Problem

• Surgery induces major trauma to the body triggering a neuroendocrine and inflammatory stress response that impairs hemostasis.
• This can impede recovery and lead to complications such as post operative nausea and vomiting (PONV), development of venous thromboembolism, surgical site infection, and a diminished quality of life.
• Enhanced recovery after surgery (ERAS) programs help hasten recovery by minimizing the surgical stress response through evidence based interventions. Benefits include decreased hospital length of stay, costs, complications and increased patient satisfaction (Kaloger a et. al., 2013; Modessit et. al., 2017).
• At a community hospital in the mid-Atlantic region, anesthesia providers are seeking for ways in which hospital length of stay and postoperative complications can be reduced in patients undergoing gynecological surgery.

Purpose

The purpose of this Quality Improvement project was to create a Clinical Practice Guideline (CPG) for Enhanced Recovery after Gynecological Surgery with a focus on preoperative and intraoperative interventions.

Methods

Setting: Community hospital in the mid-Atlantic region
Population: Utilization of the CPG is intended for the anesthesia providers of the institution pertaining to adult inpatient women undergoing GYN surgery
CPG Development: A literature review was conducted to determine the latest evidence-based interventions regarding ERAS for GYN surgery. Systematic reviews and meta-analyses, randomized controlled trials, retrospective cohort studies and published clinical practice guidelines were reviewed. The initial CPG draft was created and presented to the expert panel. Feedback from key stakeholders were incorporated into the CPG utilizing the AGREE II Tool. The final draft of the CPG was presented to the anesthesia providers of the institution. PFQ surveys were distributed to all in attendance and collected anonymously at the end of the presentation. Descriptive statistics was utilized to analyze the results of both surveys.

Results

• The results of the AGREE II tool were favorable with a calculated total domain score of 92% indicating that the CPG is of high quality.
• The return rate for the PFQ surveys was 100% (n=15). The PFQ survey results revealed that 100% of providers believed that there is a need for an ERAS CPG, that its utilization will benefit patients, and that the draft guideline recommendations will be supported by the anesthesia providers of the institution.

Discussion

• The results of the AGREE II Tool and PFQ surveys are indicative of the quality, usability, and wide acceptance of the CPG by the institution.
• The developed ERAS CPG was based on an extensive literature review and is in agreement with the current evidence.
• It is recommended that the ERAS CPG be adopted as a policy at the institution. To help ensure sustainability of the CPG, chart audits should be conducted by anesthesia staff, and the effectiveness of the interventions should also be communicated.
• Limitations of this QI project include limited generalizability to other institutions. This CPG was developed in close conjunction with stakeholders and are specifically tailored to this community hospital.

Conclusions

Enhanced recovery after surgery clinical practice guidelines help improve the perioperative care of patients undergoing GYN surgery. These interventions help decrease hospital length of stay, cost, and complications. Further, they help improve the well-being of patients and increase patient satisfaction. Due to the favorable results of the AGREE II Tool and PFQ surveys, it is evident that the developed CPG is of high quality and its use will be accepted at this institution.

Bibliography


Acknowledgements

With much appreciation to the support provided by Veronica Amos PhD, CRNA, PHCN5-BC, Clyde Pray MD, and friends and family.
Implementing an Evidence-based Tobacco Cessation Protocol in an Adult Behavioral Health Unit

Ozioma Erondu, BSN, RN
Katherine Fornili DNP, MPH, RN, CARN, FIAAN

Background
- Tobacco use is a common problem among adult behavioral health (BH) patients and is a major cause of avoidable morbidity and mortality.
- Over 480,000 deaths per year attributable to tobacco use.
- 50% to 70% greater chance of dying from stroke or coronary artery disease.
- 85% chance of dying from lung, trachea, or bronchial related cancer than non-smokers.
- Lack of a structured tobacco cessation plan with post-discharge continuation of nicotine replacement therapy (NRT) at a small rural community hospital in the Mid-Atlantic region of the U.S.

