1. Improving Time to Antibiotic Administration in Pediatric Oncology Patients present to the Emergency Department

12:40 P.M.

Courtney Elliott, BSN, RN

BACKGROUND: Fever in neutropenic oncology patients is an emergency that requires immediate evaluation and intervention. The total time to antibiotic (TTA) administration in pediatric oncology patients who present with fever and neutropenia (F&N) is critical to improving outcomes and decreasing morbidity and mortality. Current recommendations for antibiotic administration is within 60 minutes of patient’s arrival to the emergency department (ED). Each hour antibiotics administration is delayed the risk of adverse outcomes is increased. A free-standing children's hospital is not meeting the goal of administering antibiotics within 60 minutes to 95% of all F&N patients who present to the ED.

PURPOSE: The purpose of this QI project was to improve the TTA administration to <60 minutes for at >95% of F&N patients that present to the ED.

DESIGN: This project developed and implemented a checklist and revised current protocol to reflect evidence-based literature to meet the goal of TTA. Chart Audits were utilized with a pre/post intervention design to determine the effectiveness of the checklist on TTA. The checklist included patient arrival, time preliminary ANC was resulted, and time antibiotics needed to be administered. The protocol for the treatment of febrile neutropenic patients was updated to reflect the checklist utilization and current evidence in the literature.

RESULTS: The mean TTA pre-intervention was 42.6 minutes and 41.9 post intervention. Pre-intervention 94.1% of patients received antibiotics in <60 minutes, compared to 94.4% post intervention. In the same time period in 2019 the mean TTA was 46 minutes and only 90% of patient received antibiotics within 60 minutes. There was not a significant change in the pre and post intervention group.

CONCLUSION: This pilot project had limited number of patients due to low number of pediatric patients who present with F&N. This project needs to be continued and evaluated for months to come.

2. Case Report: From High to Low too Quick, the Brain Could Blow – Management of 2 Newborn Infants with Significant Hypernatremia

12:50 P.M.

Hannah Chin, BA

Two exclusively breastfed, 4-day old infants presented with poor feeding, reduced weight, and elevated serum sodium levels. Successful management with intravenous fluids resolved the hypernatremia, and the infants were discharged 3 and 5 days later, respectively. A MEDLINE search of, “Causes and treatment of neonatal hypernatremia” yielded several case reports and systematic reviews describing similar presentations and management of breastfeeding-associated hypernatremic dehydration. Arrival at this diagnosis is crucial and its corrective treatment requires a slow course to avoid dramatic changes in the brain's osmolarity and consequent brain injury. We report on two cases of breastfeeding-associated neonatal hypernatremia, describing the details of their successful corrective treatment.
3. **Achieving High Papillomavirus Vaccination Rates in a Pediatric Behavioral Population**

1 P.M.

Elmer Martin, MD, PhD

**PURPOSE:** Human Papillomavirus is the most common sexually transmitted disease in the United States. An effective vaccine that prevents most cancers arising from chronic infections with this virus is underutilized. This study shows a cost-effective way to achieve high vaccination rates of Human Papillomavirus vaccine (HPV) until more states require this vaccine to continue school.

**DESIGN:** The author is a full time pediatrician who has built up to 40% of his visit totals taking care of behavioral patients (ADHD/Sleep disorders/Anxiety Disorders/Depression) at a Federally Qualified Health Center (64% Medicaid/ 23% uninsured). The author sees these patients 3 to 5 times yearly. At these visits, the author does their checkups and recommended immunizations as well. The author felt that his behavioral population might be better vaccinated for HPV than non-behavioral patients due to increased vaccine opportunities. A computer generated list of 11-18 year old patients was prepared through our EMR for the patients in our HealthPoint Family Care Covington office from 9/1/18- 10/30/20. The author went through the list and compiled 3 groups of patients: 1) Non-Dr. Martin patients 2) Dr. Martin Non-Behavioral Patients 3) Dr. Martin Behavioral Patients as defined above.

**FINDINGS:** The non-behavioral Dr. Martin patients (50.1%-67/134) and the non-Dr. Martin patients (43.5%-483/1110) showed lower completed vaccination rates than the Dr. Martin behavioral patients (90.1%-526/580). However, the non-behavioral groups did roughly compare to completed HPV vaccination rates nationally (49%).

**IMPLICATIONS FOR PRACTICE:** The author’s success in attaining high HPV vaccination rates in his pediatric behavioral population is a cost effective method to achieve the 80% goal of Healthy People 2020. Primary care providers could use this approach to improve HPV and other recommended vaccines in their patient population even in this time of COVID 19 pandemic.

