

# 2020 ADCE Poster Abstracts



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# Qualitative Research

A1

## **Improving Operating Room Communication Using a Surgical Safety Checklist**

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**Introduction:** The purpose of this DNP project is to study how the perception of communication among OR team members is affected after implementing team introductions in the time out phase of the checklist.

**Literature Review:** Several themes emerged when reviewing literature based on staff communication in the operating room (OR). Many studies concluded that use of the checklist improved communication between OR staff members. The identified articles did not discuss staff introductions as an important factor in OR communication, even though this is a critical step outlined by the World Health Organization (WHO).

**Theoretical Framework:** Lewin's change theory, with its three phases of change, can effectively be used to implement a new time out procedure in ORs that do not currently practice staff introductions prior to surgical cases.

**Methodology:** This study employs ethnography to examine the time out habits of staff in the OR and how they can be adjusted to improve communication.

**Data Collection & Methods:** The proposed change is to begin the time out procedure with staff introductions in accordance with the WHO's surgical safety checklist (SSC) in two ORs at the large tertiary care center and to evaluate its effectiveness by comparing pre-intervention and post-intervention surveys. This structure has been shown to be an effective way of measuring OR staff perception of communication. The intervention will be accomplished in three phases: education and pre-implementation survey phase, intervention phase, post-implementation survey phase.

**Results and Data Analysis:** Results from the pre-implementation and post-implementation survey were compared using SPSS version 23. A P value  $<0.05$  was considered statistically significant. The results showed a significant change in the CRNAs' perception of communication in the OR.

**Discussion and Conclusions:** Implementing staff introductions during time-out can increase the perception of communication and contribute to better patient outcomes by encouraging young staff members to speak up regarding safety. With the project proving successful, the next step is disseminating the new time-out procedure throughout the entire facility.

# Quantitative Research

A2

## **When to Sim? Increasing Knowledge Gains for Procedural Skills Training in Nurse Anesthesia Education**

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**Introduction:** The preoperative assessment of gastric aspiration risk is an essential safety component in anesthesia practice. Ultrasound assessment of gastric content (UAGC) is a novel anesthesia educational topic. This paucity presents a unique opportunity to examine varying pedagogies on a nurse anesthesia resident's (NAR's) decision-making processes without the confounding factor of previous exposure.

**Theoretical Framework:** The Expert-Performance-based Training (ExPerT) for simulation teaching in nursing provided the framework for this study. This method focuses on the "how" and "what" of the simulated experience.

**Literature Review:** Repetitive simulated skills training has improved early procedural skills acquisition. Simulated ultrasound experiences can have a profound impact on skill acquisition. Simulated scenarios for residency teams has fostered better diagnostic skills.

**Research Design:** This quasi-experimental pilot study utilizes pre-lecture, post-lecture, and post-simulation tests in an interrupted time series with repeated applications.

**Methods:** The 2017 masters' cohort was invited to participate in the three-pronged diagnostic gastric ultrasound assessment. Participation was voluntary, anonymous, and ungraded at this medium-sized private university. Eight sets of images showed various volumes of gastric contents. A random number table was used during each exposure.

**Data Collection:** The NARs indicated (a) estimates of the gastric content volume (b) their confidence in the accuracy. After a 45-minute UAGC lecture, the NARs were tested again. Following simulated ultrasonography practice, the NARs were tested one last time.

**Results and Data Analysis:** The pre-test estimates of gastric contents showed chance accuracy with a mean score of  $M = 3.08/8$ . Post-lecture showed a single 45-minute lecture substantially improved the NARs' accuracy:  $M = 5.03$  out of 8;  $t(108) = 15.04$ ,  $p < .001$ . The NARs' confidence also increased, but did not reliably relate to their accuracy. Post-simulation showed further improvement in diagnostic skills:  $M = 5.36/8$ ,  $t(105) = 2.148$ ,  $p < .04$ . NARs' confidence ratings corresponded with higher accuracy ratings, approaching significance [ $r(101) = .188$ ,  $p = .058$ ].

