THE UNIVERSITY OF TENNESSEE
HEALTH SCIENCE CENTER

FIRST ANNUAL OBSTETRICS AND GYNECOLOGY RESEARCH FORUM

Tuesday, September 17, 2024
Freeman Auditorium
930 Madison Ave, Third Floor
Memphis, TN 38163

8:00 AM ***WELCOME***
Owen Phillips, MD

8:15 AM **Introduction of Distinguished Guest Speaker**
John Schorge, MD

"Clinical Guidance and Ethical Considerations for the Management of Previable and Periviable Preterm Prelabor Rupture of Membranes"
Sarah Osmundson, MD, MS
Distinguished Guest Speaker
Vice Chair of Research; Department of Obstetrics and Gynecology;
Vanderbilt University Medical Center

9:15- 10:00: ***Session I: Obstetrics*** Moderator: Anna Joy Rogers, MD

Comparative Effectiveness of Alternate Antibiotic Therapies for Intrapartum Group B Streptococcus Colonization
Emma Swayze, MD, PGY3

Abortion and Time to Treatment: Before and After the Implementation of the Trigger Ban in Tennessee
Caiden Weber, M4

Pandemic Employment Roles and Hypertensive Disorders of Pregnancy
Anna Gallaher, M4

10:00-10:30 AM ***Break/Poster Session***

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10:30-11:30 Session 2: Gynecology Moderator: William Kutteh, MD

Mycoplasma and Ureaplasma Infections and Early Recurrent Pregnancy Loss
Sierra Bishop, MD, PGY4

Drain Placement in Patients on Chronic Anticoagulation or Antiplatelet Therapy Undergoing Robotic Hysterectomy
Alex Samborski, MD, PGY6

Human Papillomavirus Prevention Practices by Obstetrics and Gynecology Residents
Jasmine Eliwa, MD, PGY4

Cervical Cancer and Healthcare Disparities
Harsharandeep Kaur, M2 Emma Ryan, M3

11:30-12:15 Session 3: MFM Moderator: Owen Phillips, MD

Predictors of Maternal Morbidity in Cases of Intrauterine Fetal Demise and Placental Abruption
Michael Van Dillen, MD, PGY5

Comparing Inferior Vena Cava Collapsibility in Postpartum Patients with and without Severe Preeclampsia
Elsa Parra, MD, PGY6

Blood Pressure Threshold to Predict Postpartum Readmission
Angela Nakahara, MD, PGY7

12:15 PM Closing Remarks
Anna Joy Rogers, MD

4 CME/CEU credit provided

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The Department of Obstetrics and Gynecology

First Annual Research Forum

Proceedings

September 17, 2024

8:00 AM—12:30 PM

UTHSC Freeman Auditorium

930 Madison Ave, 3rd floor

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Distinguished Guest Speaker

Dr. Sarah Osmundson, MD, MS

Vice Chair of Research

Associate Professor

Department of Obstetrics and Gynecology

Vanderbilt University Medical Center Nashville, Tennessee

The Department of Obstetrics and Gynecology is pleased to welcome Dr. Sarah Osmundson, MD, MS to our inaugural research forum. Dr. Osmundson is an Associate Professor of Obstetrics & Gynecology in the Division of Maternal-Fetal Medicine at Vanderbilt, and a clinician-investigator dedicated to advancing research on how we care for medically complicated pregnant and postpartum patients. Originally from Chicago, she completed her residency at Northwestern University and MFM fellowship at Stanford University. She augmented her clinical experience with formal research training through a Masters degree in Epidemiology and Clinical Research and additional biostatistical coursework on predictive modeling through her Career Development Award from the National Institute on Drug Abuse. She joined the VUMC faculty in 2015 where she is a clinician researcher in the Division of Quantitative and Clinical Sciences. She maintains a diverse research portfolio funded through the National Institutes of Health (NIDA, NICHD) and collaborates with researchers from health policy, biostatistics, bioinformatics, public health, and pediatrics. Her work with the Vanderbilt Maternal Pharmacoepidemiology group uses Tennessee Medicaid data linked to vital records to examine the impact of medication prescribing during pregnancy and postpartum. She also leads longitudinal studies that enroll pregnant women to examine exposures during pregnancy and their effects on patients and early childhood outcomes. She recently completed a randomized trial comparing different management strategies for women with postpartum hypertension. At a national level she sits on the Board for Society for Maternal Fetal Medicine (SMFM) and has contributed to numerous guidelines and policy statements.

Session I: Obstetrics

Emma Swayze, PGY3: Comparative Effectiveness of Alternate Antibiotic Therapies for Intrapartum Group B Streptococcus Colonization

Emma J. Swayze, MD; Emily J. Liske, MD; Lydia M. Henry, BA; Erin G.Dolvin, BS; Alexa L. Swailes, MD

Background
Intrapartum antibiotic therapy is imperative to minimize maternal-to-fetal transmission of Group B Streptococcus (GBS). Penicillin is the gold standard for treatment, but there is a paucity of data on alternate antibiotic therapies for penicillin-allergic patients. This study evaluates the effectiveness of alternate antibiotic therapies in this population.

Methods
This was a retrospective cohort analysis of GBS-positive pregnant patients at a single safety net hospital from 2019 through 2022. GBS-positive penicillin-allergic patients were matched 1:2 with non-allergic controls. The primary outcomes were: GBS-positive neonates, neonatal length of stay, GBS septicemia, Apgar scores, fetal demise, and 30-day neonatal complications (sepsis,deafness, pneumonia, or meningitis). Chi-square and Fischer exact analyses were performed on Stata version 16.1 (StataCorp, College Station, Texas).

Results
223 GBS-positive pregnant patients were analyzed, including 78 penicillin-allergic (35.0%) and 145 non-allergic (65%). Patients were treated with vancomycin (n=64, 28.7%), clindamycin (n=7, 3.1 %), cephalosporins (n=6, 2.7%), or penicillin (n=146, 65.5%). Rates of GBS-positive infants were low but varied by antibiotic treatment ($p<0.01$): penicillin, 0/146 (0%); vancomycin,0/64 (0%); clindamycin, 1/7 (14.3%); and cephalosporins, 1/6 (16.7%). There was also a significant difference in 30-day neonatal complications ($p=0.03$): penicillin, 3/146 (2.1%); vancomycin, 0/64 (0%); clindamycin, 1/7 (14.3%); and cephalosporins, 1/6 (16.7%) but no difference in length of stay ($p=0.07$), 5-minute Apgar scores ($p=0.32$), or fetal demise ($p=1.00$).

