To our residents, congratulations on your research!

To our faculty and staff, thank you for your continued guidance and support!

Save the date:

2026 Research Day

June 1, 2026

THE DEPARTMENT OF OBSTETRICS AND GYNECOLOGY PRESENTS:

Residency Research Day

KEYNOTE SPEAKER

Sandra E Brooks, MD

Chief Executive Officer of the
American College of
Obstetricians and Gynecologists

Monday, June 2, 2025

Physician's Conference Center

7:30 AM—1:00 PM

Knowledge and Practices Surrounding Peripartum Anemia and Postpartum Hemorrhage Amongst Patients and Providers: A Survey Based Study

Authors: Alexa Wolfe MD, Rebecca Chornock MD, Homa Ahmadzia MD,

Objectives: To evaluate current practice patterns and provider/patient perspectives on the prevention and management of postpartum hemorrhage and peripartum anemia.

Methods: Two separate cross-sectional, anonymous surveys will be distributed amongst obstetrics providers and patients. The survey will be voluntary and distributed via social media. Social media groups targeting providers and OB patients will be leveraged to expand the reach of the survey. Survey answers will be a combination of multiple-choice selections and written response format.
The provider survey will be analyzed to evaluate the most common screening and diagnostic approaches for anemia in pregnancy. Provider thresholds for iron deficiency anemia treatment in pregnancy will also be assessed. In the setting of postpartum hemorrhage, the frequency and timing of use of TXA and JADA among providers will be explored. The patient survey will assess gaps in patient knowledge regarding the signs and symptoms of anemia. The survey will also evaluate patient knowledge of the risk factors for postpartum hemorrhage. Free response questions will allow patients to expand on their personal experiences or concerns regarding postpartum hemorrhage.

Results/Conclusions:
Anonymous data from both surveys will be analyzed separately. Baseline characteristics of the patients and providers will be summarized. Variations in practice patterns among providers for management of peripartum anemia and the use of more recent therapies such as TXA and JADA device highlight the need to conduct additional studies and to update guidelines to optimize care. Patient gaps in knowledge can be used for educational material that better informs pregnant women for delivery.

Title: Neonatal and Maternal Outcomes of Trial of Labor after Cesarean Delivery in Patients Undergoing Induction of Labor versus Expectant Management

Authors: Zoe Silsby, MD, Samantha Buery, MD, Antonio Saad, MD, MBA

Objective: To identify for risk factors for uterine rupture in patients attempting trial of labor after cesarean (TOLAC) as well as to evaluate rates of successful vaginal birth after cesarean (VBAC) in patients who underwent induction of labor versus those who underwent expectant management.

Methods: A retrospective chart review of up to 3000 records from 2010 to 2025 will be reviewed in Inova's EPIC EMR. Records will include those of all patients admitted for delivery in the setting of a prior cesarean delivery. Maternal and neonatal outcomes as well as details about labor course will be collected. Statistical analysis including descriptive statistics and multivariate analysis will be undertaken. Subgroup analysis will further evaluate TOLAC candidates' outcomes.

Results: This project is currently in the data gathering stage. The primary endpoint that will be reported is maternal and fetal outcomes in the setting of TOLAC, rates of uterine rupture, and cesarean rates. Each outcome will be analyzed in the expectant management and induction of labor group.

Conclusions: It is our hope that our findings will assist providers in better counseling patients regarding their options and the risks and benefits of attempting a vaginal birth after previous cesarean delivery.

Agenda for Research Day 2025

Introduction:

G. Larry Maxwell, MD: 7:30 AM—7:35 AM

Keynote Speaker:

Sandra E Brooks, MD: 7:35 AM—8:30 AM

"ACOG UPDATE: Focused on our mission"

Resident Research Presentations:

8:40 AM—9:47 AM

9:47 AM—10:10 AM **Break**

10:10 AM—12:22 PM

Closing Remarks:

12:25 PM—12:30 PM

Lunch:

12:30 PM—1:00 PM

G. Larry Maxwell, MD

President

Samantha Buery-Joyner, MD

Residency Program Director

Homa Ahmadzia, MD

Director of Resident Research / MFM

Rahel Ghenbot, MD, FACOG

Associate Director of Resident Research / Urogynecology

Program Schedule

Research Presentations

1	**Sofia Girald Berlingeri, MD** 8:40-8:47am	Comparison of Two Salpingectomy Techniques for Sterilization at the Time of Cesarean Delivery.
2	**Jamie Geraghty, MD** 8:50-8:57am	Obstetrics Resident Intrapartum Learning (OBRIL) Initiative.
3	**Catherine Yang, MD** 9:00-09:07am	Timing of postpartum hemorrhage interventions and impact on patient outcomes.
4	**Mark Kassab, DO** 9:10-9:17am	Uterine Artery Doppler Indices For Early Prediction And Multidisciplinary Management Of Placenta Accreta Spectrum: Assessing Diagnostic Accuracy And Maternal-Fetal Outcomes (Daisy-Pas) .
5	**Ali Ayan, MD** 9:20-9:27am	Evaluating Enhanced Recovery Methods in Pediatric Patients Undergoing Minimally Invasive Gynecologic Surgery.
6	**Brianna Roberts Canales, MD** 9:30-9:37am	Erythromycin versus Azithromycin for Preterm Prelabor Rupture of Membranes: A Cluster Randomized Comparative Effectiveness Trial.
7	**Mekenzie Wilson, MD** 9:40-9:47am	Management of postoperative pain after cesarean delivery using non-pharmacological analgesic device, NeuroCuple™ .
	9:47-10:10am	***Break***
8	**Madison Collazo, MD** * 10:10-10:25am	Outcomes of Immediate Postpartum Long-Acting Reversible Contraception.
9	**Mariana Madrazo, MD*** 10:25-10:40am	Novel Curriculum to Teach Obstetric History Taking Using Three Methods of Interpreter Services.
10	**Brittany Gilmore, MD*** 10:40-10:55am	Integrated Analysis of Neuroendocrine Cervical Carcinoma and Comparison with Other Cervical Cancer Subtypes.

Brush for Baby – A Prenatal Oral Health Quality Improvement Initiative

Authors: Meghan Nunnally MD, Allison Schneider MD, Jessica Schechtman MD, Heather Wolfe MD

Objective: Studies have demonstrated an association between maternal periodontal disease and adverse pregnancy outcomes, including preterm birth and low birth weight [1]. While individual oral hygiene practices may vary, hormonal changes and environmental stressors place pregnant women at an increased risk of developing periodontal disease.

Our quality improvement project aims to improve the percentage of patients who report having one dental visit by the third trimester and the percentage of patients who report brushing their teeth twice daily by 50% by January 2026. In addition to improving patient oral health practices, we seek to improve the rate and quality of provider oral health counseling in the prenatal period.

Methods: Our quality improvement design will follow a pre-post, quasi-experimental time series model using comparative groups. We will have 3 interventions and will use the Plan-Do-Study-Act (PDSA) framework to complete our project. Intervention assignments will be based on the location in which the patient receives prenatal care.

Results: We will use run charts to analyze our data. Our primary outcome will be an improvement in patient oral health practices. Other major outcomes will include an improvement in both the rate and quality of provider oral health counseling in the prenatal period.

Conclusion: Poor oral health in pregnancy is associated with numerous adverse outcomes to include preterm birth, low birth weight, and poor dental hygiene in children. Improving patient oral health practices and the quality/rate of oral health counseling done by ICCW providers will not only work towards decreasing this care gap but may have the potential to reduce these aforementioned adverse outcomes in our patient population.

Decreasing the Uterine Rupture Rate in TOLAC Patients

Authors: Madison Avva, MD, Schechtman, Jessica DO

Objective: Based on limited gap analysis data, the uterine rupture rate in patients undergoing a trial of labor after cesarean section (TOLAC) at Inova Fairfax Hospital (IFH) is 5-10% compared to the literature rate of 1%. Our SMART aim is to decrease the uterine rupture rate in TOLAC patients at IFH by 50% in one year's time.

Methods: The baseline rate of uterine ruptures in TOLAC patients will be gathered from a retrospective chart review. Pareto charts and/or the SAFER matrix will be used to analyze contributing factors to determine trends and focus interventions, which will be implemented with the PDSA framework. We are planning a pragmatic quasi-experimental pre-post time series . Evaluations of interventions will be both normative and formative in nature. Proposed interventions may include changes to color coding of TOLAC patients on the grease board, updating policies around candidates for TOLAC, labor management protocols such as Pitocin limits, and education for nurses and providers about managing a TOLAC patient on the labor floor.

Results: We are planning to use a combination of statistical control charts and Welch's t-tests to compare pre and post intervention uterine rupture rates. Control charts will be used to have a visual representation of the uterine rupture rate over time to assess for common cause verses special cause variation .

Conclusion: Analyzing the factors affecting patients undergoing TOLAC will allow us to further understand what factors may be contributing to our high uterine rupture rate. Ultimately, we will use the data to create standardized protocols, that are backed by evidence-based medicine, to improve our maternal outcomes and bring our uterine rupture rate closer to the published literature rate.