**Discussions and Conclusions:** Prior exposure or knowledge base may not be necessary to see improvement in diagnostic decision-making when a multi-pedagogical method is used for UAGC. Simulation provided additional diagnostic ability with proportional confidence. These substantial gains could foreshadow similar gains in other elements of practice, especially those where confidence may exceed accuracy.

A3

## **Perceived Impact of Ambient Operating Room Noise by Certified Registered Nurse Anesthetists**

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**Introduction:** It is acknowledged that elevated levels of noise are commonplace in the healthcare environment, particularly in the operating room (OR). Excessive ambient noise may pose a threat to patient safety by adversely impacting CRNA performance via diminished situation awareness. The purpose of this project was to analytically examine the perceived impact of ambient noise in the operating room by CRNAs.

**Theoretical Framework:** Endsley's Theory of Situation Awareness frames this research as it encompasses the key elements of CRNA performance and may be adversely affected by excessive noise.

**Literature Review:** Excessive noise was noted to exist in the OR and was identified as a potential threat to patient safety. Chronic exposure to noise negatively impacts provider performance and health, factors essential to safe anesthetic care.

**Research Design:** This research project utilized a non-experimental, descriptive, cross-sectional design.

**Methods:** The research was implemented through a nationwide survey of CRNAs. It was disseminated via the Internet to a convenience sample of 3000 CRNAs currently engaged in clinical practice to AANA Regions 1 through 7. After data inspection and cleaning, a total of 502 valid responses were obtained for every survey item.

**Data Collection:** Survey Monkey was utilized as the vehicle to collect and report data. Data was de-identified from respondents and sent directly to the researcher.

**Results and Data Analysis:** Likert responses were measured as frequencies/weighted means. Relationships between ages, years of work and inherent noise sensitivity were correlated with Somers' d. Freidman all pairs exact test elicited significant differences between 4 perceived sources of ambient OR noise. Correlations between inherent noise sensitivity and noise as a problem were statistically significant. CRNAs perceived OR noise to be moderately loud, but perception of effect on performance, communication, patient safety and outcomes varied.

**Discussions and Conclusions:** CRNAs perceive elevated noise as regularly present in the OR, specifically during the emergence phase. However, CRNAs feel that increased noise only occasionally limits their ability to perform procedures, concentrate and communicate. Noise was perceived as a minor threat to patient safety and non-detrimental to their health. CRNAs strongly agree that excessive noise can and should be controlled.

**Funding Sources:** The Medical College of Virginia (MCV) Foundation

#### A4

### **Evaluating an evidence-based protocol for perioperative glucose management for non-cardiac patients**

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**Introduction:** Glucose under 180mg/dL perioperatively decreases infections, blood transfusions, blood clots, new atrial fibrillation, and low cardiac output syndrome, decreasing length of stay. This project measures data before and after implementation to see if the protocol decreases glucose levels in diabetics. The purpose is to evaluate The University of Alabama at Birmingham's hyperglycemia management tool.

**Theoretical Framework:** The Donabedian model is used to evaluate structure, process, and outcomes of the problem. Structure is the setting where the care occurs, process is the protocol, and outcomes is the glucose levels.

**Literature Review:** Surgical patients have hyperglycemia 20-40% of the time. A 20mg/dL rise in glucose correlates to a 34% rise in complications. Perioperative hyperglycemia is linked to increased mortality. Outcomes will improve with consistent hyperglycemia control.

**Research Design:** The progress of the process will be measured by the frequency of preoperative, intraoperative, and postoperative blood glucose checks, and insulin administration to patients who met inclusion criteria. These measures will be correlated to postoperative outcomes to determine protocol effectiveness.

**Methods:** Variables: Perioperative glucose levels, HbA1C, length of stay, age, race, gender, surgery date, diagnoses, operation, complications, and medications administered (home and perioperative medications). Primary measures: 12 hours postoperative glucose levels, length of stay; Secondary: intraoperative glucose levels, complications.