Conclusions
Antibiotic effectiveness for GBS-positive pregnant patients varied slightly by medication, but therisk was low in all cohorts. Vancomycin appears to be effective for penicillin-allergic patients, but alternative antibiotic therapies may also provide adequate coverage with a lower risk of promoting antibiotic resistance.

Caiden Weber, M4: Abortion and Time to Treatment before and after the Implementation of the Trigger Ban in Tennessee

Natalie Foster; Isabella Hendrickson; Caiden Weber; Courtney Diebold; Angela Nakahara, MD; John Schorge, MD

Introduction
To determine the clinical impact of overturning Roe vs Wade on patients with spontaneous abortion (SAB) at a single tertiary center in Memphis, Tennessee (TN).

Methods
Retrospective chart review of patients with SAB ≤20 weeks gestation, from June 2019 to April 2024. Desired treatment plan, time to treatment/total hospitalization stay, and post treatment complications (e.g., hemorrhage, infection, placental removal) were compared in those before (Group 1) versus after (Group 2) TN trigger ban. IRB approval was obtained.

Results
A total of 104 patients were evaluated: 74 (71%) in Group 1 and 30 (29%) in Group 2. Mean gestational age (GA) at presentation was not significantly different among groups (17 weeks). However, there was a difference in initial presenting diagnosis (p=0.002). Desired initial treatment for SAB management was similar between Group 1 and 2 (with most desiring medical). When evaluating mean hospital stay, Group 2 had an overall longer hospital stay (1.68 vs 2.8 days, p=0.02) most likely related to differences in mean time from arrival to treatment which was 453 minutes (7.55 hours) and 847 minutes (14.12 hours) when comparing Group 1 and 2, respectively. Individual complication rates did not differ between groups.

Conclusions
Our data suggest that while patients were offered similar treatment options for SAB before and after TN trigger ban, providers may have implicit hesitations in initiating treatment after policy implementation. Areas of further research should focus on evaluation of additional potential impacts of policy change and effects on clinical outcomes.

Anna Gallaher, M4: Pandemic Employment Roles and Hypertensive Disorders of Pregnancy

Authors: Anna Belle Gallagher, Patricia J Goedecke, Kendra Hotz, Bethany Erickson, Angela Nakahara, Lauren Camp, Charisse Madlock, Saunak Sen, Irma Singarella, Giancarlo Mari, Audris Mockus

Objective
Public health findings have been mixed in studies comparing rates of adverse pregnancy outcomes before versus during the COVID pandemic. Our prior research showed higher prevalence of hypertensive disorders of pregnancy (HDP) in a public versus a private tertiary hospital in the same metro area. We hypothesized that changes in HDP prevalence would also differ for the two hospitals due to differing levels of work-from-home versus essential-worker employment.

Study Design
Retrospective cohort comparing singleton deliveries at two US hospitals during the first nine months of the COVID-19 pandemic (March – December 2020) to deliveries from the prior year (March – December 2019). We developed a novel work-from-home measure of Index of Concentrations at the Extremes (ICE- wfh) to supplement existing racial and economic indices of spatial epidemiology (ICE-r and ICE-e). The primary outcome was HDP, with univariate and multivariable logistic comparisons for demographic and clinical variables with ICE indices and pre- versus during-covid era.

Findings
HDP prevalence decreased by 24% during the COVID-19 pandemic among women delivering at the private hospital while remaining statistically unchanged among those delivering at the public hospital. The ICE-wfh measure predicted HDP during covid but not before, consistent with our hypothesis. Multivariable models predicting HDP indicated that ICE-r was a more robust predictor of HDP, significant for both hospitals combined. When the hospitals were modeled separately, ICE-r was a significant predictor of HDP for the public hospital while COVID-19 pandemic era was significant for the private hospital.

Discussion
Disparities in changes in HDP rates during the COVID-19 epidemic may reflect differences in economic status between women who were allowed to shelter at home versus those who as essential workers faced continual stressors. Prior studies have presented conflicting findings, with HDP increasing for some populations while decreasing for others during this pandemic; our ICE work-from-home measure allowed us to gauge economic status as a factor. In our community, HDP rates decreased significantly among women delivering at the private hospital, while remaining elevated for those at the public hospital, where neighborhood racial segregation associated with consistently elevated rates. Exposure is a crucial aspect of public health and when addressing such emergencies, measures should be sought to resist exacerbating pre- existing social disparities of health.

Session II: Gynecology

Sierra Bishop, PGY4: Mycoplasma and Ureaplasma Infections and Early Recurrent Pregnancy Loss

Sierra Bishop; Ashely Truong; Carolyn Jaslow; William Kutteh, MD, PhD

Background
Recurrent pregnancy loss (RPL) is defined as two or more failed clinical pregnancies documented by ultrasonography or histopathological examination. This process affects 2-4% of reproductive-aged couples and is a significant concern for reproductive specialists. Current recommended workup for RPL includes genetic, endocrinologic, anatomic, and immunologic testing; however, routine testing for infectious causes has not shown significant evidence for inclusion in these recommendations. The presence of Mycoplasma or Ureaplasma has been associated with several adverse pregnancy outcomes in humans, but evidence for its role in recurrent pregnancy loss is limited.

Objective
In this study we hypothesized that Mycoplasma and Ureaplasma infections will have a greater prevalence in women with RPL and that treatment of those infections, when present, would result in greater likelihood of successful pregnancy outcome.

Methods
This is a single-center, retrospective cohort study of 1846 patients from 2005 to 2015. Those who met criteria for RPL and had complete evaluation (n=1583) were included. RPL patients were matched 6:1 with infertile controls (n=263). Controls were matched by age, race, and body mass index. All patients had high endocervical cultures for *M. hominis* and *U. urealyticum.* If cultured positive, couples were treated with 14-day course of doxycycline followed by test of cure. If the test of cure was again positive, couples were then treated with levofloxacin or erythromycin. The study was powered to detect a 5% difference in positive culture results with 95% level of confidence. Subsequently, RPL patients with negative test of cure were followed for live birth outcomes within the study period.

Results
Patients with RPL were more likely to be colonized with Mycoplasma [RR 10.9, CI 1.53-78.7] or Ureaplasma [RR 1.59, CI 1.09-2.33] when compared to infertile controls. Patients with positive cultures who received initial treatment had 90% cure rate for Mycoplasma and 80% cure rate for Ureaplasma. Patients initially testing positive for Mycoplasma and were successfully treated had a subsequent 78% live birth rate compared to 64% live birth rate for RPL patients whose cultures were negative (p=0.045). Those treated successfully for Ureaplasma then had a 76% live birth rate vs. 64% of culture-negative patients (p=0.002).