Objectives
- Purpose: to reduce smoking-related risks by implementing and evaluating an evidence-based tobacco cessation protocol for adult patients (18 years or older) in an inpatient behavioral health unit (BHU)
- Short-Term Goals: By Week 8, at least 80% of identified tobacco-using patients will have:
  - An assessment of their level of nicotine dependence and readiness-to-change tobacco use behaviors
  - Documentation of tobacco cessation brief counseling
  - Received nicotine replacement therapy (NRT) at discharge based on their level of nicotine dependence
  - Received a coaching referral to the state’s Quitline

Long-Term Goal: To increase the number of behavioral health (BH) patients who receive tobacco cessation interventions and decrease or quit their tobacco use

Search Strategy/Evidence Appraisal
- Search: “tobacco cessation in mental health”, “tobacco cessation protocol and mental health” (5 studies)
- Search Platform: OneSearch from the University of Maryland Health Science and Human Services Library
- Appraisal of level & quality of evidence: Johns Hopkins Nursing Evidence-based Practice Rating Scale (Newhouse, et al., 2006)
- Project Development: Seven Steps of Evidence-based Practice Model (Melnyk & Fineout-Overholt, 2011)
- Project Implementation: Mobilize, Assess, Plan, Implement and Track (MAP-IT) Framework (HealthyPeople.gov)

Methods/Procedures
- Fagerstrom Test for Nicotine Dependence (FTND) – Figure 1 to assess each patient on admission for level of dependence
- Readiness Ruler (RR) to assess level of readiness to change
- Continuation of nicotine replacement therapy (NRT) and Quitline Referral (QR) offered by prescribing provider at discharge – Figure 3
- Tobacco cessation intervention checklist: Project-developed audit form to capture patient FTND, RR, NRT & QR data
- Weekly collection and analysis of checklist form data

Evidence Synthesis Table

<table>
<thead>
<tr>
<th>AUTHOR/ YEAR</th>
<th>PURPOSE</th>
<th>RESULTS</th>
<th>EVIDENCE LEVEL/ QUALITY</th>
</tr>
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<tbody>
<tr>
<td>Meier, et al., 2017</td>
<td>To assess efficacy of universal smoking cessation intervention in acute psychiatric inpatient setting, and continued reduction in smoking/gate behaviors post discharge</td>
<td>▲ Cigarettes smoked per day by 50%: Intervention group 18.3% vs Control group 22.7% (p=0.032) ▲ Quit attempts: Intervention group 65.4% vs Control group 56.6% (p&lt;0.001) ▲ Abstinence at 6 months: Intervention group 15% Control group 9.3% (p=0.04)</td>
<td>A (High Quality)</td>
</tr>
<tr>
<td>Arndt, et al., 2018</td>
<td>To evaluate effectiveness of community-based tobacco cessation interventions compared to Quitline only for adult psychiatric inpatient smokers</td>
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<td>To evaluate the efficacy of motivational interviewing tobacco cessation treatment plus NRT compared to NRT only on adult psychiatric inpatient smokers</td>
<td>▲ Abstinence at 6 months: Intervention group 44.3% vs 10.9% (p=0.05)</td>
<td>B (Good Quality)</td>
</tr>
<tr>
<td>Rogers et al., 2016</td>
<td>To evaluate the effectiveness of a specialized telephone smoking cessation intervention for BH patients compared to state Quitline</td>
<td>▲ Abstinence at 30 days: Intervention group vs control group 26% vs 18%, OR=1.62, 95% CI 1.24, 2.11</td>
<td>B (Good Quality)</td>
</tr>
<tr>
<td>Check et al., 2016</td>
<td>To evaluate NRT use posthospitalization among adult inpatient BH tobacco users with use of transtheoretical model informed computer intervention, brief on-unit counseling, optional 1-month NRT and telephone counseling</td>
<td>▲ Likelihood for NRT request at discharge with higher levels of readiness (p&lt;.01). ▲ NRT quit attempts and self-report adherence with NRT request and at 1-week follow-up 54% vs 25% (p&lt;0.05) and 48% vs 6% (p&lt;0.05) respectively</td>
<td>C (Low Quality)</td>
</tr>
</tbody>
</table>

Discussion & Limitations
- Similar rates of NRT prescribing at discharge for both baseline (46%) and implementation groups (47%)
- Further evaluation is needed to determine possible reasons for lack of significant increase in NRT prescribing.
- Possible contributing factors may include client levels of distress during intake assessment, eagerness to leave at time of discharge, offering NRT to patients that were not ready to change, and provider time constraints.
- Some providers resistance to utilizing the FTND (for level of dependence) and the RR (for level of readiness) to inform NRT dosing recommendations (Figure 3).
- Recommend further assessment of reasons for resistance, and reinforcement of strategies to improve provider buy-in and adherence to protocols.
- Patients with low levels of dependence (per FTND scores) may not need NRT; however, the providers felt comfortable prescribing NRT without FTND results.
- Quitline referrals may not be acceptable to or suitable for inpatient BHU patients with serious psychiatric disorders. Only one patient showed interest and agreed to be referred to the Quitline.
- Patients were provided the FTND and RR at admission for self-administration and were not re-approached before discharge. Patients may benefit from provider-administered FTND and RR following stabilization and closer to time of discharge.
- This project did not attempt to correlate levels of psychiatric problem severity to frequency of NRT prescribing.