**Data Collection:** De-identified data was retrieved from UAB Health System Information Services (HSIS). Inclusion Criteria: Non-cardiac surgical patient diagnosed with DM with general anesthesia lasting 1+ hours and those on chronic steroids.

**Results and Data Analysis:** All measurements with a p-value of  $<0.1$  will be considered statistically significant. Descriptive statistics (frequencies, percentages, and means) will be calculated for all variables as appropriate to the level of data. Paired t-tests or the Mann Whitney U test will be used to compare outcome measures between participants enrolled in the protocol and the control group. Chi-square test will be used to evaluate differences between categorical variables (patient demographics). Contingency tables will be used to summarize the categorical analysis.

**Discussions and Conclusions:** The purpose of this project is to evaluate the glycemic protocol's effectiveness and identify implications its' use might hold relating to patient outcomes. The team hypothesizes that the protocol will have a positive effect on outcomes. We will know that the protocol is effective if the results yield a statistically significant decline in length of stay and postoperative complication rates.

## A5

### **Educational Intervention to Enhance Arterial Catheter Insertion Practices**

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**Introduction:** Arterial catheters cause a significant rate of blood stream infections. Sterile technique is the standard for arterial catheter infection prevention. Clinicians report poor compliance with these infection prevention practices. An educational intervention was performed to modify awareness of and increase compliance with these evidence based practices among certified registered nurse anesthetists.

**Theoretical Framework:** Sterile technique and site anti-sepsis reduce arterial catheter infections. Clinicians report a knowledge deficit as a barrier to compliant practice. Do educational interventions improve compliance?

**Literature Review:** Clinicians are poorly compliant with best arterial catheter practices. Knowledge deficit of infection risk and prevention is a key barrier. Educational intervention is effective at modifying practice, but it is unclear what method is most effective.

**Research Design:** A pre-experimental design with pre-intervention and post-intervention surveys given to all participants. The participants were not randomized nor were they assigned to an experimental or control group. Status as a practicing CRNA was a requirement for inclusion.

**Methods:** Following IRB approval, an educational slide and lecture intervention was administered to 7 CRNAs during a department meeting. The intervention discussed arterial catheter infection rates and prevention practices. Pre- and post-intervention surveys were administered to every participant. All participants received the same surveys and intervention.

**Data Collection:** The demographic tool was solely used to determine the demographics of the sample population. Pre- and post-interventions surveys were used to assess for changes in knowledge base and willingness to modify non-compliant practices.

**Results and Data Analysis:** Paired t-test was used to determine statistical significance. Pre-intervention 43% (n=3) of CRNAs surveyed reported sterile glove use. Post-intervention 100% (n=7) of CRNAs stated they would use sterile gloves ( $p = 0.03$ ). Pre-intervention views on arterial catheter infection rates relative to central venous catheter rates varied; 43% (n=3) believed the rate was lower in arterial lines. Post-intervention 100% (n=7) stated the rates were comparable ( $p=0.03$ ). 100% (n=7) surveyed cited antisepsis as the best infection prevention in both surveys.

**Discussions and Conclusions:** Statistically significant increase was seen in subjects' knowledge of the topic and willingness to comply with best evidence based practices. However, this study was under-powered (n=7). Overall effectiveness in a larger population cannot be extrapolated. Studies in larger populations are necessary. Longitudinal studies should next be performed to evaluate continued compliance.

## A6

### **What Do Certified Registered Nurse Anesthetists Know about p Values, Confidence Intervals, and Correlations?**

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**Introduction:** As evidence-based providers, CRNAs must be constantly evaluating data on new medications, outcomes studies and methods of treatment. Quantifying and interpreting the validity of evidence typically includes statistical analysis. The goal of this study was to improve statistical knowledge of practicing CRNAs and SRNAs.

