Poster Abstracts Presented at the Spring 2021 Virtual Advanced Practice and Low Risk Neonatal Nurses Conferences
April 14–17, 2021

These are the abstracts for the poster presentations from the Spring 2021 Virtual Advanced Practice and Low Risk Neonatal Nurses Conferences. They represent a broad range of neonatal issues. By sharing this information, we hope to increase awareness of research and innovative programs within the neonatal health care community and to support evidence-based nursing practice. Some abstracts have been edited for publication.

More Than Talk: Infant Abduction Drills Designed to Practice the Unspeakable
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Infant abduction is defined as the act of kidnapping an infant less than 6 months of age by a non-family member. Infant abductions from hospitals are rare yet devastating to all involved when they do occur. According to the National Center for Missing and Exploited Children, from 1964 to 2019, 140 were infants abducted from health care facilities in the United States.

Preventing these “never” events and ensuring the safety of infants in the hospital is a top priority and requires a solid infant security plan. Radiofrequency identification infant security systems and surveillance measures provide protection but can also provide a false sense of security. Technology cannot replace an alert and well-educated staff. Assessing risk and providing staff education are the best methods to prevent infant abductions. Conducting abduction drills can uncover facility vulnerabilities while allowing staff to practice in a safe environment.

Attendees of this session will participate in a tabletop infant abduction drill, including education on common profiles of infant abductors, methods used, and preventative measures. A case study will be provided, and strategies for effectively drilling staff will be offered.

Evaluation of Routine Gastric Residual Checks in Preterm Infants
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Background: NICU nurses routinely aspirate gastric residuals before each feeding of every preterm infant. The targeted intervention was identified by recent literature as either not useful or possibly harmful.

Objective: The purpose of this project was to develop, implement, and evaluate an evidence-based gavage feeding protocol for preterm infants in the NICU.

Methods: A plan for practice change included educating staff and implementing an evidence-based protocol to eliminate routine gastric residual evaluation. The project included 12 preterm (<37 weeks’ gestational age) infants weighing 750–2,500 g and requiring tube feeding and/or parenteral fluids at birth. Outcome measures were total parenteral nutrition (TPN) days, diagnosis of necrotizing enterocolitis (NEC), and length of stay (LOS). A preimplementation comparison group included 29 infants born within a 2-month period.

Results: One suspected NEC event resolved, and there were no NEC diagnoses among the project infants (8.3 percent) compared with 3 suspected NEC events and 1 NEC diagnosis among the comparison group (13.8 percent). There was no increase in TPN days (mean [M] = 5.75, standard deviation [SD] = 3.2 vs M = 6.9, SD = 5.1) or LOS (M = 34, SD = 27.6 vs M = 37.6, SD = 24.0).

Conclusions: In this implementation, infants did not experience an increase in TPN days, LOS, or NEC. Further study of the intervention is required to determine whether the outcomes are significant and sustainable over time.

The Utilization of an Evidence-Based Practice NICU-Specific Ventilator-Associated Pneumonia Bundle with Compliance Checklist to Reduce Ventilator-Associated Pneumonia Rates: A Quality Improvement Project
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Background and aim: Neonatal ventilator-associated pneumonia (VAP) is a frequent hospital-acquired infection affecting intubated patients. Ventilator-associated pneumonia extends the length of hospitalization, raises health care expenses, increases morbidity and mortality, and is a recurrent reason for empirical antibiotic therapy in the NICU. This study aims to assess the efficacy of a NICU-specific VAP prevention bundle with checklist to reduce VAP rates.

Methods: The design is a prospective before-and-after quality improvement project to appraise the efficacy of a NICU-specific VAP prevention bundle with compliance checklist. The population sample included all mechanically ventilated neonates in a level IV regional NICU. Inclusion criteria included all orally or nasally intubated infants as well as tracheostomy-dependent infants. Staff knowledge of VAP was measured before and after education, and VAP rates were evaluated before and after bundle implementation.

Implementation of a Cue-Based Feeding Protocol

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Background: Volume-based feedings continue to be used in NICUs despite their association with increased length of stay, feeding aversion, and physiologic instability during feedings. Cue-based feeding has been shown to support neurodevelopment and organized feeding behaviors in the premature population, resulting in improved physiologic stability during feedings, decreased time to full oral feedings, and shorter hospital stays.

Purpose: The purpose of this project was to implement a standardized cue-based feeding protocol for premature infants in the NICU.

Implementation: A cue-based feeding protocol was developed, focusing on feeding readiness cues, signs of physiologic vulnerability, and consequences of instability. Nursing staff were educated on the protocol, and the electronic medical record was updated to include the assessment of infant feeding readiness cues.

Results: There was a decrease in the mean number of days to full oral feedings, length of stay, and the number of cardiorespiratory events during feedings. Breastfeeding rates and weight gain velocity were decreased after implementation.

Parent Experiences in Using Mobile-Enhanced Family Integrated Care: A Pilot Qualitative Study

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Background: Parents of NICU infants have historically been treated by the health care team more like visitors than full partners in their infants’ care. Family Integrated Care (FICare) is an evidence-based care model that fully integrates parents as members of the infant’s care team. A mobile-enhanced adaptation of FICare (m-FICare) has been evaluated in a 6-center U.S. clinical trial. As part of the larger study, we explored the meaning to parents of participation in m-FICare at a single site.

Methods: This single-site qualitative study used a semistructured interview technique to elicit parents’ views on their experience of the NICU and their participation in the m-FICare study for at least 3 weeks. Transcripts were checked and coded using thematic content analysis. Additional sources of data included field notes and observation. Analysis included memos, mapping, and assessment of the needs of parents and perceived support in their experiences of the m-FICare protocol intervention components.

Results: Ten parents were interviewed (9 mothers, 1 father). Emerging themes included finding joy in NICU parenting, growing confidence in parenting, and the importance of nursing support for parent engagement.

Conclusions: These findings will provide insights into the ways in which models of parent-partnered NICU care impact the parent experience.

Growing Neonatal Advanced Practice Providers via Mentorship Can Fill the Need: Program Description and Toolkit

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**Background:** The need for neonatal advanced practice providers (APPs) has been described. Training programs for neonatal physician assistants (PAs) have been developed by physicians. No publications exist about programs for both new graduate NNPs and neonatal PAs, administered by neonatal APPs.

**Purpose:** To mentor, train, and hire neonatal APPs in a program administered by neonatal APPs.

**Methods:** We developed a 2-pronged approach for PAs and new graduate NNPs. A 12-month neonatal PA fellowship program included clinical mentorship and weekly didactics. Case-based presentations were provided. The new graduate NNP program included clinical mentorship and monthly meetings with peer support, lectures, and case presentations. Neonatal APPs were clinical mentors. Team-building activities supported mentorship and collaboration.

**Findings:** In <5 years, 10 PAs and 11 new graduate NNPs have been trained and hired, as well as experienced neonatal APPs. For the first time, locum tenens neonatal APPs are not required. We have developed a toolkit of content, activities, exercises, and evaluations to support expected competencies. Future studies can measure other outcomes.

**Conclusions:** A successful training program has been implemented to meet needs. We support values of integrity, collaboration, and equity to facilitate this successful paradigm shift among all neonatal team members.

**Do We Nurture Our Young? Qualitative Conceptual Analysis of Worst/Best Mentorship Experiences Among Neonatal APPs**

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**Background:** There is increasing demand for neonatal advanced practice providers (APPs) and a shortage of NNPs. In many NICUs, neonatal physician assistants (PAs), as well as new graduate NNPs, are trained and hired. Neonatal APPs are used as mentors in this regional neonatology program.

**Purpose:** To increase personal insight and identify themes about 51 neonatal APPs’ recollections of their own worst and best mentorship experiences.