4. **Screening Adolescents for Anxiety in the Primary Care Setting**

1:10 P.M.

Maria Taylor, BSN, RN

**PURPOSE:** To implement and evaluate a screening and referral process for adolescents with anxiety in the primary care setting.

**BACKGROUND:** Anxiety in adolescents is one of the most common mental health conditions, most are underdiagnosed and untreated. Symptoms from anxiety can interfere with an adolescent’s daily life and milestones. Primary care providers are encouraged to screen all adolescents for mental health concerns at well-child visits; however, adolescents are not routinely screened for anxiety in the primary care setting, and standardized screening guidelines do not exist. Screening for anxiety may help facilitate early identification and referral for adolescents in need of mental health services.

**DESIGN:** This quality improvement (QI) project evaluated the implementation of a screening and referral process for adolescents ages 11-21 in a primary care setting at well-child visits using the Generalized Anxiety Disorder-7 (GAD-7). The GAD-7 screening tool is a self-administered and validated for use in the adolescent population. Scores range from 0 to 21. An algorithm developed by the student investigator and nurse practitioner determined the need for education, referral for further treatment, or immediate referral to a Behavioral Health Urgent Care Center. Data were collected at the end of each two-week Plan-Do-Study-Act (PDSA) cycle through a retrospective review of GAD-7 patient scores, patient demographics, treatment received, and evaluation of the process.

**RESULTS:** Eighteen GAD-7 screenings were performed in adolescents (N=18, Mean age =15) with scores ranging from 0 to 17. A total of 61.1% of participants had positive screenings (mild to severe); 22% of participants received a referral; 22% of participants were prescribed medication.

**IMPLICATIONS FOR PRACTICE:** This QI project demonstrates and supports the feasibility of using the GAD-7 with a screening algorithm for adolescents in the primary care setting.
5. **Septo-optic Dysplasia with Rathke's Cleft Cyst**

1:20 P.M.

Michelle Ngo

Septo-optic dysplasia (SOD), sometimes known as De Morsier Syndrome, is a rare congenital condition classically characterized by the triad of optic nerve hypoplasia, midline cortical defects, and hypothalamic-pituitary dysfunction, though manifestations vary greatly in severity, clinical presentation, and phenotype. There have been a variety of endocrine manifestations, such as growth hormone deficiency or decreased secretion of corticotropin. There have also been a wide range of other ocular and brain abnormalities reported in SOD patients, such as corpus callosum dysgenesis, schizencephaly, and olfactory tract hypoplasia. When cortical dysplasia is present, the disorder is termed SOD-plus. The cause of this irregular early brain development is not completely understood, but most cases seem to be sporadic while some familial cases point to mutations in developmental genes such as HESX1, SOX2, or SOX3. Treatment is aimed at relieving the symptoms of the individual and may require a team of specialists including pediatricians, ophthalmologists, neurologists, and endocrinologists. This report describes a patient with polymicrogyria, septum pellucidum agenesis, and probable Rathke's cleft cyst (RCC) on imaging. Based on the extreme variability of SOD, we suggest that the classical triad of symptoms should not be considered definitive requirements for diagnosis.

6. **Osteogenesis Imperfecta: A Case Study**

1:30 P.M.

Jona Kerschner, BSN, RN

Osteogenesis imperfecta (OI) is an autosomal dominant genetic disorder characterized by excessive fragility of bones (Beary & Chines, 2019). While rare, primary care providers should remain knowledgeable of clinical manifestations, physical examination positives, and laboratory and imagining findings suggestive of (OI) to facilitate early diagnosis, referral, and treatment. OI is a progressive condition, requiring life-long management to prevent deformity and progression of complications. The primary care provider is well-positioned to coordinate interdisciplinary care and provide essential health maintenance to improve functional outcomes while offering critical resources for families learning to care for their child's unique healthcare needs.
1. **Klinefelter’s Syndrome: A case fortuitously diagnosed by non-invasive prenatal test**

12:40 P.M.

Steven Yackley, MS; Terrence Zach, MD

Klinefelter Syndrome is a genetic disorder caused by the presence of supernumerary sex chromosomes. An additional X chromosome(s) and hypogonadism are the two defining features of Klinefelter syndrome. The excess of genes from the additional X chromosome drives the pathogenesis of the disease and distinguishing features of the affected individuals. Genotypic variants exist within the affected population, leading to differences in phenotype and severity of symptoms. The increase in the prevalence of prenatal testing has led to the earlier recognition of fetal chromosomal abnormalities. Early detection of Klinefelter syndrome through noninvasive prenatal testing is an extraordinary medical tool, giving the family much needed information and allowing for early intervention, ensuring the best outcome for the child.