**Theoretical Framework:** CRNAs receive education in statistics within their curriculum. Retention and application of that knowledge is often problematic. Focused continuing education on statistics can improve understanding.

**Literature Review:** A pilot survey of 65 anesthesiologists attending the European Society of Anesthesiology answered 3 questions about p-values, confidence intervals and correlation. No respondents answered all three questions correctly

**Research Design:** Experimental. After receiving IRB approval from Missouri State University.

**Methods:** Attendees were recruited as subjects as a part of the continuing educational program. A four-question assessment was done, followed by a 30-minute educational presentation over p-values, confidence intervals, and correlation. Following the presentation, the assessment questions were repeated.

**Data Collection:** A baseline assessment of 4 statistical knowledge questions was done, followed by a 30-minute educational presentation over p-values, confidence intervals, and correlation. Following the presentation, the assessment questions were repeated.

**Results and Data Analysis:** A dependent t test was conducted to compare the participants' statistical knowledge between the pretest and posttest conditions. There was a significant difference between the scores for the pretest;  $t(59) = -2.30$ ,  $p = 0.025$ ,  $d = -0.30$ . Two Simple Pearson's Correlations were computed to assess the relationship between the number of questions answered correctly and years of experience. There is a significant, negative relationship between the number of correct responses on the posttest and years of experience ( $r = -.29$ ,  $p = .030$ ).

**Discussions and Conclusions:** This study compared baseline knowledge of common statistical concepts. After a 30 minute focused presentation on those concepts, the post-test indicated that knowledge was increased. Of note was a statistically significant relationship between the number of correct post-test responses and years of experience.

## **Anesthesia Machine Fundamentals: Improving Clinical Performance Through Adjunct Video Review**

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**Introduction:** Despite textbook explanations and in-class lectures, novice SRNAs lack the experience and hands-on training required to confidently execute a basic anesthesia machine checkout and troubleshoot faults. Senior SRNAs stand to improve their knowledge retention and troubleshooting skills. The utilization of a video adjunct may improve SRNA confidence and clinical knowledge leading to improved safety.

**Theoretical Framework:** John Keller's ARCS Model and 4 key conditions (Attention, Relevance, Confidence, and Satisfaction) were adapted to create an instructional design to capture and maintain learner motivation.

**Literature Review:** A strong fundamental knowledge-base is essential to correctly identify and respond to anesthesia machine failures. The Millennial learner is quick to turn to social media for enhanced education and can greatly benefit from adjunct video reviews.

**Research Design:** This was a multicohort, descriptive, prospective design in which junior and senior SRNAs attended a viewing session of five short videos, created by the authors, focusing on enhancing education related to the anesthesia machine.

**Methods:** Conducted at Rutgers University, Rutgers SRNAs (N=43) completed pre-intervention surveys, viewed 5 short videos on the anesthesia machine, and completed post-intervention surveys. Surveys measured perceived confidence and tested knowledge comprehension following video intervention and knowledge retention three months post intervention.

**Data Collection:** Data was collected by sending participants links to complete secure online surveys through Qualtrics prior to video implementation, immediately post-implementation, and again three months post-implementation.

**Results and Data Analysis:** Data was analyzed with Qualtrics software using descriptive statistics and the Chi-square test. A statistically significant difference was noted in multiple areas of perceived confidence of junior SRNAs vs senior SRNAs pre-implementation. Minimal difference was noted in confidence rating between cohorts post-implementation. Junior SRNAs scored highest on the initial post video knowledge survey (67.4% initial; 62.8% delayed); senior SRNAs demonstrated a slightly increased score at 3 months post implementation (58.7% initial; 64.9% delayed).

**Discussions and Conclusions:** A majority of SRNAs reported they would use the video review in the future. Significant improvements in junior SRNA self-efficacy scores post implementation support the incorporation of these vetted video review resources as an adjunct to traditional classroom education. Further research is warranted to explore how to improve comprehension and knowledge retention of the anesthesia machine.