**Methods:** This content analysis of online survey responses included a phenomenological, qualitative approach. The participants received 2 questions asking them to describe their worst and best mentorship experiences. Results were analyzed via blinded content analysis by 2 coinvestigators.

**Results:** Consistent themes in reporting worst experiences included “Eat our young,” “I am better than you,” “Thrown under bus,” and “Unwanted.” Consistent themes in describing best experiences included “Validation,” “Empowerment,” “Positivity,” and “Inclusion.”

**Conclusions:** Recommendations for successful neonatal APP mentorship based upon the recurrent themes include use of consistent, engaged, trained, and supported mentors; provision of on-time feedback; avoidance of public criticism; praise; learner focus; task preparation; and semiautonomy with adequate support.

**Implications for Research:** Absenteeism, recruitment, retention, and satisfaction data may be measured to determine if structured mentorship programs are beneficial.

**Intubation Timeout Tool Implementation in a Level IV NICU**

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**Problem:** Endotracheal intubation is a common NICU procedure and can be associated with significant adverse events. These events are more common in acutely ill unstable neonates and when providers demonstrate variable intubation proficiency. In a level IV NICU, use of a timeout was reported for 86 percent of intubations, and 48 percent of intubations were associated with 1 or more adverse events.

**Purpose:** A quality improvement approach was used to implement and evaluate an evidence-based, preprocedural, intubation-specific timeout tool. The primary objective was to improve the intubation process, consistency, and safety.

**Methods:** Over a 10-week period, nursing staff initiated use of the tool for all eligible intubations. An electronic health record audit tool facilitated the collection of patient demographic data, rate of tool use, and intubation provider information.

**Results:** The timeout was used for 9 intubation events (60 percent) with an average of 2–3 intubations per week. Intubation-associated adverse events decreased by 8 percent from baseline.
Conclusions: Although limited, these results suggest that use of an evidence-based, preprocedural, intubation-specific timeout tool can improve intubation process, consistency, and safety, leading to improved patient outcomes. Continuing education efforts and ongoing chart audits are critical to the consistent use of the tool and further reduction in adverse events.

Reducing Alarm Fatigue in the NICU

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Technology in the NICU has allowed many advancements in the treatment of critically ill infants. Unfortunately, this technology can also be associated with noisy alarms. These frequent alarms can lead to staff fatigue and increased morbidity and mortality for these patients.

Educating staff on sources of alarm fatigue and reduction techniques, along with providing visual reminders of appropriate alarm parameters, can reduce the number of alarms significantly. When alarms are reduced, critical alarms can be responded to quickly and effectively. Fewer alarms lead to reduced alarm fatigue for staff and improved safety for NICU patients.

For this project, data were collected at a 63-bed NICU in Minneapolis, Minnesota. Staff were provided education on alarm fatigue along with alarm reduction tip sheets at bedside to help reduce nonactionable cardiorespiratory and pulse oximetry alarms. Baseline and postimplementation data included number of alarms observed in the NICU along with the accuracy of alarm parameters for all patients.

Prior to staff education, there were 3.15 alarms/patient/hour with alarm parameter accuracy of 65 percent. After implementation, there were 0.67 alarms/patient/hour with alarm parameter accuracy of 93 percent. This reduction demonstrated that staff education and bedside tools can reduce alarm fatigue and increase patient safety in the NICU.

Diaper Dermatitis: Protocols and Prevention

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Background: Diaper dermatitis (DD) is a common skin injury among infants in the NICU. The 2 main types of DD are Candida DD and irritant-associated dermatitis; both include discomfort and added stress, further complicating the infant’s medical treatment. In the neonatal patient population, does implementation of skin care guidelines reduce the incidence of DD in the NICU?

Methods: An intensive literature review was conducted using the following keywords: diaper dermatitis, neonate, NICU, newborn, skin, and protocol. The initial search yielded 113 articles, of which 24 were retained for the review.

Results: Research fell into 3 categories: prevention, treatment, or clinical trials. The consistent themes to prevent DD focus on exposure, superabsorbent diapers, barrier creams, and the basic steps of the diaper-changing process. Treatment focused on skin care techniques and different topical applications. The studies and clinical trials focused on comparison of different topical applications and diapering vs exposure to air.

Conclusions: The overarching theme revealed that frequent diaper changes and the application of barrier creams can prevent DD. No trials were found supporting the use of one barrier cream over another. There was also conflicting evidence on the use of wipes vs water.

Euthermia: Not Just for the Delivery Room

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Background: The negative outcomes associated with hypothermia include increased risk for morbidity and mortality in neonatal patients. Different warming measures are available for the neonatal population; however, using them is not a standard approach. Neonates undergoing bedside surgery are at higher risk for hypothermia due to illness. Preventing hypothermia during bedside surgery is imperative to decrease morbidity and mortality in the most critical neonates.

Method: A literature review was performed. Data collected were further broken down into type of procedure and age/size of the patient. Interventions identified included prewarming the room, chemical warming mattress, regular monitoring of temperatures, hat on infant, warm blankets, a radiant warmer bed or isolette with a temperature probe, warm fluids, and heat lamps.
Results: Hypothermia is known to increase the risk of early neonatal mortality by a 1.64-fold. The literature review yielded strong evidence that a standardized approach to perioperative euthermia management can lead to decreased hypothermia.

Conclusions: By providing standardized interventions in the form of a preoperative euthermic checklist, better patient outcomes will be achieved. A checklist of interventions was created to standardize the care for neonates undergoing bedside procedures.

Implementation of Infant Massage in the NICU

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Touch plays an essential role in forming the parent–child bond and affects infants’ neurodevelopmental outcomes, particularly for infants admitted to NICUs. Despite increasing popularity, infant massage has not become a widely accepted NICU intervention. In the NICU population, does providing infant massage improve patient outcomes compared with standard care? An analysis of journal articles from medical and nursing specialties was conducted via a computerized search of CINAHL+, PubMed, and Google Scholar. A total of 25 relevant articles were found; however, with further analysis, only articles with measurable statistical methods were included, thus decreasing the number of articles to 20. Synthesis of the literature revealed that infant massage has many benefits, including increased weight gain, decreased length of hospitalization, improvement in neurobehavioral development, increased parental bonding, pain improvement, neonatal abstinence syndrome symptom management, and decreased hyperbilirubinemia, resulting in a potentially tremendous impact on the outcomes of neonates in the NICU. Further recommendations for the implementation of infant massage in the NICU include using this literature review and other evidenced-based research to advocate for more infant massage training for staff and implementation of a work flowchart for identification of infants who can benefit from massage interventions.

Reducing Unplanned Extubations in the NICU

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Background: Unplanned extubations (UEs) contribute to an increase in morbidity among critically ill neonates in the NICU. The occurrence of UEs in the NICU should be a preventable event with an acceptable UE rate of 1 per 100 ventilator days. UEs occur frequently in the NICU and are a common adverse event.

Methods: Factors associated with UE were analyzed and a UE bundle was implemented in a level III NICU, including standardized securement of the endotracheal tube, patient-repositioning techniques, high-risk airway alert cards, and a UE debrief form. Data collection included gestational age, weight, and duration of intubation.

Results: During the implementation period, 5 patients were intubated for a total of 7 ventilator days. There were no UEs. The average census was low compared with previous years in the NICU, potentially because of the coronavirus disease 2019 pandemic, resulting in less than optimal data collection.

Conclusions: By implementing a UE bundle, UEs did not occur during the project. Continued data collection is needed to determine the efficacy of the UE bundle. This quality improvement project will continue within the NICU to increase data collection and evaluate the efficacy of the project with a UE bundle policy to be implemented.