Research Presentations

11	**Elizabeth Levit, MD*** 10:55-11:10am	Impact of Early Zygosity Determination via NIPT on Maternal and Neonatal Outcomes in Twin Pregnancies.
12	**Pouya Javadian, MD** 11:10-11:25am	Survival in Stage I-IV Cervical Squamous Cell Carcinoma, Adenocarcinoma or Adenosquamous Carcinoma.
13	**Kendall Alsup, MD** 11:25-11:32am	Point-Of-Care Hemoglobin Testing in Pregnant Patients – A Prospective Observational Study.
14	**Margo Huffman, MD** 11:35-11:42am	Opportunities for Initiation of Prenatal Care Among Pregnant Patients with Opioid Use Disorder Within an Integrated Health System in Virginia.
15	**Madison Avva, MD** 11:45-11:52am	Decreasing the Uterine Rupture Rate in TOLAC Patients.
16	**Meghan Nunnally, MD** 11:55-12:02am	Brush for Baby – A Prenatal Oral Health Quality Improvement Initiative .
17	**Zoe Silsby, MD** 12:05-12:12pm	Neonatal and Maternal Outcomes of Trial of Labor after Cesarean Delivery in Patients Undergoing Induction of Labor versus Expectant Management.
18	**Alexa Wolfe, MD** 12:15-12:22pm	Knowledge and Practices Surrounding Peripartum Anemia and Postpartum Hemorrhage Amongst Patients and Providers: A Survey Based Study.
	12:25-12:30pm	Concluding Remarks / Lunch

* Presentations with an (*) will be given more time and will be judged.

Comparison of Two Salpingectomy Techniques for Sterilization at the Time of Cesarean Delivery

Authors: Sofia Girald-Berlingeri, MD; Bianca Nguyen, MD; and Jean W. Thermolice, MD

Objective: Complete salpingectomy during cesarean delivery for permanent sterilization is being increasingly adopted worldwide. Data show that bilateral salpingectomy is a safe and cost-effective option for patients desiring permanent sterilization. The growing preference for complete salpingectomy over tubal ligation within the obstetric community is attributed to its additional non-contraceptive benefits, including a reduced risk of ovarian cancer. However, a standard technique for performing salpingectomy during cesarean birth has not yet been defined in current practice.

This study compares short-term outcomes and cost differences between two methods: salpingectomy using a hand-held bipolar energy device and salpingectomy using traditional suture ligation. We hypothesize that using a bipolar energy instrument will not significantly improve clinical outcomes.

Methods: We conducted a single-site retrospective cohort study at Inova Fairfax Hospital from 2017 to 2023. Patients included were those who underwent complete salpingectomy for permanent sterilization performed by providers on the Inova Obstetrics and Gynecology resident service. Inclusion criteria were gestational age ≥24 weeks, age ≥21 years, and documented Medicaid sterilization consent if applicable. Exclusion criteria included vaginal delivery, use of other sterilization methods such as bilateral tubal ligation, partial salpingectomy, or fimbriectomy, prior adnexal surgery, placenta accreta spectrum, or a bleeding disorder.

The primary outcome is the change in hemoglobin levels on postoperative day one for patients undergoing bilateral salpingectomy using either a bipolar energy instrument or traditional suture ligation during scheduled or unscheduled cesarean deliveries. Secondary outcomes included intraoperative and postoperative complications. The Kruskal-Wallis test will be used for surgical outcome comparisons. Logistic multinomial regression will be employed to assess the odds between the two groups and in comparison, with other variables.

Results: From January 1, 2017, to December 31, 2023, we identified 4,119 cesarean deliveries with concomitant salpingectomy. After excluding 789 duplicate cases and 2,227 non-clinic patients, 1,103 clinic patients remained. Of these clinic cases, 781 were excluded based on the inclusion/exclusion criteria of this investigation. A total of 322 salpingectomy cases were analyzed: 212 using Ligasure and 110 using traditional suture ligation. Preliminary results showed an average hemoglobin drop of 2.1 g/dL in the Ligasure group and 1.7 g/dL in the suture group. Final statistical analysis is ongoing.

Conclusion: Pending

Opportunities for Initiation of Prenatal Care Among Pregnant Patients with Opioid Use Disorder Within an Integrated Health System in Virginia

Authors: Margo Huffman, MD and Zeina Saliba, MD

Objective: This project aims to quantify the number of contacts made within the health system during pregnancy among patients with opioid use disorder and inadequate prenatal care who deliver within the system. It also aims to evaluate the types of these encounters by classifying them as inpatient versus outpatient versus emergency department and by defining the subspecialty of the encounter if applicable.

