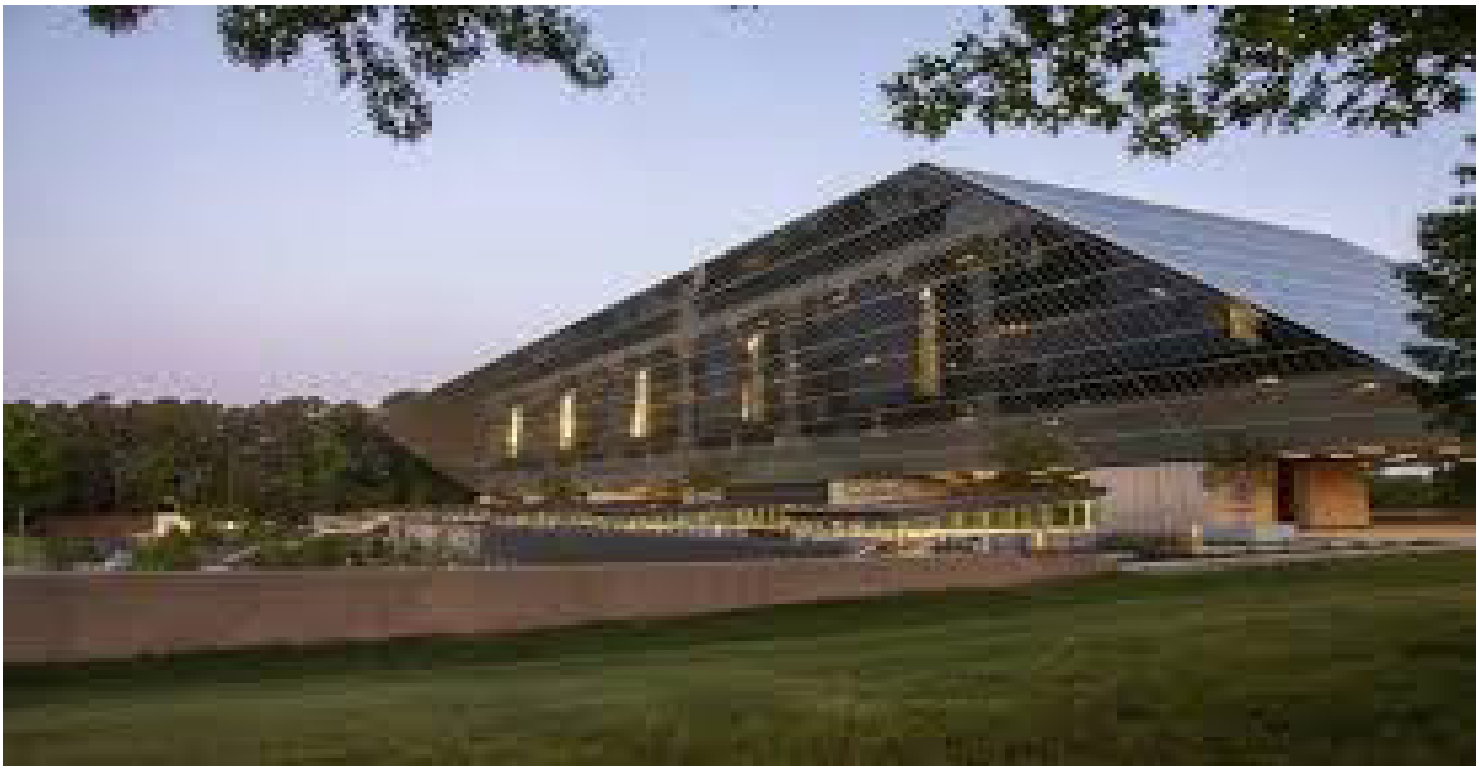
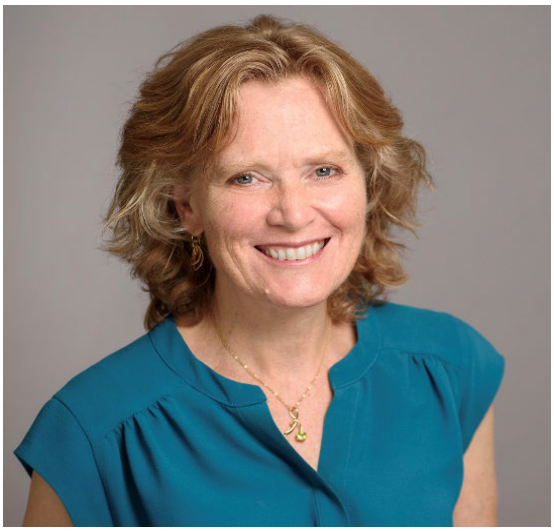
3rd Annual OBGYN Medical Education Symposium

April 6, 2026
The Parkline
1830 Fordham Boulevard
Chapel Hill, NC 27514



AGENDA		
7:30 am – 8:00 am	Networking Breakfast	
8:00 am – 8:15 am	Introductions by Dr. Omar Young and Dr. Genevieve Neal Perry	
8:15 am – 8:45 am	Keynote #1 Speaker: Dr. Abhishek Sripad “Artificial intelligence in medical education: what do we do now?”	
8:45 am – 9:45 am	Oral Abstracts (UME) – Dr. Lisa Cookingham (Moderator)	
	8:45 am – 9:00 am	“Prenatal Care Delivery by utilizing a Low-Stakes, Formative Standardized Patient Assessment for Medical Students during their OB/GYN Training” - Zoya Surani
	9:00 am – 9:15 am	“Enhancing Skill Mapping Through Mid-Rotation Self-Assessment in OB/GYN Clerkship” - Katie Freedy
	9:15 am – 9:30 am	“Transforming Embryology Education: Innovative Approaches to Interactive Preclinical Instruction” - Danielle Kapustin
	9:30 am – 9:45 am	“Pelvic Floor Injections for Myofascial Pain Using a SIM: A Step-by-Step Demonstration” - Tyler Soy
9:45 am – 10:10 am	**BREAK/POSTER SESSION**	
10:10 am – 11:10 am	Oral Abstracts (GME) – Dr. Steve Dudick (Moderator)	
	10:10 am - 10:25 am	“Improving the Surgical Experience of Neurodivergent Patients” - Drs. Lauren Schiff & Renee Sullender
	10:25 am – 10:40 am	“D&E Simulation Application” - Dr. Adam Elwood
	10:40 am – 10:55 am	“Uterine Manipulators 101: How to select the right Instrument for any Surgical Case” - Dr. Rachel Stoddard
	10:55 am – 11:10 am	"Adopt an Intern" - Nurse Mentorship Program for OBGYN Residents **–** Dr. Hannah Kelly
11:10 am – 11:55 am	Keynote #2 Speaker: Dr. AnnaMarie Connolly “Surgical Competency by Design: The Future for Obstetrics and Gynecology?”	
12:00 pm – 1:30 pm	Lunch	

Keynote Speaker – Anna Marie Connolly, MD



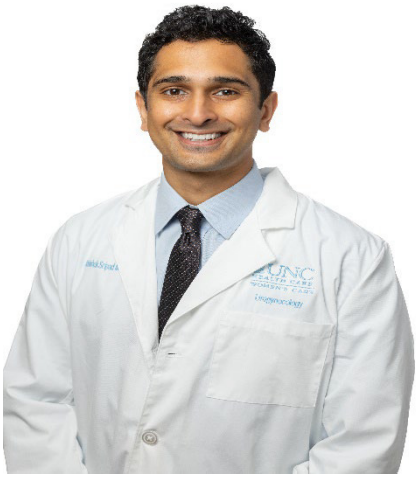
Dr. AnnaMarie Connolly, MD, serves as Chief for Education, Workforce, and Well-Being at the American College of Obstetricians and Gynecologists (ACOG). She is Distinguished Professor Emeritus at the University of North Carolina School of Medicine and previously served as Past Vice Chair for Education and Distinguished Professor in the Division of Urogynecology and Reconstructive Pelvic Surgery within the Department of Obstetrics and Gynecology at UNC. After completing her residency at UNC and practicing privately for two years, she returned to the university to complete a fellowship in Urogynecology and Reconstructive Pelvic Surgery.

Dr. Connolly is a nationally recognized leader in urogynecology and medical education with extensive clinical expertise in the evaluation and surgical management of pelvic floor disorders, including urinary and fecal incontinence, prolapse, and fistula repair. Her primary scholarly focus is medical education, with numerous publications centered on educational innovation, programming, and tool development.