Conclusions
Compared to the control group, patients with RPL were more likely to be colonized with Mycoplasma or Ureaplasma. Most patients treated for infection had negative test of cure with first- or second-line therapies. Of patients with RPL, those who cultured positive and were successfully treated had a significantly higher likelihood of subsequent live birth compared to RPL counterparts who initially tested negative, even when other contributing factors were ruled out or treated. These findings suggest that testing for Mycoplasma and Ureaplasma should be offered for patients with early RPL.

Alex Samborski, PGY6: Drain Placement in Patients on Chronic Anticoagulation or Antiplatelet Therapy Undergoing Robotic Hysterectomy

Amal Masri, MD; Joann Gold, MD; Alexandra Samborski, MD; Mrgaret Caulkins, MD; Riley Short, MD; Alex Smith, MD; Nora Tillmanns, BS; Mark Reed, MD; Michael Ulm, MD; Linda Smiley, MD; Patrick Blackburn, MD; Tiffany Redfern, MD; Todd Tillmanns, MD

Objective

To assess whether drain placement at the time of robotic hysterectomy in patients on chronic anticoagulation or antiplatelet therapy was beneficial in detecting postoperative bleeding once those medications were resumed.

Methods

A retrospective exploratory analysis was conducted on all patients who underwent robotic hysterectomy at our institution from January 1, 2021 to June 30, 2023. Hysterectomies for benign and malignant conditions were included; robotic surgeries for anything other than hysterectomy were excluded. Of the 1240 surgical patients identified, 44 were on chronic anticoagulation or chronic antiplatelet therapy and had drains placed at the time of surgery.

Data was collected on age, BMI, presence of malignancy, cancer type, indication for anticoagulation or antiplatelet therapy, anticoagulation or antiplatelet dose, aspirin use, dual antiplatelet therapy, presence of known coagulopathy, pre- and postoperative hemoglobin, length of hospital stay, duration of drain placement, and the occurrence of bleeding events immediately postoperatively or following hospital discharge. Data analysis was conducted using SPSS statistical software.

Results

Forty-four patients met inclusion criteria for the study. Mean age in our study population was 62.3 years and mean BMI was 36.2. 56.8% of patients (25/44) had surgery for benign indications and 43.2% (19/44) had surgery for cancer. Of the cancer surgeries performed, 84.2% (16/19) were for uterine cancer. 79.5% of patients were on chronic anticoagulation. Medications included apixaban (17/44, 38.6%), rivaroxaban (13/44, 29.5%) enoxaparin (1/44, 2.3%) and warfarin (4/44 9.1%). Thirteen patients were on chronic antiplatelet therapy (13/44, 29.5%). 22.7% (10/44) of patients were on aspirin including 7 on dual anti-platelet therapy. Indications for treatment included current VTE (13.6%), history of VTE (36.4%), arrhythmia (13.6%), stroke (13.6%), and CAD (18.2%). Ten patients (22.7%) had a known coagulopathy. The mean change in pre- and postoperative day 1 hemoglobin was 1.09 g/dl. The average duration of hospitalization was 2.4 days and most drains were removed postoperative day 1 or 2 (38/44, 86.4%). There was 1 case of postoperative hematuria requiring suspension of Xarelto, which occurred in a patient who underwent ureteral stenting at time of surgery. This did not require blood transfusion. No other bleeding episodes were identified.

Conclusion

While robotic surgery is touted for having less blood loss than open procedures, there is little definitive evidence to guide surgeons on the appropriate time to resume anticoagulation and antiplatelet therapy following robotic hysterectomy. The patients included in this study were representative of our general patient population in the Midsouth with an average age > 60 and BMI > 35. Additionally, they were being treated for a wide range of pro-thrombotic diseases. The results of this retrospective exploratory study indicate that anticoagulation and antiplatelet therapy can be safely resumed POD1. Further prospective datais needed to determine precise rates of postoperative bleeding episodes.

Jasmine Eliwa, PGY4: Human Papillomavirus Prevention Practices by Obstetrics and Gynecology Residents

Jasmine Eliwa, MD; Patricia J Goedecke, MS; Jim Wan, PhD; Alexa Swailes, MD

Introduction
Gynecologists may be exposed to human papillomavirus (HPV) via contaminated surgical smoke during loop electrosurgical excision procedures (LEEP). The American Society for Colposcopy and Cervical Pathology (ASCCP) recommends HPV vaccination in clinicians with occupational risk. This study investigates obstetrics and gynecology (OB/GYN) residents' attitudes and practices towards HPV prevention.

Methods
An online survey was emailed to OB/GYN residents during the 2023-2024 academic year. The survey assessed participants' sociodemographic and residency factors, HPV vaccination status, perceived occupational risk from HPV, use of personal protection equipment (PPE) during LEEP, and patient counseling recommendations regarding HPV vaccination. Factors associated with HPV vaccination status and barriers to vaccination were examined.

Results
162 residents participated. Most were female (88%), 48% were in the South, and 52% were in university programs. 43% were married, 39% were single, and 16% were partnered. 89% received the HPV vaccine (Gardasil-4: 48%, Gardasil-9: 28%), mostly prior to age 26. 94% completed their series. Mean age (vaccinated: 29.4, unvaccinated: 32, $p=0.003$), gender (<0.001), marital status ($p=0.047$), and geographic region ($p=0.044$) were significantly associated with HPV vaccination. In unvaccinated participants, barriers included time (65%), perceived lack of exposure risk (29%), age (24%), and access (24%). Perceived occupational risk to HPV was considered "low" in 51%, "high" in 47%, and "absent" in 2%. During LEEP, 28% "always" wear an N95 mask while 24% "usually," 24% "sometimes," and 25% "never" do. The majority always recommend HPV vaccination to female patients aged 11-45 (64%) while never recommending the vaccine to females aged 45-65 (53%) or patients' male partners (52%).

Conclusions
Reassuringly, most OB/GYN residents in our sample are vaccinated against HPV. However, further improvement of residents' protection against HPV is recommended as only 25% habitually use appropriate PPE. Additionally, although most residents appropriately recommend HPV vaccines to female patients, they do not address partner vaccination status.