This case report shows a patient that will benefit from the early diagnosis of a genetic syndrome to implement early and timely interventions upon delivery and then later on in the child’s developing years. The neonate presented with no distinct, characteristic signs of Klinefelter Syndrome, which is common in many individuals. Only two findings, other than the NIPT results, weakly suggest any possible abnormality. Klinefelter neonates report mildly higher incidences of Respiratory distress and low birth weight necessitating need for NICU admission. The underwhelming clinical presentation of the neonate shows that if NIPT wasn’t conducted, neither our patient nor his family would have known he was 47,XXY, until much later in life.

**IMPLICATIONS:** Timely hormonal intervention is possible for our patient because of NIPT. This demonstrates a need of a standard KS screen. With the technology of NIPT advancing and improving in its ability to detect a variety of other conditions outside of the traditional autosomal aneuploidy, it should be considered a technique for screening for clinically silent conditions, such as mild Klinefelter syndrome phenotypes.

2. **Identifying When the Decline in Knowledge Begins in Relation to Nurse Knowledge Retention and Competency Rates of Cardiac Rhythm Strips Utilizing Simulation-Based Learning.**

12:50 P.M.

Jacquelyn Julis, BSN, RN; Susan Connelly, DNP, APRN-NP

**PURPOSE:** The purpose of this quality improvement project was to identify when retention of knowledge declines in pediatric cardiac care nurses following a simulation augmented educational activity that focused on electrocardiogram (ECG) arrhythmia identification. Participants: Seven pediatric cardiac care nurses at a Midwest Urban Hospital participated in a mandatory mock code exercise that focused on identifying arrhythmias seen on ECGs in the pediatric population.

**DESIGN:** Participants participated in a simulated scenario that followed Pediatric Advanced Life Support (PALS) guidelines. After the simulation was complete, all participants received a debriefing of the scenario, followed by focused education on rhythm interpretation and analysis. The nurses completed a post-test at the conclusion of the mock code, two-week and 8-week intervals following the mock code. The tests were paper/pencil standardized test that consisted of multiple choice and fill in the blank questions. The test questions included identifying five cardiac rhythms and applying appropriate interventions associated with the previously identified rhythms, and analyzing a cardiac rhythm strip calculating heart rate, PR interval, QRS, and QT interval.

**RESULTS:** Scores obtained at the two-week mark revealed that 100% of participating nurses were able to maintain competency and retain knowledge in identifying arrhythmias seen on ECGs. The two-month post-test scores showed that 71% of participating nurses scored lower at two months than previously at two weeks.

**IMPLICATIONS FOR PRACTICE:** The results of this project identified that the decline in post-test scores suggest that continuing education is necessary to maintain minimum competency and retention of knowledge for all nurses within the Cardiac Care Unit. The timing for this education is recommended based on the participating nurse’s post-test scores which would occur between two weeks and two months after education and or simulation.
3. **Case Report on Wolf-Hirschhorn Syndrome**

   **1 P.M.**

   **Stephen Kovach, BSc; Terence Zach, MD**

   Wolf-Hirschhorn Syndrome (WHS) is a congenital disorder due to a deletion of variable size on chromosome 4. Affected individuals commonly have a distinct “Greek warrior helmet” facial appearance with a broad, flat nose, hypertelorism, prominent glabella, and short philtrum. This poster presents a case of an infant born with WHS, the associated findings, and the diagnostics utilized. In addition to the facial characteristics, other features of WHS exhibit a wide range, including organ defects and seizures. The severity of these features is positively correlated with the size of the deletion. Because of the more subtle presentation of smaller deletions, WHS is likely an underdiagnosed syndrome. Diagnosis can be made prenatally and is first suspected due to prenatal ultrasound findings. These findings include symmetrical intrauterine growth restriction, microcephaly, typical facies, micrognathia, ear abnormalities, and various organ defects. Diagnosis is confirmed via fluorescence in situ hybridization (FISH), array comparative genomic hybridization (aCGH), or fetal karyotyping. Some features of WHS may benefit from early treatment, so recognition of findings associated with WHS is important. Treatment for WHS is symptomatic and can help improve lifespan and quality of life in affected individuals.

4. **Education and Evaluation of Healthy Habits in School Age Children: Implementation of the Fit for Life Program**

   **1:10 P.M.**

   **Morgan Jones, BSN, RN; Cathy Carrico, DNP, APRN**

   **BACKGROUND:** Childhood obesity is a serious health concern across the U.S. National health care organizations have placed priority on managing obesity, but little has been done to prevent this epidemic. Obesity prevalence is 18.4% among 6-11 years old and continues to rise to 20.6% in those ages 12 to 19 years.