At the UNC School of Medicine, she held multiple major leadership roles, including Course Director for Mechanism of Disease (Reproductive Medicine and Genetics), Clerkship Director for Obstetrics and Gynecology, Residency Program Director for 15 years, and Fellowship Program Director for Urogynecology and Reconstructive Pelvic Surgery. She also directed the UNC Teaching Scholars Program for 20 years and received sustained recognition for excellence in teaching, including 21 consecutive years of the “Golden Tar Heel” award and multiple institutional honors such as the Leonard Tow Humanism in Medicine Award, the Teaching Excellence Award, and the H. Fleming Fuller and Hyman L. Battle Distinguished Teaching Awards. She was named the Annie Louise Wilkerson, MD Distinguished Professor in 2012 and was recognized as UNC Health Care’s Physician of the Year.

Nationally, Dr. Connolly has played a transformative role in advancing inclusive excellence and physician wellbeing in obstetrics and gynecology. At ACOG, she led the development and implementation of ResidencyCAS, the CREOG Inclusive Excellence program, Inclusive Excellence in Action, and the ACOG National Well-Being Initiative. She has served in key leadership roles with the ACGME Residency Review Committee, the American Board of Obstetrics and Gynecology as a Board Examiner, and chaired the American Urogynecologic Society Education Council. Her educational scholarship has received multiple national awards, including several first-place honors at the annual CREOG/APGO meeting and recognition from the Foundation for Exxcellence in Women’s Health.

Keynote Speaker – Abhishek Sripad, MD



Dr. Abhishek Sripad, MD, is an Assistant Professor in the Department of Obstetrics and Gynecology. He currently serves as the Clinic Director for the Urogynecology and Reconstructive Pelvic Surgery. Dr. Sripad grew up in Andover, MA, and went to Middlebury College in Vermont where he obtained a degree in Neuroscience with a minor in Mathematics. He attended medical school at the Geisel School of Medicine at Dartmouth and then completed his residency in Obstetrics and Gynecology at UNC in 2019. He completed his fellowship in Urogynecology and Reconstructive Pelvic Surgery at Women & Infants Hospital/Brown University in 2022.

He worked for 2 years in Greenville, SC, before joining UNC as faculty in 2024. He is board-certified in Obstetrics and Gynecology and in Urogynecology and Reconstructive Pelvic Surgery. His areas of surgical expertise includes robotic and laparoscopic sacrocolpopexy, vaginal reconstructive repair, and advanced overactive bladder therapies. He is interested in medical education and currently runs a PGY-1 curriculum. He additionally serves as the office medical director at Rex for UNC Urogynecology and Reconstructive Pelvic Surgery. His research interests include surgical outcomes, medical education, and practice improvement.

Posters Abstracts

1. Amniocentesis Training in Maternal-Fetal Medicine Fellowship, a Retrospective Survey Study **(Dr. Gabrielle Smith, Fellow)** 4
2. Assessing Patient Interest in Evidence-Based Education on Supplement Use for Endometriosis Pain - A Quality Improvement Project **(Megan Little, Medical Student)**
3. Clinical Exposure Pathways and OB/GYN Match Outcomes Among Osteopathic Medical Students at CUSOM **(Rachel Morgan-Armbruster, Medical Student)**
4. Influence and Impact of Reflection, Introspection, and Gratitude on Medical Student Well-Being and Self of Belonging during Surgical Clerkship **(Alana Davidson, Medical Student)**
5. QI Project / Educational Video: Oophorectomy at the time of Hysterectomy: A Video to Aid Patient Decision Making **(Dr. Megan Wade, Resident)**
6. National Trends in Pelvic Lymphadenectomy performed by Gynecologic Oncology Fellows **(Dr. Daniel Clarke Pearson, Professor)**
7. "POV: You're the Patient" - Virtual Reality for Medical Trainees **(Dr. Hannah Kelly, Resident)**
8. Understanding the Transition to a US-Based OB/GYN Residency Program through the Eyes of International Medical Graduates and Program Director **(Chelsea Zhang, Medical Student)**

Amniocentesis Training in Maternal-Fetal Medicine Fellowship, a Retrospective Survey Study

Authors: Gabrielle Smith, MD (Fellow), Bill Goodnight, MD at UNC Maternal Fetal Medicine

Introduction: Amniocentesis is a critically important procedure in which amniotic fluid is collected to assess for fetal infection, chromosomal abnormalities, and gene disorders. While the overall risk of complications with amniocentesis is low, complications can result in pregnancy loss. Increased procedural experience, most commonly described by number of procedures performed, is associated with lower procedure-related complications. Training strategies for teaching amniocentesis have increasingly relied on simulation models to provide sufficient procedural experience. Simulation-based approaches include didactic training to cost-effective, low fidelity models, to anatomically correct 3-D printed models, and needle guided task-specific training models. Critical evaluation of the translation of the effectiveness of these models to the key procedure-related steps in amniocentesis remain with limited investigation. The specific aim of this study is to investigate the provider's perception of the direct applicability of three different amniocentesis models – a high-definition model, low-definition model, and needle guided task trainer on performance of an amniocentesis.

Methods: A retrospective survey of senior or graduated MFM fellows from the University of North Carolina since 2018 was performed. Potential participants were contacted via email recruitment at two separate timepoints, approximately 3 weeks apart. The survey was piloted with two graduates of the MFM fellowship class of 2024. Survey responses were anonymous. Survey questions focus on the ability of each model to teach the ISUOG described steps in performance of amniocentesis and rate the ability of each model to replicate an amniocentesis. Data was analyzed using SPSS. Kruskal Wallis testing was performed to assess the mean ranks of the three independent samples with alpha of 0.05. UNC IRB #25-2089.

Results: A total of seven participants responded to the survey. Not all participants used every model type, with only two participants using the high-definition model. Significant differences existed in how the models impacted learners' perceived ability to perform amniocentesis and confidence in independent performance, with the task trainer and high-definition model having significantly higher helpfulness ratings on a 5-point Likert Scale. When amniocentesis was broken down by skill, significant differences existed between the models in their ability to replicate ultrasound evaluation, probe placement, and amniotic cavity entry with the high-definition model and task trainer receiving higher similarity scores than the low-definition model.

Conclusions: The various models used differed significantly in how helpful they were in affecting learners' ability to perform amniocentesis, as well as in how they replicated certain individual procedure steps. The task trainer and high-definition model were consistently the most highly rated, suggesting that their broader implementation in fellowship programs could improve learners' training and help prepare them to independently perform amniocentesis in clinical practice.

Table 1: Various Training Methods' Impact on Amniocentesis Skill Development

	Low-Def Model (n=4)	Task Trainer (n=7)	High-Def Model (n=2)	P Value (a= 0.05)
Understanding	4.5 (4, 5)	5 (5, 5)	5 (5, 5)	0.410
Ability to Perform	4 (3.25, 4)	5 (5, 5)	5 (5, 5)	**0.003***
Confidence for Independence	4 (3.25, 4)	5 (5, 5)	5 (5, 5)	**0.012***
Likeliness to Recommend	5 (4.25, 5)	5 (5, 5)	5 (5, 5)	0.361

Median (IQR). N varies depending on the training method as not all participants used all forms of training and thus these were treated as independent samples. Kruskal-Wallis testing performed to compare mean ranks between groups. 5-Point Likert Scale was used (1 = Very Unhelpful, 2 = Unhelpful, 3 = Neither Helpful Nor Unhelpful, 4 = Helpful, 5 = Very Helpful).

Table 2: Similarity of Model to Amniocentesis by Skill

	Low Def Model (n=4)	Task Trainer (n=7)	High Def Model (n=2)	P Value (a= 0.05)
Ultrasound Evaluation	2.5 (2, 3)	4 (4, 4)	4.5 (4, 5)	**0.016***
Probe Placement	2.5 (2, 3)	4 (4, 5)	4.5 (4, 4.5)	**0.024***
Abdominal Skin Puncture	1.5 (1, 3)	3 (2, 4)	4.5 (4, 4.5)	0.051
Uterine Puncture	1.5 (1, 2.75)	4 (2, 4)	4, (3, 4)	0.111
Amniotic Cavity Entry	1.5 (1, 2.75)	4 (3, 4)	4 (3, 4)	**0.034***
Needle Advancement	4 (3.25, 4)	4 (4, 5)	4.5 (4, 4.5)	0.168
Needle Redirection	3.5 (3, 4.75)	4 (4, 5)	4.5 (4, 4.5)	0.358
Amniotic Fluid Aspiration	2.5 (1.25, 3.75)	Not Performed	4.5 (4, 4.5)	0.1
Needle Removal	3.5 (3, 4.75)	4 (4, 5)	4.5 (4, 4.5)	0.512

Median (IQR). N varies depending on the training method as not all participants used all forms of training and thus these were treated as independent samples. Kruskal-Wallis testing performed to compare mean ranks between groups. 5-Point Likert Scale was used (1 = Not At All Similar, 2 = A Little Bit Similar, 3 = Moderately Similar, 4 = Quite A Bit Similar, 5 = Extremely Similar).