Methods: This study will be completed using a retrospective cross-sectional design. Individuals who have delivered within the health system and who have a diagnosis of opioid use disorder will be identified using the SlicerDicer reporting tool in the Epic electronic medical record system. Inadequate prenatal care is defined as prenatal care beginning after 20 weeks gestational age or receiving less than 50% of expected visits based on the schedule of PNC visits recommended by ACOG. The frequency of inadequate prenatal care among patients with OUD who deliver within the health system will be measured. Among those individuals, the number of encounters within the health system outside of prenatal care during pregnancy will also be measured. Finally, these encounters will be classified by type.

Results/Conclusions: The goal of this study is to contribute to the existing literature that notes a high prevalence of inadequate prenatal care among pregnant patients with OUD by investigating whether there are significant opportunities to integrate individuals with OUD into prenatal care by effectively utilizing other contacts with these individuals within the health system during pregnancy.

Point-Of-Care Hemoglobin Testing in Pregnant Patients – A Prospective Observational Study

Authors: Kendall Alsup MD, Janeva Nicole Dimen, Mohammad Sunoqrot MD, Mona Keivan MD, Jaclyn Marie Phillips MD, Homa Khorrami Ahmadzia MD, MPH

Objective: This project is a prospective observational study aimed to assess and validate the use of point of-care hemoglobin testing in an ambulatory obstetric population using three devices. The study aims to: 1) Determining the agreement and describing the correlation between point-of-care hemoglobin values and the reference laboratory hemoglobin, 2) Evaluating the sensitivity, specificity, positive predictive value, and negative predictive value for each point-of-care analyzer to detect prenatal anemia 3) conducting subgroup analysis by gestational age categories and presence or absence of anemia.

Methods: Correlation of hemoglobin testing will be determined using the Masimo Root Radical-7®, Anemocheck mobile application, and the HemoCue® Hb 201 System Analyzer compared to the gold standard: venipuncture. Outcomes will include need for allogeneic transfusion, post-delivery hemoglobin, change in pre- and post-delivery hemoglobin, length of stay, need for ICU care, readmission to ER or postpartum unit, and frequency of symptomatic anemia.

Resutls: A total of *** patients were included in the study. The average difference between measured hemoglobin and measurements on Masimo Root Radical-7®, Anemocheck mobile application, and HemoCue® were ***, ***, and ***, respectively.

Conclusion: We hypothesize that these POC testing devices are reliable and feasible alternatives to phlebotomy for routine anemia screening in the ambulatory pregnant population. Improving identification of anemic women will ultimately facilitate diagnosis and management of iron deficiency anemia.

Obstetrics Resident Intrapartum Learning (OBRIL) Initiative

Authors: Jamie Geraghty MD; Anne Tilghman, CNM; Ellen Murrin, DO; Sebastian Nasrallah, MD; Samantha Buery, MD

Objective: To assess the feasibility of a structured curriculum of mini lectures for OB/GYN residents on L&D. Secondary objectives are to assess residents' perception of the curriculum and resident confidence in topics pre- and post-intervention. Teaching on a busy labor and delivery service faces many challenges, requiring balancing learning opportunities with clinical obligations that often need prompt intervention. In a survey regarding education and curriculum for OB/GYN residents, several roadblocks to successful teaching were identified. Most cited were low resident participation, lack of sufficient didactic time, lack of curriculum structure, lack of fully protected education time and curriculum turnover.[1] The implementation of a brief 15-minute teaching topic (AuduBon-Bons) has previously been successfully implemented in a busy ambulatory OB/GYN clinic for residents at New York-Presbyterian Hospital/Columbia University Irving Medical Center. These "bite-sized" structured teaching moments were proven effective and improved resident confidence and comfort in the chosen topics.[2]

Methods: We created a novel curriculum, comprising brief PowerPoint lectures delivered on the L&D rotation each shift. Prior to implementing the curriculum, a baseline needs assessment was distributed to assess how often formal didactic teaching occurred. Residents then completed surveys before and after receiving the teaching material. Preceptors completed surveys after presenting the teaching material. Outcomes were residents' pre- and post-session comfort and confidence in their knowledge of the material presented, as well as perceived utility of the lecture. The study was conducted at five residency programs across the country.

Hypothesis: We hypothesize that the implementation of a structured curriculum of mini lectures will increase formal didactic teaching during L&D shifts and improve resident confidence in topics presented post intervention.

Results/Conclusion: Study has just completed. Currently undergoing data analysis.

Timing of postpartum hemorrhage interventions and impact on patient outcomes

Authors: Catherine Yang, MD, Janeva Dimen, BS, Mohammad Sunoqrot, MD, Homa Ahmadzia, MD, MPH

Objective: To characterize the pattern and timing of pharmacotherapy and surgical interventions used in patients who experienced postpartum hemorrhage (PPH) and the impact of intervention timing on patient outcomes.