   **PURPOSE:** To improve knowledge and put into practice healthy habits in elementary students. The aims include to adapt and implement the Fit for Life education program created by Creighton Medical Students in 2008, educate students in the classroom on healthy habits, and evaluate the effectiveness of the intervention through evaluation of self-report of healthy habits, including increasing physical activity, reduce screen time and improve food choices.

   **DESIGN:** An age-appropriate innovative, interactive program was presented once a week for 4 weeks live via zoom conferencing due to the COVID-19 pandemic to a 4th grade classroom. Students completed a daily tally sheet to track personal health habits. Pre and post intervention healthy surveys in were given at week 1 and 4 and 8 and included the areas of nutrition, screen time, physical activity and overall student self-evaluation of health.

   **RESULTS:** Post survey self-reports revealed: 94.2% felt they were “very” or “pretty” healthy, an increase of 29.5% from the pre-health survey. How much the students’ care about staying healthy post interventions was a 29.4% increase. Overall, the general trend showed self-reported improvement or no change in all areas. There was 100% participation of daily tally sheets. The healthy habits improved slightly by program completion.

   **IMPLICATIONS FOR PRACTICE:** With early intervention, students have the ability to formulate healthy habits by encouraging behavior modification consistent with good nutrition and physical activity. This program is easy to administer by school staff and can be an effective tool for future healthy lifestyles.
5. **Development of a significant pneumomediastinum with subcutaneous air in the neck while on CPAP.**

1:20 P.M.

Morgan Andrejchak, BA

A pneumomediastinum with subcutaneous air in the neck is a very rare cause of respiratory distress in neonates. A pneumomediastinum is defined as free air in the mediastinum, typically originating from the alveolar space or conduction airways due to changes in intrathoracic pressure. Due to the changes in intrathoracic pressure, there is a higher incidence of pneumomediastinum in neonates who have received positive pressure ventilation, aspirated meconium, or had other birth related trauma. Predisposing factors include mixed lung diseases such as aspirated meconium with coexisting atelectasis and airway obstruction. Here we examine a case of a 3 DOL male born at 30 weeks who, while on CPAP, developed a significant pneumomediastinum with subcutaneous air in the neck. Given the rarity of this development in neonates, it is important to document the incidence, management, and diagnostic modalities of this case. Pneumomediastinum must be considered in the differential diagnosis when evaluating respiratory distress in neonates.

POSTER SESSION ROOM 3  [https://creighton.zoom.us/j/92952654348](https://creighton.zoom.us/j/92952654348)

1. **Perforation of the Cecum in a Newborn due to Neonatal Chrismall Left Colon Syndrome**

12:40 P.M.

Christian Kraus, MS

Neonatal small left colon syndrome (NSLCS) is a rare cause of neonatal bowel obstruction, with few documented cases in literature. NSLCS is frequently associated with maternal gestational diabetes mellitus and may lead to complications such as bowel perforation. We report an infant with perforation of the cecum requiring surgical intervention, secondary to NSLCS. Early clinical suspicion of this diagnosis can help avoid invasive interventions, including surgery.

2. **Reducing Alarm Fatigue in the Neonatal Intensive Care Unit**

12:50 P.M.

Amy Brenno, BSN, RN

**BACKGROUND:** Technology in the neonatal intensive care has allowed for many advancements in the care and treatment of critically ill infants. Unfortunately, this technology can also be associated with a staggering number of audible alarms. These frequent alarms can lead to non-therapeutic NICU environments, staff fatigue and increased morbidity and mortality for these fragile patients. Educating staff on sources of alarm fatigue and reduction techniques along with providing visual reminders of appropriate cardiorespiratory and pulse oximetry parameters, the number of audible alarms can be significantly reduced. When the number of alarms is reduced in the NICU, critical alarms can be isolated and responded to quickly and effectively. Fewer alarms lead to reduced alarm fatigue for staff and visitors and improves safety for NICU patients.

**METHODS:** Data was collected at a 63-bed level IV NICU in Minneapolis, Minnesota. Staff was provided education via PowerPoint presentation on alarm fatigue along with alarm reduction tip sheets at all bedside to help in reducing nonactionable cardiorespiratory and pulse oximetry alarms. Baseline and post-implementation data included number of audible alarms observed in NICU pods along with accuracy of alarm parameters on all patients within that pod.