Assessing Patient Interest in Evidence-Based Education on Supplement Use for Endometriosis Pain - A Quality Improvement Project

Authors: Megan Little (Medical Student) 1, Stephanie Grasso NP 2, Alexandra L. Mardock MD 2, Erin Carey MD MSCR 2,3

Authors affiliations:
1 School of Medicine, University of North Carolina, Chapel Hill, NC, USA
2 Department of Obstetrics and Gynecology, University of North Carolina, Chapel Hill, NC, USA
3 NC TraCS Institute – Fast TraCS

Endometriosis affects approximately 10% of reproductive-aged women and is a leading cause of chronic pelvic pain. Despite the large number of patients using supplements for pain control, a significant gap exists between available clinical evidence and patient access to this information. Currently, patients at the UNC Minimally Invasive Gynecologic Surgery (MIGS) clinic receive informal counseling from providers about the use of supplements for endometriosis pain. This quality improvement (QI) project aims to assess whether a need exists for the development of more uniform and evidence-based educational materials regarding this topic for routine distribution to patients in the clinic.

Design:
A survey will be distributed via QR code and hard copy to patients with a diagnosis of endometriosis seen at the UNC MIGS clinic. It will assess current supplement use for endometriosis pain, sources of information on the topic, barriers to use, interest in receiving further educational material, and preferences for the format and content of this material. The results of this survey will be used to inform the development of related patient education materials to be distributed in the clinic.

Implementation:
Implementation will occur in winter 2026. Steps include: (1) developing the questionnaire on Qualtrics; (2) training clinic staff on survey introduction and the importance of the quality improvement initiative; (3) distributing printed copies of the survey and QR codes in exam rooms, waiting areas, and on appointment reminder materials.

Evaluation:
To evaluate this QI project, the primary outcome measures will be: (1) the percentage of patients with an endometriosis diagnosis who completed the survey (target ≥50% completion rate among eligible patients); (2) percentage of patients who express interest in receiving further information on evidence-based supplement use for endometriosis-related pain. Secondary outcome measures will assess: (1) percentage of patients currently using supplements for endometriosis; (2) if applicable, sources from which patients are currently obtaining information on the topic; (3) current barriers to supplement use. Survey data will be analyzed using descriptive statistics, paired or independent t-tests for continuous variables, and chi-square tests for categorical outcomes. The results of this analysis will be used to inform the development of a secondary intervention aimed at patient education on this topic.

Clinical Exposure Pathways and OB/GYN Match Outcomes Among Osteopathic Medical Students at CUSOM

Authors: Rachel Morgan-Armbruster (Medical Student), Jillian Taylor1, Madelyn Lodato1, Kelly Holder DO, FACOG, FASAM2

Authors Affiliations:
Campbell University School of Osteopathic Medicine 1Medical Student, 2Chair of Obstetrics and Gynecology

Introduction: Medical student interest in obstetrics and gynecology (OB/GYN) is shaped by structured clerkships and optional longitudinal clinical experiences. At Campbell University School of Osteopathic Medicine (CUSOM), students are exposed to women's health through an OB/GYN clerkship model across multiple clinical sites, with additional opportunities at the student-run women's health free clinic. The clinic primarily engages students during their preclinical years, prior to formal OB/GYN clerkship training. This project describes the range of OB/GYN clinical exposure pathways available to CUSOM students and examines patterns in OB/GYN residency match outcomes.

Methods: A descriptive review of OB/GYN clerkship sites, general site characteristics, and OB/GYN residency match results across multiple graduating classes was conducted. Participation in the student-run women's health free clinic was included as an additional form of clinical exposure, with a distinction between general clinic participation and student leadership or operational roles when identifiable through existing records. Analyses were descriptive and exploratory, focusing on characterization rather than assessing causality.

Results: Students completed OB/GYN clerkships across diverse clinical environments, including community-based and hospital-based settings, with some opting for additional longitudinal women's health engagement. Across graduating classes, OB/GYN residency match outcomes varied by geographic region and training environment, with match outcomes described across different levels and timing of clinical exposure.

Conclusions: This overview provides context for how OB/GYN training experiences are structured within an osteopathic education model. It highlights the early, preclinical engagement in women's health that complements traditional clerkship training. Describing these pathways may inform and support ongoing efforts in student advising, clerkship planning, and future evaluation of clinical training environments.

Influence and Impact of Reflection, Introspection, and Gratitude on Medical Student Well-Being and Self of Belonging during Surgical Clerkship

Authors: Alana Davidson (Medical Student), Jeana Chun, BS*, Isabel Shaffrey, BS, Kevin Ig-Izevbekhai (2), Sarah Dotters-Katz , MD(3), Ryan Antiel, MD, MSME (2)

Author Affiliations: Duke University School of Medicine, 2. Department of Surgery, Duke University School of Medicine, 3. Department of Obstetrics and Gynecology, Duke University School of Medicine

The concept of burnout has become an important and pertinent topic in medical education. Burnout among medical students is common, especially during the Surgery clerkship, which is often one of the most demanding and emotionally challenging rotations. High rates of exhaustion, depersonalization, and reduced sense of accomplishment contribute to decreased empathy and poorer educational experiences (1,2). Interventions centered on gratitude have shown promise in reducing burnout and improving well-being among healthcare professionals (3–6). Gratitude fosters perspective-taking, social connection, and emotional regulation. Studies such as the Three Good Things intervention have demonstrated measurable improvements in mood, work satisfaction, and resilience (7). While gratitude interventions have been studied in practicing clinicians, their integration into medical education remains limited. To address this gap, this study aims to assess the impact and effect of a gratitude and self-reflection exercise upon medical students' sense of belonging, satisfaction, and general interest in the specialty during their Surgery Clerkship.

This is a single-institution, prospective educational quality-improvement study that will assess the impact of a gratitude-based intervention on student burnout, sense of belonging, and interest in surgery during students'

Surgery clerkship. This gratitude intervention will include the following:

1. A 5–7 minute educational presentation introducing the science of gratitude, its relationship to burnout, and its relevance to medical training.
2. An end-of-rotation gratitude exercise in which students write a thank-you note to a member of their clinical team.
3. An optional "Three Good Things" journaling extension in which students record three positive experiences daily for 14 days during the clerkship.

The intervention will be implemented beginning January 2026 within the Surgery clerkship at Duke University School of Medicine. The educational video and opt-in journaling materials will be introduced during clerkship orientation, and the gratitude note exercise will occur during the final week of the rotation. The opt-in journaling extension will be limited to a small number of volunteers per rotation to ensure feasibility.

Evaluation will use existing end-of-rotation Surgery Clerkship survey data supplemented with brief additional questions to identify opt-in participation. Outcomes include clerkship satisfaction, sense of belonging, burnout, and interest in a surgical career.
Planned analyses include:

1. Between-year comparisons of survey outcomes between the intervention cohort (2026) and a historical pre-intervention cohort (2025).
2. Within-year comparisons between students who opt into the journaling extension and those who do not.

3. Dose–response analyses examining associations between number of journaling days completed and student outcomes.

The goal of this study is to assess the effectiveness and impact that brief gratitude and self-reflection exercises may have upon student experience and satisfaction during their Surgery clerkship. It is hypothesized that these brief interventions may help reinforce student wellness during clinical rotations without adding additional burden to student workload.

References:

1. Frajerman A, Morvan Y, Krebs MO, Gorwood P, Chaumette B. Burnout in medical students before residency: A systematic review and meta-analysis. Eur Psychiatry. 2019;55:36-42. doi:10.1016/j.eurpsy.2018.08.006
2. Dyrbye LN, Thomas MR, Shanafelt TD. Systematic review of depression, anxiety, and other indicators of psychological distress among U.S. and Canadian medical students. Acad Med. 2006;81(4):354-373. doi:10.1097/00001888-200604000-00009
3. https://psycnet.apa.org/doiLanding?doi=10.1037%2F0022-3514.84.2.377
4. Cheng ST, Tsui PK, Lam JH. Improving mental health in health care practitioners: randomized controlled trial of a gratitude intervention. J Consult Clin Psychol. 2015;83(1):177-186. doi:10.1037/a0037895
5. Lanham, M. E., Rye, M. S., Rimsky, L. S., & Weill, S. R. (2012). How gratitude relates to burnout and job satisfaction in mental health professionals. Journal of Mental Health Counseling, 34(4), 341–354. https://doi.org/10.17744/mehc.34.4.w35q80w11kgpqn26
6. Emmons RA, Stern R. Gratitude as a psychotherapeutic intervention. J Clin Psychol. 2013;69(8):846-855. doi:10.1002/jclp.22020
7. Sexton JB, Adair KC Forty-five good things: a prospective pilot study of the Three Good Things well-being intervention in the USA for healthcare worker emotional exhaustion, depression, work–life balance and happiness BMJ Open 2019;9:e022695. doi: 10.1136/bmjopen-2018-022695

QI Project / Educational Video: Oophorectomy at the time of Hysterectomy: A Video to Aid Patient Decision Making

Authors: Megan Wade, MD (Resident), Alex Diggs, MD (UNC Onc Fellow)

What is the educational need? The decision to perform salpingo-oophorectomy at the time of hysterectomy carries substantial long-term health implications and requires a nuanced understanding of associated risks and benefits. Additionally, new data has shifted the recommended age for oophorectomy at the time of hysterectomy. In the context of evolving clinical guidelines, there are few existing resources to help patients decide whether to keep their tubes and ovaries at the time of hysterectomy.

