

# DNP PROJECT ABSTRACTS

## ROOM 3

### The Evidence Integration Triangle for Management of Behavioral Psychological Symptoms of Dementia

Courtney E. Anderson

**Problem and Purpose:** Behavioral Psychological Symptoms of Dementia (BPSD) are described as symptoms of apathy, agitation, inappropriate vocalization, aggression, wandering, and resistance to care. Incorrectly managing Behavioral Psychological Symptoms of Dementia (BPSD) can lead to the improper administration of psychotropic medications, which can negatively impact the health and quality of life for residents with dementia. The purpose of this study was to implement the Evidence Integration Triangle for Management of Behavioral Psychological Symptoms of Dementia (EIT-4-BPSD) in a nursing home. The Evidence Integration Triangle is a four-step implementation framework that includes participatory implementation processes, provision of practical, evidence-based interventions, and pragmatic measures of progress towards goals.

**Methods:** The EIT-4-BPSD was implemented over a ten-week period. The four steps included: Step 1: Assessment of the environment and policies; Step 2: Education of staff; Step 3: Establishing person-centered care plans; and Step 4: Mentoring and motivating staff. Outcomes were evaluated pre and post-implementation. Resident outcomes were obtained from the Minimum Data Set National Database and included: use of psychotropic medications and falls. Staff outcomes included knowledge of person-centered behavioral approaches for BPSD based on a 10-item multiple-choice test. Facility outcomes included evaluation of a random sample of five de-identified care plans to evaluate for evidence of incorporation of person-centered approaches to managing BPSD.

**Results:** Patient outcomes revealed a 12.5% decrease in the administration of psychotropic medications and a 5.6% decrease in falls. Post-test knowledge of person-centered management of BPSD increased from 63.5% to 70% post-implementation. Evidence of established person-centered care plans increased from 40% at baseline to 90% post-implementation.

**Conclusion:** The EIT-4-BPSD intervention was practical to implement and provided the staff with information and resources to help integrate person-centered behavioral approaches into care plans and routine clinical care. Ongoing work by the nurse champion is needed to continue to maintain the focus on the use of person-centered behavioral approaches.

## Secured Messaging in Patient Portal: Improving Efficiencies in Patient-Provider Communication

Charlette Dampier Pace

**Problem and Purpose:** Patient portals are an easily accessible health care application, allowing patients and parents/caregivers 24/7 access to their health information and the ability to engage with their providers through asynchronous communication. Emailing patients is not a reliable form of communication if personal health information is discussed. Secure messaging within the patient portal is an appropriate substitute for emails as it fulfills the requirements of the HIPAA Security Rule without compromising the conveniences of mobile technology or security. The purpose of this quality improvement project was to improve enrollment and patient engagement in the patient portal to increase the use of secure messaging amongst cardiology patients and providers (primary cardiology, electrophysiology, and adult congenital).

**Methods:** To increase the enrollment of portal users by patients techniques were implemented in the clinic to include: patients informed about the portal at the front desk and with the nursing staff; each patient visit focused attention on the secure messaging feature; additionally, patients over the age of 13 were given the option to self-enroll on iPads in the clinic. Providers were required to complete an online module related to secure messaging.

**Results:** The Patient Engagement Team tracked the number of messages sent, received, and other portal related statistics for the pediatric cardiology clinic for 12 weeks before the intervention and 12-week post-implementation. These messages were collected and analyzed. Pre-implementation, the pediatric cardiology department received an average of 60 messages and sent an average of 39 messages back to patients or other providers. During the implementation period, the messages received increased to 102 per month, and messages sent by our staff also increased to 66 messages per month. Significant barriers during implementation included parent/caregiver delays receiving the portal enrollment email notification and the portal closing for a month during execution.

**Conclusion:** Despite limitations, messaging increased by near 60 percent for inbound and outbound messages. Patient-provider secure messaging communication is a viable and effective method for non-urgent communication between patients and providers. A renewed focus on the importance of secure patient communication is highlighted in this patient improvement initiative. Sustainability of messaging within the portal use will require time, consistency, and support from the entire cardiology team, including cardiologists.

## Implementing Delirium Screening in an Intermediate Care Unit

Christyn A. Gaa

**Problem and Purpose:** Delirium occurs in 18-35% of medicine patients and up to 50% of geriatric postoperative patients, with incidences as high as 82% among the critically ill. The use of a valid and reliable tool allows for early detection, diagnosis, and management to mitigate adverse effects. The purpose of this quality improvement project was to implement the Confusion Assessment Method (CAM) delirium screening tool as an adjunct to current delirium prevention practices in an intermediate care unit (IMCU) and measure delirium screening compliance, the feasibility of the tool, and the effect on reported patient falls.