**RESULTS:** Prior to staff education, there were 3.15 alarms/patient/hour with alarm parameter accuracy of 65%. Post implementation there were 0.67 alarms/patient/hour with alarm parameter accuracy of 93%. Implications: This reduction demonstrated that staff education and bedside tools can reduce alarm fatigue and increase patient safety in the NICU.
3. Chromosome 22q11.2 Duplication in Mother and Son

1 P.M.

Anna Gerst, BS

A male infant born at 37 weeks had bilateral ventriculomegaly. Both the mother and infant had confirmed micro-duplications of chromosome 22q11.2. The mother had previously given birth to two healthy children. The infant presented with macrocephaly, but lacked the facial dysmorphism, hypotonia, and heart abnormalities seen in other cases. He was discharged on day 9 and will continue to be assessed for potential developmental delay. A PubMed search was done to determine what factors contribute to the variable expressivity of a 22q11.2 duplication. The results support no correlation between the size of the duplication and the clinical phenotype. In fact, cognitive impairment can differ in the same family, despite a duplication of identical size. Two-thirds of these duplications are inherited from parents, yet these parents are often clinically normal. More studies are needed to determine genotypic correlations to specific phenotype. Without this data, there is difficulty predicting pregnancy outcomes and the condition is underdiagnosed.

4. Pediatric Cardiac Advance Directives: Early Intervention Palliative Care Conversations

1:10 P.M.

Adam Harmon, BSN, RN; Meghan Potthoff, PhD, APRN-NP

PURPOSE: The purpose of this project is to implement a standardized protocol within the inpatient acute care setting for adolescent cardiac patients to improve advance directive education and understanding for both families and nursing staff.

BACKGROUND: The pediatric cardiac population is under-educated in the realm of advance directives and multiple barriers prevent these conversations. As a result of these cardiac diagnoses, cardiac patients are at a higher risk of death. Patients and families need to be prepared for these adverse events and be educated on the potential interventions that could support symptom management and facilitate decision-making when the patient nears end-of-life.

SAMPLE/SETTING: A 23-bed medical/surgical cardiac unit in a Midwestern free standing children’s hospital. Participants for this study were cardiac patients, aged 14 years and older, in the acute care setting and cardiac registered nurses.

METHODS: An Advance Directive Toolkit (ADT) was created using current literature. Nursing knowledge and attitudes on advance directives was assessed using a pre and post survey. Knowledge and Attitude Towards Advance Directives for Pediatric Cardiology patients (KAAD) was the survey utilized.

RESULTS: A total of 10 eligible patients were identified for the ADT and one patient was successful in creating an advance directive. The average age was 16.9 years of age. In 11 of 12 knowledge questions the correct responses improved from pre to post-surveys. Post education responses were 88% correct or higher for all 12 items. Attitudes to questions related to advance care planning showed that there was the same or more agreement to statement in all but 2 scenarios.

CONCLUSION: Education regarding advance directives was successful in improving nursing staff’s knowledge and attitudes of advance directives. Adolescent patients with cardiac disorders and their families showed interest in advance care planning, indicating a need for interventions such as the ADT.

5. Profound Neonatal Anemia Due to a Fetal to Maternal Hemorrhage: A Case Report

1:20 P.M.

Margaret Hogan Smoot, BS

A female infant was born by cesarean section at 36 weeks of gestation after the mother presented with perceived decreased fetal movement, blood-tinged mucous vaginal discharge, and a non-reactive non-stress test. Upon delivery, the infant appeared extremely pale and in mild respiratory distress. A complete blood count upon admission showed profound neonatal anemia, and a Kleihauer-Betke test confirmed fetomaternal hemorrhage as the cause. Transfusions corrected the infant’s hematocrit levels, and she was discharged on day 8 following a normal brain MRI. Fetomaternal hemorrhage is a known cause of neonatal anemia, however, the presentation is nonspecific leading to underdiagnosis which can cause serious complications including infant death. Fetomaternal hemorrhage is a rare and severe phenomenon that requires increased awareness, improved diagnostic testing, and further research.
6. Osteomyelitis Presentation in Pediatrics

1:30 P.M.

Taylor Mowinkle, BSN, RN

The purpose of this clinical case study is to learn more about the pediatric presentation of osteomyelitis, treatment and most recent research on treating the pediatric patients with osteomyelitis effectively. Research showed that the specific patient in this case study could have healed from her infection quicker if the most recent research and guidelines for treating osteomyelitis in the pediatric population were followed.

The implications for practice: Several complications can occur if osteomyelitis in pediatrics is not aggressively treated and treated correctly.

POSTER SESSION ROOM 4  https://creighton.zoom.us/j/99165035095

1. Case report: Neuromuscular Electrical Stimulation for Dysphagia in a Newborn with Hypoxic Ischemic Encephalopathy

12:40 P.M.