How will you design your idea? We have designed a video (Appendix A) to be shared with patients prior to their pre-operative appointments. The goal of the video is to equip patients to have an informed discussion with their provider.

The video will be mixed format, with simple animations accompanying the section on anatomy and function of the various organs. We will also interview several attendings (gyn oncology, MIGS, generalist OB/GYN, menopause specialist). The interviews will be live videos, recorded and edited by our team with the help of a professional videographer/video editor. Our goal is to have the video finished by early February.

How will you implement your idea? We will send this video to patients scheduled for pre-operative visits via MyChart vs email.

How will you evaluate your idea? We will send patients a post-video survey (Appendix B) to evaluate the effectiveness of the video.

Appendix A: Draft of Script for "Oophorectomy at the time of Hysterectomy: A Video to Aid Patient Decision Making**"**

Intro: When planning to have a hysterectomy, an important decision is whether or not to have your ovaries and fallopian tubes removed as well. The purpose of this video is to provide you with the tools necessary to have an informed discussion with your surgical team, and make the best choice for you.

In this video, we will review:

1. The function of the fallopian tube and ovary
2. The benefits of keeping vs removing ovaries
3. Factors that might impact each individual patient's choice

Review of Anatomy

- Diagram of uterus, cervix, tubes, ovaries and function of each (focus on tubes/ovaries)
- +/- name of removal ("you may hear the terms hysterectomy, salpingectomy, oophorectomy – this is the removal of the uterus, tubes, or ovaries) with graphic highlighting words/part as they are stated

Benefits of Keeping vs Removing Ovaries: Once a person is done childbearing, the primary job of the ovaries is to produce the hormones estrogen and progesterone. When the ovaries naturally stop producing these hormones (or slow to a very low level), women experience menopause.

After menopause, the ovaries continue to produce a very small amount of hormones for several years. Even this very small amount of hormones released by the ovaries may support bone and heart health as a person ages.

However, the ovaries can also be the source of some problems later in life. Ovarian cancer is a rare but aggressive type of cancer that occurs in about 1 in 70 women, and is thought to often originate in the tip of the fallopian tube (fimbriae). Additionally, there is a risk of needing surgery on the ovaries after a hysterectomy - for ovarian cysts, ovarian torsion, or ovarian cancer. This risk has been quoted as high as 9%, or almost 1 in 10. Therefore, after a certain age, the recommendation is to remove the ovaries and tubes to reduce the risk of ovarian cancer or need for re-operation.

MIGS Attending: *In general, I recommend that my patients over the age of 50 consider having their ovaries removed. After this age, removal of the ovaries avoids re-operation and decreases the risk of breast, ovarian, and colorectal cancers without changing a person's average length of life. If desired, a patient can also take hormone replacement therapy to help with any side effects from ovarian removal. These side effects are the same ones that a patient would normally experience at the time of menopause – vaginal dryness, hot sweats, changes in mood, etc.*

Under the age of 50, removal of the ovaries can put a person into early menopause, and does have some risks. These include increased risk of cardiovascular disease, stroke, fracture, and neurologic decline. However, the risks of removal can be mitigated by taking hormone replacement therapy.

Onc Attending : *Sometimes we do recommend that younger patients, even those under 50, have their ovaries removed. This is especially the case when we suspect or know that there is a cancerous or precancerous process involving the tubes or ovaries. This could be because they are at an increased risk of breast or ovarian cancer, if they have a mass in their ovary (be that benign or cancerous), or if a patient would be a very high risk surgical candidate and is not recommended for repeat surgeries. It is important that these patients receive the appropriate hormone replacement therapy to decrease their risk of negative side effects.*

When I counsel a patient about whether to remove the ovaries at the time of hysterectomy—particularly in women younger than 50—I emphasize that this decision is individualized and goes well beyond cancer alone. In premenopausal patients, we are thoughtful about ovarian conservation because the ovaries play an important role in hormonal health, cardiovascular protection, bone density, cognitive function, and overall quality of life. That said, there are situations in which removal of both ovaries (bilateral salpingo-oophorectomy, or BSO) may be appropriate even in the absence of a known or suspected ovarian or fallopian tube cancer or precancer. These include the presence of concerning or bilateral ovarian masses, risk-reducing surgery in patients with a known genetic predisposition or a personal history of hormone-sensitive breast cancer, and, in some cases, patient-driven preference—such as a strong family history of ovarian or related cancers despite negative genetic testing— after careful discussion of risks and benefits.

Separately, I routinely recommend removal of both fallopian tubes (salpingectomy) at the time of all total hysterectomies when the ovaries are otherwise being preserved. This recommendation is based on strong evidence that many high-grade serous ovarian cancers originate in the fallopian tubes, and opportunistic salpingectomy has been shown to reduce a woman's lifetime risk of ovarian cancer by approximately 30–65% without inducing menopause or compromising ovarian function.

My goal in these discussions is to balance cancer prevention with long-term health, ensuring that each patient's values, risk profile, and overall well-being are central to the decision.

Dr. XXX on HRT: *The mainstay of hormone replacement therapy is Estrogen +/- Progesterone. The role of the progesterone is to protect the endometrial lining from overstimulation by the estrogen, and the associated risk of developing endometrial cancer/precancer. When the uterus has been surgically removed, estrogen alone is recommended instead. Estrogen hormone replacement comes in the form of pills, patches, or topical treatment. I typically recommend patients start with the patches. They have to be replaced on a weekly basis, and they are*

slightly safer because they do not have to be metabolized by the liver like the oral medication does. In that setting, they have not been shown to have an increased risk of blood clots. I also recommend vaginal estrogen to many of my patients for symptoms like vaginal dryness, sexual dysfunction or frequent urinary tract infections.

For patients undergoing surgical menopause, meaning their ovaries have been removed before they go through menopause on their own, we start with a higher dose of estrogen to match what the ovaries were producing at the time of removal.

At this point, the data is pretty clear that the risk of low dose hormone replacement therapy is minimal if started before age 60 and within 10 years of menopause. This is especially true with subdermal estrogen (the patch) and micronized progesterone. Estrogen alone does not increase the risk of breast cancer, and in fact likely decreases the risk. There is no increased risk of clot or heart disease and we know that estrogen replacement improves bone health and decreases risk of colorectal cancer.

Onc (or any) Attending, OR voice over: *While these interviews highlight the recommendations for the average patient, it is important that you understand your own personal risks, as well as values, when deciding whether to remove your ovaries at the time of hysterectomy. Your doctor can help you understand your individualized risk.*

Voice over: Some things to think about as you approach this conversation include:

- Age
- Family history of cancers
- Personal history of cancer
- Anxiety or worry when approaching a surgery
- Ability to access medications, such as hormone replacement therapy
- Feelings around taking a medication such as hormone replacement therapy
- Personal or cultural values around removal of an organ

Sometimes these factors are in conflict and we have to weigh them against one another (visual of scale with factors in different sizes). This is something your healthcare team can help you navigate

[Summary slide]

- *We now know that most ovarian cancers originate in the fallopian tube. Therefore, removal of the fallopian tubes (or salpingectomy) is recommended when having a hysterectomy at any age.*
- *After the age of 50, it is generally recommended to have your ovaries removed (oophorectomy) at the time of hysterectomy to prevent the risk of cancer or need for re-operation. Hormone replacement therapy can be prescribed to help with symptoms and support bone and cardiovascular health. However, this remains a personal decision that you should discuss with your doctor.*
- *Before the age of 50, it is occasionally necessary to have the ovaries removed. In these cases, hormone replacement therapy can help prevent symptoms and mitigate risks of early surgical menopause.*

We hope you feel more equipped to discuss your surgical planning with your care team. If this video prompts any questions for you, we encourage you to write them down and bring them to your appointment.

Appendix B: Draft of patient survey (Likert Style)

How would you rate your understanding of the role of the ovaries in the body? How prepared do you feel to discuss the removal of your ovaries at the time of your hysterectomy? At this time, do you think you would choose to have your ovaries removed at the time of your hysterectomy?

___

How would you rate the quality of this video?

How would you rate the information in this video?
To what extent did this video answer your questions/
How well were you able to understand the video?
Would you recommend this video to others?
How would you rate your overall satisfaction with this video?
How would you rate your understanding of the video's recommendation for ovarian preservation vs removal?
How likely are you to choose to remove your ovaries (based on talking with your doctor and watching the video?)