Methods: This retrospective cohort study included patients who delivered within a large hospital system between January 1, 2019, to December 31, 2019. Data on patient demographics, delivery characteristics, postpartum hemorrhage interventions, and patient outcomes were extracted. PPH intervention timing, determined based on available documentation, was compared across patient subgroups and associated with patient outcomes. Postpartum hemorrhage was defined as a blood loss of 1000mL or more within 24 hours of delivery. PPH interventions included TXA, uterotonics, uterine devices, and surgical interventions. Patient outcomes included the need for blood products, surgical intervention, or ICU admission, laboratory values, and time to hospital discharge. Descriptive statistics were reported as mean and standard deviation or frequency and percentages. Unadjusted analyses were performed using Student's T test when appropriate.

Survival in Stage I-IV Cervical Squamous Cell Carcinoma, Adenocarcinoma or Adenosquamous Carcinoma

Authors: Pouya Javadian MD

Objective: To assess differences in overall survival between Hispanic Black and non- Hispanic Black patients diagnosed with cervical squamous cell carcinoma, adenocarcinoma, or adenosquamous carcinoma.

Methods: Using the National Cancer Database, we studied Hispanic Black and non-Hispanic Black patients diagnosed with 2018 FIGO stage I-IV cervical cancer from 2004 to 2020. Clinical characteristics were compared with Wilcoxon rank-sum and Chi-square tests. Survival was evaluated using Kaplan-Meier and log-rank tests. Cox regression models, adjusted for age, comorbidities, treatment, and other factors, estimated adjusted hazard ratios (AHR). Propensity score matching (PSM) balanced confounding variables.

Results: Among 19,053 patients (272 Hispanic Black, 18,781 non-Hispanic Black), Hispanic Black patients were younger at diagnosis (median 47 vs. 53 years, p<0.0001), more often had adenocarcinoma, and showed better clinical profiles (lower comorbidity scores, p=0.011; higher lymphovascular space invasion, p=0.004). Despite residing in higher-income areas (17.3% vs. 12.9%, p=0.008), they had better 5-year survival (HR: 0.68, 95% CI: 0.54–0.84), persisting after PSM (AHR: 0.74, 95% CI: 0.55–0.99). Subgroup analysis showed survival benefits in Hispanic Black patients aged ≥50 (HR: 0.55, 95% CI: 0.40–0.74), without comorbidities (HR: 0.62, 95% CI: 0.48–0.80), and with stage II-IV disease (HR: 0.66, 95% CI: 0.52–0.85). Survival advantages were notable in squamous cell carcinoma (HR: 0.71, 95% CI: 0.56–0.90) and adenocarcinoma (HR: 0.40, 95% CI: 0.21–0.78).

Conclusion: Hispanic Black patients with cervical cancer showed a 26% better survival compared to non-Hispanic Black patients. Further study is needed to identify factors driving this difference.

Impact of Early Zygosity Determination via NIPT on Maternal and Neonatal Outcomes in Twin Pregnancies

Authors: Elizabeth Levit-Smith MD, Ellen Murrin DO, Havens Howell, Alyssa Savelli MD, Peyton Kalan, Emma Cherayil, Tetsuya Kawakita MD, George Saad MD, Antonio Saad MD

Objective: Twin pregnancies have higher complication rates than singletons. Monochorionic (MC) twins have significant morbidity compared with dichorionic twins (DC) due to their risk for unequal placental sharing. Non-invasive prenatal testing (NIPT) can now determine zygosity, which often informs chronicity. This study examines pregnancy outcomes in monozygous (MZ) and dizygous (DZ) pregnancies and the correlation between zygosity and chronicity.

Methods: A retrospective cohort study of twin pregnancies with NIPT zygosity results at two tertiary care centers from January 2020 to 2024 was conducted. Demographics, pregnancy complications, NIPT results, fetal fractions, placental pathology, and delivery outcomes were collected. DZ twins were classified as DC while chronicity within the MZ group was determined by placental pathology. Statistical tests such as Chi-square, Fisher exact, Wilcoxon rank sum test, or logistical regression were used as appropriate.

Results: In 177 twin pregnancies with NIPT zygosity testing, 66.3% were DZ and 33.7% MZ. Baseline characteristics did not differ among groups except for race and gestational age. After adjusting for these variables, a subgroup analysis was performed to compare MZ DC and MZ MC to DC subtypes. Within the MZ group, 8 (17%) were DC and 38 (82.6%) were MC. MZ MC twins were significantly more likely to experience neonatal morbidities such as hypoglycemia and hyperbilirubinemia requiring phototherapy, NICU admission, and additional respiratory support. The MZ DC group was not more likely to experience these outcomes. Composite neonatal morbidity was also more common in the MZ MC group (aOR 6.01 [1.89-10.12], p=0.002). Maternal outcomes did not differ between groups.