Madison Zenk, BS

It is common for children with hypoxic ischemic events at birth to have feeding and swallowing problems that can lead to nutritional deficiencies and aspiration with serious pulmonary consequences. These swallowing problems are often two-fold, involving both a sensory and a motor component. Therefore, both must be addressed in the proper management of these patients. Video fluoroscopy can help identify the specific stage of swallowing affected, and neuromuscular electrical stimulation can target specific nerves and muscle groups contributing to an infant's dysphagia. Treating pharyngeal phase dysphagia by stimulating the digastric and infrahyoid muscles of the anterior throat is arising as a commonly used treatment method. Using NMES to address issues of suck and swallow initiation during the pre-oral and oral phases of swallowing are less thoroughly studied. Due to a facial palsy and poor labial sensation and lingual motor function, our patient received NMES therapy that targeted the facial nerve and lateral face specifically, resulting in significant improvement in efficiency of feeds and highlighting the efficacy of NMES as therapy for oral phase dysphagia.
2. Reducing Surgical Site Infections by Implementing a Pre-Operative Antiseptic Policy

12:50 P.M.

Nerissa Imada

**BACKGROUND:** The pediatric population undergoes surgical intervention daily, putting them at risk for a multitude of complications. Surgical Site Infections (SSIs) are a preventable complication that can be reduced through pre-operative bathing. Policy implementation and nursing education for pre-operative bathing are effective ways to reduce SSIs in the pediatric population.

**PURPOSE:** To reduce SSIs in the pediatric population of an adult and pediatric Midwestern surgical center through the development and implementation of a pre-operative bathing policy amendment.

**DESIGN:** The current Skin Antisepsis Policy was amended using the current evidence-based practice literature to include pre-operative bathing for adult and pediatric patients at a Midwestern surgical center. Education was provided virtually and made available to three departments including pre-operative, pre-admissions, and inpatient nurses. Education efficacy was measured through a pre and post education quiz. Laminated information cards with directions for pre-operative physician preferences were distributed to computers on wheels and desktop computers as a resource for specific pre-operative bathing orders. Compliance with the new policy was evaluated through chart audit to identify the number of surgical patients and if appropriate pre-operative bathing orders were entered.

**FINDINGS:** Pre and post education quiz scores showed overall increased knowledge with average scores increasing from 80% to 93%. There was increase or no change in scores for seven out of eight questions. Chart audits for compliance show that correct orders were more frequently placed post education 87% (n=86) compared to pre-education 74% (n=67).

**IMPLICATIONS FOR PRACTICE:** This quality improvement project shows that nursing knowledge of pre-operative bathing can be improved through education. The long-term outcome for this project will include monitoring surgical site infection frequency following the implementation of the updated policy.

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1. The diagnosis and post-natal management of an umbilical vein thrombosis in a neonate with fetal intra-abdominal umbilical vein varix

1 P.M.

A fetal intra-abdominal umbilical vein varix is a rare dilation of the umbilical vein that may present with complications such as umbilical vein thrombosis. Our case report intends to explore the viability of anticoagulant therapy for the presence of thrombus in the setting of an umbilical vein varix. Design: We present a case report of an umbilical vein varix diagnosed in a 34-year-old gravida 3 para 2 woman, gestational week 34, with subsequent thrombus formation one week later. A 2.5 kg male infant was vaginally delivered at 35 weeks gestation. Consultation with pediatric surgery and cardiology reached a consensus of observation rather than aggressive anticoagulation. Other than mild conjugative bilirubinemia and the thrombus, the male patient was discharged without further complications. Findings: Neonates have unique coagulation and vessel physiology – including a lack of gut flora to produce vitamin K and immature cerebral vasculature in preterm patients – such that they may not respond as well to traditional anticoagulation therapies such as warfarin and heparin. Consensus for observation was reached due to the risk of bleeding outweighing the benefits of thrombus treatment. Implications for Practice: Due to the dearth of medical literature regarding the management of a neonatal thrombus in umbilical vein varices, we recommend clinicians to consider the risk and benefits of starting anticoagulation especially considering the unique physiology of neonates. Additionally, continued perinatal monitoring and observation is likely beneficial when an umbilical vein varix and thrombus are present.
4. Improving ECG Competence and Recognition of Arrhythmias by Nurses on a Pediatric Acute Care Surgical Unit: A Quality Improvement Project

1:10 P.M.

Jourdan Bates, BSN, RN

BACKGROUND: Nurses are expected to be competent in ECG interpretation; however, studies have shown that nurses often lack competency in ECG interpretation, rhythm recognition and intervention. There is a need for interventions to increase ECG competence and arrhythmia recognition among nurses caring for patients at risk of arrhythmias.

