

# What Drives Change: Analysis of An Anesthesia Practice After Acute Pain Management Implementation

M. Koch MD MBA, S. Sharma MD MPH, E. Snyder MBA, Crystal Richardson

## Background

Targeting change is a function of population health outcomes and recognizing gaps in knowledge, competency and performance. The strategic vision and tactical approach are centered on these gaps and require a measured approach and thoughtful plan. We present a practice where one percent of all orthopedic cases involved an acute pain intervention, and separately, where facility-wide CMS population health data demonstrated less than admirable complication rates, particularly after hip/knee replacement surgery. We theorized that the anesthesia and narrow pain management capabilities may have been playing a role in these sub-optimal outcomes. We launched a carefully developed and comprehensive plan to broaden acute pain skills, and in doing so, improve patient experiences.

## Methods

Our initial quality improvement activity was to determine the various clinical and non-clinical elements underlying best-practices that needed to be evaluated. Next, we completed a preliminary site visit that led to a standardized gap analysis by a fellowship trained acute pain anesthesiologist. As a consequence of many interviews, observations, and review of information we were able to collaboratively construct a multidisciplinary plan with specific

## Methods (Cont.)

goals and milestones. Before embarking on our education plan we first constructed and implemented a set of compliant acute pain records to hard code our expectations, permit objective data abstraction, and measure the efficacy of our efforts. Moreover, to encourage adoption of best practices, we developed a pay for performance plan that addressed specific activities that we knew would serve to close these gaps.

Then, we developed and, in December 2019 and January 2020, rolled out practice-specific educational activities for anesthesiologists, CRNAs and OR nurses. These included i) ultrasound guided hands-on workshops, ii) one-on-one coaching and mentoring; iii) telephonic question and answer sessions; and iv) iterative surveys to gauge and recalibrate the plan in response to potential hurdles, in an ongoing partnership with the practice.

Outcome measures included the frequency with which orthopedic procedures received acute pain interventions, frequency of adverse events (failed nerve block, LAST, prolonged neurologic deficits) and a review of quality measures. We audited 214 of 2,029 orthopedic case charts to measure comport with standards of care, deployment of best practices and to populate our pay for performance models.

## Conclusion & Discussion

Compared to 2019 (159), we observed an 8-fold increase in the number of acute pain interventions 2020 (1,029) from <1% to 33% of all orthopedic cases. In 2020 there were no reported LAST events or prolonged neurologic deficits.

Discussion: Quality improvement activities prompt change— they consider baseline clinical performance data and seek to improve patient experience and clinical outcome goals. Our goal was to create a culture where acute pain knowledge, competency and skill acquisition and enhancement could thrive, by careful planning, identification of rate limiting

steps and preemptively addressing issues. Our 8-fold increase of acute pain interventions—with limited adverse events-- is encouraging evidence that targeted, planned, and structured change is possible. Once outcomes data is reported into CMS, we will review and compare to 2019 figures, to determine if trends are consistent with our theory. Quality improvement is a journey, and we are hopeful that our next tranche of acute pain educational activities will lead to further gains in patient outcomes and experiences.

### 13 Month Orthopedic Case Counts

Month	Sum of Case Count
Jan 2020	248
Feb 2020	238
Mar 2020	177
Apr 2020	68*
May 2020	182
Jun 2020	373
Jul 2020	396
Aug 2020	320
Sep 2020	270
Oct 2020	313
Nov 2020	214
Dec 2020	311
<b>Grand Total</b>	<b>3,110</b>

\*Covid restrictions

## Contact Information

Somnia, Inc. Acute Pain Service  
 450 Mamaroneck Ave, Suite 201, Harrison, NY 10528  
 Acutepainresources@somniainc.com  
 www.somniainc.com