

DEPARTMENT OF OBSTETRICS & GYNECOLOGY

*19<sup>th</sup> Annual*

RESIDENT RESEARCH DAY  
& JOHN ROCK LECTURE



**MAY 13, 2022**

ARTHUR H. RUBENSTEIN AUDITORIUM  
SMILOW CENTER FOR TRANSLATIONAL RESEARCH  
PERELMAN SCHOOL OF MEDICINE  
UNIVERSITY OF PENNSYLVANIA

# Welcome

## 19<sup>TH</sup> ANNUAL RESIDENT RESEARCH DAY & JOHN ROCK LECTURE

**Welcome to the 19th Annual John Rock Lecture and Department of Obstetrics and Gynecology Resident Research Day.** Resident Research Day is an opportunity for our trainees to present their research projects to their colleagues with the goal of challenging current thinking to improve women's health care. We believe this experience will inspire our young physicians to explore basic science, translational and clinical research opportunities in their future careers in order to benefit patients and advance our specialty.

We are honored to welcome as our speaker James H. Segars, Jr., MD, Howard and Georgeanna Seeger Jones Professor of Gynecology and Obstetrics and Director of the Division of Reproductive Science and Women's Health Research at Johns Hopkins University.

A special thank you to the Women's Health Clinical Research Center, The Penn Ovarian Cancer Research Center and The Center for Research on Reproduction and Women's Health.

**We thank you all for your attendance today and hope you will join us in congratulating all of today's participants on their achievements.**

### RESEARCH LEADERSHIP TEAM

**Elizabeth A. Howell, MD, MPP**

Chair, Department of Obstetrics and Gynecology

**Catherine R. Salva, MD**

Director, Residency Program

**Anuja Dokras, MD, PhD**

Director, Resident Research Program

### JOHN ROCK LECTURER



**James Hugh Segars Jr., MD**

Howard and Georgeanna Seegar Jones Professor  
Director, Division of Reproductive Science and  
Women's Health Research  
Johns Hopkins University

Dr. Segars is the Howard and Georgeanna Seegar Jones Professor of Gynecology and Obstetrics and Director, Division of Women's Health Research at Johns Hopkins. A major focus of his research has explored the molecular mechanisms responsible for reproductive diseases, including uterine fibroids, endometriosis,

PCOS, and infertility. He attended Duke University and Duke University School of Medicine and completed a residency in OB/GYN at Vanderbilt. Following a fellowship in Reproductive Endocrinology and Infertility at Vanderbilt, a Reproductive Scientist Development Program (RSDP) award supported a 3-year post-doctoral training in the intramural program at the National Institute of Child Health and Human Development at NIH. Dr. Segars was recruited to the intramural program at NIH for 20 years before moving to Johns Hopkins in 2015. During his time at NIH, Dr. Segars served as Fellowship Program Director of Reproductive Endocrinology and the Medical Director for the Walter Reed Program of Assisted Reproduction. At Johns Hopkins, he leads a Division that performs clinical and translational research studies in fibroids, endometriosis and PCOS. His research on fibroids has focused on the fundamental mechanisms of fibroid growth and non-surgical treatments for fibroids. He has been active in graduate medical education and served as a member and Director of the Reproductive Endocrinology Division at the American Board of Obstetrics and Gynecology. Dr. Segars has served on boards of the American Society for Reproductive Medicine, the American Board of Obstetrics and Gynecology, the Society for Reproductive Investigation, and the American Gynecological and Obstetrical Society. Dr. Segars has published over 200 research papers and serves on several editorial boards.