Conclusion: The early differentiation of chronicity and zygosity allows for the implementation of tailored care strategies to enhance outcomes. Our study shows that MZ MC twins have significantly higher neonatal morbidity, thus underscoring the necessity for vigilant monitoring and intervention.

Uterine Artery Doppler Indices For Early Prediction And Multidisciplinary Management Of Placenta Accreta Spectrum: Assessing Diagnostic Accuracy And Maternal-Fetal Outcomes (Daisy-Pas)

Author: Mark Kassab DO, Antonio Saad MD, Luis Gomez MD, Ellen Murrin MD, Sebastian Nasrallah MD

Objective: Placenta Accreta Spectrum (PAS) disorders have seen a significant increase in prevalence over the past few decades, with rates now as high as 1 in 533 deliveries. This increase correlates with rising cesarean section rates and is influenced by risk factors such as prior uterine scarring, advanced maternal age, and, potentially, hypertension. Despite advancements in imaging modalities like ultrasound and MRI, PAS remains undiagnosed until delivery in a significant proportion of cases, leading to higher rates of maternal morbidity, including severe hemorrhage and prolonged hospital stays. In low-resource settings, the lack of timely access to advanced imaging increases the risk of undiagnosed PAS.

Doppler studies of the uterine artery, specifically pulsatility index (PI) and resistance index (RI), have been explored as potential predictors of adverse outcomes, particularly in conditions like preeclampsia. Emerging evidence suggests that in cases of placenta previa and PAS, PI values may be lower compared to normal placentation. This is thought to result from abnormally deep invasion of extravillous trophoblasts into the maternal spiral arteries, which decreases vascular resistance. Despite this hypothesis, there is limited research on the predictive value of uterine artery Doppler studies for PAS in early pregnancy.

Our study aims to evaluate the association between uterine artery Doppler indices in the late first to early second trimester and the incidence of PAS later in pregnancy. This will be a retrospective study. We hypothesize that lower PI values in early pregnancy will correlate with the development of PAS. This study will also assess the effectiveness of the multidisciplinary Maternal-Fetal Medicine and Gynecologic Oncology model at Inova Fairfax Hospital in managing PAS and its impact on maternal and fetal outcomes. Identification of a low-cost, non-invasive screening tool such as uterine artery Doppler could improve early detection and management of PAS, particularly in low-resource settings.

Evaluating Enhanced Recovery Methods in Pediatric Patients Undergoing Minimally Invasive Gynecologic Surgery

Authors: Ayan Ali, MD; Mariana Moncada Madrazo, MD; Ambareen Jan, MD; Rachel Casey, MD

Objective: Enhanced Recovery After Surgery (ERAS) is an approach to perioperative care that has been implemented in countless different surgical specialties and patient populations. It prioritizes a multidisciplinary and multimodal plan to improve patient outcomes post-operatively, reduce hospital length of stay, and in turn reduce healthcare costs. Although ERAS has become a mainstay in perioperative care for gynecologic surgery and pediatric surgery, there is little data on implementation of ERAS in pediatric patients undergoing gynecologic surgery, particularly minimally invasive gynecologic surgery (MIGS). This study aims to evaluate perioperative measures through a nationwide survey of The North American Society for Pediatric and Adolescent Gynecology (NASPAG) Fellow Research Consortium. This is in hopes of developing a more streamlined and consistent ERAS protocol in pediatric patients who receive minimally invasive gynecologic care in the future.

Methods: A nationwide anonymous online questionnaire will be circulated through the NASPAG Fellow Research Consortium, a forum for research within the field of pediatric and adolescent gynecology. The survey will include questions regarding perioperative pain management, diet, and activity/ambulation. The survey will be circulated online with a response rate goal of 70% or higher.

Results: N/A

Conclusion: N/A

Integrated Analysis of Neuroendocrine Cervical Carcinoma and Comparison with Other Cervical Cancer Subtypes.