# Evidence Based Practice

A8

## **Student Registered Nurse Anesthetists' Perceived Self-Efficacy and the Effect of High-Fidelity Simulation**

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**Introduction:** High-fidelity simulation has been associated with improvements in self-efficacy, knowledge, and decision-making abilities in medical education. However, there is minimal data surrounding the self-efficacy of student registered nurse anesthetists. This doctoral project aims to assess the effect of high-fidelity simulation on student registered nurse anesthetists' perceived self-efficacy.

**Methods:** The purpose of this literature search was to answer the following question: In the nurse anesthesia program at the University of Wisconsin Oshkosh, how does high-fidelity simulation affect the perceived self-efficacy of student registered nurse anesthetists (SRNAs)? A review of literature referencing 18 articles was conducted. Inclusion criteria consisted of topic relevance, peer-reviewed sources, and published in English between January 1, 1998 and August 31, 2019. Keywords, root words, and Boolean operators were used to search electronic databases including Cumulative Index to Nursing and Allied Health Literature, MEDLINE, and Cochrane Databases of Systematic Reviews. Levels I through V evidence of good or high quality were included for analysis.

**Analysis of the Evidence:** High-fidelity simulation allows for replication of clinical anesthesia scenarios in which students are able to acquire both non-technical and technical skills without putting patients at risk of harm. Through a review of literature, high-fidelity simulation was found to have the following learner outcomes: increased self-efficacy, shortened decision-making time, and improved knowledge and situational awareness. In addition, the literature revealed that self-efficacy must be accompanied by knowledge for proper and timely translation into the clinical setting. Debriefing further amplifies these points of growth, allowing for improved safety in direct patient care.

**Recommendation for Practice:** Our results indicate a positive relationship between SRNAs' self-efficacy and high-fidelity simulation when objectives are aligned with didactic curriculum. Recommendations for practice include individualizing simulation experiences based on didactic curriculum while following NLN Jeffries Simulation Theory and International Nursing Association for Clinical Simulation and Learning standards. Further, we recommend simulation rehearsal to avoid unforeseen equipment and technical difficulties. Future projects may include expanding analysis to other populations, reviewing simulation video recordings, and assessing the effect of voluntary versus assigned groups on self-efficacy scores.

## A9

### **The Impact of an Evidence-based Question Bank on First-time NCE Pass Rates**

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**Introduction:** Steady decline of first-time pass rates on the National Certification Exam (NCE) illuminates the importance of creating a better tool to prepare nurse anesthesia graduates for NCE success. This project aimed to improve NCE first-time pass rates for a student cohort via development and implementation of a bank of 225 questions with subject matter focused on advanced principle anesthesia concepts.

**Methods:** To determine if an evidence-based question bank is effective in increasing pass rates, a systematic review of the literature was conducted. Search engines included the Cumulative Index to Nursing & Allied Health Literature (CINAHL), SCOPUS, and PubMed. The search was limited to articles published in the last 10 years, and the only articles included were those that specifically pertain to increasing board exam pass rates among health profession students via the use of practice multiple-choice question banks. Although all studies were either case series (level 4 evidence) or retrospective cohort studies (level 3 evidence), they were able to display score increases on separate high-stakes board exams.

**Analysis of the Evidence:** Multiple-choice question banks are being utilized in many areas of medicine and nursing to improve first-time board pass rates. However, limited literature exists on the use of this modality to prepare for the NCE required for Certified Registered Nurse Anesthetists. The current literature supports the idea that practicing multiple-choice questions via a question-bank is an effective study tool. Two studies linked the number of practice questions completed to score increases on high stakes board examinations. One concluded that every 100 questions completed increased scores by three percentage points. Another concluded that every 2,000 questions completed increased scores by 8 points.