# AGENDA

7:30 - 8:00 am

## CONTINENTAL BREAKFAST

8:00 - 8:05 am

## WELCOME REMARKS

Elizabeth A. Howell, MD, MPP

8:05 - 8:10 am

## INTRODUCTION

Anuja Dokras, MD, PhD

8:10 - 9:40 am

## RESIDENT RESEARCH PRESENTATIONS

### **Metabolic Dysfunction as a Predictor of Fibroid Recurrence.....Page 5**

Antoinette Allen, MD | Mentor: Suneeta Senaptl, MD, MSCE

### **Impact of clinical intervention bundle on the uptake of HPV vaccination in the Helen O. Dickens Center for Women.....Page 6**

Maureen Byrne, MD, MSCR | Mentor: Lori Cory, MD, MSCE

### **The Postpartum Polaroid Project: a mixed-methods study evaluating resident use of polaroid photos as an intervention for mindful interaction with patients on labor and delivery.....Page 7**

Abigail Garbarino, MD | Mentor: Catherine R. Salva, MD

### **Effects of Estrogen Replacement Therapy on Uterine Size in Girls with Turner Syndrome .....Page 8**

Aimee Morrison, MD | Mentor: Monica A. Mainigi, MD

### **Changing Practices in the Surgical Management of Adnexal Torsion: An Analysis of the NSQIP Database.....Page 9**

Hannah Ryles, MD | Mentor: Monique R. Farrow, MD

9:40 - 10:00 am

## BREAK

10:00 - 11:00 am

## JOHN ROCK LECTURE

### **Endometriosis: Is it really a benign disease?**

James Hugh Segars Jr., MD

11:00 - 12:15 pm

## RESIDENT (PGY2) RESEARCH PROPOSALS

### **Application of Office Hysteroscopy On Time to Complete an Infertility Evaluation**

Jeremy Applebaum, MD | Mentor: Kathleen O'Neill, MD, MTR

### **Attitudes Toward Menstrual Suppression in Trans and Gender Diverse Adolescents**

Jourdin Batchelor, MD | Mentor: Monica A. Mainigi, MD

### **Telehealth Follow-up After Medical Management for Early Pregnancy Loss**

Jessica Chen, MD | Mentor: Andrea Roe, MD, MPH

### **Patient Knowledge About RH Sensitization and Behaviors Surrounding Vaginal Bleeding in Early Pregnancy, Including Facilitators and Barriers to Receiving RH Immune Globulin Prophylaxis**

Efe Cudjoe, MD | Mentor: Courtney Schreiber, MD, MPH

### **Investing the Patient Educational Experience with Pregnancy Complications in Polycystic Ovary Syndrome Patients**

Anne Kim, MD | Mentor: Anuja Dokras, MD, PhD

### **Spinal Muscular Atrophy Screening: A Retrospective Chart Review and Survey**

Melissa Riegel, MD | Mentor: Lorraine Dugoff, MD

### **Pregnancy of Unknown Location Telehealth Project - Standardizing PUL Consults Across UPHS**

Madison Sharp, MD, MMS | Mentors: Sarita R. Sonalkar, MD, MPH &

Sarah Gutman, MD, MPH

12:15 pm

## RESIDENT LUNCH

MFM Conference Room, 2 Silverstein



**METABOLIC DYSFUNCTION AS A PREDICTOR OF FIBROID RECURRENCE**

**Authors** **Antoinette A. Allen, MD** | Ashni Nadgouda, MD | Divya K. Shah, MD, MME | Samantha F. Butts, MD, MSCE | Suneeta Senapti, MD, MSCE

**Background** A growing body of research suggests a relationship between metabolic syndrome and fibroid prevalence. The role of metabolic dysfunction on fibroid recurrence is less clear. The objective of this study was to investigate the association between metabolic dysfunction and fibroid recurrence risk after index myomectomy in a large urban healthcare system over ten years.

**Methods** This retrospective cohort study included patients who underwent myomectomy within the University of Pennsylvania Health System between 2008 and 2019. Patients were classified as having metabolic dysfunction (MD) if they met any 2 of 5 WHO and NCEP ATP III criteria for metabolic syndrome: 1) systolic blood pressure >130 or diastolic >85; 2) BMI >30; 3) HDL<150; 4) glucose>126 or hemoglobin A1C > 5.9%. BMI was considered given potential limitations of waist circumference. Clinical fibroid recurrence was defined as undergoing a subsequent fibroid surgery or recurrence of symptoms requiring pelvic imaging. Chi-square or Fisher’s exact tests and t-test or Mann-Whitney tests were used where appropriate. Logistic regression and Cox modeling were used to analyze the rate of recurrence and time to fibroid recurrence in models adjusted for age, race, and insurance, as appropriate.