Books for Babies: Reaching an Underprivileged Population

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Our small community hospital, which serves a high population of infants born with neonatal abstinence syndrome, houses a pediatric unit within its maternal and infant center to care for these high-risk neonates. The pediatric department strives to provide outreach to these moms and babies and acts as an ambassador to the community. One recently introduced program, in partnership with community agencies, is the implementation of our early childhood literacy project, Books for Babies. Books for Babies provides each infant born in the hospital with an early childhood literacy kit. The program is implementing evidence-based practice to educate families of at-risk newborns on the importance of reading and interacting with their babies to promote optimal growth and development.
Importance of Nursing Assessment of the Abdomen for Infants Undergoing Gastroschisis Closure

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**AP STUDENT SHOWCASE POSTER**

Gastroschisis occurs as a result of an abdominal wall defect in which the baby’s bowel herniates outside the abdominal cavity. The bowel develops in the amniotic fluid. The defect is often to the right side of the umbilicus and can vary in size. In more severe cases, the stomach and liver also herniate. Gastroschisis occurs in about 1 in every 2,000 births and develops in the 4th–8th week of pregnancy. After birth, the standard of care includes return of the gut to the abdominal cavity either by primary surgical closure or by use of a silo. After reduction of the defect by either method, the importance of a careful assessment should not be underestimated. Abdominal compartment syndrome (ACS) occurs when intra-abdominal pressure rises and is sustained, leading to organ dysfunction. This case study defines and examines the potential impact of ACS on all body systems that could occur in an infant after primary gastroschisis closure. A system-by-system assessment is presented. Early detection of ACS can minimize serious complications that can result from the pathophysiology of ACS.

Reducing Neonatal Procedural Pain Through Use of Skin-to-Skin Contact

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Skin-to-skin contact has been promoted over the last 2 decades for its many documented benefits among mothers and neonates alike. Skin-to-skin practices are associated with improved neonatal physiologic stabilization, decreased symptoms of maternal stress and neonatal anxiety, improved maternal–neonatal bonding, and decreased incidence of morbidity and mortality. This easy-to-implement intervention has also been linked to improved neonatal response to procedures known to induce pain. This pretest–posttest, evidence-based practice project was designed with the central purpose to describe the relationship between use of skin-to-skin practice and neonatal pain among well infants born at >36 weeks’ gestation. Neonatal Infant Pain Scale (NIPS) scores were obtained prior to and during administration of routine newborn intramuscular injections among 30 neonates who remained under the warmer and compared with a group of neonates who received the same injection while in skin-to-skin contact. Neonates who were in skin-to-skin contact during injections exhibited 34.80 percent less pain as measured by NIPS scores when compared with the radiant warmer group. Future studies should be aimed at further exploring the impact of skin-to-skin practices on both stress and pain levels to improve neonatal care outcomes.

Interdisciplinary Rounds and Use of a Standardized Review Tool for the Infant with Bronchopulmonary Dysplasia

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**Background:** Bronchopulmonary dysplasia (BPD) is the most common respiratory morbidity of prematurity, affecting nearly 10,000 infants annually. No published tools exist to aid interdisciplinary teams with clinical review of this complex population.

**Purpose:** The purpose of this quality improvement project was to evaluate an evidence-based standardized tool for review of infants with BPD.

**Methodology:** A convenience sample was used. Outcome measures included team productivity, respiratory support, and neurodevelopmental (ND) status for 8-week periods before and after implementation of a revised data collection tool used for BPD interdisciplinary rounds at a regional children’s hospital.

**Analysis:** Measures before and after implementation were described (mean ± standard deviation, range) and compared.

**Results:** More patient cases were discussed in BPD rounds after implementation of the tool (N = 35) than before (N = 30). Ventilatory modes ranged from cannula to ventilator, including tracheostomy. The FiO2 (0.35± 0.21, 0.21–1.0; vs 0.37 ± 13.9, 0.21–0.70) improved with comparable tCO2 (30.2 ± 4.0, 18–37; vs 29.3 ± 3.4, 24–38) after tool implementation. Neurodevelopmental tolerance and endurance values were documented for the first time after tool implementation.

**Conclusions:** The revised tool allowed standardization of data collection, which improved productivity and included a focus on ND therapies to be used as a guiding approach to the management of care for infants with BPD.
Assessing Documentation of the Discharge Summary in the NICU

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A neonate’s discharge from the hospital to home requires great preparation. It is an essential task, especially in the low-birth weight or sick neonate. Discharge planning begins at the time of a neonate’s admission to the NICU. The medically complex infant who has often spent months in the NICU requires a broad array of medical and other services for post discharge health care. The neonate’s follow-up care can consist of primary pediatric care, subspecialty follow-up, home health nursing care, early intervention services, extensive care coordination, and family support. Thorough documentation of the infant’s hospital course is the primary means of communication to provide accurate information to the health care team. Documenting appropriate guidelines for discharge is necessary to develop a comprehensive discharge plan, thereby helping to ensure a positive and safe transition to home with adequate care after discharge. This retrospective chart review focused on evaluating the completeness of the health care team’s documentation of those infants who received care in the NICU who were discharged to home. The analysis produced baseline data for quality improvement initiatives to improve transitions to home to provide better patient care.

The Effect of a Swaddle Bathing Policy in the NICU

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Background: Bathing can cause stress and hypothermia in neonates, increasing the metabolic demand on the body and causing complications. Complications lead to an extended hospital stay with an institutional and overall economic burden. Sponge baths have generally been used in this population.

Purpose: The purpose of this project is to evaluate the benefits of using a swaddle bathing policy in NICU patients to improve temperature stability and decrease infant stress cues.

Methods: This quality improvement project took place at Medstar Georgetown University Hospital a 33-bed, Level IV NICU. Education/procedure demonstrations on swaddle bathing were held on the unit. Pre- and postsurvey data were compared. Data on infant temperature as well as 8 identified infant stress cues were reported.

Results: Following swaddle bathing education, an increased number of swaddle baths were performed compared with the pre-implementation data, with no demonstrated hypothermia in the postsurvey group. The number of stress cues was decreased in the postimplementation group.

Discussion: Education of the nursing staff on the swaddle bathing procedure benefited this level IV unit by improving the number of swaddle baths being performed and decreasing the infant stress cues during the bathing process.

Implementation of a Developmental Care Program in the NICU

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Preterm infants require the NICU for medical and nursing care for up to several months after birth. The NICU is meant to provide a safe place in which this care can occur. But the NICU is a stressful place, and the NICU environment can negatively affect preterm infants. Preterm infants are at an increased risk for neurodevelopmental impairment, with the risk increasing as the gestational age decreases. Family-centered neurodevelopmental care is proposed as being able to decrease some of the negative effects of the NICU on both parents and infants. Parent participation is linked to improved neurodevelopmental outcomes and parent satisfaction. However, in the Doernbecher NICU in Portland, Oregon, parent participation and satisfaction are perceived as being low. This quality improvement project implemented an evidence-based developmental care program that aims to increase parents’ participation by teaching them positive sensory experiences they can perform with their infants. Pre- and postimplementation surveys were used to assess improvement in parents’ satisfaction with their level of participation in their infants’ care. It is proposed that improved participation will eventually lead to increased overall parent satisfaction and improved developmental outcomes.
NICU Admission Bloodwork from Umbilical Cord Blood: Impact on Blood Transfusions
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Admission bloodwork in the NICU is drawn from arterial sticks or umbilical catheters. Phlebotomy loss in the first 24 hours is between 6 and 8 mL, half from admission bloodwork. For very low birth weight newborns, this may pose serious risks, especially for extremely low birth weight newborns with blood loss approaching 10–20 mL/kg. The magnitude of this loss can disrupt blood flow and negatively impact hemodynamic stability, necessitating vascular support and early blood transfusions in the first 72 hours of life. This instability increases risks, particularly intraventricular hemorrhage and necrotizing enterocolitis, in this vulnerable population.