**Recommendation for Practice:** The literature review established that Student Registered Nurse Anesthetists (SRNAs) may benefit from more practice questions. Current questions available may not follow the NCE outline or criteria. After completion of the item-writing course provided by the National Board of Certification and Recertification of Nurse Anesthetists, a bank of 225 questions was created following the NCE exam blueprint. Question content was evaluated by subject matter experts prior to gathering performance data from senior, board eligible SRNAs. Each question was then statistically analyzed, vetted, and edited. Further research is needed to fully appreciate the impact of these questions on NCE performance.

## A10

### **Does a Formalized Preceptor-Training Program Reduce Barriers and Improve Learning for SRNAs and CRNAs in the Clinical Setting?**

*Ann Miller, DNP, CRNA, APRN*

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**Introduction:** The proper training and development of CRNA's to the role of preceptor facilitates the psychosocial and developmental needs of SRNAs and CRNAs. Preceptors are the main facilitators of clinical teaching, critical thinking, educational proficiency, and professionalism. The proper development of preceptors not only influences the health care delivery in the present but also for future iterations.

**Methods:** The purpose of this evidence-based project was to answer the following clinical question: For CRNA and SRNA students, does a CRNA preceptor program versus no preceptor-training program reduce barriers in learning, increase preceptor satisfaction and improve preceptor effectiveness? Inclusion criteria addressed preceptor training and nursing student outcomes in nurse anesthesia. Study characteristics included author, publication year, conceptual framework, design, sample size, major variables, measurements, data analysis, findings and level of quality based on Johns Hopkins Evidence-Based Practice Research Evidence Appraisal Tool. Eight articles were included for analysis; 3 randomized control trials, 2 cross-sectional survey descriptive studies, and 3 descriptive quantitative studies.

**Analysis of the Evidence:** A quasi-experimental design evaluated a preceptorship program in decreasing nurses' turnover rate, cost, quality, and satisfaction of preceptor's teaching. A preceptorship program was found to decrease turnover by 46.5%, resulting in cost savings of US \$186,102 in three months. An experimental design looked at a formalized preceptor-training program for RN's and found that the implementation of a preceptor training program improved RN's knowledge of teaching and teaching strategies. A descriptive correlation design determined interrelationships between variables pertaining to preceptors perception of benefits and reward. The study concluded preceptors will be committed to the preceptor role.

**Recommendation for Practice:** The empirical evidence shows a formalized preceptor program establishes the role and responsibilities of preceptors in instructing new nurses and addresses the concerns of turnover, cost, quality of care, communication and independent decision-making. The preceptor's role is critical in explaining, encouraging and translating concepts into practice and decreasing the theory-practice gap. A formalized preceptor-training program will provide positive outcomes for all stakeholders to enhance student learning and decrease barriers of learning. Preceptor development has a positive impact on the preceptee development allowing for the development of the preceptee into the new role of CRNA.

## **A11**

### **Non-Operating Room Anesthesia and the Novice Provider**

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University of Cincinnati

**Introduction:** Address how providers are being trained today and improved training programs can better meet the needs of their students in order to deliver anesthesia in locations which may be isolated, lack traditional operating room resources, are physically confining and have staff unfamiliar with the needs of a patient receiving anesthesia.

**Methods:** PICOT: Do nurse anesthesia students who have formal non-operating room anesthesia (NORA) training compared with those students without formal NORA training have a better understanding how to administer location specific anesthesia and lower personal stress levels when providing NORA prior to and following graduation? Literature review was completed utilizing University of Cincinnati's Library search tool. In addition, specific database searches were utilized; MEDLINE with full text (EBSCO), PubMed, and CINAHL Plus with Full Text. The search focused on finding literature incorporating research, quality improvement projects, risk assessment tools and/or guidelines focused on the practice of NORA, its risks and how it is being taught to new/ inexperienced providers.

**Analysis of the Evidence:** Literature findings suggest that there may be a correlation between increases in patient morbidity and out of OR locations due in part to the sheer complexity of patient health conditions. In addition, literature suggest that an increase in the formal training of new and experienced providers in NORA specific considerations and techniques should be examined and potentially modified.