Baseline Phase (3 weeks Pre-Implementation): (N=40)
- 65% were current tobacco users.
- 46% of tobacco users accepted NRT at discharge.

Implementation Phase: 8 weeks (N=170)
- 53% were tobacco users (n=90).
- 82% received brief counseling. Goal MET.
- 33% completed FTND; 29% completed the RR. Goal NOT MET.
- 47% accepted NRT at discharge, although 100% were offered NRT. Goal NOT MET.
- Only 1 patient (1%) agreed to Quitline referral. Goal NOT MET.

There was no statistically significant relationship between higher levels of dependence and higher levels of readiness. While there was no statistically significant relationship between higher levels of dependence and receipt of NRT, there was a 14% vs 4% (▲p= .04) between higher levels of readiness and receipt of NRT. There was no statistically significant relationship between higher levels of dependence and receipt of NRT. X² (1, N = 26) = 0.02, p = .9

There was no statistically significant relationship between higher levels of dependence and receipt of NRT. X² (1, N = 30) = 1.09, p = .3

There was no statistically significant relationship (alpha = 0.05) between higher levels of readiness and receipt of NRT X² (1, N = 26) = 1.53, p = .2

Contact Information: Ozioma Erondu: ozerondu@umaryland.edu
Katherine Fornili- fornilli@umaryland.edu

References

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</table>


Figure 1: Fagerstrom Test for Nicotine Dependence (National Drug Research Institute, 2019)

Figure 2: Nicotine Replacement Therapy recommendations (National Drug Research Institute, 2019)

Figure 3: Readiness Ruler (MDQuit, 2019)

Figure 4: Provider and Patient adherence with Interventions
Dental Disease in Pregnant Women: A Screening and Referral Process

Cara Greely, BS, RN & Karen Scheu, DNP, FNP-BC

Background

- Problem: In Maryland, women on Medicaid only receive dental benefits while pregnant
  - Utilization: 26.1% in 2016
  - WIC sees up to 300 women monthly
  - Dental Clinic unaware of women
  - Dental care is safe during pregnancy
  - Poor oral health during pregnancy causes:
    - Preterm labor
    - Early childhood caries
    - Low birth weight

Purpose & Goals

- To implement a screening and referral process for dental disease in pregnant women at WIC using the Maternal Oral Screening Tool
  - 100% of staff at WIC location will be educated on dental care during pregnancy and implementation plan by September 6th, 2019
  - By December 2019, at least 80 referrals will be sent to the dental clinic.

Methods

- Quality Improvement Project
- Maternal Oral Screening Tool: validated tool
- IRB Approvals:
  - University of Maryland, Baltimore
  - Maryland Department of Health
- Implementation of a screening and referral process at WIC
  - Women screened at WIC, referred to Dental Clinic
  - Forms sent via email; dental clinical provided follow-up
- Weekly updates and data collection

Results

- 23% of all women seen at WIC had referrals sent to dental clinic
- 25% of women referred scheduled appointments at dental clinic
- 87% of women screened were positive for needing a referral

Discussion

- Less screening and referrals than goal
- Likely barriers:
  - Low health literacy
  - Lack of time
  - Disclosure Statement
- Communication increased between WIC and dental clinic
- Facilitators:
  - Close geographic location of WIC and dental clinic
  - Flexible staff

Conclusions

- Interdisciplinary collaboration is necessary to identify women at risk for dental disease and offer intervention while pregnant to utilize Medicaid benefit
- Most women screening positive indicating a need for care
- Recommend embedding screening/referral tool in electronic medical system

References

Implementation of a Standardized Discharge Bundle: An Enhanced Recovery After Surgery Initiative

Heather Johnson, BSN, RN; Bridgitte Gourley, DNP, CRNP

Problem Statement
- Complex surgical procedures are increasingly being performed on an outpatient basis
- Emphasis placed on enhanced recovery and fast-tracking patients for discharge
- Evidence supports care standardization at discharge
- Positive affect patient safety, patient satisfaction, and institution efficiency
- Decrease overall cost to the institution, readmission rates, and length of stay

Project Purpose and Goals
- To implement a standardized discharge bundle (SDB) for patients undergoing vaginal or robotic hysterectomy procedures, as part of (ERAS) initiative
- Support nursing staff during the transition to a same-day discharge model