National Trends in Pelvic Lymphadenectomy performed by Gynecologic Oncology Fellows

Authors: Daniel Clarke-Pearson, MD (Professor), Mitchel Hoffman, MD2, Dennis Chi, MD3, Karen H Lu, MD2, Wenyi Fan, MSPH4, William Cliby, MD5

Author Affiliations: 2 Moffitt Cancer Center, 3Weill Cornell Medical College Gynecology Service, 4Biostatistics and Bioinformatics Shared Resource, 5Mayo Clinic

Introduction

Radical gynecologic oncology (GO) surgery often depends on complex dissections in the pelvic retroperitoneum. We believe that the best example of training to perform surgery in the pelvic retroperitoneum is defined by the skills required to perform a pelvic lymphadenectomy (PL). The ability to dissect the pelvic sidewall, vasculature, ureter and nerve anatomy is critical to successful surgical outcomes. Further, managing complications associated with this dissection (especially vascular injury) is a necessary skill. These are the skills that a GO fellow should acquire during their fellowship training. ACGME has now reported the results of GO fellows' surgical experiences over the past five years. We propose to investigate the experiences of GO fellows in performing pelvic lymphadenectomy.

Materials/Methods

Publicly available data published by the ACGME reporting the past five years for all GO fellowships was evaluated. The number of PL cases performed by graduating fellows were reviewed. We also evaluated the number of pelvic sentinel node dissections during this same time period. Across all fellowships the median number of cases were evaluated. Specific number of cases per fellow or institution were not available limiting statistical analysis such as standard deviation.

Results

During the 5 year study period (2020-2025) there was a significant decline in the performance of PL. In 2020 the median PL was 61 and in 2025 the median PL was 38. Over the same 5 year time frame, sentinel SN PL increased from 63 (2020) to 96 (2025).

Conclusions

Over the past 5 years the performance of PL by GO fellows has decreased significantly and the performance of SNPL has increased. The decline in PL procedures by fellows in training may impact the ability of GOs in independent practice to perform extensive gynecologic cancer surgery in the pelvis.

"POV: You're the Patient" - Virtual Reality for Medical Trainees

Authors: Hannah Kelly, MD (Resident), Chan Park, MD - Medical Associate Professor in the Department of Emergency Medicine

What is the educational need? Despite advances in medical training, significant gaps persist in teaching empathy, cultural humility, and patient-centered care. Traditional medical education emphasizes biomedical knowledge and technical skills, while research shows empathy scores among medical students decline significantly during clinical years. Current training methods (including high-fidelity manikin-based simulation and standardized patients) provide valuable experiential learning but are limited in standardization, scalability, and authenticity. These approaches often fail to capture patients' subjective experiences of fear, vulnerability, marginalization, and communication barriers.

Developing genuine empathy requires exposure to realistic clinical contexts, authentic patient narratives, health equity frameworks, and first-person perspective-taking opportunities. Virtual reality (VR) offers a transformative solution by allowing trainees to experience healthcare from the patient's perspective. Research demonstrates that immersive, patient-embodied VR significantly improves empathy, reduces stigma, and deepens understanding, with measurable pre-post gains in validated empathy scores. However, while VR technology exists and research supports its efficacy, minimal open-source, patient-perspective VR content exists for graduate medical education. Most existing medical VR focuses on technical procedures rather than humanistic skills, leaving a critical gap in empathy training resources.

How will you design your idea? Through the assistance of the interdisciplinarily-focused Bass Connections Grant (valued at $15,000), this project will create an undergraduate course where students will create 3-4 immersive, open-source VR experiences that place the viewer in an immersive experience that is authentic to a certain patient perspective. The design follows a four-phase approach over one academic year. In Phase 1 (Fall 2026), an interdisciplinary student team—including medical students, pre-health undergraduates, humanities students, and computer science students—will conduct a landscape analysis and complete a systematic literature review examining VR effectiveness in medical education.

Phase 2 (Fall 2026-Winter 2027) focuses on narrative development through IRB-approved semi-structured interviews with diverse patients about their healthcare experiences, specifically moments where empathy mattered. Patient narratives will be transformed into VR scripts reviewed by patients with related anecdotal experiences for authenticity and clinical faculty for medical accuracy.
In Phase 3 (Winter-Spring 2027), students will collaborate with Duke Co-Lab VR Studio to film 360-degree footage in clinical settings that will be transformed into VR scenarios intended for open access publication, as well as, developing facilitator guides and assessment tools alongside this immersive content.
Phase 4 (Spring 2027) involves pilot testing with 40-50 Duke medical personnel using a pre/post design, with the Jefferson Scale of Empathy as the primary outcome measure and qualitative interviews exploring participant experiences. This project builds on an ongoing pilot creating a VR experience from the perspective of a non-English speaking patient undergoing cesarean section, using that proof-of-concept as a workflow template to be systematically expanded by the students who enroll in the course.

How will you implement your idea? Implementation follows a multi-level approach designed for both local impact and national scalability. Locally, we aim to integrate the VR products into Duke interprofessional curricula across multiple disciplines (surgical techs, nursing students, PA students, medical students, residents, fellows, and attendings). Facilitators will provide structured feedback on integration challenges, which will inform refinement of facilitation guides.

The project management structure of the undergraduate course features a cascading mentorship model where Duke faculty mentor medical students who are hired to be teaching assistants/program directors for the course. In turn, those medical students mentor the undergraduates in research methods, and all team members learn from the patients navigating the health system, centering lived experience.
For broader dissemination and sustainability, the team will create a comprehensive open-source implementation toolkit including downloadable VR files, facilitator guides with learning objectives and debriefing questions, assessment tools, technical requirements documentation, and a workflow manual for institutions wanting to create their own scenarios.

The VR experiences require only standard VR headsets (Meta Quest, HTC Vive) and minimal technical expertise, enabling widespread adoption. Academic dissemination includes an anticipated 2-3 peer-reviewed manuscripts in medical education journals, 4-6 student-led conference presentations, and a white paper for Duke GME leadership with curriculum integration recommendations.

Key partnerships include Duke Co-Lab VR Studio (technical equipment and expertise), Duke Health clinical departments (filming locations and pilot testing sites), and the Feagin Leadership Scholars Program (sharing lessons learned from the initial pilot project). This design ensures immediate educational impact while creating replicable resources for national transformation of empathy training.

How will you evaluate your idea? This project features a dual-level evaluation design that embeds assessment and scholarship throughout the learning experience. The hired medical student project managers will be tasked with evaluating the impact of the Bass Connections course itself on the undergraduate student participants, examining how participation in this interdisciplinary research and content creation experience shapes their understanding of patient-centered care, research skills, interprofessional collaboration, and career interests.

The undergraduate students, working under the guidance of their medical student mentors, will design and conduct research evaluating the impact of the VR scenarios they create on various medical trainee audiences. This approach transforms all team members into both educators and educational researchers, creating authentic scholarship opportunities while answering critical implementation questions.

The undergraduate-led VR evaluation will explore key questions about optimal audience and differential impact: Who is the best audience for these VR experiences? Which populations show measurable changes in empathy, attitudes, or behavior over time? Are there differences in impact between training levels (students vs. residents vs. attendings)? Do different types of medical providers (physicians vs. nurses vs. PAs) respond differently to patient-perspective simulations?

Students will pilot test the VR experiences with 40-50 Duke medical personnel across diverse roles and training levels, using a pre/post design with validated instruments. Potential assessment tools include: the Jefferson Scale of Empathy (JSE) - a 20-item validated instrument widely used in medical education; the Interpersonal Reactivity Index (IRI) - measuring perspective-taking and empathic concern; the Cultural Competency Self-Assessment; the Patient-Practitioner Orientation Scale (PPOPS) - assessing patient-centered attitudes; and qualitative semistructured interviews exploring memorable moments, perspective shifts, and intended practice changes. Students will also assess VR experience quality, technical usability, and emotional impact through participant surveys and facilitator feedback.

The medical student mentors and undergraduate team members will be responsible for solidifying the specific research questions, selecting and refining assessment instruments, designing the evaluation protocol, collecting and analyzing data (including subgroup analyses by role, training level, and specialty), and preparing findings for publication. IRB submission is planned for October 2026 with anticipated approval in December 2026 and data collection January-April 2027. This evaluation design ensures that assessment is not an add-on but rather an

integrated learning opportunity where students develop research literacy while generating actionable evidence about VR's role in empathy education.

Understanding the Transition to a US-Based OB/GYN Residency Program through the Eyes of International Medical Graduates and Program Director

Authors: Chelsea Zhang (Medical Student), Brittany Davidson, MD(1), Sydney Sheffield(2), Maya Nitecki, MD MPH (1), Dana Hazimeh, MD (1), Sarah Dotters-Katz, MD MSHPEd (1); (1)Duke University Department of OB/GYN, (2) Duke University School of Medicine

Introduction: Data suggest that international medical graduates (IMGs) comprise ~10-15% of the OB/GYN physician work force in the US, serving predominantly underserved patients in healthcare deserts. Despite their large role in the delivery of OB/GYN care nationwide, there is a lack of data surrounding their transition to patient care in the US, particularly as they navigate long standing biases against international medical trainees.