Emerging evidence supports the use of either placental or umbilical cord blood for newborn admission bloodwork; this project investigates the use of cord blood. The primary outcome of this quality improvement project is the impact on early blood transfusions. Laboratory result comparisons between standard of care and cord blood were reliable. Implications include fewer blood transfusions, less incidence of hemodynamic instability, and less pain and trauma from use of the less invasive method.

With this change in practice, the number of very low birth weight newborns requiring early blood transfusions was nearly 50 percent less. Additional investigation is needed to evaluate the impact on blood culture results, time to results and treatment, and impact for term newborns at risk for early-onset sepsis.

Milrinone Use for Treating Persistent Pulmonary Hypertension of the Newborn
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Background: The use of inhaled nitric oxide (iNO) in the treatment of persistent pulmonary hypertension of the newborn (PPHN) is well recognized and supported by the literature.

Statement of the Problem: A high percentage of infants treated with iNO may exhibit a temporary response or no improvement in oxygenation. Furthermore, because of its high cost, iNO is not readily available in many NICUs.

Methodology: A literature review was conducted using CINAHL Complete to identify studies in the last 5 years (2015–2020) that support the use of milrinone in the management of PPHN when iNO treatment fails or is unavailable.

Conclusions: Milrinone’s inotropic and lusitropic effects are promising in the treatment of PPHN, especially in cases where PPHN is accompanied by ventricular dysfunction. Small trials and case reports indicate that milrinone can act synergistically with iNO to treat PPHN, especially in infants who present with ventricular dysfunction. Milrinone has also been shown to decrease the amount of time infants receive invasive ventilation with iNO. However, larger randomized controlled trials are needed to provide more data on milrinone’s use in the treatment of PPHN.

Sepsis Workup Packs: Expediting Antibiotic Delivery in Neonatal Sepsis
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The susceptibility of sepsis is increased while in the NICU. Neonates have up to 5 times the risk of infection compared with older children. Sepsis affects as many as 33 percent of very low birth weight infants (<1,500 g). Antibiotic administration time is recommended to be within 1 hour of infection diagnosis. An 8 percent to 9 percent decrease in chance of survival per hour delay was found. This project was designed to develop and evaluate the efficacy of septic workup kits to prevent delayed antibiotic administration. The hypothesis is that by using a septic workup kit, there would be a decrease in the amount of time needed to acquire supplies and expedite antibiotic administration. Septic workup time was defined as time from antibiotic order to antibiotic administration initiation. Sixty workups were audited for antibiotic timing over the course of 1 year. The average time to antibiotic administration was found to be 1 hour 24 minutes (84:47 minutes). To evaluate whether septic workup packs were effective, antibiotic administration time was audited regularly. One year
after implementation, current time for septic workups was 44 minutes. These results suggest that by having an expedited process in place, the kits reduced antibiotic administration time and ultimately reduced neonatal mortality secondary to sepsis.

**NICU Emergency Preparedness Initiative: An Innovative Program as Response to Firestorms**

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The theme for this project centers on NICU staff leading multidisciplinary action in emergency preparedness. Prior wildfire experience was the key driver for staff to learn about emergency response needs of their special patient population, recognizing that organizational preparedness efforts, despite regulatory mandate, were insufficient to adequately prepare personnel.

The aim of the project is to increase confidence and readiness with objectives to improve understanding of roles and disasters, to provide specific tools and training, and to analyze and respond to staff needs.

The project is implemented in a 338-bed acute care hospital, with the nurses of the 12-bed NICU being the main drivers. Unit-specific task forces, shared governance prioritization, and a multidisciplinary safety council implemented guidelines, communication plans, and community networking and took responsibility for acquisition of equipment and evacuation supplies, with improvement efforts socialized at unit meetings and evaluated through a NICU staff survey with 85 percent participation rate.

Recommendations include continuing the current interventions, with emphasis on ongoing training identified by survey, and conducting a disaster fair and evacuation drills when permitted by pandemic restrictions, with another survey reassessing those efforts.

**Implementation of Standardized Bedside Interprofessional Rounds in Neonatal Intensive Care**

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NICUs recognize interprofessional communication as a critical component of increasing patient safety, communication, and continuity of care. Studies show that ineffective communication during interprofessional rounding (IPR) contributes to 65 percent to 70 percent of delayed treatment instances, misdiagnosis, medication errors, patient injury, or death. Neonates admitted to NICUs have complex medical conditions that require prolonged hospitalizations and comprehensive care from multiple medical providers. Bedside IPR is a tool to facilitate effective communication between essential members of the patient’s caregiving team. The purpose of this project will be to describe the evidence and successful interventions to aid with the facilitation of IPR in the NICU setting. The evidence-based guideline to incorporate IPR in the hospital setting is the Institute for Healthcare Improvement How-to Guide: Multidisciplinary Rounds. Multiple interventions are available in the literature, including daily goal sheets, pocket card guides, scripts, rounding reports, and sign outs. Implementation of interventions to enhance IPR should be appropriately measured and improved upon for quality improvement. Important stakeholders in this process include key team members who can play a viable role in the planning and implementation of the bedside IPR structure.

**Non-Nutritive Sucking Related to Successful Breastfeeding**

*Laura Rizer, BSN, RNC-NIC*

**MERCYONE MEDICAL CENTER**
**DES MOINES, IOWA**

Many preterm infants undergo challenges while learning the basic skills needed for survival. One of these challenges includes proper feeding techniques. For breastfeeding to be successful, the health care team must be attentive not to miss the ideal moment to begin working on sucking, swallowing, and breathing. We wanted to determine if initiating non-nutritive sucking during gavage feedings would increase the rate of successful breastfeeding at the time of discharge from the NICU.

Through the data, it was determined that non-nutritive sucking, associated with oral stimulation, can contribute to the improvement of breastfeeding rates among preterm infants and should be included among interventions to promote breastfeeding in this population. Bringing these findings to the NICU was instrumental in changing our feeding practices, first by simply introducing the concepts to the staff, then by creating guidelines for the nurses to follow and using a non-nutritive feeding champion team to assist and monitor the implementation process. Reviewing the evidence-based data with the nurses so that they understood the importance of the changes they were making was key to the success of this process change.
Improving Infant Positioning Practices in the Very Low Birth Weight Population: A Quality Improvement Project
Karen Rose, MSN, RN, ACCNS-N, RNC-NIC
Jennifer Ferrick, MSN, RN
Cindy Haws, RN
Rachyl Pines, PhD
Katherine Chung, MD
George H.S. Singer, Ph.D
COTTAGE CHILDREN’S MEDICAL CENTER/COTTAGE HEALTH AND UNIVERSITY OF CALIFORNIA, SANTA BARBARA
SANTA BARBARA, CALIFORNIA

Background: Neonatal developmental care has demonstrated the ability to mitigate potential negative outcomes associated with NICU care. Specifically, proper positioning and handling of the infant can buffer against the noxious NICU setting and assist with exposure to positive environmental experiences during a time of crucial brain development. Despite evidence of the benefits of proper positioning, nursing knowledge related to positioning varies, and consistent implementation of practices is difficult to achieve.

Purpose: To improve nurse competency of proper positioning practices and improve infant positioning.

Design and Sample: This quality improvement project was guided by the Iowa Model of Evidence-Based Practice and conducted at a 22-bed Level III NICU at a central California community hospital. A quasi-experimental pretest–posttest design quality improvement project was conducted to assess the knowledge gain and improved positioning practices of 47 NICU nurses following an education intervention. Infant positioning was assessed using the Infant Positioning Assessment Tool for 85 audits of 19 infants before intervention and for 94 audits of 18 infants after intervention.

Results: Both nurse knowledge (p < .05) and infant positioning (p < .001) improved significantly after the intervention.

Conclusions: Hands-on, proper positioning educational practices can improve nurse knowledge and actual infant positioning.