Harsharandeep Kaur, M2 and Emma Ryan, M2: Cervical Cancers and Healthcare Disparities

Emma Ryan, BS; Harsharandeep Kaur, BS; Alex Samborski, MD; Milan Severino, BS; Lily Goldsmith, BS; Anna Gray, BS; John O. Schorge, MD, FACS

Introduction
Cervical cancer is one of the leading causes of cancer death for women around the world, and there is some evidence to suggest that the South has a higher incidence rate of newly diagnosed cervical cancers, specifically among Black women, who are also more likely to die from cervical cancer compared to their White counterparts. This study aims to investigate cervical cancer disparities among Black, White, and Hispanic women in the Midsouth region from 2004 – 2021

Methods
The National Cancer Database (NCDB) was used to identify women with cervical cancer diagnosed between 2004 and 2021 in the Midsouth region, which includes the following states: Alabama, Kentucky, Tennessee, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas. The NCDB is a national outcomes database that collects retrospective, de-identified data on patient demographics, tumor characteristics, treatment, and overall survival. Black, White, and Hispanic female patients diagnosed with any phase of cervical cancer at facilities within the Midsouth with available data on cancer stage, diagnosis, and treatment were included. The following variables were examined: cancer type, cancer stage at diagnosis, race and ethnicity, state/county of diagnosis, tumor characteristics (grade, behavior), treatment modalities (surgery, radiation therapy, systemic treatment), examination of regional lymph nodes, and time from diagnosis to receive treatment. A Chi-squared test was run to determine statistically significant differences in these variables among White, Black, and Hispanic women. Further statistical analysis is pending.

Results
Though only a preliminary analysis has been conducted, it was found that Black and Hispanic patients in the Midsouth were more likely to be diagnosed with cervical cancer at higher stages compared to their white counterparts. 12.8% of Black patients were diagnosed at Stage 4 compared to 10.2% of White patients diagnosed at the same stage, and 17.2% of Black patients were diagnosed at Stage 3 compared to 14.1% of White patients diagnosed at the same stage ($p < 0.001$). Start of treatment (chemo, radiation, surgery) was statistically initiated earlier for White patients compared to minority counterparts. 50.4% of White patients initiated treatment within 30 days of diagnosis whereas only 43.9% of Black patients and 37.2% of Hispanic patients initiated treatment in that same time frame ($p < 0.001$). Furthermore, 30.9% of White patients had their regional lymph nodes examined, while only 20.6% of Black patients and27.1% of Hispanic patients did ($p < 0.001$). There were statistically significant differences in cancer type and tumor histology amongst White, Black, and Hispanic patients.

Discussion
This study used the NCDB to examine disparities in cervical cancer diagnosis, treatment,and care among different races. Compared to White patients, Black and Hispanic patients were more likely to present with later stage cancer at diagnosis. It was also found that Black patients were less likely to have regional lymph nodes examined and have delay in treatment initiation compared to their White counterparts. Delay in the start of treatment, in addition to being diagnosed at a later stage, indicates worse outcomes and prognosis for these patients.

Session III: Maternal Fetal Medicine

Michael VanDillen, PGY5: Predictors of Maternal Morbidity in Cases of Intrauterine Fetal Demise and Placental Abruption

Michael VanDillen, MD Emma J. Swayze, MSc, MD; Isabella Hendrickson, BA; Patricia J. Goedecke, MS; Alexa Swailes, MD

Objective
In the event of intrauterine fetal demise (IUFD), vaginal delivery (VD) is recommended, yet more than 50% of patients with concurrent placental abruption (PA) undergo Cesarean delivery (CD). Outcomes related to delivery route for IUFD with PA are understudied. We hypothesized that patients who underwent CD would experience greater overall maternal morbidity compared to those undergoing VD.

Study Design
Using the Consortium on Safe Labor dataset, we conducted a retrospective cohort study to identify predictors of composite maternal morbidity characterized by postpartum hemorrhage (PPH), requirement for blood transfusion, infection, hysterectomy, intensive care unit (ICU) admission, uterine rupture, venous thromboembolism, and maternal death. Chi-square and Fischer's exact analyses were performed for categorical variables. Continuous variables were compared with two-sided t-tests. Risk ratios were calculated with a multivariable Poisson regression using mode of delivery as the main regressor. Statistical tests relied on a 2-sided alpha<0.05 and were calculated with Stata software.

Results
We identified 110 patients diagnosed with IUFD and concurrent PA between 2002 and 2008. 73% (N=19/26) of patients who underwent CD experienced a morbidity event compared to 54% (N=45/84) of those who delivered vaginally (p=0.08). CD was a significant predictor of ICU admission (adjusted risk ratio [ARR] 7.80; 95% confidence interval (CI) 1.6-38.0). Patients with anemia were at significantly increased risk for receiving a blood transfusion (ARR, 2.25; 95% CI, (1.14, 4.46)), experiencing PPH (ARR, 1.52; 95%CI, (1.13, 2.04)), and overall maternal morbidity (ARR, 1.49; 95%CI, (1.11, 2.00)). Notably, history of prior CD was not associated with adverse maternal outcomes in either the VD or CD group.

Conclusion
This study calls for greater recognition of patients with IUFD and concurrent PA as candidates for vaginal delivery. Efforts to manage anemia in the antepartum period may reduce maternal morbidity at the time of delivery.

Elsa Parra, PGY 6: Comparing Inferior Vena Cava Collapsibility in Postpartum Patients with and without Severe Preeclampsia

Elsa Parra, MD, MPH; Brackney, MD; Lauren Piersall, MD; Patricia Goedecke, MS; Michael VanDillen, MD; Angela Nakahara, MD; Norman Meyer, MD; Paul Wendel, MD

Objective
The aim of this study was to determine if there is a difference in the inferior vena cava collapsibility index (IVCCI) between postpartum patients with severe preeclampsia versus those without preeclampsia.

Study Design
This was a prospective cohort study conducted in an urban university teaching hospital from May 2024 to June 2024. Patients had singleton or twin gestations and were evaluated within 48 hours of delivery. Cases had severe features of preeclampsia and controls did not have preeclampsia. Patients who previously received furosemide, were hemodynamically unstable, or who had a postpartum hemorrhage were excluded. Inferior vena cava (IVC) diameter was measured at inspiration (IVCmin) and expiration (IVCmax) using transabdominal ultrasound with a curvilinear 1.5-5 Hz probe. The IVCCI was calculated ((IVCmax-IVCmin)/IVCmax). The primary outcome was the IVCCI in each group.

Results
Amongst cases, the median IVCCI was 0.27 (interquartile range = 0.14 to 0.37) while controls had a mean IVCCI of 0.28 (interquartile range = 0.19 to 0.37). There was no significant difference in the collapsibility index between those with severe preeclampsia and those without preeclampsia.

Conclusion
The IVCCI is an objective measure of intravascular volume. It was not shown to have a statistically significant difference between those with and without preeclampsia with severe features. A larger study cohort could establish a better understanding of IVC behavior in these two populations, and thus may provide a useful tool to guide fluid management and diuresis of postpartum patients with severe preeclampsia.