**Results** Of 981 patients undergoing index myomectomy, 27% had MD at index procedure. Over 3063 person-years of follow-up, 43 patients had recurrence based on subsequent fibroid surgery and 186 had recurrence based on symptoms requiring pelvic imaging. There were no significant differences in recurrence based on presence of MD (surgical recurrence: OR 0.57 95% CI 0.23-1.44; radiographic recurrence: OR 0.70 95% CI 0.42-1.06). The median time to fibroid recurrence using the radiology-surgery composite was 1356 days in those with MD compared to 1189 days in the unexposed group (HR 0.684, p 0.059).

**Conclusion** Our results suggest that MD is not associated with the rate of, or time to, fibroid recurrence after index myomectomy. Investigation in a prospective longitudinal cohort is warranted to further understand metabolic and other risk factors for fibroid recurrence.



**IMPACT OF A CLINICAL INTERVENTION BUNDLE ON THE UPTAKE OF HPV VACCINATION IN THE HELEN O. DICKENS CENTER FOR WOMEN**

**Authors** **Maureen Byrne, MD, MSCR** | Cara Curley, DNP, CRNP | Elizabeth G. Clement, MD | Lori Cory, MD, MSCE

**Background** The human papillomavirus (HPV) vaccine is a safe and effective method for preventing multiple cancers, including cervical cancer. Despite its efficacy, the vaccine remains widely underutilized in the United States. Our study sought to examine the utility of a clinical intervention bundle aimed at increasing HPV vaccine uptake in the Helen O. Dickens Center for Women.

**Methods** A retrospective cohort study was conducted to examine the number of HPV vaccine doses given to eligible patients in the Helen O. Dickens Center for Women before and after implementation of various clinical interventions. Interventions included patient and provider education, clinic infrastructure improvements, and the implementation of a ‘Best Practice Advisory’ in the electronic medical record. All patients ages 18-26 with an in-person gynecologic office visit who were eligible to receive at least one dose of the vaccine were included in the analysis. Two 6-month time periods were examined to capture the pre- and post-intervention cohorts (Aug 2019-Feb 2020, “Pre”; Aug 2021-Feb 2022, “Post”). Descriptive statistics were performed.

**Results** During the pre-intervention period, 211 patients in our clinic were eligible to receive at least one dose of the vaccine, 13 of whom received a dose (6.1%). During the post-intervention period, 199 patients were vaccine eligible, 37 (18.5%) of whom received a dose (p<.01). When examining HPV vaccine doses given to 18-26 year-olds across the health system during the same time, the number of doses given decreased from the pre- to the post-intervention period (466 “pre” vs. 348 “post”). While the Best Practice Advisory only fired for patients ages 26 and under, the remainder of the interventions were implemented clinic-wide, and patients ages 27-45 were eligible to receive the vaccine. During the pre-intervention period, 18 patients ages 27-45 received a dose of the HPV vaccine, averaging 3 per month, while 163 patients ages 27-45 received doses in the post-intervention period averaging 27 per month (p<.01).

**Conclusion** Implementation of a clinical intervention bundle targeting HPV vaccine uptake in the Helen O. Dickens Center for Women was both feasible and effective at increasing the number of HPV vaccine doses given to eligible patients. During the same time, vaccine doses given across the health system in the same age group decreased. Additionally, while certain interventions primarily targeted patients 26 and under, doses given to 27-45 year-olds also increased during the study period.