Methods: We performed an IRB-approved qualitative study of internationally-trained OB/GYN residents across the United States and OB/GYN residency program directors. Semi-structured interviews were performed to understand barriers and facilitators to the current state of the transition to US-based practice. Purposeful sampling was performed to recruit a diverse cohort across type of program and percentage of IMGs. All interviews were performed virtually, recorded and transcribed using a Duke-approved vendor. The first three transcripts were reviewed, and a preliminary codebook for the data set was constructed. Two authors conducted line-by-line coding using an inductive thematic analysis to identify major themes.

Results: 31 participants consented and completed interviews (13 program directors, 18 IMG residents; 16 states represented). Two of the PDs had also been IMGs as trainees, themselves. Emerging themes included: 1. Prior post-graduate training 2. IMG community 3. GME structural support 4. IMG Character traits 5. Navigating biases.

Conclusions: Despite the current political climate, foreign-trained healthcare professionals are critical to the provision of care in the United States, particularly in healthcare deserts. Opportunities exist on individual, program & institutional levels to maximize support in their transition to US-based practice.

Undergraduate Medical Education (UME) Oral Abstracts

1. “Prenatal Care Delivery by utilizing a Low-Stakes, Formative Standardized Patient Assessment for Medical Students during their Ob/GYN Training” **(Zoya Surani, Medical Student)** 20
2. “Enhancing Skill Mapping Through Mid-Rotation Self-Assessment in OB/GYN Clerkship” **(Katie Freedy, Medical Student)**
3. “Transforming Embryology Education: Innovative Approaches to Interactive Preclinical Instruction” **(Danielle Kapustin, Medical Student)**
4. “Pelvic Floor Injections for Myofascial Pain Using a SIM: A Step-by-Step Demonstration” **(Tyler Soy, Medical Student)**

Prenatal Care Delivery by utilizing a Low-Stakes, Formative Standardized Patient Assessment for Medical Students during their OB/GYN Training

Authors
Zoya Surani, Medical Student, Duke University School of Medicine; Kelly Branford, Director, Clinical Skills Lab, Duke University School of Medicine; Deborah L. Engle, EdD, MS, Assistant Dean of Assessment and Evaluation, Duke University School of Medicine; Sarah Dotters-Katz, MD, MMHPE, Assistant Professor of Obstetrics and Gynecology, Duke University School of Medicine; Melody Baldwin, MD, MPH, Assistant Professor of Obstetrics and Gynecology, Duke University School of Medicine; Jordan Schaumberg, MD, Assistant Professor of Obstetrics and Gynecology, Duke University School of Medicine

Introduction
The most frequently utilized healthcare service in the United States (US) is prenatal care, where 98% of individuals who give birth utilize some form of care during their pregnancy. The first prenatal care visit is aimed at identifying risk factors in the pregnancy, counseling the patient on safe habits, and easing any anxieties the patient may have. Given almost half of pregnancies in the US are unplanned, this visit is vital to helping individuals understand their options going forward and how to best improve outcomes for themselves and their developing fetus. While education in prenatal care is a required part of training in the OB/GYN rotation for medical students, it can be challenging for medical students to gain adequate practice in prenatal care counseling as many other providers (midwives, NPs, family physicians) provide prenatal counseling as well. Here we aim to address lack of exposure and practice with prenatal care delivery by utilizing a low-stakes, formative standardized patient assessment for medical students during their OB/GYN training.

Methods
Clerkship medical students at Duke University School of Medicine were required to complete this standardized patient (SP) encounter as part of their OB/GYN rotation (2023-2024) or combined longitudinal outpatient rotation (2024-2025). The SP encounter was 25 minutes: 15 minutes to take a focused history, perform a physical exam, and counsel the patient, 10 minutes to write a focused SOAP note or counseling and management note for the patient. The encounter was created by subject matter experts in OB/GYN and medical education and designed around a young woman presenting in the first trimester to an obstetric provider with known pregnancy diagnosed via ultrasound after her health maintenance visit with a family medicine provider, but who had received no counseling or guidance otherwise. Students were required to self-evaluate their performance with a rubric, with primary outcome being performance on the SP encounter in each of three categories: pregnancy-specific questions, general history questions, and management plan. Descriptive statistics were used to analyze data.

Results
82 clerkship students completed the SP encounter between September 2023 and July 2024 and 109 students completed the encounter between September 2024 and July 2025. For 2023-2024, the mean performance for students in each of the sections of the encounter was 59.1% for pregnancy questions, 63.5% for general history questions, and 28.7% for management plan. For 2024-2025, performance was 80.1% for pregnancy questions, 68.5% for general history questions, and 34.3% for management plan. Two-sample t-tests to compare performance across categories in 2023-2024 with 2024-2025 were found to be significant when comparing pregnancy questions ($p < 0.001$) and management plan ($p = 0.011$).

Conclusion
To our knowledge, this clinical patient encounter is the first to provide an opportunity for clerkship medical students to practice comprehensive prenatal care counseling with SP. Significant improvements were found in performance of pregnancy-related questioning and of discussing management plan when comparing between 2023-2024 and 2024-2025. Given feedback from students in 2023-2024, students in 2024-2025 completed the SP encounter as part of their outpatient rotation given that previous students had more exposure to prenatal care in the outpatient rather than the inpatient OB/GYN clerkship. While students in 2024-2025 received the same

lectures in preclinical and clinical rotations on prenatal care, they were given additional access to prenatal care information on the outpatient rotation course page, which may have also contributed to their improved performance. Despite these changes, performance in management remained low overall, where students did not order the necessary workup or discuss more than half of the items that were listed in the scoring guide. When students are unable to receive sufficient exposure and experience in holding initial prenatal care visits in their clinical experiences, opportunities like SP clinical encounters with feedback can be an invaluable tool. Though most students will not enter a profession where they may be responsible for providing prenatal care guidance, in many professions, students will work and educate pregnant patients, and it is necessary to have the experience and practice on how to do so safely.

Enhancing Skill Mapping Through Mid-Rotation Self-Assessment in OB/GYN Clerkship

Authors: Katherine Freedy, Medical Student; Sarah Wright; Melody Baldwin, MD MPH; Jordan Schuamberg, MD; Jennifer Howell, MD; Sarah Dotters-Katz, MD MSHPEd - All affiliated with the Duke Department of Obstetrics and Gynecology

Introduction: Obtaining feedback/talking points for mid-clerkship feedback/review can be challenging. To add a talking point and glean better understanding of students' skill evolution, a required student self-assessment added prior to MCR. We evaluated the utility of this tool in understanding student skill/knowledge evolution.

Methods: Observational cohort study of medical students completing 4-week OBGYN clerkship at single academic institution from 6/24-7/25. Student required Likert-based(A lot less comfortable:1→A lot more comfortable:5) self-assessment developed using EPAs and clerkship objectives, then deployed each block prior to mid-clerkship feedback/review. Primary outcomes were median comfort scores(MCS) with procedural skills, EPAs, and knowledge. Students starting on OB sub-rotation compared to those starting on GYN sub-rotations. Bivariate nonparametric statistics used to analyze data. Subjective feedback obtained from clerkship director on tool utility.

Results: 133(100%) students completed the self- assessment prior to mid-clerkship feedback/review.

Overall, clerkship students reported significant improvement in suturing skills. GYN-starting students reported increased comfort with speculum and bimanual exams(MCS:4(IQR:4,3)vs3(IQR:3,3),$p<0.001$ for both).

OB-starting students reported significant improvement in comfort with oral presentations, writing H+Ps, rounding on patients, performing post-op checks, and writing rounding notes compared to GYN-starting students(all $p<0.001$).

Overall, clerkship students reported improved knowledge of contraception, labor and pre-eclampsia. Ob-starting reported better knowledge of labor(MCS:5(IQR4,5)vs3(IQR:3,4),$p<0.001$) PPH(MCS:4(IQR3,4)vs3(IQR:3,3),$p<0.001$, and preeclampsia(MCS:5(IQR4,5)vs3(IQR:3,4),$p<0.001$). Gyn-starting students reported better knowledge of gynecologic cancers(MCS:4(IQR3,4)vs3(IQR:3,3),$p<0.001$).

The clerkship director felt this tool to be very helpful with goal setting for remaining clerkship time.

Conclusion: This easily implemented student self-assessment assisted the clerkship director with goal setting during mid-rotation feedback and was a valuable tool to identify EPAs/procedural skills occurring across sub-rotations.