**Methods:** Web-based education and small group in-service training sessions were conducted with the IMCU nurses. A 14-item pre- and post-survey assessed for knowledge comprehension. Responses to each question were compared using independent t-tests. The CAM tool was added to the electronic health record (EHR), and documentation compliance was measured for eight weeks. The number of patients on the IMCU were compared to the documented CAM screenings for each shift using descriptive statistics. At the end of eight weeks, a nurse perception survey was distributed to all IMCU nurses. Sixty-day pre- and post-intervention patient falls were compared.

**Results:** Seventy-eight percent of nurses (n=47) completed the web-based training. The post-test (n=47) average was higher than the pre-test (n=49) average (88.8% vs 75.8%; p=0.16). All 14 post-test answers scored higher than the pre-test; five answers showed significant improvement (p<0.05). Overall, screening and documentation compliance during the measurement period was 79.1% (1728 of 2185 possible delirium screenings). Thirty-five percent of nurses (n=21) completed the nurse perception survey. Findings demonstrate nurses agreed delirium screening and use of the CAM tool are feasible interventions. Patient falls were reduced 57%.

**Conclusion:** The use of multi-modal education strategies aided nurses' understanding of delirium and CAM tool use. The addition of the CAM tool in the EHR enhanced delirium screening compliance, and would likely increase screening and documentation compliance for other hospital units. Early delirium detection allows for early intervention and facilitates better outcomes and potentially reduce patient falls. The CAM tool is a feasible instrument, and delirium screening is a worthwhile intervention.

## Simulation to Improve Confidence among Newly Licensed Nurses in the Pediatric Intensive Care Setting

Hannah Hamilton

**Problem and Purpose:** Communication and critical thinking are essential practice competencies for every registered nurse. However, newly licensed registered nurses (NLRN) often lack these skills on entry into practice contributing to low levels of clinical confidence. The purpose of this Quality Improvement (QI) project was to implement and evaluate the effectiveness of simulation on clinical confidence among NLRNs.

**Methods:** This QI project was guided by the MAP-IT model and involves NLRNs in a Pediatric Intensive Care Unit within an urban academic teaching hospital. NLRNs participated in three clinical simulations reflecting common PICU clinical practice, utilizing the Simulation Module for Assessment of Resident's Targeted Event Responses (SMARTER) and the Behavior Assessment Tool (BAT). NLRN confidence data were collected immediately pre-simulation and post-simulation, as well as one-month post-simulation using the self-report *C-Scale* Instrument of Clinical Confidence. Qualitative data was collected via observation by the NLRN preceptor using the *C-Scale* Instrument of Clinical Confidence. Paired sample t-tests were used to determine a significant change in confidence, and content analysis was performed by two evaluators on the qualitative data derived from the *C-Scale* observations to identify confidence themes and patterns.

**Results:** Paired sample t-tests revealed a significance increase in clinical confidence between baseline and sustained one-month post simulation. Qualitative data collection of preceptor observations revealed improved clinical confidence and communication abilities.

**Conclusions:** Data indicates that simulation is an effective strategy to increase clinical confidence as perceived by the NLRNs. Incorporation of simulation into transition-to-practice programs such as Nurse Residency or facility orientation is an evidence-based recommendation to improve development of clinical confidence and communication abilities in this population.

# Herbal Medications and Anesthesia Implications: A Clinical Practice Guideline

Sarah Klein

**Problem and Purpose:** Herbal medications are widely used among the surgical population. Lack of reporting by patients and lack of preoperative questioning regarding herbal consumption can lead to perioperative complications. Overall, polypharmacy and physiological changes in regards to herbals can lead to serious herbal-drug interactions, hematological, cardiovascular, central nervous system, and drug metabolism side effects. Anesthesia providers need to be aware of these common herbal medications and their side effects in order to recognize and treat complications that could potentially arise. At an institution in Baltimore, Maryland, there is an herbal medication knowledge gap among anesthesia providers. The purpose of this clinical practice guideline (CPG) is to provide a resource on the common uses of herbal medications, their adverse effects, recommended discontinuation, and the anesthesia implications for patients undergoing surgery. Additionally, the CPG recommends the completion of a thorough herbal medication reconciliation during the preoperative evaluation.