**Recommendation for Practice:** The implementation of NORA training involves a combination of classroom lectures, discussions, case presentations and lab simulation scenarios. The goal of this training both didactically and through simulation, is to educate our students by familiarizing them with procedures, processes, airway scenarios and limited resource crisis management experienced in NORA. This may ultimately allow for a higher level of preparation which could lead more successful delivery of anesthesia in less than optimal conditions, which are more commonly encountered in the NORA locations.

## A12

### **Improving Exposure and Participation with Anesthesia Departmental Quality Assurance**

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University of Cincinnati

**Introduction:** Quality Assurance (QA) presentations in the anesthesiology department at an academic health center occur only at the main campus. Anesthesia providers in the affiliate hospital do not have QA. Many of the department's anesthesia providers practice only at the community location. This project aims to increase exposure and participation to QA methods, while also monitoring change in incident reporting.

**Methods:** The PICOT question for this DNP project is this: In anesthesia providers, will implementing a QA program result in improved provider exposure, increased participation, and increase case reporting rates? Databases searched include: the Cochrane Library, CINAHL, and PubMed. Search terms (MeSH terms) included "quality assurance," "morbidity and mortality," "anesthesia department," "critical incident," "sentinel event," "safety management" and "quality improvement." The majority of articles included were published after 2010. Articles cited in credible systematic reviews were also obtained. Some of the articles included seminal or landmark publications more than five years old.

**Analysis of the Evidence:** QA is analyzing serious adverse events by attempting to determine who was at fault after an adverse event. Reporting acts like a "window to the system," revealing weaknesses of the systems involved. Barriers to reporting are lack of trust in data quality, lack of feedback, and poor motivation. In a survey, two-thirds of respondents believed that lack of feedback was the biggest deterrent to reporting. The perception that management does not act on submitted reports leads to reluctance to submit incident reports. There is a tendency among anesthesiologists to report only the most severe events.

**Recommendation for Practice:** Traits of effective quality programs are transparency, reliability, measurability, and flexibility to improvement methods. Quality-based care relies on exposure to retrospective case review. Meaningful discussions are a benefit to QA programming. Participation and exposure to QA process improved. Initiating monthly QA meetings may improve patient outcomes, allow system errors to be discovered for quality improvement, decrease cost from preventing errors, and enhance provider satisfaction with QA exposure and participation. Continue monthly QA meetings, and possibly increase to two monthly meetings. Provide training to providers on proper method to submit an adverse event report.

## A13

### **Mentorship Mediated Clinical Site Orientation Framework**

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**Introduction:** The anticipation of beginning clinical has been identified as an event that can negatively impact a student registered nurse anesthetist (SRNA) and inhibit the retainment of information and produce poor outcomes. The purpose of this study is to investigate if a formalized mentorship mediated clinical site orientation will decrease stress and anxiety for SRNAs entering clinical for the first time.

**Methods:** PICOT: Would the implementation of a mentorship mediated clinical site orientation alleviate the stressors of entering clinical for the first time as student registered nurse anesthetists? The following databases were used to obtain evidence-based practice guidelines, recommendations, and supportive evidence to achieve an in-depth understanding of the stress that SRNAs experience from entering clinical: CINAHL, MEDLINE, EBSCOhost, Google Scholar, and the Joanna Briggs Institute of Evidence-Based Practice Database. Twenty-eight scholarly articles including randomized controlled trials, qualitative analysis, cross sectional studies, and a phenomenological study were used. In addition, seven sources including doctoral dissertations and literature reviews were applicable to our project.

**Analysis of the Evidence:** All significant results had a p-value of  $<0.5$  with a confidence interval of 95%. Both of the surveys used in the study were validated by the survey's creators using Cronbach's alpha to assess the internal consistency. Mean values for the control and intervention group were obtained from the Perceived Stress Scale (PSS) and were compared using an independent t-test. The results of the post Mentorship Mediated Clinical Site Orientation survey were expressed as percentages. Descriptive statistics were used to analyze all open-ended questions. 100% of participants found the experience to be beneficial and would recommend it for the future. In addition, 95.4% reported a decrease in anxiety.