Transforming Embryology Education: Innovative Approaches to Interactive Preclinical Instruction

Authors
Danielle Kapustin, Medical Student - University of North Carolina School of Medicine; Kurt Gilliland, PhD- University of North Carolina School of Medicine, Department of Cell Biology and Physiology; Emily Moorefield, PhD - University of North Carolina School of Medicine, Department of Cell Biology and Physiology; Evan Raff, MD- University of North Carolina School of Medicine, Division of Hospital Medicine

Introduction
Understanding embryologic development is crucial for aspiring obstetricians, as congenital anomalies influence prenatal care, guide obstetric decision-making, and remain a leading cause of infant mortality and lifelong morbidity. Yet embryology education has historically relied on passive, lecture-based instruction that fails to convey the 3D and dynamic nature of human development critical to understanding these conditions. Student feedback and NBME underperformance on embryology-related questions at the University of North Carolina School of Medicine (UNC SOM) highlighted limitations in current embryology instruction, underscoring the need for innovation. Although several institutions have implemented effective one-off interactive embryology lessons, similar approaches have not yet been adopted in a comprehensive, multi-part curriculum at UNC or nationally. As a result, we sought to transform preclinical embryology education for first- and second-year medical students through the design, implementation, and evaluation of a longitudinal, scalable, and interactive curriculum aimed at improving conceptual understanding, NBME performance, and clinical readiness.

Methods
From May 2025 to the present, eight 20-minute interactive embryology lessons were developed and integrated into the preclinical curriculum at UNC SOM as part of Translational Education at Carolina (TEC) 2.0. Topics included: (1) gastrulation and germ layer folding, (2) cardiac looping,
(3) congenital cardiac defects, (4) gastrointestinal rotation, (5) urinary tract and kidney development, (6) pharyngeal apparatus formation, (7) neurulation, and (8) primitive brain vesicle and ventricle formation. Instruction incorporated tactile, visual, and kinesthetic modalities, including 3D models, animations, and hands-on demonstrations. Activities required less than $200 for materials that were largely reusable across cohorts, including clay, pop tubes, pipe cleaners, aquarium tubing, kinetic sand, and virtual animations. Each session was aligned with concurrent organ-system courses and developed in collaboration with course directors. Approximately 200 preclinical medical students participated in each session.

Educational outcomes were evaluated using subjective learner feedback and aggregate NBME performance trends. For the first two sessions, pre- and post-activity surveys assessed self-reported understanding of key concepts and ScholarRx learning objectives, confidence in answering related test questions, confidence in explaining concepts to a peer, and perceived usefulness using 5-point Likert scales. Due to declining survey participation, evaluation for the remaining six sessions was streamlined to a single post-activity survey in which students reported whether understanding and confidence improved, remained the same, or worsened following the activity; perceived usefulness continued to be assessed using a 5-point Likert scale. Qualitative feedback was collected via free-response comments. Aggregate NBME performance data were analyzed and compared with baseline performance from the 2023–2024 and 2024–2025 academic years prior to curriculum implementation, acknowledging limitations related to confounding variables inherent in aggregate assessment data.

Results
Across each of the eight activities, the majority of students indicated an increased level of understanding of each key concept and ScholarRx learning objective involved. Additionally, the students' self-reported level of confidence across both assessed competencies also increased for all activities. Together, these findings indicate a robust positive shift in learner understanding and confidence following the intervention. Additionally, for each of the eight activities, students rated them on average, *moderately useful* to *very useful* (mean scores ranging from 3.05 to

4.44). The activity rated most useful on average was the 3D printed congenital cardiac defect activity. Although the kinetic sand neural tube model was rated as the least useful relative to other activities, it was nevertheless ranked as moderately useful on average, indicating perceived educational benefit. Qualitative, free-text feedback was largely positive, often citing benefits derived from interacting with tactile 3D models. Objective NBME assessment data are actively being compiled from this past semester and will be analyzed later this month. Of note, limitations to using NBME aggregate data include inability to control for confounding variables such as inter-class variability.

Conclusion

This multi-part, interactive embryology curriculum demonstrates that integrating brief, hands-on lessons into a systems-based medical school curriculum is both feasible and educationally impactful for preclinical education foundational to OBGYN and pediatrics. Across eight topics, students consistently reported improved conceptual understanding and greater confidence in applying and explaining embryologic principles, with activities rated moderately to very useful overall. Iterative refinement and alignment between activity design and learning objectives will be continued. Collectively, these findings support interactive, multimodal instruction as an effective approach to addressing longstanding gaps in embryology education. By offering a scalable model that enhances learner engagement and clinical readiness, this curriculum has the potential to improve foundational knowledge essential for OBGYN and related fields at UNC and nationwide, contributing to better preparation for NBME assessments and ultimately, improved patient care.

Pelvic Floor Injections for Myofascial Pain Using a SIM: A Step-by-Step Demonstration

Authors
Tyler Soy, Medical Student, UNC School of Medicine; Annie Wang, UNC School of Medicine; Renee Sullender MD MPH, UNC School of Medicine; Erin Carey MD MSCr, UNC School of Medicine

Introduction
Myofascial pelvic pain is a common contributor to chronic pelvic pain and is frequently related to focal areas of muscle tenderness within the pelvic floor. [3] These areas, often referred to as *tender points*, represent localized regions of increased pain sensitivity within pelvic floor muscles and may not demonstrate all classic features of traditional trigger points. [4] Tender point injections are indicated for patients with pelvic myofascial pain who have not improved with first-line pelvic floor physical therapy or second-line medical management, such as skeletal muscle relaxants. [5] Despite their role in treatment algorithms, training in pelvic floor injections is limited, in part due to the sensitive nature of the exam and concerns related to patient comfort and safety. This project aimed to develop an instructional video demonstrating pelvic floor tender point injections and to describe the creation of a low-cost, low-fidelity simulation model for teaching injection technique.

Methods
We developed a step-by-step educational video reviewing pelvic floor myofascial pain, relevant anatomy, and clinical indications for tender point injections. The video demonstrated proper injection technique using a low-fidelity simulation model constructed from readily available materials, including a pelvic bone model, elastic bands, and a silicone vaginal model to simulate pelvic muscles, ligaments, and the vaginal canal. The demonstration emphasized trauma-informed pelvic exam principles, identification of tender points through palpation, appropriate needle depth, aspiration prior to injection, and slow delivery of local anesthetic. The model was positioned to approximate patient positioning during clinical pelvic floor injections.

Results
The final educational product consisted of an instructional video paired with a reproducible, low-cost simulation model designed for procedural demonstration and practice. The model was used to illustrate pelvic floor anatomy, tender point identification, and injection technique. This project did not include a formal assessment of learner outcomes, procedural competence, or clinical effectiveness.

Conclusion
This project describes the development of an educational video and low-fidelity simulation model focused on pelvic floor tender point injections for myofascial pelvic pain. While educational effectiveness was not evaluated, this resource may help address gaps in procedural training and provide a foundation for future studies assessing learner confidence, skill acquisition, and effectiveness of these models for true clinical application.

References
1. Sayed D, Grider J, Strand N, Hagedorn JM, Falowski S, Lam CM, Tieppo Francio V, Beall DP, Tomycz ND, Davanzo JR, Aiyer R, Lee DW, Kalia H, Sheen S, Malinowski MN, Verdolin M, Vodapally S, Carayannopoulos A, Jain S, Azeem N, Tolba R, Chang Chien GC, Ghosh P, Mazzola AJ, Amirdelfan K, Chakravarthy K, Petersen E, Schatman ME, Deer T. The American Society of Pain and Neuroscience (ASPN) Evidence-Based Clinical Guideline of Interventional Treatments for Low Back Pain. J Pain Res. 2022 Dec 6;15:3729-3832. doi: 10.2147/JPR.S386879. Erratum in: J Pain Res. 2022 Dec 24;15:4075-4076. doi: 10.2147/JPR.S402370. PMID: 36510616; PMCID: PMC9739111.
2. Shipton B, Sagar S, Mall JK. Trigger Point Management. Am Fam Physician. 2023 Feb;107(2):159-164. PMID: 36791442.
3. Practice Guidelines for Chronic Pain Management: An Updated Report by the American Society of Anesthesiologists Task Force on Chronic Pain Management and the American Society of Regional

Anesthesia and Pain Medicine*. Anesthesiology 112(4):p 810-833, April 1, 2010. | DOI: 10.1097/ALN.0b013e3181c43103
4. Appasamy M, Lam C, Alm J, Chadwick AL. Trigger Point Injections. Phys Med Rehabil Clin N Am. 2022 May;33(2):307-333. doi: 10.1016/j.pmr.2022.01.011. PMID: 35526973; PMCID: PMC9116734. 27
5. Ross V, Detterman C, Hallisey A. Myofascial Pelvic Pain: An Overlooked and Treatable Cause of Chronic Pelvic Pain. J Midwifery Womens Health. 2021 Mar;66(2):148-160. doi: 10.1111/jmwh.13224. Epub 2021 Mar 31. PMID: 33788379.
6. Langford CF, Udvari Nagy S, Ghoniem GM. Levator ani trigger point injections: An underutilized treatment for chronic pelvic pain. Neurourol Urodyn. 2007;26(1):59-62. doi: 10.1002/nau.20393. PMID: 17195176.
7. "KenHub" anatomy images, B-roll and stock footage provided by Canva