**Methods:** The CPG was developed by an interdisciplinary team of stakeholders consisting of two SRNAs, the chief CRNA, the associate chief anesthesiologist, one staff CRNA, and a pharmacist. The CPG was created based on a thorough review of the literature, with sources including MEDLINE, CINAHL, journals, and anesthesia reviews provided by large organizations. The CPG was graded through the completion of the AGREE II Instrument, which is a 23 item tool that evaluates guideline quality and comprehensiveness. The CPG was presented to staff via a presentation, and feedback was obtained from staff anesthesiologists through a Practitioner Feedback Questionnaire (PFQ).

**Results:** During the development phase of the CPG, the AGREE II results were analyzed and edits were made accordingly. According to the PFQ, the total percentage of agreement was 91% overall. The total neutral and strongly disagree responses were 8% and 1.4% respectively. The calculated percent of agreement on quality, acceptance of recommendations, and applicability of recommendations were 95%, 90%, and 75% respectively. Overall, CPG approval and future use of recommendations were 100%.

**Conclusion:** This CPG addresses a knowledge gap on herbal medications among anesthesia providers at a local institution. The CPG increases awareness and is a resource that has the potential to decrease perioperative complications resulting from herbal medication consumption.

## Targeted Multiple Intervention and Tailoring Interventions for Patient Safety (TIPS) Fall Prevention

Daniel Mesfin

**Problem and Purpose:** Inpatient falls have physical, psychological, and financial consequences, including pain, additional procedures, and prolonged hospital stays. The orthopedic acute care unit of a large medical center has a high number of falls, some of which may be associated with a lack of communication between staff and patients. The unit had 14 falls during the 12-month period prior to implementation, with six of those occurring in the 3 months prior to implementation. The purpose of this quality improvement project was to reduce the unit's fall rate using Targeted Multiple Interventions and Tailoring Interventions for Patient Safety (TIPS) fall prevention strategies.

**Methods:** The theory of goal attainment was used to maintain the practice change. Unit staff were trained to use an evidence-based fall prevention tool kit as a communication and patient education tool to trigger patient engagement in individualized fall prevention planning. Audit tools were used to collect patient engagement and staff compliance data. Pre- and post-implementation fall rate data were obtained from the organization's fall committee. Staff compliance and patient engagement data were analyzed on a weekly basis using run charts. Pretest and posttest mean scores on patient knowledge surveys were compared.

**Results:** The patient knowledge surveys showed improvement in identification of fall risk factors (pre-mean 3.5, post-mean 4.3,  $p = 0.001$ ) and fall prevention strategies (pre-mean 3.5, post-mean 4.3,  $p = 0.001$ ). The average of nurses' compliance in completing the fall TIPS poster was 87.1%. Most patients were able to verbalize their fall risks ( $M = 83.3\%$ ) and fall prevention plans ( $M = 88.8\%$ ). There were two fall occurrences during the 11-week implementation period. The implementation of this project resulted in a 66.7% fall reduction when compared to the 3-month baseline prior to implementation.

**Conclusion:** This DNP project was intended to use targeted multiple interventions and a Fall TIPS poster as a patient engagement and communication tool to reduce patient falls in orthopedics acute care unit. The project improved patients' knowledge in their fall risks and prevention plans. The overall findings revealed the effectiveness of the implementation in reducing fall occurrences in orthopedic acute care settings.

# Implementation of a Functional Capacity Assessment in Adult Patients with Heart Failure

Suzanne OKeefe

**Problem & Purpose:** An estimated 6.2 million American adults are diagnosed with heart failure. Efforts to reduce hospitalizations and improve outcomes include interventions to maintain health, manage symptoms, and preserve functional ability. Assigning a New York Heart Association functional class of I-IV in patients with heart failure based on activity and associated symptoms is a best practice in clinical management. One means of assessing functional capacity is the 60-foot walk test, in which walk times greater than 30 seconds are associated with heart failure patients at increased risk for hospitalization or health status decline. A lack of functional capacity assessment and documentation in patients with heart failure was identified as a practice problem in a transitional care clinic. The associated medical facility has a heart failure readmission rate that is higher than the national average, making it a focus for process improvements. The purpose of this quality improvement project was to implement the 60-foot walk test in the transitional care clinic in the Fall of 2019 to objectively assess functional capacity and target high risk heart failure patients for interventions to reduce rehospitalization.

**Methods:** During the 12-week project period, all patients with heart failure who presented to the transitional care clinic, unless unwilling or unable, completed the 60-foot walk test to determine and document functional class. Patients who were identified as high risk for readmission were provided resources for prevention.