Comparison by Preeclampsia with Severe Features

IQR: Inter-quartile range

Characteristic	All[1]	**No PreE**, N = 10[1]	**PreE SF**, N = 12[1]	p-value[2]
Age (yrs)				0.019
Median (IQR)	26.5 (23.0, 31.0)	23.0 (21.3, 23.0)	30.0 (26.8, 32.3)	
Race				0.5
Black	21/22 (95%)	9/10 (90%)	12/12 (100%)	
Hispanic	1/22 (4.5%)	1/10 (10%)	0/12 (0%)	
BMI				0.2
Median (IQR)	35 (29, 43)	32 (28, 35)	36 (32, 44)	
(Missing)	1	1	0	
VD or CS				0.4
CS	12/22 (55%)	4/10 (40%)	8/12 (67%)	
VD	10/22 (45%)	6/10 (60%)	4/12 (33%)	
Gest Age				0.11
Median (IQR)	38.30 (36.63, 39.20)	38.85 (37.58, 39.95)	37.10 (36.40, 39.10)	
IVCCI				0.8
Median (IQR)	0.27 (0.16, 0.37)	0.28 (0.20, 0.36)	0.27 (0.15, 0.37)	

[1]n/N (%)

[2]Wilcoxon rank sum test; Fisher's exact test; Wilcoxon rank sum exact test

Angela Nakahara, PGY7: Blood Pressure Threshold to Predict Postpartum Readmission

Angela Nakahara, Spencer Pope, Natalie Oxley, Morgan Wallen, Patricia Goedecke, Jim Wan, Kerri Brackney

Objective
Ideal postpartum blood pressure (BP) parameters are poorly defined. Improved guidance on BP parameters may help prevent maternal morbidity and mortality. We conducted an exploratory study comparing the BP values in patients readmitted for postpartum preE (PPP) with matched controls to determine BP threshold that is most associated with increased risk of readmission.

Study Design
This is a retrospective case control study comparing women readmitted for PPP to matched controls without readmission between January 2019 to March 2022. Cases were matched to controls by age, gestational age and delivery year. BP values in the inpatient postpartum period (e.g., time of delivery to time of discharge) were evaluated. Primary outcome was postpartum BP threshold that would prevent PPP readmission; secondary outcome was proportion of target BP that would prevent PPP readmission. We calculated the proportion of post-partum BP readings below various thresholds and applied logistic regression, identifying area under the curve (AUC) for each threshold. Using the post-partum BP threshold with the highest AUC, we developed confusion matrices at proportions of BPs below the threshold ranging from 0.05 to 1 by 0.05. We observed which proportion had the highest Youden's Index (sensitivity + specificity – 1) to maximize predictive effectiveness.

Results
There were 121 subjects readmitted for PPP and 121 controls. Patients readmitted for PPP were more likely to have HDP (OR 2.43, 95% CI 1.24-4.79), history of HDP (OR 4.02, 95% CI 1.44-11.21), and more likely to have cesarean delivery (OR 1.99, 95% CI 1.18-3.35). We found the BP threshold of 130/80 to have the greatest AUC (0.78) in the logistic prediction of non-readmission. Among proportions of post-partum readings below 130/80, we found 75% to have the highest Youden's Index (SE+SP-1) at 0.47, thus 75% of BPs needed to be below this threshold to minimize readmission risk.

Conclusions
Patients with greater than 25% of postpartum BPs >130/80 have a higher risk for PPP readmission. Future studies should identify interventions to modify outcomes for patients above this threshold.

Poster Session

1. Competing Effects of Diabetes and Hypertension on Birthweight

Bailey Huggins, Angela Nakahara, Jasmine Eliwa, Caiden Weber, Reed Walter, Natalie Oxley, Morgan Wallen, Patricia Goedecke, Jim Wan, Kerri Brackney

Objective
Diabetes and hypertension seemingly have opposing effects on fetal weight and growth trajectory. The interaction between the two disorders on fetal growth has not been previously studied. We examined rates of growth abnormalities in neonates born to women with diabetes alone (DM) compared to those with both diabetes and hypertensive disorders of pregnancy (DM+HDP).

Study Design
This is a retrospective case control study between 02/2022 to 04/2023 of singleton pregnancies affected by DM (pregestational or gestational) in our outpatient clinic database. Neonatal growth was categorized as appropriate (AGA), small (SGA) or large for gestational age (LGA) at time of birth, based on Fenton Growth Curve parameters. Rates of neonatal growth abnormalities in pregnancies with DM or DM+HDP were compared.

Results
A total of 535 patients with diabetes were identified—302 (48%) with diabetes alone and 331 with diabetes and HDP (52%). Overall, subjects with DM or DM+HDP had lower rates of SGA (5.4%) than LGA (20%) (OR 0.2, 95% CI 0.15-0.3), and rates did not significantly change based on presence of HDP. 80% of patients with DM had an AGA neonate compared to 69% of patients with DM+HDP (OR 1.75, 95% CI 1.22-2.54); when adjusted for rates of pregestational DM, cHTN and race, the difference was still significant (aOR 1.66, 95% CI 1.13-2.43). Those with DM+HDP were more likely to have an SGA (OR 1.98, 95% CI 0.95-4.14) or LGA neonate (OR 1.27, 95% CI 0.86-1.86).

Conclusions
In patients with diabetes, hypertension increases the risk of growth abnormalities but our study was not large enough to elucidate differences in SGA and LGA. Further studies are needed to determine these impacts on fetal growth.

2. Attitudes on Elective Cryopreservation Among Medical Trainees

Rachel Nelson-Rigg, MD, PhD; Natalie Vukmer, DO, MS; Ringland Murray Jr., MD; Jessica G. Scotchie MD

Objective
This study aims to assess knowledge and attitudes regarding fertility-related care and to help identify possible barriers to care, emphasizing the concept of elective oocyte cryopreservation amongst medical trainees.

Methods
An anonymous cross-sectional survey of medical trainees within the United States (medical students, residents, and fellows) investigated their awareness of age-related infertility, as well as their knowledge and opinions regarding elective oocyte cryopreservation.

Results
Of the total 395 respondents, 96.2% are aware of the concept of elective cryopreservation, with 62.6% of trainees expressing concern about their or their partner's future fertility. Regarding access to care, 27.1% of trainees are unsure if they have access to a local Reproductive Endocrinologist, and 73.1% are unsure if their state of residence mandates coverage for infertility treatment. Medical trainees are also far more likely to delay childbearing than they are to delay their training (62% vs. 1.5%); however, only 27 respondents (6.8%) had undergone cryopreservation. Of those 27, 24 (88.9%) reported that their decision to undergo cryopreservation was influenced by their training/career. A total of 167 respondents (42.2%) have considered cryopreservation, with 94.6% of that subset citing their education/training has influenced their decision to consider cryopreservation. While 78.3% of respondents would be more likely to consider cryopreservation if it were offered by their employer, 86.2% believe that residency programs should provide insurance coverage of elective oocyte cryopreservation. Interestingly, over half of all respondents (56.3%) "strongly agree" with the concept of fertility preservation coverage within health insurance benefits sponsored by Graduate Medical Education programs.