**Recommendation for Practice:** The implementation of a mentorship mediated clinical site orientation has advantageous effects in SRNAs. These include increased confidence and decreased stress and anxiety toward entering the first clinical rotation. The goal is to advance patient safety and care by enhancing the health and well-being of the provider. Creating methods to alleviate stress in SRNAs can foster a healthier learning environment and lead to improvements in the quality of care that is delivered by nurse anesthesia students during their training. This in turn can translate to improved delivery of care as they progress throughout their career as an anesthesia provider.

# Invention/Innovation

A14

## **Clinical Job Shadowing in Nurse Anesthesia**

*Brian Longoria, BSN, RN*

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**Introduction:** Clinical job shadowing of CRNAs is required or recommended by nearly all nurse anesthesia programs; however, there are no published guidelines from professional nurse anesthesia organizations on clinical shadowing. The aim of this study was to create an evidence-based informational guide to improve the process of shadowing CRNAs and maximize the experience at a southeast academic medical center.

**Literature Review:** Job shadowing is a widely used educational tool with many benefits for prospective students. Literature from interdisciplinary healthcare fields describes these benefits to include increased understanding of role perception, aptitude, scope of practice, professional advocacy, and career fit. Evidence suggests that a shadowing guide can help prospective students maximize the shadowing experience.

**Developmental Design or Methodology:** Following a literature review to identify the most significant themes within the benefits of clinical job shadowing in healthcare, a consultation of expert opinion from both chief and staff CRNA interviews was conducted to determine the focus of the evidence-based informational guide. REDCap survey data was collected to evaluate the content of the guide, knowledge of the current-state process of clinical job shadowing, and demographic data on CRNAs at the academic medical center.

**Discussions and Conclusions:** Clinical job shadowing is an important occupational factor in selecting a career in healthcare. This experience is a valuable occupational opportunity that can help determine aptitude, career fit, and provide direct observation of the day-to-day responsibilities and scope of practice of CRNAs. Implementing an evidence-based informational guide can improve the shadowing process and maximize its many benefits for those interested in a career in nurse anesthesia.

**A15**

**Creating an Intraoperative Myocardial Infarction High-Fidelity Simulation Scenario**

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Medical University of South Carolina

**Introduction:** There is currently no available intraoperative myocardial infarction (MI) high fidelity simulation (HFS) scenario for Certified or Student Registered Nurse Anesthetists (C/SRNAs) that is both evidence-based and vetted by experienced CRNAs. The purpose of this project was to create such a scenario, document the novel process used to make it, and vet it for realism with experienced CRNAs.

**Literature Review:** Intraoperative MIs can and do cause harm or death to patients undergoing surgical procedures and anesthesia. HFS is a widely used tool in anesthesia education that has demonstrated the ability to improve provider skill in navigating through low-incidence yet high-impact crisis scenarios like the intraoperative MI.

**Developmental Design or Methodology:** A simulation scenario for an intraoperative MI was created using anesthesia textbooks and literature from PubMed by an SRNA with help from a practicing CRNA. The Delphi Technique was utilized in creating the list of required tasks for the learner to complete. The simulation scenario was then programmed into a format compatible with the Sim Man 3G mannequin. Eight CRNAs participated in the simulation scenario and then filled out a questionnaire about their experience.

**Discussions and Conclusions:** Simulation, and especially HFS, is a field of education that is gaining support and popularity. Specific simulation scenarios are usually either improvised or run off a script by simulation operators, and the scenarios are not usually evidence-based in their creation nor vetted by experienced anesthesia providers before use. This scenario and the process used to make and vet it can improve the quality of HFS education for both future and practicing CRNAs.

**Funding Sources:** Medical University of South Carolina