**THE POSTPARTUM POLAROID PROJECT: A MIXED-METHODS STUDY EVALUATING RESIDENT USE OF POLAROID PHOTOS AS AN INTERVENTION FOR MINDFUL INTERACTION WITH PATIENTS ON LABOR AND DELIVERY**

**Authors** **Abigail Garbarino, MD** | Jessica Campanile, BA | Kelly Zafman, MD, MSCR | Catherine Salva, MD

**Background** Although the delivery of a child is a coveted opportunity to cultivate wonder and professional satisfaction among Ob/Gyn residents, it is threatened by volume and documentation demands. Our project was funded by the ACGME Back to Bedside Initiative.

**Methods** Thirty-two residents were recruited to participate in the intervention during their labor floor rotation. They were encouraged to return to the patient’s bedside after delivery to gather for a group polaroid photo with members of the care team. Patients and RNs were provided with a copy as a keepsake, while resident copies were compiled into individual keepsake books. Resident experience was assessed via RedCAP administration of the validated Stanford Professional Fulfillment Index, pre and post. Semi-structured, qualitative interviews were then conducted with residents and RNs. The authors used a constant comparative approach to iteratively identify themes. Team analysis continued until a stable thematic structure emerged, which was then applied to the entire data set using Dedoose software.

**Results** This was a sequential explanatory mixed-methods design. Twenty residents participated, with an average of 8.8 polaroids taken over their labor block. After the intervention, there was a significant improvement in scores indicating personal fulfillment (p=0.02) and personal disengagement (p<0.001). There were no significant differences in worker exhaustion. A logistic regression showed those with higher pre-intervention disengagement had less of an improvement in professional fulfillment. In addition, residents with >= 10 polaroids had an average increase in professional fulfillment of 4.04 points compared to those with 9 or fewer. Thematic analysis of the qualitative interviews linked professional development and identity to the polaroid’s creation of a ‘forced pause’ – a concrete moment in time and physical proximity that fostered (1) patient connection (2) affirmation of the resident’s legitimacy as a delivery provider, and (3) closure. This was found to be especially salient in the setting of the COVID-19 pandemic.

**Conclusion** The Postpartum Polaroid Project offers a novel approach to address resident professional fulfillment on labor and delivery through the creation of a physical memento that opens a moment in time for shared humanity. Our data suggest that this is a simple, feasible intervention to increase professional satisfaction, spanning both real-time of the intervention itself and holding power in years to come as residents reflect on their training and personal growth.



**EFFECTS OF ESTROGEN REPLACEMENT THERAPY ON UTERINE SIZE IN GIRLS WITH TURNER SYNDROME**

**Authors** **Aimee Morrison, MD** | Vaneeta Bamba, MD | Denise Gruccio, CRNP | Monica Mainigi, MD

**Background** More than 90% of girls with Turner Syndrome (TS) will eventually experience premature ovarian insufficiency. Many will require early hormone replacement therapy (HRT) to initiate puberty, develop secondary sex characteristics, and optimize uterine size. However, limited data exist on the effects of estrogen replacement on achieving mature uterine size, which is important in improving obstetric and gynecologic care for this population. The objective of the current study is to evaluate the effects of HRT on uterine size in girls with TS.

**Methods** This prospective cohort study included postmenarchal females aged 10 to 24 with TS who attended CHOP from 2015-2021. Uterine size was obtained via transabdominal ultrasound in girls with TS who underwent spontaneous menarche or pubertal induction with HRT and compared to a control group of girls without TS. Mature uterine size was defined as a longitudinal uterine length >6.5 cm and an anterior-posterior diameter >1.1cm. Fisher’s exact test was used to compare categorical variables and t-test for continuous variables.