Conclusions
Medical trainees are delaying childbearing during their training and are concerned about their future fertility. Medical trainees have demonstrated an interest in fertility preservation but are unaware of their options for treatment. The exclusion of fertility benefits from insurance coverage appears to negatively impact whether respondents consider elective cryopreservation and may disproportionately affect female physicians given inherent ovarian aging. The majority of respondents are in support of GME sponsored fertility preservation and would be more likely to undergo fertility treatment if offered through employer-sponsored insurance. The findings from this work highlight areas for policy reform and future change regarding fertility support and residency programs.

3. Implications of Obesity on Oral-Genital Microbiome and Its Maternal-Fetal Outcomes

Zachary Berry; Rachel Nelson-Rigg, MD, PhD; Ramona Phinehas, MD; Hannah Ashitey, MD; Colette W.Stewart, RDH, MSOL; Tsute Chen, PhD; Bruce Paster, PhD; Yanhui H Zhang, PhD

Objective
To determine the impact of oral and vaginal microbiome on fetal-maternal outcomes. Comparisons of the bacterial and fungal microbiomes of oral cavity, vagina, and placenta. Comparisons of obese and non-obese subjects' oral and vaginal microbiomes between patients.

Methods
This study was approved by the University of Tennessee Health Science Center Institutional Review Board. 31 pregnant women aged 15-40, with less than 20 weeks of pregnancy were enrolled. Supragingival plaque, vaginal, and placental swabs were obtained during routine prenatal care and at delivery time. 37 purified DNA samples were sequenced for bacterial and fungal identifications. For bacteria, the V1- V3 region of 16S rDNA was used and for fungi, ITS2 was used.

Results
The bacterial and fungal microbiomes of oral, vaginal, and placental samples were diverse with minimal overlap between habitats. Specific species that differentiated the groups were identified. For example in the vaginal samples, Lactobacillus spp. were more prevalent in obese subjects and Gardnerella spp. were more prevalent in non-obese subjects. These 2 species are common vaginal species. Otherwise, there was little statistical difference in comparisons of the oral and vaginal microbiomes of non-obese and obese individuals. For fungal analysis, *Candida albicans* was detected in oral, vaginal and placental samples. *C. albicans* is not typically detected in the placenta.

Conclusions
Although the oral and vaginal microbiomes were similar in obese vs. non-obese subjects, some differences were observed in vaginal samples. It is noteworthy that *C.albicans*, a common oral and vaginal fungal species, was also detected in placental samples. Although rare, Candida infection of the fetus can result in prematurity and death.

4. Historic Redlining and Hypertensive Disorders of Pregnancy

Hanah Walker, Patricia J Goedecke, Rachel Nelson, Kendra Hotz, Angela Nakahara, Lauren Camp, Charisse Madlock, Saunak Sen, Irma Singarella, Giancarlo Mari, Audris Mockus

Objective
In the 1930s, the United States federal government authorized the Home Owners' Loan Corporation (HOLC) to categorize neighborhoods with grades A through D, with D-graded neighborhoods coded red and receiving the least preferential treatment in access and interest rates for homeowner loans. This grading system has come to be known as "redlining," and enabled discriminatory lending practices that denied mortgages in minority neighborhoods while investing primarily in predominantly white neighborhoods. A growing body of research has explored relationships between historic HOLC grades and current adverse outcomes including health outcomes in neighborhoods. This study aims to investigate the relationship between historic HOLC grades and hypertensive disorders of pregnancy (HDP) for patients delivering at two tertiary hospitals in Memphis, Tennessee–one public and one private.

Study Design
Retrospective cohort comparing singleton deliveries to patients residing in neighborhoods historically graded A through D in Memphis, Tennessee, March 2019 – December 2020, delivering at a public or private tertiary hospital. The primary outcome was HDP, measured both as a percentage of deliveries from within each historic HOLC grade and as a binary variable at the patient level. Risk ratios for HDP were calculated per historic HOLC grade and compared using a chi-squared test. Logistic associations were measured in univariate and multivariable models including historic HOLC grade, HDP clinical risk factors, and public versus private hospital. Prevalence of HPD per HOLC grade by hospital type and percentage of patients per historic HOLC grade delivering at the public versus private hospital were compared as secondary analyses using chi-squared tests.

Findings
HDP prevalence differed significantly per historic HOLC grade level, with risk ratios of (.59, .55, and .77) for grades A through C respectively, with grade D as baseline (p=0.0129). Univariate (OR=1.33, p=0.002) and multivariable logistic models (OR=1.22, p=0.045) indicated a statistically significant relationship between historic HOLC grades and current prevalence of HPD. Prevalence of HDP by historic HOLC grade did not differ to a statistically significant degree when viewed per individual hospital. Proportions of patients delivering at the public versus the private hospital differed significantly by historic HOLC grade (p=2.3 e-24), with (17%, 27%, 43% and 51%) respectively of patients residing in neighborhoods graded A through D delivering at the public hospital.

Discussion
Our findings support the growing body of evidence suggesting lasting deleterious effects on residents of historically redlined neighborhoods. Our findings indicate that residents of neighborhoods historically graded D have higher current prevalence of HPD, a stress-related illness, than residents of other neighborhoods. They are also more likely to deliver at a public hospital, suggesting minimal access to private health insurance, which may indicate employment insecurity. Given these associations, it may be possible to intervene in the unusually high prevalence of HPD in Memphis by addressing housing security, employment insecurity, or related factors stemming from historic investment discrimination at the neighborhood level.

5. Optimizing Community-Centered Care: Evaluating Protocol for Ectopic Pregnancy

Kimberly DeCarr, BE; Rachel Nelson-Rigg, MD, PhD; Pallavi Khanna, MD

Background
At a university-based teaching hospital, patients diagnosed with ectopic pregnancy (EP) or pregnancy of unknown location (PUL) are managed using an evidence-based hospital-specific protocol. In 2021, this protocol was revised to redirect non-emergent follow-up visits to the clinic setting, reducing patient and hospital costs. This study aimed to determine compliance with the new protocol and its effectiveness at reducing ED visits.

