UNC GREENSBORO
School *of* Nursing

Opioid-Sparing Anesthesia: An Educational Intervention to Improve Confidence Among Anesthesia Providers

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PURPOSE

- This project was intended to encourage the use of opioid-sparing anesthesia (OSA), sometimes referred to as multimodal anesthesia and analgesia, by creating an OSA protocol and quick-reference guide using evidence-based practice with a goal to improve confidence.
- The main variable measured was provider confidence in the use of opioid-sparing anesthesia.
- Goal is that by increasing confidence, the use of OSA will become more mainstream and improve patient outcomes.

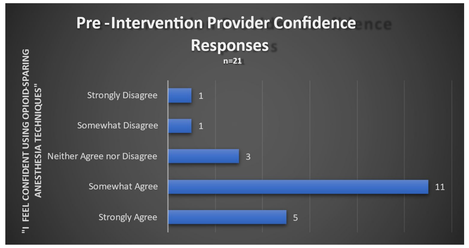
BACKGROUND & RESEARCH

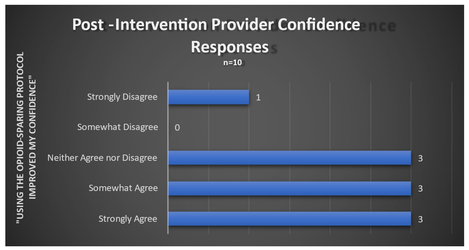
- Opioids have been a mainstay in anesthesia and analgesia for many years but have several untoward side effects. These include respiratory depression, nausea & vomiting, pruritis, ileus, and large potential for abuse and misuse.
- Newer evidence suggests further effects include hyperalgesia, immunosuppression, infection, and increased risk of tumor recurrence.
- Negative effects of intraoperative opioids can lead to increased morbidity and mortality, increased length of hospital stay, increased PACU/recovery times, and increased hospital costs.
- Approximately 1 in 16 post-surgical patients become chronic opioid users. Opioid overdoses contribute to thousands of deaths each year.
- Adequate analgesia can be achieved via “multimodal analgesia” in which multiple pain “pathways” can be blocked using non-opioid medication. These medications have significantly less harmful side effects.
- Multiple studies have shown no statistical significance in pain scores between opioid anesthesia and non-opioid anesthesia.
- Quick reference guides (commonly referred to as “badge buddies”) are often used as a visual aid and are easy way for a clinician to utilize a protocol or checklist.

METHOD

- Quantitative pre-test/post-test design DNP Project.
- Opioid-sparing protocol was developed and placed on a quick reference guide to use on the anesthesia provider’s badge reel.
- A 32-question pre-intervention survey (strongly disagree to strongly agree Likert-scale format) was distributed via Qualtrics to anesthesia staff at a community hospital in central North Carolina.
- We gave an educational presentation both in person and via a recorded PowerPoint and distributed badge-size quick-reference guides with the protocol to participating CRNAs, AAs, and MDs.
- After approximately 3 months, a 34-question post-intervention survey (same Likert-scale format) was distributed to assess use of the protocol and changes in provider confidence. For full anonymity of participants, no identifying or tracking methods were used in either survey.

PRE- OPERATIVE	INTRA- OPERATIVE		POST- OPERATIVE
	Induction	**Maintenance**	
Consider Regional or Local Anesthetics			Ondansetron 0.15mg/kg -> 8mg
Acetaminophen 15mg/kg -> 1000mg PO/IV	Ketamine 0.3-0.5mg/kg	.25mg/kg/hr	Ketorolac 0.5mg/kg -> 30mg (if other NSAIDs not given)
Celecoxib 6mg/kg -> 400mg PO	Lidocaine 1mg/kg	1.5mg/kg/hr	Standard post-operative medications
Pregabalin 5mg/kg -> 150mg PO	Decadron 0.2mg/kg	N/A	
OR	Dexmedetomidine 0.5-1mcg/kg	0.4mcg/kg/hr	
Gabapentin 15mg/kg -> 600mg PO	Magnesium 30mg/kg-> 2g single dose	**OR** 5-20mg/kg/hr	





Pre-Survey Demographics *n* = 22	Post-Survey Demographics *n* = 10
Gender • Male – 10 • Female – 12 Years Experience (in years) • < 5 – 2 • 5-9 – 8 • 10-14 – 4 • 15-19 – 4 • 20-24 – 3 • ≥ 25 – 1	Gender • Male – 5 • Female – 5 Years Experience (in years) • < 5 – 2 • 5-9 – 3 • 10-14 – 2 • 15-19 – 1 • 20-24 – 1 • ≥ 25 – 1

DISCUSSION

- Statistical analysis via 2-tail independent t-test *did not* show a significant increase in confidence levels (p=0.711).
- High attrition rate may have skewed results (21 pre-intervention responses vs. 10 post-intervention responses).
- Approximately 76% of providers (n = 16) somewhat or strongly agreed that they felt confident using opioid-sparing anesthesia before the intervention.
- Staff noted that they were pleased with the presentation.

CONCLUSIONS

- Other interventions could be considered that may improve confidence in opioid-sparing anesthesia such as best-practice advisories in electronic charting.
- Additional methods to improve retention rates could be considered, such as providing more in-person presentations or additional participation incentives.
- Further studies could include qualitative methods where participants with low confidence are interviewed as to which contributing factors need to be addressed.
- Practice implications of increased usage of opioid-sparing anesthesia can lead to improved patient outcomes and decreases in hospital costs.

References

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