

Not such a pain in the block! Decreasing PACU times by increasing the number of preoperative nerve blocks

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Team

Safe and efficient throughput of the surgical patient is important during each step of the surgical process. When one step in the surgical process fails, a chain-reaction is started that causes failure in all steps of that process. At University Medical Center in Lubbock, Texas, the surgical team (including all phases of the surgery process) were tasked with finding a solution to the extended times postoperative patients were spending in the PACU (post anesthesia care unit). The team included surgical leadership, anesthesia services leadership, anesthesia providers, PACU staff nurses, and surgery staff nurses.

Preparation and Planning

After reviewing the PACU times and delay reasons, the team found one cause of the extended times was the practice of performing the regional nerve blocks in the PACU. Patients who received a postoperative nerve block were staying an average of 30 minutes longer than those patients who had received their nerve block in the preoperative setting (Alexander et al., 2020). The team then started the project described in this poster to help reduce the PACU patient times by moving the regional nerve blocks to the preoperative surgical phase

Assessment

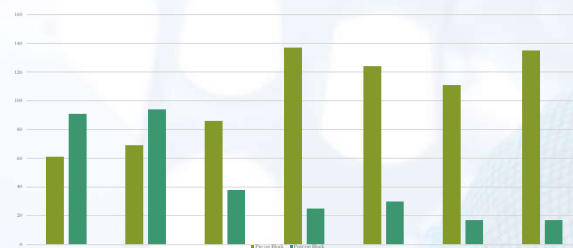
The team first assessed the current process for ordering and placing a regional nerve block with anesthesia. The team discovered there was not a "hardwired" process for the preoperative nerve blocks. Another issue was the time needed to set up for each block was prohibitive; the anesthesia providers were also supervising surgical suites and could not spend several minutes setting up the items needed for the block (Heller et al, 2022). After completing the assessment, the team planned to trial a nurse in the role of "anesthesia block nurse". This nurse would be responsible for educating the surgeons on the correct process for ordering a block and would prepare the patient for the preoperative block.

Implementation

This new process was implemented in September 2022. The nurse started the new process with education for both the anesthesia providers and the orthopedic surgeons on the correct order sets and timing of the nerve block orders. (Hampton et al., 2022) Once education was completed, the nurse standardized the set up for the anesthesia providers, allowing the set up to be cost-effective and efficient.

Outcome

With the addition of a nurse dedicated to preoperative regional blocks, we were able to significantly increase the number of preoperative blocks completed and decrease the postoperative blocks.



For each postoperative block we moved preoperatively, we saved approximately 30 minutes in patient time in PACU. Total savings from implementation until January 2023 = **9,690 minutes**

Month	Preoperative blocks	Postoperative blocks	Total minutes saved (30 minutes each)
Baseline	60	90	Baseline
September 2022	86	38	1560
October 2022	123	25	1950
November 2022	128	30	1800
December 2022	145	17	2190
January 2023	135	17	2190
Total			9690 Minutes

Outcome-Cost Savings

Cost Savings:

Per minute cost for PACU (\$4.26/minute)

Cost savings since the implementation of the project:

September 1560 minutes = \$6,645.60

October 1950 minutes = \$7,029.00

November 1800 minutes = \$7,668.00

December 2190 minutes = \$9,329.40

January 2190 minutes = \$9,329.40

Total 9690 minutes = \$41,279.40

Cost of the nurse (5 months) = \$36,000

Savings of \$5,279

Impact to Nursing

The implications for this project go beyond the operating room and surgery areas. One of the top issues facing most hospitals today is patient flow, and most hospital administrative times are always asking, "how do we keep patients moving efficiently through the system?"

The PACU is one of the places in which we can observe the "bottleneck" effect but is also one place where efficiency should be the gold standard. When the regional blocks were being performed (almost exclusively) in the PACU, the PACU often filled and stopped the progress of the surgical suites.

By moving the regional blocks to the "front" of the operative process, we were able to decompress the PACU by decreasing the time patients spent in recovery. As an added benefit, we have seen a decrease in postoperative pain, which in turn leads to higher patient satisfaction.

References

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