Discarding the Residual: Implementing a Feeding Algorithm in a NICU
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Jan Wilson, DNP, CRNP, NNP-BC, FAANP
UNIVERSITY OF MARYLAND SCHOOL OF NURSING
BALTIMORE, MARYLAND

Problem: Routine gastric residual (RGR) monitoring is not reliable in detecting necrotizing enterocolitis (NEC) or feeding intolerance (FI); yet this practice remains the number 1 cause of enteral feeding interruption in premature infants. Checking RGRs was standard practice in this hospital’s Level III NICU.

Literature Review: Omitting prefeed GR monitoring has been found to decrease time to full enteral feeds, length of stay and time to achieve birth weight, without an increase in FI or NEC.

Conceptual Framework: The Protection Motivation Theory was used to guide this quality improvement project.

Methodology: Data were collected using chart audits and a pre–post survey of staff attitudes and knowledge. Implementation consisted of in-service education and the dissemination of feeding algorithm cards. Data were collected and analyzed via run charts and descriptive statistics.

Preliminary Data Analysis: Data showed a decrease in patients with 1 or more GRs checked from 42 percent to 11 percent. The average number of days to regain birth weight dropped from 7 to 4 days. Staff knowledge of the role of RGRs increased substantially.

Preliminary Data Interpretation: Implementation of an updated feeding guideline decreased GR checks, IV days and the time to regain birth weight.

Improving Safe Infant Sleep Practices in an NICU
Alicia Sacks, BSN, RNC-NIC
Jennifer Fitzgerald, DNP, NNP-BC
Susan Bindon, DNP, RN, NPD-BC, CNE, CNE
Laura Boerste, MSN, RNC-NIC
UNIVERSITY OF MARYLAND SCHOOL OF NURSING
BALTIMORE, MARYLAND
**Problem:** Sleep-related infant deaths continue to be a significant public health issue that indiscriminately impacts family units with increased risk, notably in premature infants discharged to home from the NICU.

**Purpose:** The purpose of this quality improvement project is to implement a safe sleep bundle and evaluate its effectiveness in improving compliance with safe sleep practices in a level III NICU at a large joint military medical facility.

**Methods:** A quality improvement initiative with a pre–post analysis was performed using a convenience method of sampling. Infants ≥32 weeks’ postmenstrual age in a level III NICU were analyzed before and after interventions, which included a safe sleep bundle.

**Preliminary Results:** Preliminary findings suggest a significant improvement of overall safe sleep compliance modeled by NICU staff, increasing to 100 percent from a baseline of 18 percent before the intervention.

**Preliminary Conclusions:** Similar multifactorial interventional strategies have been used in various NICUs with promising results, but few studies have addressed a multitier focus with inclusion of administration, providers, and bedside clinicians. Preliminary data suggest that implementation of a bundle can promote a safe sleep environment and improve overall safe sleep compliance in infants ≥32 weeks’ postmenstrual age in the NICU.

**Implementation and Evaluation of an Intraventricular Hemorrhage Prevention Bundle**  
*Vanessa Saxton, RN, BSN*  
*CROIGHTON UNIVERSITY*  
*OMAHA, NEBRASKA*

**Purpose:** To implement and evaluate a nursing care bundle aimed at the prevention of intraventricular hemorrhage (IVH) in infants born at <28 weeks’ gestational age.

**Background:** IVH is a serious complication of prematurity with potentially lifelong consequences. IVH affects approximately 20 percent of very low birth weight infants and 45 percent of extremely low birth weight infants.

**Sample/Setting:** The project was completed at a midwestern, 54-bed, Level III NICU. Thirty-three infants were evaluated prior to implementation and 18 infants after implementation.

**Methods:** This project was a retrospective chart review. The bundle included midline positioning with elevated head, no daily weights, consistent positioning, decreasing stimuli, and no holding for 72 hours. The incidence and severity of IVH were compared for 8 months before and after implementation.

**Results:** The postimplementation group had a higher incidence of male births, multiple gestations, and lower average gestational age. A comparison of the 2 groups found an increase in the incidence of IVH in the postimplementation group (from 24 percent to 39 percent). IVH severity remained approximately the same.

**Conclusions:** Though use of an IVH bundle did not reduce IVH rates, further investigation into project compliance and other contributing factors may further support the use of these interventions.

**Implementation of an Intraventricular Hemorrhage Prevention Care Bundle**  
*Megan Schlager, BSN, RN*  
*Cristal Bauesing, DNP, APRN, NNP-BC*  
*CROIGHTON UNIVERSITY*  
*OMAHA, NEBRASKA*

**Objective:** Implementation of a nursing care bundle to decrease the incidence and severity of intraventricular hemorrhage (IVH) in extremely preterm and low birth weight neonates.

**Background:** Intraventricular hemorrhage is a complication that can occur in the preterm neonatal population, potentially resulting in increased morbidity and mortality, prolonged hospitalization, and increased health care costs. Implementation of an IVH prevention care bundle in the NICU may decrease IVH occurrence and severity rate in neonates <30 weeks’ gestational age.

**Methods:** This was a quality improvement project where evidence-based practices were placed in an IVH prevention care bundle for the first 72 hours of life. One week head ultrasound results were reviewed for the diagnosis and grading of IVH. The sample included patients born at <30 weeks’ gestational age during a 12-week period.

**Results:** There was no statistical significance in the number or severity of IVH diagnoses. No IVH was noted on 1-week head ultrasound in 73 percent of patients. A severe IVH diagnosis was present in 18 percent; however, there were no grade 2 or 4 IVH diagnoses.

**Conclusions:** A larger postimplementation sample number would provide a more equal comparison with the pre-implementation sample. Continued use of the IVH prevention care bundle is recommended.

**Transient Tachypnea of the Neonate**
Transient tachypnea of the neonate (TTN) is the most common perinatal respiratory disorder. It occurs when fetal alveolar fluid does not get expelled from the lungs following initiation of neonatal respirations at delivery. This diagnosis continues to present a challenge upon diagnosis due to the nature of initial presentation reflecting that of respiratory distress or pneumonia. It is important to identify the clinical presentation of TTN in order to practice antibiotic stewardship and decrease stays in the NICU. The following poster is a case study reflective of a patient who was diagnosed with and treated for TTN.

**Parent–Provider Communication After Delivery: Process Improvement to Decrease Time Before First Update**

*Ann L. Smith, DNP, MSN, NNP-BC, NE-BC*
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Winston-Salem, North Carolina

**Background:** Parents cope more effectively with a premature infant in the NICU when there is attentive communication from providers. However, at this institution, procedures and charting were given precedence over timely updates after delivery.

**Objective:** To increase the percentage of parents who receive a quality provider-to-parent-update within 90 minutes of birth.

**Design Methods:** Model for Improvement methodology was used with plan-do-study-act (PDSA) cycles. Statistical process control was used to track data over time. Standardization of driver PDSA cycles was as follows: (1) smart phrase added to the history and physical (H&P) note in Epic; (2) continued testing of the parent update section in the H&P note in Epic, with the update expectations texted to the NNP/physician assistant (PA) group; and (3–6) continued testing of the parent update section in the H&P note in Epic, with results emailed to individual NNPs/PA and “rock stars” or high performers being highlighted at team meetings.

**Results:** We observed a significant increase, from 37.5 percent to 81 percent, in the percentage of parents who received an update within 90 minutes after delivery. Family survey results indicated that 82 percent remembered receiving an update after the infant was admitted to the NICU.

**Conclusions:** Strong teamwork allows both timely admission orders and procedure completion while also keeping families involved and updated in a timely manner.

**The Role of the NNP in the Community Hospital**

*Barbara Snapp, DNP, APRN, NNP-BC*
Children’s National Health System
Washington, DC

**Background and Significance:** The role of the NNP is well established in the NICU. While the level IV NNP is traditionally supported by large multidisciplinary teams, the levels I, II, and III NNPs may be the sole in-house providers with limited resources.