SAMPLE/SETTING: This project took place on a 45-bed acute care surgical unit within a 407 bed pediatric hospital. Sample participants were nurses that worked regularly on the pediatric acute care surgical unit.

METHODS: Pre/posttest survey design evaluated with descriptive statistics following distribution of an ECG educational packet, standardization of cardiac rhythm review and ECG component documentation in the electronic medical record (EMR).

RESULTS: There was an increase in arrhythmia recognition when comparing pre/posttest survey data, with the average score improving from 74.6% to 83%, and an increase in self-assessed confidence with cardiac rhythm identification and analysis. ECG documentation was greater on night shift, with 28.2% of included patients having proper ECG component documentation, as compared with 7.9% of patients on dayshift. Nurses with less than 2 years of experience were the most consistent in properly documenting ECG components. Standardization of rhythm review during shift hand off was not successful.

CONCLUSION: Focusing on ECG education, rhythm review and ECG component documentation has been successful in keeping the topic of arrhythmias and ECG monitoring relevant among nurses, and has enabled nurses to quickly identify changes in their patients rhythms, escalate those changes and improve patient outcomes.

5. Lethal Congenital Chylothorax in a Patient with Familial Noonan Syndrome

1:20 P.M.

Eva Schaible, BA; Terence Zach, MD

Noonan Syndrome (NS) is a heterogeneous disorder due to gain-of-function mutations within the RAS-MAPK pathway, leading to developmental abnormalities in multiple body systems. There is a high degree of phenotypic variation between NS patients, both in those with autosomal dominant and de novo mutations, with mutations reported in over 10 genes. The most common characteristics include abnormal facies, cardiac defects, short stature, and developmental delays. Lymphatic dysfunction is another possible complication, with fetal chylothorax being a rare yet serious complication. Lethal congenital chylothorax, causing recurrent fetal pleural effusions, leads to hydrops fetalis, pulmonary hypoplasia, respiratory failure, and death. Congenital Chylothorax (CC) can occur alone or as part of a syndrome, and regardless of etiology, requires intensive therapy as soon as possible to avoid hydrops fetalis and pulmonary hypoplasia. Early diagnosis of NS, CC, and other fetal conditions is important to ensure diagnosis and treatment of all complications, which often requires a multi-disciplinary approach.
1. Meningococcal Vaccination Rates in Community Clinics

12:40 P.M.

Lily Foley, BA; Miranda Prints; Sabrina Morales; Meera Varman, MD

BACKGROUND: Meningococcal disease is a serious and life-threatening illness caused by Neisseria meningitidis, a gram-negative encapsulated diplococcus. Serogroups A, B, C, W, and Y account for the disease in humans, and vaccinations are available and recommended for protection. Race, sex, and socioeconomic class play a key role in the awareness and utilization of the MenB vaccine. While incidence may be low, the sequelae of infection can be severe and fatality remains high. Survivors of meningococcal infection can be left with lifelong disabilities. All ages are at risk; however, incidence is highest in infants less than one year old, older adolescents, and young adults.

METHODS: Patient electronic medical records was used to assess the baseline Men ACWY vaccination rates for adolescents aged 11-18 years old at the following 3 CHI Health Clinics: Lakeside, Immanuel, and Nebraska City and to assess the baseline MenB vaccination rates for adolescents aged 16-23 years old at the same 3 CHI clinics with the addition of University Clinic. Among patients whose vaccination information was gathered, demographics were also assessed. A presentation with baseline data was given at the CHI Primary Care Subcommittee Meeting. Posters and pamphlets were hung at each of the four clinic sites.

RESULTS: Completed MenACWY vaccination rates were highest at age 18 with patients receiving the first dose most frequently at 14 years of age. The average percentage of completed MenB vaccination series for patients aged 16-23 was 9.8% with the highest percentage among 18 year-olds. MenB vaccination compliance according to race showed the highest numbers among Asians (avg. 15.95%) and the lowest numbers among Blacks (avg. 7.8%)

IMPLICATIONS FOR PRACTICE: Upon review of baseline MenACWY and MenB vaccination rates, there is significant need to educate healthcare providers and patients about meningococcal disease and the benefits of vaccination within the CHI community.

2. Perianal Streptococcal Dermatitis Case Study

12:50 P.M.

Jenni Scranton, BSN, RN

A 32 month old male presents with a 3 day history of redness around rectum with pruritis and pain with defacation. Pharyngeal and rectal swab positive for strep. Discussion includes etiology, pathophysiology, epidemiology, presentation, what to look for, diagnostic pearls, differentials, treatment, complications, education, follow up.