Short Term Goals: By December 31, 2019:
- 100% of Short Stay Unit Registered Nurse (RN)s educated on the SDB, ERAS initiative, and discharge criteria
- 50% of patients will have a same day discharge (SDD)
- 50% will have the ERAS discharge SMART phrase note documented in their EMR
- Post-implementation gap analysis indicated score improvement in all areas regarding staff's knowledge and confidence in caring and discharging this patient population

Methods
Setting: Post-Anesthesia Care Unit (PACU), Short Stay Unit (SSU), and General Surgical Unit (GSU)
Population: Adult female surgical patients undergoing vaginal or robotic hysterectomy procedures by one medical group.
Implementation: Twelve Weeks: October -December 2019
- A GAP analysis for knowledge and confidence of nurses pre/post implementation
- Staff education on SDB components (personalized patient education packet, list of discharge criteria, SMART Phrase discharge note, patient point of contact information)
- A SMART phrase discharge note documented by nursing staff to ensure all required discharge criteria was met

Results
- Staff education on SDB components was provided to 87 nursing staff members on the included units, including 100% of the SSU staff.
- 26 patients met project inclusion criteria with approximately 73% meeting criteria for a same-day discharge using the SDB, no patients experienced same-day discharge.
- 42% of patients had the ERAS discharge SMART phrase note documented in their EMR
- Post-implementation gap analysis indicated score improvement in all areas regarding staff’s knowledge and confidence in caring and discharging this patient population

Discussion
- Short term education goals achieved:
- Nursing staff reported feeling “more comfortable and prepared” in caring and discharging this patient population, reflected in the GAP analysis.
- Medical staff reported a “positive change in current culture” surrounding the ERAS initiative with widespread acceptance of patients moving to a SDD model by the nursing staff
- Use of ERAS discharge SMART phrase by staff already familiar with discharging this patient population as “extended recovery” increases current workload, impacting rates of compliance

Limitations
- Unexpected departure of the medical staff project lead from organization prior to project implementation.
- All patients remained “extended recoveries” and did not transfer to the SSU for SDD

Conclusions
- This SDB was successfully piloted in several units, providing valuable benchmark data and demonstrating the feasibility of the bundle and use by nursing staff for potential future projects.
- Staff reported improvements in both knowledge and confidence scores in caring for and discharging this patient population.

Acknowledgements
A special thanks to Bridgitte Gourley, DNP, CRNP, Dr. Briana Walton, Johanna Devine, MSN, CRNP, Sue Lee, BSN, RN, Crystal Crider, BSN, RN, Jennifer King, MSN, RN, and Nathan Benefiel, BSN, RN. It was with your collective help, guidance, and support that this project was possible.

References

Implementing Behavioral Screening Protocols to Reduce Violence in the Emergency Department

William Mangana, BSN, RN
Elaine Bundy, DNP, CRNP,FNP-C

Problem statement - An increase in violence and aggressive behavior in patients has led to an increase in violent incidents and subsequent increase in restraint orders.

### Purpose

- Opioid crisis and lack of mental health resources are leading causes of increased violence in the emergency department (ED)
- Increase in violence led to increase in restraint orders, ≥ 100 per month in last 90 days
- Restraint orders are not Evidence Based Practice (EBP) for violent behavior in the ED
- Patients admitted to Emergency Department (ED) will complete the Modified DASA-IV self-evaluation tool
- Nurses that work in the ED will complete the Violence Assessment Tool when the threshold is met
- Nurses working in the Emergency Department will implement a Behavioral Assessment Protocol in order to reduce the number of violent episodes by 100%

### Methods

- Participants: All Patients being admitted to the ED inclined to capable of completing the Modified DASA at a community hospital
- Based on EBP a Behavioral Assessment Protocol combining patient and caregiver was implemented using:
  - modified Dynamic Appraisal Situational Aggression (DASA) survey
  - Given to every ED patient to self-identify potential aggressive behavior
  - Violence Assessment Tool (VAT)
    - Completed by nurse for all patients scoring 3 or more on DASA
    - Combined score >4 and <6 equates to moderate risk, use of techniques like moving to quiet rooms, low lighting
    - Combined score >7 requires patient to be isolated, referred to behavioral health
  - Education was provided for Champions and Staff on both tools
  - Quality Improvement Project
  - Analysis by percent change pre- and post- implementation