**Objective:** The objective of this project is to identify the NNP’s roles, responsibilities, and barriers to practice in the Level I, II, and III newborn care setting.

**Methods:** This study is a descriptive, exploratory study using an electronic survey.

**Results:** Of the respondents (n = 171), 71.3 percent work 24-hour shifts, 51.5 percent are the single daytime NNP, and 67.8 percent work alone at night. Nearly 27 percent have limited support or are without ancillary support, while 29.8 percent cannot meet some standards of care due to inadequate resources. NNP vacancies were reported by 57.6 percent of the participants, with 49.6 percent using pediatric nurse practitioners and 55.1 percent filling these open NNP positions with physician assistants.

**Discussion:** A better understanding of the role expectations and responsibilities of the community based NNP will assist with developing staffing guidelines, influence practice models, and guide recruitment and retention of NNPs in the community hospital setting.

**Code Alert Hypoxic-Ischemic Encephalopathy: Establishing a Code Alert System That Will Provide Immediate Recognition of Cooling Candidates**

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Therapeutic hypothermia has been at the forefront of discussion in the treatment and prevention of asphyxial insult in the neonatal population, resulting in hypoxic ischemic encephalopathy. Controversial studies have been reviewed, and research has been conducted for several decades. With the proper resources and protocols in place, implementation of interventions to prevent delayed recognition will optimize treatment of patients who experience asphyxial insult in the perinatal period. Parameters surrounding the safety and efficacy of using cooling include that it must be initiated within 6 hours of birth. Early recognition of candidacy is imperative.

A code alert activated at the time of delivery for identified risk factors will ensure that, upon the delivery of the neonate, a specialized team is present and evaluating the need for consultation, transport, and initiation of therapeutic cooling. In the neonatal population with asphyxial insult, how effective are the current protocols for early recognition of candidacy for therapeutic hypothermia within 6 hours of birth vs increasing awareness by establishing a code alert system that will provide immediate recognition of hypoxic-ischemic encephalopathy and possible cooling candidates?

**Kangaroo Mother Care: A Standardized Approach**

Jenna Stagg, DNP, APRN, NNP-BC  
Cecilia Sims, DNP, CPNP, CIC  
Sherita Etheridge, DNP, CPNP  
Donna Purvis, RN  
Carry Bordelon, DNP, MBA, NNP-BC, CPNP-AC, CNE  
UNIVERSITY OF ALABAMA AT BIRMINGHAM  
BIRMINGHAM, ALABAMA

Kangaroo Mother Care (KMC), or holding the undressed infant against the skin surface of the parent’s chest, provides physiological, behavioral, and neurodevelopmental benefits for premature infants. KMC reduces parental anxiety and increases parental confidence when providing infant care. Despite evidence supporting the use of KMC, <20 percent of NICUs in the U.S. routinely practice KMC. The purpose of this project was to identify barriers and increase the use of KMC in a level IV NICU. The KMC bundle included implementing prompted documentation tabs in the electronic medical record to identify patients who qualify for KMC, frequency of KMC sessions, who performed KMC, rationales for withholding KMC, and a virtual KMC presentation for staff. NICU nurses completed an anonymous survey before and after implementation to identify their attitudes and barriers to KMC. Chart reviews were performed on 50 patient charts to evaluate pre- and post-project KMC rates. We improved KMC awareness and communication at shift report, and KMC rates increased from 36 percent to 64 percent. Parent absence or refusal was the top reason KMC was not performed. Further improvement initiatives are needed to address parental barriers to KMC.

**Accuracy of RN Visual Quantification of Emesis Volumes in the NICU**

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An important component of nursing assessment of feeding tolerance in the NICU for high-risk babies is the quantification of emesis volumes. Although some nurses attempt to weigh the items saturated in emesis in order to quantify volume loss, there is either no or limited consistency in practice. Rather, volumes are estimated and reported to the practitioner for decision making. Often feed advances are limited due to perceived feeding intolerance connected to emesis events in neonates. For this project, 158 NICU nurses at New York Presbyterian Hospital were given a multiple-choice survey consisting of demographic questions, along with 10 images of simulated emesis volumes on standard hospital linens, and they were asked to estimate the emesis volumes. Nurses were also surveyed on their attitudes and beliefs related to emesis in neonates and on their personal practices regarding this issue. The completed survey demonstrated nurses’ ability to correctly estimate volumes an average of 34.5 percent of the time, regardless of experience, education, or presence of certification. Visual quantification of emesis volumes is a highly inaccurate method for guiding feed advancement in the NICU. Further research is needed on how these methods affect time to full feedings and the overall NICU length of stay.

**Implementation of a Golden Hour Protocol for Very Preterm Infants: A Quality Improvement Project**

Allison L. Suing, BSN, RN  
Lori Rubarth, PhD, APRN, NNP-BC  
CREIGHTON UNIVERSITY, COLLEGE OF NURSING  
OMAHA, NEBRASKA
Background: Preterm infants are at risk for increased morbidity and mortality due to physical and developmental immaturity. Standardized delivery room practices can help to mitigate these adverse outcomes.

Purpose: The purpose of this project is to improve the outcomes of very preterm infants via development, implementation, and evaluation of a Golden Hour protocol to standardize delivery room practices in a Level III NICU.

Methods: A Golden Hour protocol was developed with input from key stakeholders in the NICU. NICU staff were educated via printed materials and simulation activities prior to implementation. Data were collected before and after the implementation of the Golden Hour protocol.

Results: There were improvements in all Golden Hour time measurements, including time to initiation of intravenous fluids, time to antibiotic administration, and time to isotope closure. Incidence of IVH was increased in the post-implementation group; data collection regarding BPD and ROP is ongoing.

Conclusions: The implementation of a Golden Hour protocol improved delivery room admission and stabilization processes for very preterm infants. These improvements were noted even with an increased acuity of the infants in the postimplementation period. Further education and training will lead to continued improvements in delivery room practices and outcomes for these neonates.

Nurse-Family Partnership

Ally Vorrier

PURDUE UNIVERSITY NORTHWEST
HAMMOND, INDIANA

Purpose: The Nurse-Family Partnership aims to connect young, single, first-time mothers in poverty with an RN to help reduce the infant mortality rate in low-income/underserved communities and remove barriers to health care. The nurse is able to educate these individuals about their pregnancy, teach parenting skills, and connect them with resources they may need for success. The nurse ensures that the mother and baby are healthy/well by performing health checks during pregnancy and after birth, continuing up to the child’s second birthday.

Framework: Research of relevant information regarding educational nursing intervention outcomes for first-time mothers during/after pregnancy is essential to ensuring that the Nurse-Family Partnership program is having the desired impact by helping these families get a good start and stay on track.

Conclusions: Findings include that adequate amount of nurse-facilitated education, access to positive parenting programs, and being a resource for first-time mothers from before birth to the child’s second birthday increase the likelihood of these families moving from poverty to a better standard of living. The Nurse-Family Partnership accommodates specific needs mothers may face, helps to establish a routine with their babies, and prepares them for a future on their own with the experience gained from the program.

Heart to HEARTT: Supporting Nurses to Partner with Parents Caring for Their Critically Ill Infants

Chandra Waddington, RN, MSN

MOUNT SINAI HOSPITAL
TORONTO, ONTARIO, CANADA

Background: Family Integrated Care (FICare) is a model of care that supports parents to fully engage in the care of their stable infant in the NICU. FICare is associated with improved developmental outcomes for infants and decreased mental health risks for parents. FICare Plus was developed to extend this model of care for critically ill infants initiated in the first 2 weeks.

Objective: To determine how FICare Plus can support parents to safely and meaningfully become engaged in the care of critically ill infants.

Methods: A cross-sectional survey of staff was conducted at 2 hospital sites in Toronto. Descriptive and thematic analysis was performed. These results focus on nursing education needs.