**Results** Uterine size was measured in a 50 total TS girls. Puberty occurred spontaneously in 19 TS girls (38%), most of whom had a mosaic karyotype (18/19, or 95%). Of the 31/50 girls who required transdermal estrogen to undergo pubertal induction, 22/31 (71%) had a mosaic karyotype and 9/31 (29%) had XO karyotype. 20/31 TS girls (64.5%) on transdermal estrogen achieved mature uterine size. Uterine size was not significantly different between TS girls with induced or spontaneous menarche (P=0.21). Similarly, uterine size was not different between girls with TS on HRT when compared to a control group of 31 controls without TS (P=0.26). Interestingly, uterine size was significantly different between controls and girls with TS who underwent puberty spontaneously (P=0.04). There was no significant difference in uterine size based on duration of estrogen exposure (P=0.32) or karyotype (P=1.0), although the study was not powered to detect these differences.

**Conclusion** Our data indicates that girls with TS who undergo pubertal induction with HRT have adequate uterine development and are able to achieve mature uterine size. Uterine size is similar in girls with TS who require pubertal induction as compared to non-TS controls, suggesting that girls with TS with adequate exogenous exposure to estrogen do not have a smaller uterine size than a healthy control population. Further study is needed to clarify the difference in uterine size between the proportion of girls with and without TS after spontaneous menarche.



**CHANGING PRACTICES IN THE SURGICAL MANAGEMENT OF ADNEXAL TORSION: AN ANALYSIS OF THE NSQIP DATABASE**

**Authors** **Hannah Ryles, MD** | Christopher Hong, MD | Nathanael Koelper, MS | Uduak Andy, MD | Monique Farrow, MD

**Background** Oophorectomy at the time of torsion surgery is common. In November 2016, the American College of Obstetricians and Gynecologists (ACOG) released updated clinical guidelines recommending ovarian conservation for adnexal torsion. Our primary objective was to evaluate trends in the surgical management of adnexal torsion. Our secondary objective was to evaluate these trends with respect to the updated ACOG guidelines.

**Methods** We performed a retrospective cohort study using the National Surgical Quality Improvement Project (NSQIP) database. Women who underwent surgery for adnexal torsion between 2008 and 2019 were identified based on ICD codes. Surgeries were grouped as either ovarian conservation or oophorectomy using CPT codes. The proportion and likelihood of oophorectomy by year was determined using descriptive statistics and logistic regression. To assess changes in surgical management patterns, management in the three years before and after 2017 were compared. An interrupted time-series analysis was performed to assess trends in surgical management over the entire study period (2008-2019) and changes in trends with respect to the beginning of 2017.

**Results** Of the 617 surgeries performed for adnexal torsion during the study period, 226 (37%) involved ovarian conservation and 391 (63%) involved oophorectomy. Older age, higher BMI, and hypertension were significantly associated with oophorectomy. Compared to the time period before 2017, surgeries performed after 2017 were less likely to involve oophorectomy (40.7% vs. 69.0%, OR = 0.31, 95% CI = 0.21 to 0.46); this remained true when limited exclusively to the 3-year period prior to and after 2017 (40.7% vs. 66.5%, OR = 0.34, 95% CI = 0.22 to 0.53). There was a significant decrease in proportion of oophorectomies performed each year overall (-3.8%/year, 95% CI = -5.1% to -2.6%); this trend was significant in the study period prior to 2017 (-2.1%/year, 95% CI = -3.9% to -0.1%) and after 2017 (-5.6%/year, 95% CI = -11.0% to -0.1%), but not significantly different between years 2008-2016 vs. 2017-2019 (interaction p = 0.43).

**Conclusion** A significant decrease in the proportion of oophorectomies for adnexal torsion performed per year was found over our study period. We observed a precipitous drop in oophorectomies beginning in 2017, coinciding with the updated guidance from ACOG recommending ovarian preservation. However, despite an overall trend towards ovarian conservation, the magnitude of this trend has not changed and oophorectomy remains common in the surgical management of adnexal torsion.

**RESIDENT RESEARCH PUBLICATIONS 2021-22**

**PGY-1**

Craig, A. M., **Kaur, K.**, Heerboth, S. A., Chen, H., Lauderdale, C. J., Shannon, C., & Zuckerwise, L. C. (2021). Clinical Implications of Second and Third Trimester Surveillance Ultrasounds of Growth-Restricted Fetuses. *American Journal of Perinatology Reports*, 11(04), e132-e136.

