

# Simple Frameshifts in MIS Postoperative Pain Management Significantly Reduce Opiate Prescriptions

L Glick, D Wong, TM Han, JY Leong, A Uhr, JR Mark, MJ Mann, EJ Trabulsi, CD Lallas, T Chandrasekar  
Department of Urology, Sidney Kimmel Medical College, Thomas Jefferson University

## Problem Definition

- Minimally invasive surgery (MIS) is increasingly common and reduces patient morbidity, hospitalization time, and costs<sup>1</sup>
- Previous studies have found that opioids are routinely prescribed after MIS, and the majority go unused<sup>2</sup>
- Interventions restricting opioids following gynecologic and urologic surgery have resulted in fewer prescriptions while maintaining patient comfort<sup>3,4</sup>
- At Jefferson, the established pain protocol for urologic MIS includes default PRN opioids for pain control
- We implemented a novel pain protocol to reduce narcotics following MIS

## Aims For Improvement

- The intervention aimed to reduce narcotics provided to patients after MIS by:
  - Reducing number of narcotic prescriptions and amount prescribed by 25% without affecting patient-reported pain scores
- Usage measured in Morphine Equivalent Doses (MED)
- MED and pain score assessed at 3 time points: post-op day 1 (POD1), discharge (D/C) and follow-up (FU) apt
- Pre- and Post-intervention cohorts
  - Month 1 (Pre-intervention): 21 patients
  - Month 2 (Post-intervention): 30 patients

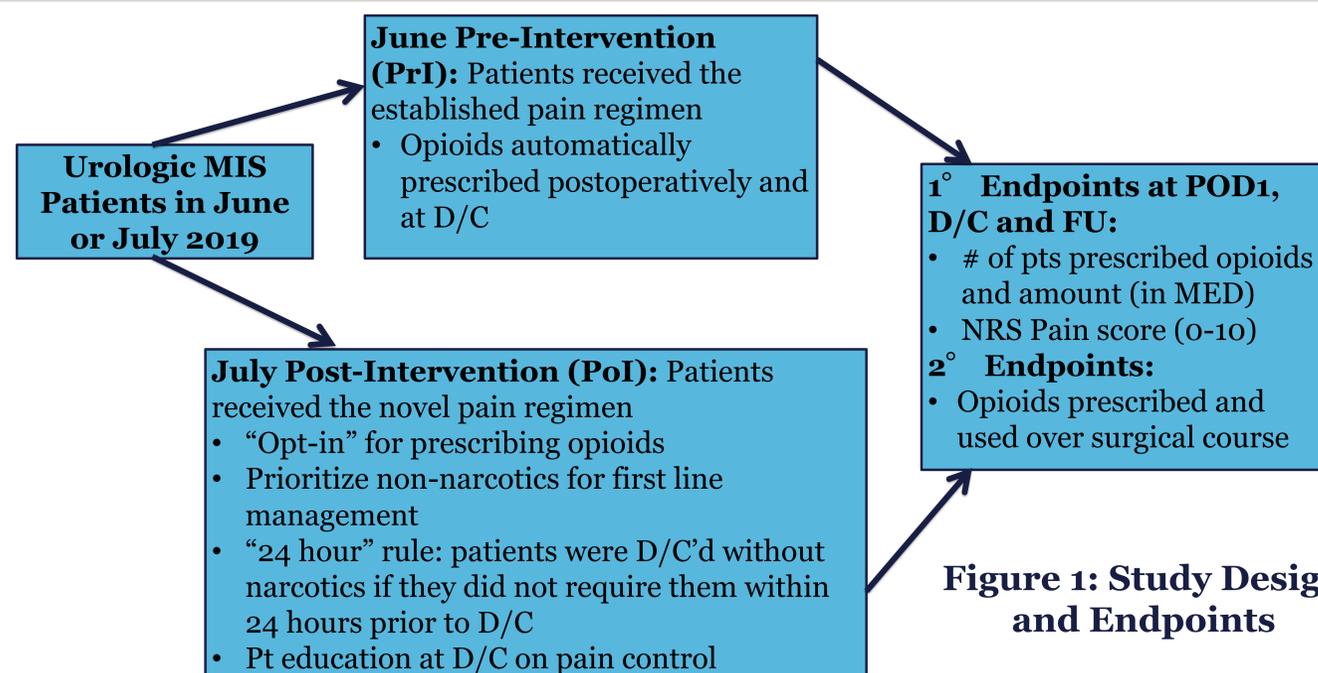
## Measurement and Results

- Subjects were demographically similar, underwent the same procedures and had approximately the same LOS and length of follow-up
- Analyses were performed for the entire cohort;
  - Subset analysis of patients undergoing a Radical Prostatectomy (RP)
- Intervention resulted in 70% fewer subjects being prescribed narcotics at discharge, and a 95% reduction in amount prescribed in the entire cohort
- RP subgroup analysis revealed a similar reduction in mean amount of narcotics prescribed at discharge
- At POD1, D/C and FU, there was no significant difference in pain scores between the PrI and PoI groups

	PrI (n=21)	PoI (n=30)	P-value
<b>POD 1</b>			
Patients receiving narcotics, n (%)	15 (71.4%)	23 (76.7%)	0.673
MED (mg, mean [95% CI])	15.2 [6.4, 36.1]	16.9 [8.5, 33.6]	0.845
NRS pain score, mean (SD), [95% CI]	4.0 (2.8), [2.8, 5.3]	4.5 (3.0), [3.3, 5.6]	0.752
<b>Discharge</b>			
Patients discharged on narcotics, n (%)	21 (100%)	9 (30.0%)	<0.001
MED (mg, mean [95% CI])	69.3 [60.0, 80.2]	3.5 [1.7, 7.4]	<0.001
NRS pain score, mean (SD), [95% CI]	3.6 (2.6), [2.4, 4.7]	4.1 (2.6), [3.1, 5.1]	0.597
<b>Follow-Up</b>			
Patients receiving additional narcotics, n (%)	2 (9.5%)	3 (10.3%)	0.924
MED (mg, mean [95% CI])	14.7 [5.9, 36.7]	3.5 [1.7, 7.0]	0.011
NRS pain score, mean (SD), [95% CI]	1.5 (2.1), [0.5, 2.4]	1.6 (2.6), [0.6, 2.6]	0.759
<b>MED over Entire Surgical Course</b>			
Prescribed MED (mg, mean [95% CI])	103.0 [79.9, 132.7]	23.3 [10.9, 49.8]	0.002
Used MED (mg, mean (SD), [95% CI])	35.8 [15.1, 84.9]	20.9 [10.1, 43.1]	0.327

**Table 1: Mean MED and NRS Pain Scores for the General Cohort**

## Intervention



**Figure 1: Study Design and Endpoints**

## Citations

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## Next Steps and Lessons Learned

- The number and amount of narcotics prescriptions were reduced by more than 70% without affecting pain scores
- Currently, the new pain protocol remains in use at Jefferson following urologic MIS
- Future directions include the reduction of intraoperative narcotics and increased use of local anesthesia
- Our team learned that small shifts in approach, including electronic “nudges” and patient education, can result in drastic results that benefit patients