Authors: Brittany Gilmore MD, Chunqiao Tian PhD, Pouya Javadian MD, Bianca Nguyen MD, Dominique Zarrella BS, Paulette Mhawech-Fauceglia MD, S. Ahmed Hussain MD, Zachary A. Kopelman DO, Christopher M. Tarney MD, Leslie M. Randall MD, Abigail Downey MD, Erica R. Hope MD, John K. Chan MD, Daniel S. Kapp PhD MD, Chad A. Hamilton MD, Charles A. Leath III MD, Doris M. Benbrook PhD, Christina R. Washington MD, Kathleen N. Moore MD, Nicholas W. Bateman PhD, Thomas P. Conrads PhD, G. Larry Maxwell MD, Kathleen M. Darcy PhD

Objectives: Neuroendocrine cervical carcinoma (NECC) is a rare and highly aggressive subtype accounting for 2% of cervical carcinoma diagnoses with a 5-year survival rate of 36% following treatment with chemotherapy (CT), external beam radiotherapy (EBRT) and/or intracavitary brachytherapy (VBT). This study examined disease presentation, prognostic factors and treatment-options in NECC and compared survival outcomes and genomic mutations across cervical cancer subtypes.

Methods: Patients diagnosed with Stage I-IV NECC defined using International Classification of Diseases for Oncology, Third Edition code 8041 for small cell, 8013 for large cell or 8246 for NOS subtypes from 2004-2020 in the National Cancer Database (NCDB) were studied and compared with patients with stage I-IV cervical squamous cell carcinoma (SCC), adenocarcinoma (AC) or adenosquamous carcinoma (ACS). Survival was evaluated using log-rank test and multivariate Cox modeling. Pathogenic mutations were evaluated in the AACR Genomics Evidence Neoplasia Information Exchange (GENIE) v16.0 between small cell NECC, NECC NOS, SCC and AC using Fisher's exact test.

Results: There were 2,053 patients with NECC, representing 1.5% of all cervical cancer cases in the NCDB. Median survival for this cohort was 19.4 months with an overall 5-year survival rate of 30%. The best survival was in NECC patients treated with CT+EBRT+VBT compared with CT alone or CT+EBRT. There was a worse prognosis for NECC compared with SCC, AC or ASC, regardless of stage. This study also examined distinctions and similarities in some of the frequent pathogenic mutations in tumor samples, including mutation enrichment in TP53, RB1, EP300, and TERT in small cell NECC, ARID1A, KEAP1 and PALB2 in NECC NOS, PIK3CA and KMT2D in SCC, and KRAS and ERBB2 in AC, and similarities in BRCA2 and PTEN mutations.

Conclusions: NECC is a rare, highly aggressive cervical cancer subtype. Pathogenic mutations in NECC subtypes compared with SCC or AC may provide therapeutic targeting opportunities for these cancers.

Novel Curriculum to Teach Obstetric History Taking Using Three Methods of Interpreter Services

Authors: Mariana Moncada-Madrazo MD, Misky Sharif MD, Heather Wolfe MD

Objective: Develop a novel curriculum combining didactics and simulation to teach effective interpreter use to improve patient care and clinical outcomes.

Methods: This was an experimental class trial that consisted of a lecture on interpreter use followed by a simulation of obstetric history-taking using video, in-person, and telephone interpreters and a debrief session. Medical students assigned to the Ob/Gyn and anesthesia rotation between Jan-Oct 2024 were included in our study. Students were divided into 2 groups according to the rotation schedule: those who started the rotation in Ob/Gyn attended the curriculum (C) and those who began on anesthesia did not (NC). Students completed both a pre- and post-survey. Data was analyzed utilizing Mann U Whitney for numeric variables, and qualitative data was collected.

Results: 37 students from the C group and 10 students from the NC group completed the surveys. There was a significant difference in confidence in taking an obstetric history, using an interpreter to take an obstetric history, and locating, accessing, and using interpreter services after intervention and rotation p value (<0.01). There was also a significant difference without the intervention p value (<0.05). Overall sentiment was positive with “practice” being the most frequent word students used to describe their experience.

Conclusions: A combination of a didactic and simulation-based curriculum was associated with increased confidence and offered students an opportunity to practice before diving into the clinical setting. Clinical experience itself also contributed to a positive change even for students who did not have the intervention.

Erythromycin versus Azithromycin for Preterm Prelabor Rupture of Membranes: A Cluster Randomized Comparative Effectiveness Trial