### Results/ Figures

<table>
<thead>
<tr>
<th>t-Test: Two-Sample Assuming Equal Variances</th>
<th>Number of Restraint Orders per week before Implementation</th>
<th>Number of Restraint Orders per during Project Implementation</th>
</tr>
</thead>
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<tr>
<td>Mean</td>
<td>26.33</td>
<td>9.44</td>
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<tr>
<td>Variance</td>
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<td>41.78</td>
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<tr>
<td>Observations</td>
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<td>Pooled Variance</td>
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<td>Hypothesized Mean Difference</td>
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<tr>
<td>Critical two-tail</td>
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</table>

A two-tail t-test revealed a difference in the sample means (26.3 -9.4) pre and post the Behavioral Assessment Protocol implementation (p <0.05)

### Discussion

- The Behavioral Assessment Protocol can be used to assess potential violent behavior in order to decrease the likelihood of an incident thereby decreasing restraint orders. Restraint orders reduced from 27.5% to 1.5%
- Two-tail t-test:
  - Observed difference between sample means (26.3 – 9.4) is convincing enough to conclude the protocol implemented was successful with a p-value < .05
- ED averaged > 100 restraint orders per month during 3 months prior to implementation, goal was to reduce to zero, reduced to 14 restraint orders in the last month of the project
- Expected 100% of ED RN’s to complete the VAT, the compliance rate was 95%
- Expected patient compliance of 100%, 98% of patients admitted were completing the modified DASA

### Conclusion

- Future QI Projects:
  - Replication of Project across departments such as ICU and Behavioral Health
  - Education:
    - How to implement the Behavioral Assessment protocol
    - Proper Intervention Techniques for when intervention is needed
- Ongoing Success:
  - add a flag to the electronic medical record to alert RN’s completion of VAT is required
  - Add DASA to intake paperwork permanently

### Reference

Evidence-Based Policy Toolkit Supporting Prescriptive Authority for Maryland Nurse Anesthetists

Myra Njapau-Dove, BSN, SRNA
University of Maryland School of Nursing
Under Supervision of Veronica Amos PhD, CRNA, PHCNBC
Project Director Brittny Taylor DNP, CRNA

Background
Certified Registered Nurse Anesthetists (CRNAs) are educated and trained to provide:
- Anesthesia
  - CRNAs provide approximately 45 million high-quality & cost-effective anesthetics every year
  - CRNAs have been providing anesthesia for over 150 years
  - CRNAs are sole anesthesia providers in some rural hospitals
- Acute, chronic, and interventional pain management services
  - CRNAs practice multimodal pain management
    - i.e. using nerve blocks for pain control
- Orders for medications
  - CRNAs write orders for preoperative, intraoperative & postoperative medications for surgical patients

Problem
Current law in Maryland does not grant CRNAs prescriptive authority

Objectives
- Develop and evaluate an evidence-based health policy toolkit to be utilized as a resource to support legislation to grant CRNAs in Maryland prescriptive authority

Short time objectives:
- CRNA approval of toolkit

Long time Objectives:
- Approval of toolkit by Maryland Association of Nurse Anesthetists (MANA)
- Utilization of toolkit by CRNAs/ Student Registered Nurse Anesthetists (SRNAs) at legislative meetings with policymakers
- Petition policymakers in the Maryland general assembly to introduce legislation supporting prescriptive authority for CRNAs
- Improve access to care (rural areas)
- Assist with combating the opioid epidemic (multi-modal pain management)

Components of Policy Toolkit
- History of the CRNA profession
- Talking points
- Sample personal story & elevator speech
- Policy brief
- Sample letters to policymakers
- Table outlining state status on prescriptive authority

Methods/Implementation Strategies
Population
- Inclusion criteria
  - All practicing CRNAs in Maryland
  - CRNAs engaged at MANA conference 2019

Phase I
- Evidenced based policy toolkit development
- Survey development
- Survey and Toolkit approved by policy expert

Phase II
- oral presentation at MANA
- Toolkit and survey emailed to participants

Phase III
- Data collection via SurveyMonkey®
- Analysis via Excel®
- Dissemination of results (MANA conference 2020, poster presentation at University of Maryland School of Nursing)