Results: Nurses identified the need to receive further education related to (1) parent readiness, (2) establishing and sustaining parent engagement, (3) providing emotional support, and (4) strategies to deliver bedside parent education. In response, the Heart to HEARTT program was developed in collaboration with parents. It consists of short videos and slide shows incorporating parents’ perspectives. Nursing evaluation of this program has been positive, enabling nurses to support parents to engage in care.

Impact of Eat, Sleep, Console Model of Care on Infants with Neonatal Abstinence Syndrome

Tina Willier MSN, RNC-NIC
Patricia Miller MSN, RNC-NIC

UPMC PINNACLE
HARRISBURG, PENNSYLVANIA
Statement of the Problem: Traditional management of neonatal abstinence syndrome (NAS) leads to prolonged hospitalizations. Nursing research was conducted to determine if using Eat, Sleep, Console resulted in decreased length of stay (LOS)/number of infants receiving morphine.

Literature Review: Forty-two articles were considered, and 6 were critically appraised using the Johns Hopkins Nursing Evidence-Based Practice Model. Evidence supported the need for research (Level II B, Level III B evidence, Level IVA). Institutional review board approval was obtained.

Methodology: A retrospective chart review was performed to collect data from electronic health records, including demographic data, maternal history, infant LOS, number of infants receiving morphine, birth weight/weight on day of life (DOL) 5. Univariate analysis was performed to control for demographic data/ risk factors. A 2-sample t test used to compare average LOS, and the chi-square test was used to detect differences in the number of infants receiving morphine. Data were analyzed using SAS 9.4 software.

Data Analysis/Interpretation: There were no statistically significant findings in maternal demographics. Outcomes: The number of infants receiving morphine decreased from 20 (58.9 percent) to 1 (2.7 percent) \( (p < .0001) \). LOS decreased from mean of 17.7 days to a mean of 5.9 days \( (p < .0001) \). No statistically significant difference in percentage weight loss on DOL 5 was observed.

Conclusions: Eat, Sleep, Console positively impacted infant LOS and the number of infants receiving morphine. There was no impact on weight loss at DOL 5.

Intubation Timeout Tool Implementation in a Level IV NICU

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Janice L. Wilson, DNP, CRNP, NNP-BC, C-ELBW, FAANP
Beth C. Diehl, DNP, NNP-BC, CCRN, LNCC
UNIVERSITY OF MARYLAND SCHOOL OF NURSING
BALTIMORE, MARYLAND

Problem: Endotracheal intubation is a common NICU procedure and can be associated with significant adverse events. These events are more common in acutely ill unstable neonates and when providers demonstrate variable intubation proficiency. In a level IV NICU, use of a timeout was reported for 86 percent of intubations, and 48 percent of intubations were associated with 1 or more adverse events.

Purpose: A quality improvement approach was used to implement and evaluate an evidence-based, preprocedural, intubation-specific timeout tool. The primary objective was to improve the intubation process, consistency, and safety.

Methods: Over a 10-week period, nursing staff initiated use of the tool for all eligible intubations. An electronic health record audit tool facilitated the collection of patient demographic data, rate of tool use, and intubation provider information.

Results: The tool was used for 9 intubation events (60 percent) with an average of 2–3 intubations per week. Intubation-associated adverse events decreased by 8 percent from baseline.

Conclusions: Although limited, these results suggest that use of an evidence-based, preprocedural, intubation-specific timeout tool can improve intubation process, consistency, and safety, leading to improved patient outcomes. Continuing education efforts and ongoing chart audits are critical to the consistent use of the tool and further reduction in adverse events.
Poster Abstracts Presented at the Spring 2021 Virtual Advanced Practice and Low Risk Neonatal Nurses Conferences

April 14–17, 2021

These are the abstracts for the podium presentations from the Spring 2021 Virtual Advanced Practice and Low Risk Neonatal Nurses Conferences. They represent a broad range of neonatal issues. By sharing this information, we hope to increase awareness of research and innovative programs within the neonatal health care community and to support evidence-based nursing practice. Some abstracts have been edited for publication.

NNP Workforce Shortage in the NICU: Early Onboarding of New Graduate, Board-Certified NNPs

Jessica Benes, MAN, APRN, NNP-BC
CHILDREN’S HOSPITAL COLORADO
AURORA, COLORADO

Background: NNPs represent a high-demand specialty practice area with increasing staffing requests for community and tertiary settings. Hiring and staffing delays related to timing of graduation, state licensure, and medical staff credentialing increase the use of an overtime staffing model to meet the needs of clinical settings, putting higher burdens on hospitals to provide safe staffing for neonatal care.

Methods: A collaborative evaluation of our hiring and onboarding practices resulted in changes that decreased our overall program costs through orientation and onboarding sooner to alleviate overtime costs. Key stakeholders included members from nursing leadership, human resources, the state board of nursing, a medical staff credentialing team, and our education team.

Outcomes: Newly graduated NNPs were able to be employed, trained, and transitioned to independent practice within 6 months of graduation (vs 9 months), resulting in a decrease in overall program costs and improved staffing.

Conclusions: A systematic approach to evaluating onboarding practices for gaps and areas of improvement, along with our employment model, not only decreased vacancy rates, creating a safer environment for patient care and NNP retention/satisfaction, but also demonstrated overall cost reduction and allowed us to increase our APRN workforce in the NICU setting.

NICU Emergency Preparedness Initiative: An Initiative Program as Response to Firestorms

Gudrun Reiter-Hiltebrand, RN, MSN, CNL, CPLC, RNC-NIC, C-ELBW
PROVIDENCE SANTA ROSA MEMORIAL HOSPITAL
SANTA ROSA, CALIFORNIA

The theme for this project centers on NICU staff leading multidisciplinary action in emergency preparedness. Prior wildfire experience was the key driver for staff to learn about emergency response needs of their special patient population, recognizing that organizational preparedness efforts despite regulatory mandate were insufficient to adequately prepare personnel.

The aim is to improve confidence and readiness with objectives to improve understanding of roles and disasters, to provide specific tools and training, and to analyze and respond to staff needs.

The project is implemented in a 338-bed acute care hospital, with the nurses of the 12-bed NICU being the main drivers. Unit-specific task forces, shared governance prioritization, and a multidisciplinary safety council implemented guidelines, communication plans, and community networking and took responsibility for acquisition of equipment and evacuation supplies, with improvement efforts socialized at unit meetings and evaluated through a NICU staff survey with an 85 percent participation rate.

Recommendations include continuing the current interventions, with emphasis on ongoing training identified by survey, and conducting a disaster fair and evacuation drills when permitted by pandemic restrictions, with another survey reassessing those efforts.

NNP Fellowships to Support Transition to Practice for Newly Graduated NNPs

Linda McCamey, MSN, APRN, NNP-BC
CHILDREN’S HOSPITAL COLORADO
AURORA, COLORADO

The 2010 Institute of Medicine “Future of Nursing Report” outlined a need to develop practice transition programs (PTPs) for APRNs. Literature shows that newly graduated APRNs experience difficulties transitioning from expert RN to novice NP. Emerging literature also describes multiple benefits of structured, comprehensive PTPs for new-graduate NPs.
Our NNP program was experiencing rapid growth, an aging workforce, fewer experienced applicants, and an increase of new-graduate NNPs with less clinical experience in neonatal care. Novice NNPs were experiencing difficulties with role transition, and existing orientation methods were inadequate for a variety of stakeholders.

In 2017, a 12-month fellowship for new-graduate NNPs was established to provide a structured transition to practice, aiming to support role transition, provide a foundation for independent practice, and improve recruitment/retention.