Author: Brianna Roberts Canales MD, Antonio Saad MD

Objective: Preterm premature rupture of membranes (PPROM), or rupture of membranes less than 37 weeks gestational age, is a significant contributor to the high preterm birth rate in the United States (Goldenberg). PPROM complicates about 2-3% of pregnancies. In pregnancies less than 34 weeks gestational age, if no indication for immediate delivery, it is recommended to manage these pregnancies expectantly to reduce gestational-age related morbidity in pregnancies less than 34 weeks. Prophylactic antibiotics are a crucial component of expectant management. The goal of prophylactic antibiotics is to prevent prematurity-related morbidity and reduce the risk of maternal and neonatal infections. There is no agreed upon optimal prophylactic antibiotic regimen. The American College of Obstetrics and Gynecology (ACOG) suggests a 7-day course of antibiotics, which includes IV Ampicillin and IV Erythromycin for 2 days followed by an oral regimen of Amoxicillin and Erythromycin for 5 days. Azithromycin has been used as a substitute for Erythromycin in some institutions. This is due to the national shortages of erythromycin, ease of administration, better side effect profile, and decreased cost of Azithromycin regimen as compared with erythromycin. Previous observational studies have shown no difference in time from rupture of membranes to delivery (latency period), incidence of chorioamnionitis, or neonatal outcomes when comparing prophylactic antibiotic regimens with Azithromycin versus Erythromycin. To examine the difference in outcomes between the two regimens, we propose a single-site, cluster-randomized controlled trial at our tertiary center, Inova Fairfax Medical Campus. Our secondary goal is to determine if there are differences in outcomes by race in the various antibiotic regimens, as there has been a notable variation in the pharmacokinetics of macrolide antibiotics among different racial and ethnic groups.

Methods: Participants in this trial are randomized to one of two arms who receive the standard Penicillin regimen in addition either Azithromycin or Erythromycin regimens), based on the month they are admitted to the hospital. The primary outcome would be the difference in time from PPROM to delivery in days between the two regimens.

Secondary outcomes include maternal complications like chorioamnionitis, abruption, fetal growth restriction, total blood loss at delivery, rates of postpartum hemorrhage and transfusion, postpartum endometritis, and neonatal outcomes like birth weight, APGAR scores, sepsis, respiratory distress syndrome, and necrotizing enterocolitis.

Management of postoperative pain after cesarean delivery using non-pharmacological analgesic device, NeuroCuple™

Authors: Mekenzie L. Wilson, M.D; Ellen M. Murrin M.D., Antonio F. Saad, M.D.

Background: Cesarean delivery, constituting about one-third of all deliveries in the United States, often leads to significant postoperative pain and extensive opioid use. NIH data suggests a high incidence of opioid over-prescription post-delivery, with notable risks of misuse and subsequent chronic use among new mothers. Furthermore, opioid consumption during breastfeeding poses potential risks to the infant, including central nervous system depression. Advances in pain treatment have resulted in devices such as the NeuroCuple™, a patented nanocapacitor-based patch that alters the local electromagnetic field where applied, reducing pain transmission in peripheral nerve endings and providing pain relief.

Objectives: This study aims to evaluate the efficacy of the NeuroCupleTM device in reducing opioid use and managing postoperative pain in women undergoing cesarean delivery.

Methods: This single-center, open-label, 2-arm, randomized prospective study will include females undergoing cesarean delivery. Participants will be randomized following surgery to either the active device or standard of care. The primary outcome will be total opioid intake in morphine milligram equivalents on postoperative day 4 or the day of discharge if earlier. Secondary outcomes include pain levels using the Pain Numeric Rating Scale immediately post-cesarean and daily up to postoperative day 4, as well as opioid consumption during the same period. Pill count and quality of recovery surveys will be conducted between postoperative days 7-10, and again at 30 days post-cesarean. It is hypothesized that patients using the NeuroCupleTM device will have significantly reduced opioid requirements and lower pain scores compared to those utilizing traditional pain management methods.

Results and Conclusions: Awaiting IRB approval. Anticipated start date June 2025.

Outcomes of Immediate Postpartum Long-Acting Reversible Contraception

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Background/Objective: In the first year postpartum, approximately 70% of pregnancies are unintended. Reliable contraception is integral to preventing unplanned pregnancies and reducing risks associated with short interval pregnancies. Long-Acting Reversible Contraception (LARC) methods, including intrauterine devices (IUDs) and subdermal implants, are over 99% effective at preventing pregnancy. Many women intend to use a LARC for postpartum contraception, however a significant portion fail to obtain this method due to various barriers. Immediate postpartum LARCs were made available at Inova Fairfax Hospital in July 2023 as part of a quality improvement initiative. The purpose of this study is to examine the outcomes of the immediate postpartum LARCs placed in the first 7 months of this initiative in order to understand its impact.

Methods: A retrospective chart review will be performed to analyze outcomes of immediate postpartum LARCs placed at Inova Fairfax Hospital between July 1, 2023 and February 29, 2024. Approximately 350 patients will be included. The primary outcome will be continuation rates of each inserted IUD and implant at 6- and 12-months postpartum. Secondary outcomes will include IUD expulsion rate and reasons for removal when applicable.

Results: pending

Conclusion: pending