Policy Toolkit Evaluation Results

<table>
<thead>
<tr>
<th>Policy Toolkit Evaluation</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neither Disagree nor Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
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<tbody>
<tr>
<td>Need for Prescriptive Authority</td>
<td>57.1%</td>
<td>28.6%</td>
<td>14.3%</td>
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<td>0.0%</td>
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<tr>
<td>Having prescriptive authority will improve patient outcomes</td>
<td>71.4%</td>
<td>28.6%</td>
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<tr>
<td>Purpose of toolkit is informative and clear</td>
<td>71.4%</td>
<td>28.6%</td>
<td>14.3%</td>
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<tr>
<td>Policy brief contains active and useful information</td>
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<td>28.6%</td>
<td>14.3%</td>
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<tr>
<td>Personal Story is persuasive and impactful</td>
<td>71.4%</td>
<td>28.6%</td>
<td>14.3%</td>
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<td>0.0%</td>
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<tr>
<td>Table showing states with prescriptive authority is useful</td>
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<td>28.6%</td>
<td>14.3%</td>
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<tr>
<td>The need for the toolkit is evident</td>
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<td>28.6%</td>
<td>14.3%</td>
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Conclusions
The topic of prescriptive authority is of great interest among CRNAs in Maryland.
- 57.1% strongly agreed and 28.6% agreed CRNAs should have prescriptive authority and that the lack of prescriptive authority is a hinderance to the CRNA profession.
- 71.4% strongly agreed and 14.3% agreed CRNAs having prescriptive authority would improve patient outcomes.
- 71.4% strongly agreed and 28.6% agreed the toolkit is needed and would be supported by CRNAs in Maryland.

Cost effective analysis supports independently practicing CRNAs
- Anesthesia costs reduced by 25% (Hogan et al., 2010)

Next steps:
- Engage CRNAs in politics and policy
- Increase participation and interest in CRNAs gaining prescriptive authority
- Demonstrate how prescriptive authority can be a steppingstone to gaining full practice authority

Strengths and limitations
Strengths:
- Strong CRNA support for toolkit
- Literature review evidence shows the benefits of having CRNAs function as independent providers

Limitations:
- Small sample size (N= 30)
- Population specific (CRNAs)
- Low participation rate among CRNAs (30.4%)

References
Perioperative Anesthetic Antiobesity Medication Management: Clinical Practice Guideline

DeVontee’ D. Rayford, BSN, RN, Veronica Gutchell, DNP, RN, CNS, CRNP

Background & Problem

- 45% of the US population will be obese by 2030
- Antiobesity medication use increased from 2.35 to 2.74 million between 2008 and 2011
- There will be an increased number of surgical patients on antiobesity medications
- Antiobesity medications are not commonly encountered by anesthesia providers leading to a lack of knowledge and unique considerations
- An aesthetic clinical practice guideline for antiobesity medications has been developed to improve outcomes for patients undergoing surgical procedures requiring general and sedation anesthesia

Objectives

- **Purpose:** The purpose of this doctoral project was the development of an evidenced based CPG at a local institution regarding the perioperative antiobesity anesthetic management of FDA approved antiobesity medications.
- **Long term goal:** Adoption of the evidenced based CPG as institutional policy.

Methods

- **Setting:** Local community hospital servicing northwest Baltimore.
- **Population:** This CPG will be utilized by anesthesia providers (CRNA, MDA, SRNA)
- **Development Process:**
  - **Phase 1:**
    - Expert panel development: 2 DNP nurse anesthetists, an anesthesiologist, and pharmacist
    - Expert panel meetings resulting in completion and interpretation of AGREE II tool and final draft of CPG
  - **Phase 2:**
    - Approval of CPG by administrative stakeholders Chief CRNA, Chief and Vice-Chief Anesthesiologists
  - **Phase 3:**
    - Presentation of CPG at an anesthesia grand rounds meeting to providers and completion of PFQ
    - Presentation of AGREE II and PFQ data to expert panel and administrative members
  - **Phase 4:**
    - Final approval of finalized CPG by all members

Discussion

- Development of the evidenced based CPG accomplished overall project outcomes.
- Information from the CPG was utilized to update an existing policy regarding antiobesity medications for bariatric surgery patients.
- Major limitation: varying levels of evidenced utilized for CPG development secondary to minimal controlled studies.
- Evidence limitation lead to utilizing pharmacologic classes for development with no reduction is quality or applicability
- Results of CPG development addressed knowledge gap regarding perioperative antiobesity anesthetic management
- Evidence supports the utilization of an evidenced based guideline to benefit both patients and providers.

Conclusion

- The CPG serves as the basis addressing the knowledge gaps in perioperative antiobesity medication anesthetic management as supported by the literature.
- The CPG can be utilized to educate providers on common antiobesity medications and thus increasing awareness of the potential serious anesthetic implications.