Since inception, the fellowship has filled 100 percent of available positions. One-year post-fellowship institutional retention is 71 percent, and 100 percent of graduates practice as NNPs. Eighty-seven percent score >90 percent on a procedural review exam in month 4 of fellowship. Seventy percent report confidence with 3 core procedural skills at the end of fellowship. One hundred percent report satisfaction with fellowship. Eighty-six percent are involved with professional activities outside clinical practice 1 year after fellowship. In 2019, this NNP fellowship received national accreditation from a recognized accreditation body.

Lessons Learned Implementing a Technology Platform to Support Nurse Workflows and Enhance Family Experience

*Rachael Rivas, MSN, RNC-NIC
Ariel De Rahles, MBA, BSPH
UNIVERSITY HEALTH
SAN ANTONIO, TEXAS

This presentation will share lessons learned from a 60-bed Level IV NICU that implemented a technology platform to support nurse workflows and enhance family experience. Baseline data were collected anonymously through an electronic survey from staff and families to assess the impact of livestreaming bedside cameras, parent–staff communication, and the family education process. The unit began using 10 mobile cameras in 2015, which allowed parents and family members to view their infants when they were unable to be at the bedside. In 2020, unit leaders identified the need to upgrade the current cameras and add additional cameras, but they also discussed opportunities for improvement with the cameras and associated workflows. Staff were re-educated regarding the camera platform, exposed to new parent orientation tools, and developed guidelines for use and expectations to support a successful implementation of the technology. After successfully implementing new cameras, the unit launched a communication tool allowing staff to send 1-way photo, video, and text messages to families when they cannot be at the bedside, along with an education platform to streamline family education. The 3-pronged approach to supporting nurse workflows and enhancing family experience is supported by results of survey data from both staff and families.

On the Other Side: An NNP’s Personal Perspective on Being a Mother of a 23-Weeker

*Nicolette Nyberg, MSN, APRN, NNP-BC
CARLE FOUNDATION HOSPITAL AND OSF HEALTHCARE
URBANA, ILLINOIS

Purpose: The purpose of this personal narrative is to share the importance of implementing family-centered care in the NICU by providing health care team members a unique insight into the experience of parenting an extremely low birth weight infant in the NICU.

Background: Several studies have found that a lower gestational age, severe neonatal prognosis, and an alteration in parental role are correlated with higher levels of parental stress and an increased risk of post-traumatic stress disorder. Family-centered care interventions and parental well-being contribute to the infant's long-term developmental outcomes.

Description: An NNP discusses her experiences after her son was delivered at 23 weeks’ gestational age. She provides an emotional and maternal perspective describing how procedures, conversations with nurses and providers, discrepancies in her son’s plan of care, and the day-to-day life in the NICU affected her son, her family, and her role as a mother.

Future Directions: Family-centered care is an integral component in the NICU and has been shown to decrease parental role stress. Including parents as collaborators of their infant’s health care team provides families with the confidence to care for their infant in the NICU and at home. Providing appropriate and timely information in an empathetic way and encouraging involvement foster parental role alteration.

Impact of Eat, Sleep, Console Model of Care for Infants with Neonatal Abstinence Syndrome

*Patricia Miller, MSN, RNC-NIC
Tina Willier, MSN, RNC-NIC
UPMC PINNACLE
HARRISBURG, PENNSYLVANIA
Statement of the Problem: Traditional management of neonatal abstinence syndrome leads to prolonged hospitalizations; nursing research was conducted to determine if using Eat, Sleep, Console resulted in decreased length of stay (LOS)/number of infants receiving morphine.

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Conclusions: Eat, Sleep, Console positively impacted infant LOS and the number of infants receiving morphine. There was no impact on weight loss at DOL 5.

Promotion of Safe, Exclusive Breastfeeding in a Pandemic: Let’s Stay Together!
Tiffany Gwartney, DNP, APRN, NNP-BC
Allyson Duffy, PhD, RN
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Statement of the Problem: As evidence continues to evolve related to recommendations for maintaining safe exclusive breastfeeding practices during the COVID-19 pandemic, application of research findings in the clinical setting is widely variable between institutions. Although the COVID-19 pandemic is a new experience for the health care landscape, identifying and removing barriers to exclusive breastfeeding is well defined in the literature and should be used as a guide for the development of clinical practice guidelines to maintain safety and promote breastfeeding.

Literature Review: Breast milk contains antimicrobial and antiviral protection from a number of diseases. Although the literature continues to evolve, there is a low incidence of vertical transmission of the SARS-CoV2 virus, with a 29 percent incidence of interruption to exclusive breastfeeding at 3 months postpartum. Furthermore, the inability to room in, provide skin-to-skin contact, or breastfeed directly increases maternal distress (Bartick et al., 2021).

Methodology: The purpose of this presentation is to facilitate transfer of knowledge from research findings into clinical practice. After careful review of the literature regarding transmission and best practices for couplet care, a review of recommendations for maintaining safe breastfeeding will be discussed for intra- and posthospitalization.

Sepsis Workup Packs
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The susceptibility of sepsis is increased while in the NICU. Neonates have up to 5 times the risk of infection compared with older children. Sepsis affects as many as 33 percent of very low birth weight infants (<1,500 g). Antibiotic administration time is recommended to be within 1 hour of infection diagnosis. An 8 percent to 9 percent decrease in chance of survival per hour delay was found. This project was designed to develop and evaluate the efficacy of septic workup kits to prevent delayed antibiotic administration. The hypothesis is that by using a septic workup kit, there would be a decrease in the amount of time needed to acquire supplies and expedite antibiotic administration. Septic workup time was defined as time from antibiotic order to antibiotic administration initiation. Sixty workups were audited for antibiotic timing over the course of 1 year. The average time to antibiotic administration was found to be 1 hour, 24 minutes (84:47 minutes). To evaluate whether septic workup packs were effective, antibiotic administration time was audited regularly. One year after implementation, current time for septic workups was 44 minutes. These results suggest that by having an expedited process in place, the kits reduced antibiotic administration time and ultimately reduced neonatal mortality secondary to sepsis.

Look at Us Now! One Unit’s Journey to Successful Staff Adoption of Camera Technology in the NICU
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Staff from a 61-bed level IV NICU initially struggled to fully adopt and remain satisfied with camera technology at the bedside, which allowed families to see their loved one when they were unable to visit. Three years ago, unit leadership made the decision to purchase camera technology to support parent bonding and connection. Little was known about how this would impact nursing care and workflows. Staff quickly became frustrated and dissatisfied despite positive family feedback. The leadership team realized they had underestimated the time and effort required to gain staff buy-in and ensure successful adoption and use. A baseline survey was sent to all nursing staff to collect anonymous feedback and suggestions to improve use and satisfaction of the cameras. Over the last 12 months, the leadership team relaunched the camera technology by implementing several interventions. Staff were included in the development of the training materials and tools. “Super users” were identified and trained to serve as additional resources on each shift. Education was incorporated in staff onboarding and annual competencies to ensure continued success. A second survey was completed by staff, which revealed the significant impact of the various interventions on staff satisfaction and buy-in.

Medical Traumatic Stress for NICU Patients and Families
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The goal of this presentation is to educate NICU professionals to recognize and describe the signs and symptoms of medical traumatic stress, exhibit increased awareness of medical traumatic stress experienced by NICU patients and families, and develop plans to reduce medical traumatic stress. A NICU stay can be traumatic for patients and their families. The medical procedures and care that are performed in the NICU may be the first of a long road of medical care for patients and their families. Today, this experience has been further complicated by increased restrictions preventing families from seeing their loved ones and from being present as a support person. Limitations in the ability of caregivers to bond with the patient, as well as a decrease in the availability of support persons for the family members of NICU patients, have increased the psychological trauma that is associated with a NICU stay. Additionally, health care professionals in the NICU have had to work in increasingly stressful conditions. It is important that health care professionals in the NICU practice with a trauma-informed lens to reduce the amount of traumatic stress that is experienced by patients, families, and colleagues in the NICU.