreement (MME)
All cases			
POD 0 to 1 vs. 0 to 24 hours	43.8*	81.9	-117 to 204
POD 0 to 2 vs. 0 to 48 hours	39.4*	108	-172 to 251
POD 1 vs. 0 to 24 hours	-42.6*	67.7	-175 to 90.1
POD 1 to 2 vs. 0 to 48 hours	-47.1*	74.8	-194 to 99.5
Opioid tolerant cases			
POD 0 to 1 vs. 0 to 24 hours	82.8*	139	-190 to 356
POD 0 to 2 vs. 0 to 48 hours	106*	208	-301 to 513
POD 1 vs. 0 to 24 hours	-52.6*	104	-257 to 152
POD 1 to 2 vs. 0 to 48 hours	-29.4	127	-278 to 219
Opioid naïve cases			
POD 0 to 1 vs. 0 to 24 hours	33.0*	52.7	-70.3 to 136
POD 0 to 2 vs. 0 to 48 hours	21.0	39.3	-56.1 to 98.0
POD 1 vs. 0 to 24 hours	-39.9*	53.7	-145 to 65.3
POD 1 to 2 vs. 0 to 48 hours	-52.0*	51.6	-153 to 49.3
All cases arranged by average dose of POD@MN and 24i			
POD 0 to 1 vs. 0 to 24 hours: 1 st quartile	7.9	10.4	-12.4 to 28.2
POD 0 to 1 vs. 0 to 24 hours: 2 nd quartile	22.2	21.3	-19.5 to 63.9
POD 0 to 1 vs. 0 to 24 hours: 3 rd quartile	34.2*	29.0	-22.7 to 91.1
POD 0 to 1 vs. 0 to 24 hours: 4 th quartile	111*	139	-162 to 384

Predefined bias of clinical significance is 30 MME. Since there is no established number for clinically significant MME, this threshold was determined by taking half of 60 MME, which is the daily opioid dosage that designates a patient as opioid tolerant if taken for seven days or longer according to the Food and Drug Administration.¹ 24i = 24-hour intervals after surgery; POD@MN = postoperative day beginning at midnight following the date of surgery; POD = postoperative day, MME = morphine milligram equivalent, * = clinically significant difference based on predetermined Bland-Altman analysis threshold of 30 MME.

Supplemental Figure Legend

Supplemental Figure 1. Study Flow Diagram. This is a retrospective study of all laminectomy cases at our institution, January to November 2019. Cases that concluded after midnight and those with no postoperative opioid consumption were excluded, as these cases were not amenable to comparison between POD@MN and 24i in this study. Patients who received epidural analgesia were also excluded on the basis that postoperative opioid consumption would be affected. No intrathecal opioids were used. Total intravenous anesthesia with remifentanyl, propofol, dexmedetomidine, and bispectral index monitoring was routinely used. Hydromorphone was administered at the conclusion of the procedure (0.54 ± 0.81 mg) for pain control.

Supplemental References

1. Swarm RA, Paice JA, Anghelescu DL, et al. Adult cancer pain, version 3.2019. *J Natl Compr Canc Netw*. 2019;17(8):977-1007. doi:10.6004/jnccn.2019.0038