Methods
A retrospective review of patients diagnosed with EP and PUL from January to June 2022 was conducted. Data from patients managed under the new protocol were compared to those managed under the old protocol. Each point of protocol deviation and the reasons for deviation were recorded. Non-pregnancy-related visits and encounters occurring after removal from the ectopic list were excluded.

Results
Ninety-four patients were assessed. Fourteen patients (15%) followed the recommended protocol through to final diagnosis, while 54 patients (58%) had at least one protocol deviation. Thirty-three patients (36%) missed at least one follow-up visit. The most common reasons for protocol deviation included no initial transvaginal ultrasound, no initial Rh, delayed follow-up after diagnostic laparoscopy or dilation and curettage, and delayed repeat HCG in symptomatic patients. For patients with repeat HCG at 48-hours, protocol deviations occurred most often in those with HCG decrease (A-arm) and those with an appropriate rise but HCG < 2000 (D-arm). Patient follow-up under the new protocol occurred at similar rates in the ED compared to lab/clinic setting (54% vs. 50% respectively, $p = 0.56$). The mean number of ED visits decreased from 2.53 to 2.09 under the new protocol, but this result was not statistically significant ($p = 0.06$). Twenty-two patients (23%) had acute pregnancy-related ED encounters after their initial visit. No significant differences were found in the number of lab or clinic visits.

Conclusions
Compliance with the ectopic protocol is complicated by a number of factors, including poor patient follow-up, provider experience and clinical judgment, and variations in clinical course behavior. The revised protocol did not significantly reduce the number of ED visits, which may be in part due to the high rate of acute ED visits. Future work should explore whether additional revisions to the ectopic protocol are warranted, and if so, whether these revisions reduce the number of ED visits and improve rates of protocol adherence.

6. The Impact of Program Signaling in the OBGYN National Resident Matching Program

C. Olivia Feltner, Emma Swayze, Erin Dolvin, & Ramona Phinehas

Introduction
Applicants are applying to more residency programs and completing a larger number of interviews. In 2022, APGO created an initiative for signifying greater interest in programs. This study aims to understand how programs utilized signals during the Match.

Methods
A cross-sectional IRB-approved survey evaluating OBGYN residency leadership perspectives during 2022-2023 NRMP Match was administered, including assessing factors that influence applicant selection for interview. Perspective survey questions were assessed using a Likert-type scale, while regional differences were compared with an ANOVA test.

Results
Seventy-six survey responses were included in analysis, representing 25% of US residency programs with 68 (89%) responses from program directors. Program leadership ranked gold signal status as the highest contributor influencing interview invitations, with a score of 7.2/10. Away rotations were significantly more important in the Southeast compared to other regions (Df = 2, p=0.04). Programs offer interview invitations to 12.0% (±4.8) of all applicants. For each program, 58.9% (±26.7) of gold applicants were offered interviews, and 42.2% (±26.1) to silver. 60.3% (±30.0) of total interview invites were sent to applicants that signaled the program; 17.2% (±14.6) to gold and 43.1% (±23.7) to silver. 89.5% of program leadership stated the use of signaling required the same or less time to review applications. 44/46 (95.7%) program leaders stated they would continue utilizing signals in future cycles.

Conclusions
Program signaling during the Match process is potentially advantageous to programs and applicants alike, increasing the likelihood of receiving an interview, as well as decreasing time required to review applications.

Projects in Progress

7. Vaginal Birth After Cesarean (VBAC) Risk Factors and Predictive Model for Success

Ruchi P. Borole, BS; Patricia J. Goedecke, MS; Jim Wan, PhD; Olivia C. Felter, MD; Logan McClure, MD; Paul Wendel, MD; Norman Meyer, MD, PhD

Introduction
Various risk factors have been found to put women at higher risk of failed VBAC, many of which are prominent in the population of patients seen at Regional One Health (ROH) in Memphis, Tennessee. Risk factors may include preeclampsia, chronic hypertension, body mass index and many others. ROH currently uses a predictive model for VBAC success that was generated using data in which these risk factors were uncommon and less remarkable. This study looks at the association of such risk factors at the time of the first antenatal visit and at the time of admission to the hospital for delivery with the success and failure of VBAC. Using this data, we plan to generate a predictive model for the VBAC success rates with respect to risk factors prominent in the population of patients seen at ROH.

Methods
This is a retrospective study that will review data from ROH patients of ages 15-50 who have previously experienced a vaginal birth after a cesarean delivery (VBAC) from May 2022 to July 2023. Chart review includes gathering data from 188 patients at the time of the first antenatal visit and at the time of admission to the hospital for delivery such as maternal age, maternal race, chronic hypertension, gestational hypertension, prior vaginal delivery prior to cesarean, indication for prior cesarean, prior VBAC, labor type, etc. We will develop a multivariable logistic regression model predicting VBAC success and apply chi-square analysis to compare the fit of our model with the fit of the prior (Grobman 2021) model to our data.

Results
Use of the Grobman 2021 model has been documented in about 47.9% of the charts reviewed for patients undergoing a TOLAC. Work on this study began on June 10th, 2024. We plan to conclude additional data analysis by September 1st 2024. Conclusions: We hypothesize that our patient population will have a different profile with risk factors such as increased body mass index, prior cesarean for arrest, and chronic hypertension will have an adverse effect on VBAC success. We plan to evaluate whether our predictive model will be more accurate than those that exist to improve our ability to counsel women who wish to attempt a trial of labor after cesarean (TOLAC) as well as increase the use of the calculator when advising patients.

8. Equitable Perinatal Psychiatry Care: Enhancing Community Health Through Collaboration

Kimberly DeCarr, BE; Emma Swayze, MD; Archie Troxel, BS; Nick Genereaux BS; Khyati Kothari, MD; Claudette Shephard, MD; Onome Ataga, MD; Pallavi Khanna, MD

Background
Perinatal mood and anxiety disorders (PMAD) are highly prevalent. Our institution lacks an interdisciplinary clinic offering both prenatal and perinatal psychiatry care.

Methods
We conducted a retrospective analysis of patients who delivered at our university-based safety net institution in 2022, revealing a significant unmet need for perinatal psychiatry care. We then outlined key steps to develop an institutional proposal for a joint perinatal psychiatry clinic.

Results
Five essential steps were identified for implementing an interdisciplinary perinatal psychiatry clinic:

1. Identify Patient Need: A retrospective analysis highlighted a significant gap in perinatal psychiatry care, necessitating institutional change.
2. Identify Educational Need: Surveys of Psychiatry and ObGyn residents are planned to determine baseline knowledge and target areas for interdisciplinary education.
3. Identify Stakeholders: Key personnel, including generalist ObGyn and Psychiatry faculty, a Pediatric and Adolescent Gynecology Specialist, and a Women's Mental Health Specialist, were identified as essential for the clinic's success.
4. Develop an Interdisciplinary Curriculum: An educational curriculum will be created to enhance collaborative learning between specialties.
5. Evaluate Impact: The clinic's effectiveness will be assessed through a repeat analysis of patient and physician needs assessment and outcomes.