**Results:** There were 84 patient encounters during project implementation. The 60-foot walk test was performed 67 times (80%) and functional class was documented 64 times (76%). There were 11 readmissions and 7/11 (64%) were identified as high risk. The average readmission rate was 13.1%, a reduction of 7.4% compared to the average readmission rate of 20.5% prior to implementation.

**Conclusion:** The 60-foot walk test was useful in the transitional care clinic to identify heart failure patients at high risk and target them for interventions to aid in maintaining health status and reducing rehospitalization.

## Postoperative Cesarean Section Outcomes Following Standardized Oxytocin Dosing: Rule of Three's

Miguel Sanchez

**Problem and Purpose:** Currently there is no standardized guidelines for the administration of oxytocin during a cesarean section to prevent uterine atony, which has led to anesthesia providers administering varying doses of oxytocin to prevent postpartum hemorrhage (PPH). Oxytocin that is delivered at high rates of infusion have been associated with myocardial depression through hypotension, tachycardia, and myocardial ischemia. The literature has shown that the use of regimental low dosed oxytocin like the “Rule of Three’s” improves its efficacy. The purpose of this quality improvement (QI) project is to overcome the lack of standardization with the delivery of oxytocin during a cesarean section by developing a clinical practice guideline (CPG) for low dose oxytocin administration following the “Rule of Three’s” algorithm. This manuscript will highlight the development with a primary concentration on the post-cesarean section oxytocin administration.

**Methods:** The CPG was developed through 4 phases. The first phase involved stakeholder recruitment along with the development of the CPG using the AGREE II tool to evaluate it. During the second phase the CPG was appraised by the chief anesthesiologist for initial approval. The third phase consisted of a formal presentation to the anesthesia staff that was based on oxytocin management. A Provider Feedback Questionnaire (PFQ) was then used to evaluate providers response to CPG. During the fourth stage, approval for the use the CPG was granted by the chief anesthesiologist for use. The data was analyze confidentially using both inferential and descriptive statistics.

**Results:** The CPG was assessed using the AGREE II Tool resulting in an overall average of 93%, which was indicative of a high-quality guideline recommended for clinical use at the facility. The PFQ (n=12) assessed the CPG’s quality, acceptance, applicability, value, and outcome had an overall agreement of 80.7%.

**Conclusion:** The “Rule of Three’s” was proven to be the optimal dosing regimen during cesarean section and throughout the postoperative period. During the postoperative period the prevention of uterine atony is vital to reduce the incidence and severity of PPH, which is effectively achieved when using the “Rule of Three’s” CPG. A limitation of the quality improvement (QI) project was anesthesia provider were resistant to changing their practice. The next phase of the QI project will include reducing provider resistance and monitoring quantitative blood loss during surgery.

## Aromatherapy Blend for Postoperative Nausea in Ambulatory Surgery Patients

Sarah C. Trandel-Korechuk

**Problem and Purpose:** Postoperative nausea (PON) is one of the most undesirable outcomes after surgery, affecting 30% of surgical patients nationwide. PON increases patient dissatisfaction and risk for postoperative complications such as hematoma and dehiscence. In the Post-Anesthesia Care Unit (PACU) at an urban hospital outpatient surgery center, PON occurs in about a third of postoperative patients. Use of alcohol swab inhalation is ineffective and pharmacological methods lead to prolonged PACU stays, decreased patient satisfaction and increased hospital costs. The purpose of this project was to implement and evaluate the effect of an aromastick on nausea in a surgery center.

**Method:** Implementation occurred over twelve weeks. The first two weeks PACU RNs were educated and completed a competency around aromatherapy, aromastick use, and documentation. For the following ten weeks, PACU RNs offered aromasticks to patients with PON upon arrival to the PACU as a non-pharmacological means to mitigate nausea; anti-emetic medication was not withheld. The quantity of aromasticks provided and baseline and post-intervention PON scores were obtained to determine the effect of aromastick on PON.

**Results:** 100% of PACU RNs were educated and demonstrated competence in aromatherapy intervention, 70.6% of patients with PON utilized an aromastick for PON treatment, and of those patients who received an aromastick for PON 94.4% had improved PON scores.

**Conclusion:** Aromatherapy is an effective non-pharmacological treatment in reducing PON score for patients recovering from surgery. These results offer support for nursing practice to utilize aromatherapy as an additional method to enhance patient experience, improve outcomes, and reduce cost in recovery rooms. Utilization of aromatherapy for nausea in other areas should be explored to enhance available non-pharmacological treatment methods for nursing practice.