Development & Bibliography

<table>
<thead>
<tr>
<th>Study</th>
<th>Relevant CPG Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>MacWalter et al., 2003; Rating: 6B</td>
<td>Patient warfarin therapy consisted of alternating 5mg and 6 mg doses with a stable INR for greater than 1 year. Eighteen days after the initiation of Orlistat, patient INR increased to 4.7.</td>
</tr>
<tr>
<td>Dell’Orto et al., 2014; Rating: 1A</td>
<td>Significant trends in incidence of decreased bicarbonate levels by approximately 3.5 mmol and hyperchloremia.</td>
</tr>
<tr>
<td>Dell’Orto et al., 2014; Rating: 1A</td>
<td>Decreases in potassium of approximately 0.3 mmol.</td>
</tr>
<tr>
<td>Lim et al., 2018; Rating: 1B</td>
<td>-Sympathovasomimetic with 20-hour half-life. -MOA: MAO and Serotonin reuptake inhibition</td>
</tr>
<tr>
<td>Smischny et al., 2018; Rating: 6B</td>
<td>Serotonin syndrome development secondary to administration of associated medications during an anesthetic: fentanyl, tramadol, meperidine, methadone, ondansetron, metoclopramide</td>
</tr>
</tbody>
</table>

CPG Recommendations

- **Lorcaserin**
  - Risk: Serotonin syndrome (SS) development
  - Interventions: Avoid SS related medications, monitor for signs and symptoms of SS.
- **Naltrexone-bupropion**
  - Risk: Inadequate perioperative pain management
  - Interventions: multimodal pain management, regional anesthesia, hold for 4 days preoperatively
- **Xenical**
  - Risk: Increased bleeding risk, supratherapeutic INR levels with concomitant chronic warfarin use
  - Interventions: preoperative coagulation studies (INR, PTT, aPTT)
- **Phentermine-topiramate**
  - Risk: Hemodynamic alterations, refractory hypotension, metabolic acidosis, hypokalemia
  - Interventions: Monitor and treat hemodynamic changes, treat refractory hypotension with direct acting agents, monitor electrolytes
- **Liraglutide**
  - Risk: Aspiration
  - Interventions: Consider rapid sequence induction and aspiration prophylaxis

Results
Implementing a Pneumococcal Polysaccharide Vaccine Screening Tool for Adults with Diabetes

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Problem Statement

• Adults with comorbidities such as asthma or diabetes mellitus are more susceptible to morbidity and mortality from vaccine-preventable illnesses, particularly pneumococcal disease.
• Data obtained between 2007-2010 from a population study found that adults aged 19-64 with diabetes have a significantly high risk of all-cause pneumonia than their healthy counterparts (IRR = 3.7 [95% CI 3.6-3.7]), with corresponding increase in healthcare costs.
• The CDC recommends a one-time pneumococcal polysaccharide (PPSV23) vaccination for these at-risk adults between the ages of 19-64.
• At this primary care clinic, a knowledge gap was identified where staff were only screening patients aged 65 years for PPSV23 vaccine need.

Purpose of the Project

• To implement a vaccine screening algorithm and patient education pamphlet as visual prompt in an effort to increase the proportion of adult patients with diabetes who receive the PPSV23 vaccination at a primary care clinic.
• At least 50% of patients eligible to receive the PPSV23 vaccine will be identified by nursing staff or providers.
• At least 75% of identified patients will obtain the PPSV23 vaccination prior to leaving the clinic.

Long-term Goals:

• All adult patients with diabetes who present for primary care appointments will be screened for pneumococcal and hepatitis B vaccine needs.
• All adult patients with diabetes will obtain their PPSV23 vaccination within one year of diagnosis or identification of vaccine need.

Methods

This project was implemented at a military primary care clinic in Maryland that sees Active Duty, dependent family members, and retirees across the lifespan.

• Adult patients aged 19 – 64 years with a diagnosis of diabetes without contraindication to the vaccine were included.
• The project was implemented over a 13 week timespan.
• Staff education and training on algorithm use.
• Screening algorithms were provided to all staff at the start of the implementation period.
• Staff education related to anti-glycemic medications to improve identification of adults with diabetes emailed at week 5, and patient education pamphlets placed in exam rooms at week 6.

Results

• A total of 170 eligible patients were seen during the implementation period, 48.23% were male (n=82) and 51.56% were female (n=88). Median age was 57 years.
• Weekly screening rates of eligible patients ranged from 10 – 86%. Vaccine need was identified for 41.76% of these patients (n=71).
• PPSV23 vaccines were obtained by 46.48% of identified, eligible patients (n=73).
• A Fisher’s exact test showed the intervention was effective at improving vaccination rates (p=.046), and a chi-square test for independence determined there was a relationship between screening the patient and the patient obtaining the PPSV23 vaccine ($\chi^2=57.10, p<.001$).