Wilkins, C. H., Williams, M., **Kaur, K.**, & DeBaun, M. R. (2021). Academic medicine's journey toward racial equity must be grounded in history: Recommendations for becoming an antiracist academic medical center. *Academic Medicine*, 96(11), 1507.

Shah, A. S., Raghuram, A., **Kaur, K.**, Lipson, S., Shoshany, T., Stevens, R., O'Brien, M., Howell, D., Fleischman, K., Barnack, D., Molind, H., Kuemmerle, K. H., & Brodsky, J. R. (2022). Specialty-Specific Diagnoses in Pediatric Patients With Postconcussion Syndrome: Experience From a Multidisciplinary Concussion Clinic. *Clinical journal of sport medicine : official journal of the Canadian Academy of Sport Medicine*, 32(2), 114-121.

**Kaur, K.**, Acharya, G., Chen, H., Shannon, C. N., Lipscomb, B. E., Newman, R., & Zuckerwise, L. C. (2021). Impact of fetal trisomy 21 on umbilical artery Doppler indices. *The journal of maternal-fetal & neonatal medicine: the official journal of the European Association of Perinatal Medicine, the Federation of Asia and Oceania Perinatal Societies, the International Society of Perinatal Obstetricians*, 1-8.

Pham, A., **Kaur, K.**, Ha, L. C., Grace, M. R., & Zuckerwise, L. C. (2022). Umbilical artery Doppler assessment in fetuses with a congenital heart disease. *American Journal of Obstetrics & Gynecology*, 226(1), S247.

Liu, C. Z., **Wang, E.**, Nguyen, D., Sun, M. D., & Jumreornvong, O. (2022). The Model Minority Myth, Data Aggregation, and the Role of Medical Schools in Combating Anti-Asian Sentiment. *Academic Medicine*.

**Wang, E.**, Gellman, C., Wood, E., Garvey, K. L., Connolly, C., Barazani, S., ... & Abraham, C. (2021). A Medical Student Postpartum Telehealth Initiative During the COVID-19 Pandemic. *Maternal and child health journal*, 1-5.

**PGY-2**

Wong, Z. J., Thompson, L., Boulware, A., **Chen, J.**, Freedman, L., Stulberg, D., & Hasselbacher, L. (2022). What you don't know can hurt you: Patient and provider perspectives on postpartum contraceptive care in Illinois Catholic Hospitals. *Contraception*, 107, 62-67.

**PGY-3**

Nasioudis, D., **Mulugeta-Gordon, L.**, **McMinn, E.**, Byrne, M., Ko, E. M., Cory, L., ... & Latif, N. A. (2021). Oncologic outcomes of uterine preservation for pre-menopausal patients with stage II epithelial ovarian carcinoma. *International Journal of Gynecologic Cancer*, 31(3).

Nasioudis, D., **McMinn, E.**, Ko, E., Haggerty, A., Cory, L., Giuntoli, R., ... & Latif, N. (2021). Role of adjuvant chemotherapy for patients with FIGO stage I high-intermediate risk endometrial carcinoma with lymph-vascular invasion. *Gynecologic Oncology*, 162, S267-S268.

Nasioudis, D., **McMinn, E.**, Ko, E., Haggerty, A., Cory, L., Giuntoli, R., ... & Latif, N. (2021). Multimodality adjuvant treatment is associated with a survival benefit for patients with stage IIIC uterine carcinosarcoma. *Gynecologic Oncology*, 162, S209.

## RESIDENT RESEARCH PUBLICATIONS

Chukwulebe, S. B., Gaieski, D. F., Bhardwaj, A., **Mulugeta-Gordon, L.**, Shofer, F. S., & Dean, A. J. (2021). Early hemodynamic assessment using NICOM in patients at risk of developing Sepsis immediately after emergency department triage. *Scandinavian journal of trauma, resuscitation and emergency medicine, 29*(1), 1-10.