Conclusions
Establishing an interdisciplinary clinic requires a series of coordinated steps and institutional support. By breaking down the process into manageable steps, we aim to streamline the creation of a successful interdisciplinary clinic, providing a replicable model for other institutions.

9. Pain with Differing Insufflation Pressures during Laparoscopic Hysterectomy

Emma Ryan, BS; Daniel Amram, MS; Jennifer Stapel, MD; Riley Short, MD; Alex Samborski, MD; John O. Schorge, MD, FACS

Introduction
There is some evidence to suggest that postoperative pain following laparoscopic gynecologic surgery can be attributed to intraoperative insufflation pressure and stretch of the abdominal cavity. This study aims to evaluate the effect of decreased insufflation pressure on postoperative pain and prescription opioid use for women undergoing laparoscopic hysterectomy.

Methods
This is a prospective, single-blinded, randomized clinical trial in which women aged 18 to 80 with a BMI of less than 55 undergoing laparoscopic hysterectomy are randomized in a 1:1 ratio to an insufflation pressure of 15 mmHg (standard) or 12 mmHg (experimental). Intraoperative local analgesia was standardized so that each patient receives a total 10 ccs of 0.5% Marcaine to incision sites by surgery completion. The primary outcome is postoperative pain scores assessed through the Visual Analog Scale (VAS) 24 hours after surgery completion. Secondary outcomes include postoperative pain while the patient is in PACU and at the patient's 2-week postoperative visit as well as opioid use after discharge. We hypothesize that a 25% clinical improvement of subjective pain score with 80% power necessitates a sample size of 100, with 50 in each group.

Results
Enrollment began on June 10th, 2024 and is anticipated to be completed by June 2025. As of August 9th, 2024, there are 14 participants enrolled and 11 surgeries completed (7 participants in the experimental group and 4 in the standard group). Mean 24-hour postoperative pain score was 6.5 in the experimental group and 5.5 in the standard group. Mean pain score approximately 2 hours postoperatively while the participant was recovering in PACU was 6.8 for the experimental group and 5 for the standard group. Mean pain score at 2-week follow-up visit was 4.75 for the experimental group and 8 for the standard group. Women in the experimental group used an average of 2 oxycodone tablets while women in the standard group used an average of 3 oxycodone tablets. This data is preliminary, and we will present our most updated findings at the conference.

Conclusions
We are testing the hypothesis that lowering insufflation pressure to 12 mmHg during laparoscopic hysterectomy will safely reduce postoperative pain and opioid use compared to standard pressure of 15 mmHg, which should encourage the use of this intervention considering the country's current opioid epidemic.

10. Iron Deficiency Anemia in Pregnancy and its Associations with Cord Blood Lead Levels in Infants

Claire Sorenson; Angela Nakahara, MD; Shannon Isennock, MD; and Mohamad T. Elabiad, MD

Background
Iron deficiency anemia (IDA) precipitates increased intestinal lead absorption leading to increased blood lead (BPb) levels. Independent of IDA, high maternal pregnancy BPb has been associated with higher cord BPb.

Hypothesis
IDA in pregnancy results in increased maternal and cord BPb levels.

Methods
In a proof-of-concept study (study A), cord blood from term infants was tested for lead. The results were compared for two groups: pregnancies with IDA based on maternal hypochromia and microcytosis, and pregnancies without IDA. Cord blood mercury (BHg) (similar profile to lead) and blood selenium (BSe) (shown to affect BPb levels) were also tested for. Based on these test results, the study was extended to evaluate blood levels of iron in mother's blood as well as lead, mercury, and selenium blood levels in both mom and infant cord blood (study B).

Results
In study A, fifty-five infants were included. There were no significant differences between groups in maternal age, pregnancy histories, prenatal vitamin and iron intakes, or residence in high lead area. By design, pregnancies with anemia had significantly lower blood indices. Pregnancies with anemia had significantly lower BPb and blood mercury (BHg) levels and significantly higher blood selenium (BSe) levels compared to pregnancies without anemia, 0.33(0.27,0.45) vs 0.24(0.18,0.32) μg/L, 0.55(0.27,0.92) vs 0.19(0.17,0.52), and 160±33 vs 184±31 μg/L, respectively with $p<0.01$ for all comparisons. In study B, 7 mother-infant pairs have been enrolled to date. Mothers with hypochromia and microcytosis were significantly iron deficient.

Conclusion
Based on study A, pregnancies with anemia were associated with significantly higher cord BSe levels and lower BPb and BHg levels than pregnancies without anemia. Future studies should explore the incidence of and the reasons for pregnancies developing high selenium levels and the need to measure selenium levels in anemic pregnancies not responsive to iron intake. Study B is currently ongoing to evaluate the association of lead, mercury, selenium, and iron studies in the mother-cord blood pair to confirm initial study findings.

11. Rounding the Steep Curve – A Course in Transition to Junior/Sub-Internships (TT-JI)

Taylor Berke, Kimberly DeCarr BE, Florene Odulana, MD, Pallavi Khanna MD

Background
Transition from M3 to M4 years of medical school involves increased clinical performance expectations. OBGYN residency applications require a Standardized Letter of Evaluation (SLOE), highlighting M4 students who perform at intern level. Despite numerous "transition to residency" curriculums, there is a gap in preparing M4 students to excel as junior/sub-interns (JI) in the SLOE.

Methods
We performed a needs assessment survey of our institution's M4 students applying to OBGYN. Survey questions mirrored SLOE competency rubric descriptors. Comfort level was evaluated using a 5-point Likert scale. Average scores were calculated. Scores below 3.5 were highlighted as areas with the greatest need for improvement.

Results
7 of 10 OBGYN applicants responded to the survey. Students reported lowest comfort levels in the SLOE competencies of Medical Knowledge, Patient Care and Systems-Based Practice. Performing an appropriate physical exam for common OBGYN complaints, knowledge of intrapartum care including conduct of normal labor, effective patient hand-offs, and care coordination were among the lowest scores. Most students felt that ideal timing for a transitional course would occur at the end of M3 or at the beginning of M4 year.

Conclusions
Low comfort level with core SLOE competencies may result in suboptimal performance on the SLOE. By enhancing SLOE performance through a transitional course incorporating a curriculum built on needs assessment, we aim to reduce disparities in residency placements, fostering a more inclusive and diverse healthcare workforce and learning environment.