Discussion

• Visual prompts and educational pamphlets can increase patient and provider awareness of adult vaccine needs.
• The findings in this project were comparable to other studies that found provider prompts increased vaccination rates, particularly for at- and high-risk adults.
• This project was conducted at a small primary care clinic and the results cannot be generalized to other settings.

Conclusions

• This project supports the need for implementing provider prompts related to adult vaccination needs.
• Recommendation for integration of prompts within the EHR with drop-down options to improve workflow.
• Overlapping projects or multiple organizational changes in a short time-frame can negatively impact QI projects by spreading resources thin and provoking apathy among staff.
• Use of change champions are a critical component to influencing organizational culture for staff buy-in.
• Future projects at larger primary care practices would add validity to the results.

References

Let's Talk: Post Critical Incident Debriefing Project

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Background

- Structured debriefings after critical events rarely occur in a level IV Neonatal Intensive Care Unit (NICU).
- Lack of structured debriefing negatively impacts provider physical and emotional health and patient outcomes.
- Leads to unconstructive feedback and unidentified areas for team and patient outcome improvement.
- Clinical team debriefing sessions after a life-threatening emergency lead to improved: Team and individual learning opportunities, Patient focused resuscitation outcomes, Team communication.
- Adoption and dissemination of the TeamSTEPPS Debriefing Tool.

Objectives

- Implement a structured post critical incident debriefing process, using the TeamSTEPPS Debriefing Tool following 100% of high-risk deliveries in infants 22–32 week gestation and emergency/resuscitation codes in the NICU.
- Enhance positive team communication during debriefings.
- Adoption and dissemination of the TeamSTEPPS Debriefing Tool following 100% of emergency deliveries and critical events in the NICU.

Implementation Methods

- Collaborated with management of 52-bed, Level IV NICU in an academic medical center in the Mid-Atlantic region to implement structured TeamSTEPPS Debriefing Tool.
- Developed data collection tools to document QI project progress.
- Created/revised educational materials for multidisciplinary NICU staff.
- Trained champions/facilitators via in-person and online (to increase staff training) PowerPoints.
- Designed self learning binder to enhance training of NICU’s multidisciplinary staff.
- Exercised debriefing tool during code/delivery simulations to get staff accustomed to debriefing following code/delivery situations.
- Produced reminder cards to facilitate debriefing after 22-32 week deliveries and resuscitation/emergency events.
- Established plan to communicate debriefing findings with management and staff.
- Role modeled safe environment for structured debriefing.

TeamSTEPPS Debriefing Tool Core Components

- Was communication clear throughout the event? (Closed loop communication, orders clearly understood, appropriate tone used among team members, etc.): Yes or No.
- Were roles and responsibilities understood? Yes or No.
- Was the workload distribution clear? Was the team members present sufficient? (Too many, too few, key personnel missing, etc.): Yes or No.
- Was situation awareness maintained? (Team members aware of their surroundings and the needs of the NICU team during the critical incident): Yes or No.
- Did the team ask for or offer assistance? Yes or No.
- Were errors made or avoided, and/or any other issues? (Process, medication, equipment, etc.): Yes or No.
- What went well? What did not go well? (Allow members to openly discuss team problems or individual. *Respond using good judgment statements.)*
- What should change?

Results

- NICU Staff (n=239)
  - RT: n=18 (8%)
  - NNP: n=20 (8%)
  - Fellows: n=18 (8%)
  - Neonatologists: n=163 (68%)

- NICU Staff Trained/Educated
  - Total NICU Staff= 239
  - Total NICU Staff Educated= 191 (80%)
  - Total NICU Staff Not Educated/Trained= 22 (9%)

- Total 22-32 Week Deliveries and Emergency Resuscitation Codes (n=27*)
  - RT: 15%
  - NNP: 16%
  - Fellows: 14%
  - Neonatologists: 68%
  - Residents: 23%

Future considerations:

- Piloting in a smaller unit or level NICU
- Expanding to all emergent deliveries regardless of gestational age
- Facilitating collaborative debriefs between OB and NICU teams following maternal/neonatal emergencies

Discussion

- Implement the structured debriefing tool in a high acuity NICU.
- Increased nursing and provider staff engagement, and ongoing training would enhance debriefing facilitation.
- Large number of personnel and high patient acuity may have contributed to low number of debriefings.

Conclusions

- Identification of a structured debriefing tool is feasible in a high acuity NICU.
- Expanding to all emergent deliveries regardless of gestational age.
- Facilitating collaborative debriefs between OB and NICU teams following maternal/neonatal emergencies.

References