

# Reduction of Opioid Prescribing Practices Following Elective Orthopedic Surgery in a Single Private Practice



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## BACKGROUND

- From 1997 to 2017, there have been more than 400,000 deaths from opioid overdoses.<sup>1</sup>
- The prescribing of opioids for post-operative pain is one of the most common events that leads to opioid abuse and addiction.<sup>2,3</sup>
- Orthopedic surgeons are the third highest prescribers of opioids.<sup>4</sup>
- In one of the largest private orthopedic practices in the US<sup>5</sup> a quality improvement project was implemented to identify and decrease post-operative opioid prescribing and consumption of opioids.

## IMPLEMENTATION PROCESS

- The project was implemented when a group of surgeons questioned how pain was managed for their patients.
- After the formulation of the project, surgery center board approval was given and IRB approval obtained.
- Patient data collection focused on all ambulatory surgery center (ASC) patients (excluding those with Tenex, epidural steroid injections, and total joint procedures) who underwent elective orthopedic surgery during the respective phase.
- Baseline prescribing data was collected through a retrospective chart review followed by four phases of both prescribing and consumption data (chart review and patient interviews/surveys).
- Baseline data was collected for randomly selected surgeries between January-June 2016; following this was data collection for Phase I (2 weeks at end of July 2017), Phase II (2 weeks in December 2017), Phase III (May-July 2018), and Phase IV (August 2018-August 2019).
- Data was presented to physicians after each time point: baseline, Phase I, Phase II, Phase III, and Phase IV.
- Between Phases II and III, formal prescription guidelines and patient education pamphlets were developed across the entire organization.

## RESULTS

- Overall, there was a 43% reduction in morphine equivalent units (MEUs) prescribed and 40% reduction in pills prescribed. (Table 1)
- Also, there was a 44% decrease in MEUs consumed and a 41% decrease in pills consumed. (Table 2)
- There was a significant decrease between Baseline and all four phases for both pills and MEUs prescribed and consumed (Table 1, Table 2)

	Baseline	Phase I	Phase II	Phase III	Phase IV	P-value
Total number of charts reviewed	876	630	549	1,473	3,777	
Number of pills prescribed (average)	46.08	37.23	33.41	28.73	27.62	P<.001
Number of pills prescribed (range)	0-150	0-130	0-120	0-120	0-100	
MEUs prescribed (average)	324.53	261.98	222.83	190.16	184.68	P<.001
MEUs prescribed (range)	0-1,350	0-1,500	0-975	0-1,080	0-900	

Table 1. The Total Cohort of Patient Prescriptions.

	Phase I	Phase II	Phase III	Phase IV	P-value
Total number of responses	181	169	346	3,777	
Number of pills taken (average)	23.86	17.56	14.25	14.14	P<.001
Number of pills taken (range)	0-150	0-95	0-108	0-100	
MEUs taken (average)	169.79	118.2	97.3	95.91	P<.001
MEUs taken (range)	0-1,320	0-822.5	0-907.5	0-750	

Table 2. Summary of Consumption From Patient Response Data.

## LESSONS LEARNED

- Educating providers (physicians and physician assistants) can be difficult and takes time.
- Community members are more likely to believe in the goal and consume less opioids when providers and the organization have clear expectations with regards to opioid usage.
- It takes multiple rounds of data collection to be able to understand patient consumption patterns and hone prescribing patterns to an optimal level.

## KEY TAKEAWAYS

- Concrete data is the best way to introduce change in prescribing behaviors.
- Implementation of both prescription guidelines and patient education pamphlets allowed our organization to have clear, set expectations in regards to pain control.
- Mid-term to long-term data collection is needed when trying to implement policies regarding opioids that are safest for patients and the community.

## REFERENCES

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