Nasioudis, D., **Mulugeta-Gordon, L.**, Byrne, M., & Latif, N. (2021). Squamous cell carcinoma of the ovary: a rare gynecologic tumor with a poor prognosis. *Gynecologic Oncology, 162*, S276-S277.

Nasioudis, D., **Mulugeta-Gordon, L.**, Ko, E., Haggerty, A., Cory, L., Latif, N., ... & Giuntoli, R. (2021). Outcomes of ovarian preservation for women aged  $\leq 50$  years with stage I adenocarcinoma undergoing hysterectomy. *Gynecologic Oncology, 162*, S223.

**Mulugeta-Gordon, K.** (2021, Nov 10). Beyond September: Hidden Populations in Cervical Cancer Screening. SGO Diversity, Health Disparities, Inclusion and Health Equity, Voices. <https://www.sgo.org/blog/beyond-september-hidden-populations-in-cervical-cancer-screening-keisha-mulugeta-gordon-md/>.

**Rush, M.**, Srinivas, S. K., & Hamm, R. F. (2021). 600 Hemoglobin change after blood transfusion for postpartum anemia: secondary analysis of a randomized, controlled trial. *American Journal of Obstetrics & Gynecology, 224*(2), S377.

**Ryles, H. T.**, Hong, C. X., Koelper, N., Andy, U., & Farrow, M. (2022). Changing practices in the surgical management of adnexal torsion: an analysis of the national surgical quality improvement project (NSQIP) database. *American Journal of Obstetrics & Gynecology, 226*(3), S1282-S1283.

### PGY-4

Soriano, A., **Allen, A.**, Malykhina, A. P., Andy, U., Harvie, H., & Arya, L. (2021). Relationship of Pain Catastrophizing With Urinary Biomarkers in Women With Bladder Pain Syndrome. *Female Pelvic Medicine & Reconstructive Surgery, 27*(12), 746-752.

**Allen, A. A.**, Nadganda, A., Shah, D. K., Butts, S. F., & Senapati, S. (2021). Metabolic Dysfunction as a Predictor of Fibroid Recurrence. *Fertility and Sterility, 116*(3), e78.

Nasioudis, D., **Byrne, M.**, Ko, E. M., Giuntoli II, R. L., Haggerty, A. F., Cory, L., ... & Latif, N. A. (2021). The impact of sentinel lymph node sampling versus traditional lymphadenectomy on the survival of patients with stage IIIC endometrial cancer. *International Journal of Gynecologic Cancer, 31*(6).

**Dawodu, O.**, Wu, J. K., Gallop, R., & Barnhart, K. T. (2021). Obstetrical Outcomes of Late Presenting Intrauterine Pregnancies. *Fertility and Sterility, 116*(3), e59.

Sellner, A. A., **Garbarino, A. H.**, Miao, D., Hollier, L. M., & Ratan, B. M. (2021). Effects of Gestational Weight Gain on Delivery Outcomes in an Obese, Low-Income Population. *Southern Medical Journal, 114*(11), 686-691.

Nasioudis, D., **Heyward, Q.**, Gysler, S., Giuntoli, R. L., Cory, L., Kim, S., ... & Latif, N. A. (2021). Is there a benefit of performing an omentectomy for clinical stage I high-grade endometrial carcinoma?. *Surgical Oncology, 37*, 101534.

**Heyward, Q. D.**, Nasioudis, D., Cory, L., Haggerty, A. F., Ko, E. M., & Latif, N. (2021). Lymphadenectomy for early-stage mucinous ovarian carcinoma. *International Journal of Gynecologic Cancer, 31*(1).

Nasioudis, D., **Heyward, Q. D.**, Ko, E. M., Haggerty, A. F., Cory, L., Giuntoli II, R. L., ... & Latif, N. A. (2022). Fertility-sparing surgery for patients with stage IC2 or IC3 epithelial ovarian carcinoma: any evidence of safety?. *International Journal of Gynecologic Cancer, 32*(2).

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