3. Implementation of a nurse-led family centered engagement intervention for caregiver of extremely premature infants in the NICU

1 P.M.

Kathleen Walsh, BSN, RN; Emily Nutter, BSN, RN; Michaela Ranallo, BSN, RN

OBJECTIVE: The objective of this feasibility study was to examine the implementation and usefulness of a nurse-led engagement intervention for extremely premature infant (EPI) caregivers.

DESIGN: A prospective one-arm design feasibility study.

SETTING: The study site was conducted at a Level III Newborn Intensive Care Unit in the Midwest.

METHODS: The study consisted of two intervention components. The first component provided handouts for caregivers with anticipatory guidance on developmentally appropriate care for EPI. The second component provided expanded information on the care of EPI.

RESULTS: One caregiver and five NICU staff nurses provided feedback. The feedback survey had a mean score of 4.4 out of 5 pertaining to helpfulness. The areas that were most utilized by the caregiver were: environment, ventilation and lines, nutrition, care and touch times, and ventilation and lines. The caregiver suggested adding content on quick terms and acronyms. Suggestions from the nurses included timing of the education, such as specific topics presented on specific day of life as well as specific content emphasized based on nursing shift.

CONCLUSION: Implementation was feasible and was positively received by NICU nurses and caregivers. We recommend implementing a revised version of this tool based on feedback to improve the knowledge of caregivers of EPI during the weeks after birth. The information should be designated to be given on certain days of life of the patient. The delivery of education should be divided between dayshift and nightshift bedside nurses. The education should be categorized by the gestational age and day of life of the EPI and only given when it is pertinent to the care of the child. A section should be added to include a quick reference guide for the medical jargon used by staff.
4. **Neonatal Listeria Monocytogenes Infection Leads to Intraventricular Hemorrhage and Significant Developmental Delay: A Case Report**

1:10 P.M.

**Kristina Kunes**

Listeria monocytogenes infection is a relatively uncommon phenomenon that predominantly affects pregnant women, neonates, and immunocompromised patients. We report a case of severe early-onset neonatal listeriosis in a full-term infant with significant long-term complications. A male infant delivered at 37 weeks gestation presented limp and apneic with an abnormal neurologic examination. Blood culture from admission grew Listeria monocytogenes and the infant was started on appropriate antibiotic therapy. At approximately 20 hours of age he had a cardiac arrest and was placed on ECMO. He developed intraventricular hemorrhages and follow up revealed significant developmental delay requiring long-term physical and occupational therapy. While Listeria monocytogenes is a known cause of life-threatening neonatal infection, clinical manifestations are variable and non-specific, and mortality remains high despite early antibiotic intervention. Neonatal listeriosis leading to intraventricular hemorrhage and significant developmental delay is an uncommon manifestation of severe disease progression that requires increased awareness and prompt therapeutic intervention.

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5. **Does Education on Post-operative Pain help to Decrease Pain Intensity**

1:20 P.M.

**Sarah McCarthy, BSN, RN**

**PURPOSE:** Increase parents’ knowledge on different aspects of post-operative pain following cardiac surgery including expectations, recognition, impact, parental role, and management of pain.

**BACKGROUND:** Post-operative pain continues to be a significant problem for pediatric patients following cardiac surgery. Patient and parent knowledge deficits regarding treatment of pain and pain management options have been identified as a barrier to adequate pain management. Education is imperative to breaking down these barriers of pain management.

**SAMPLE/SETTING:** Study participants include parent-patient dyads that meet the requirements based on the defined inclusion and exclusion criteria. The study takes place on a 23-bed cardiac medical-surgical unit in a mid-western, free-standing children’s hospital with a pediatric cardiac surgery program.

**METHODS:** A Quality Improvement study that utilizes a pre-post intervention design to evaluate the effectiveness of post-operative pain education on parental knowledge and patient pain intensity. Qualitative data is being collected and analyzed

**RESULTS:** When comparing pre- and post-intervention surveys, the average scores for parental knowledge increased when asked about experiencing pain after surgery, the ability to recognize signs of pain in their child, medications and non-pharmacologic options used to treat pain, the impact of pain on recovery, the parents’ role in pain management, and their child being pain-free upon discharge. The average scores for parental knowledge were unchanged when asked about the impact of pain on discharge and parents’ comfort in asking the nurse for pain medications.

**CONCLUSION:** Overall, parents’ knowledge and understanding of post-operative pain expectations and management increased for the majority of topics, while patients’ pain intensity decreased. Future implications for this study and intervention would be to survey participants and implement the intervention prior to surgery to better analyze the impact on patients’ pain.