Video Link:
Pelvic Floor Injections for Myofascial Pain Using a SIM_A Step-by-Step Demonstration

Graduate Medical Education (GME) Oral Abstracts

1. “D&E Simulation Application” **(Adam Elwood, Fellow)**
2. “Improving the Surgical Experience of Neurodivergent Patients” **(Drs. Lauren Schiff, Professor, Renee Sullender, Fellow)**
3. “Uterine Manipulators 101: How to select the right instrument for any surgical case” **(Dr. Rachel Stoddard, Resident)**
4. "Adopt an Intern" - Nurse Mentorship Program for OBGYN Residents **(Dr. Hannah Kelly, Resident)**

D&E Simulation Application

Authors: Adam Elwood, MD, Fellow, UNC Complex Family Planning

Simulation Model Details

1. **Type of Simulation Model and Clinical Relevance:** Describe the type of simulation model and its relevance to practicing physicians. This model is a simulation for ultrasound-guided Dilation and Evacuation (D&E) training for resident physicians. Nationally, residents are receiving less exposure to D&Es. This model improves upon the existing challenges to creating ultrasound-guided models for gynecologic procedures, namely air artifact and viscosity.

2. **Purpose of the Model:** What is the model designed to test or assess? This model is designed to teach and assess hand-eye coordination during D&E procedures for resident physicians. It allows trainees to visualize target structures on ultrasound, guide forceps positioning, and provide appropriate tactile feedback upon correct instrument placement.

3. **Simulation Setup Requirements:** Include setup time, space needs, and personnel considerations. The simulation requires approximately 30 minutes to set up - ~25 minutes of at-home preparation and <5 minutes for setup by a single facilitator.

4. **Required Resources:** List materials, construction needs, personnel, time, and any other resources required.
    - Borax - 2 tsp
    - School glue – 1.5 cup
    - Warm/hot water – 5.5 cups
    - Large bowls – 2
    - Short-necked juice bottle- 32 fl oz (946mL)
    - Scissors - 1
    - Balloon - 1
    - Rubber band - 1
    - Pen or safety pin - 1
    - Retrievable items - as desired (e.g. Marking pen, small plastic toys, ping-pong ball, paper mâché balloons, etc.)
    - Plastic wrap - 1 roll
    - Ultrasound with abdominal probe and gel – 1
    - Forceps (Ringed or Sophers) - 1

    One instructor is required for setup and simulation. Simulation can last as long as desired for trainees.

    Borax, School glue, Warm/hot water, Large bowls, Short-necked juice bottle, Scissors, Balloon, Rubber band, Pen or safety pin, Retrievable items (e.g. Marking pen, small plastic toys, ping-pong ball, etc.), Plastic wrap, Ultrasound with abdominal probe and gel, Forceps (Ringed or Sophers)
    One instructor is required.

5. **Reproducibility and Scalability:** Can the model be replicated and scaled for broader use? This model has been reproduced successfully with written instructions alone. The model and supplies can be easily scaled as needed.

6. **Simulation Duration:** How much time is required to run the simulation and complete the assessment?

Each trainee should aim to retrieve a variety of target structures during the simulation, which can take 5-10 minutes per person. The formal assessment of the model is being developed during preliminary implementation trials but is anticipated to be based on specific, achievable skills that translate to real-life D&Es.

7. **Research and Validation:** Summarize any research or validation studies. There are several published D&E simulations, however, none allow for real-time ultrasound guidance without direct visualization for removal of pregnancy tissue. This method is newly developed and has not been applied to validated studies for educational evaluation, however assessment will be in line with similar previously published simulations.

8. **Strengths and Limitations:** Briefly describe the model's strengths and/or limitations. 30 This model allows for live ultrasound guidance and tactile feedback, which are the primary techniques used for D&E. The novel simulation fluid improves issues with air artifact, viscosity, and angle of entry compared to prior models. It is inexpensive, reproducible, and vegan. There is more to understand about its room temperature stability and reusability.

9. **Cost Estimate:** Provide an estimated cost for building and implementing the model. The model costs approximately $50 to start up. This includes items like glue, borax, balloons, rubber bands, and ping pong balls which can all be bought in bulk and can be used to set up many simulation sessions.

Supplemental Materials

1. **Images of the Model:** Upload clear photographs of the simulation model. Accepted file formats: .jpg, .jpeg, or .png only.
2. **Demonstration Video:** Submit a short video (up to 5 minutes) demonstrating the model in use. Optional but encouraged. Please provide a URL link to the video hosted on an external platform such as Vimeo, YouTube, Google Drive, Dropbox, Microsoft OneDrive, etc.

Simulation Model Disclosure and Compliance

1. **Patent or Intellectual Property Considerations:** Is the model patented or are there any IP considerations? Please explain. This project was the result of an amalgamation of publicly available videos of "slime tutorials" across multiple video platforms. However, inspiration was heavily influenced from the content of "RainbowPlayMaker" on the YouTube platform.

2. **Conflicts of Interest and Industry Involvement:** Disclose any conflicts of interest (financial and/or otherwise), third-party, or industry involvement. Include company names and describe the nature of the relationship. None

Improving the Surgical Experience of Neurodivergent Patients

Authors
Lauren Schiff, MD (Professor); Renee Sullender, MD (MIGS fellow), Ashley Hester, PhD (UNC Dept of Psychiatry), Valerie Melson, MD (Resident)

Video Link: https://drive.google.com/drive/folders/1X2XN_T7MKtpjuxSwEra_7JUCxqp2WLTb?usp=sharing

Uterine Manipulators 101: How to select the right instrument for any surgical case

Authors: Rachel Stoddard, MD, Resident; Asha McClurg, MD (UNC Health); Caroline Kwon, MD

Introduction:
Uterine manipulation plays a critical role in gynecologic surgery, yet it is often performed by students, trainees, or OR personnel with limited formal training on the proper use of uterine manipulators. In this video, we will review the functions of uterine manipulators, compare and contrast the function and operation of various types of uterine manipulators, and provide a demonstration of how movements with the manipulators correspond to intra-abdominal movements of the uterus.

Methods:
Our team created an instructional video intended for medical students and first-year residents learning the basics of uterine manipulation. Included are instructional slides on the function and types of manipulators as well as demonstration of use with a side-by-side comparison of hand movements on a model with expected movement in-situ in a case.

Conclusions/Implications:
Uterine manipulation is a key component of gynecologic surgery. We created a surgical video in order to help with learner comfort and skill in performing this critical task.

Learning Objectives:

1. Review the intra-operative function of uterine manipulators
2. Review key anatomy of the uterine manipulator
3. Compare and contrast common manipulator types

A copy of the video can be found at: https://www.youtube.com/watch?v=yEwtBcEwKmE

"Adopt an Intern" - Nurse Mentorship Program for OBGYN Residents

Authors: Hannah Kelly, MD, Resident, Dr. Rachel Wood, MD; Dr. Annie Honart, MD. All affiliated with the Duke Department of Obstetrics and Gynecology

What is the educational need?
Collaboration between providers and nurses is critical to navigate high-acuity clinical situations in Labor and Delivery units. However, formal interprofessional feedback structures are not common. Feedback is crucial for skill development and patient safety—but is most effective when grounded in trust and relationships beyond clinical tasks. In most academic centers, residents and labor and delivery nurses are governed by separate leadership and paid by different employers. This division in leadership limits communication and collaboration, creating barriers to the interprofessional teamwork essential for optimal patient outcomes.

New residents often feel intimidated by experienced nurses and uncertain how to communicate effectively, while nurses express frustration when residents lack understanding of nursing workflows or fail to value nursing expertise. These early relational challenges establish negative patterns that persist throughout training, compromising team dynamics and patient safety. There is a clear educational need for structured mentorship programs that proactively foster nurse-resident relationships before clinical responsibilities begin, creating a foundation of trust and open communication that enables effective interprofessional feedback and collaboration.

How will you design your idea?
The "Adopt an Intern" program is a peer nurse mentorship initiative created by the Provider and Nursing Community (PANC) Task Force—a joint physician and nursing committee designed to strengthen communication and team culture on Labor and Delivery. The PANC Task Force bridges institutional gaps created by separate leadership structures, providing an avenue for shared professional development and community building between the two professions.

The program pairs experienced Labor and Delivery nurses one-to-one with incoming OBGYN interns in early May, 6-8 weeks before residency begins. Nurse mentors initiate contact via email and phone, establishing communication preferences, learning about the intern's transition to residency, and offering a warm welcome. The cornerstone of the program occurs in June when nurse mentors arrange informal in-person meetings outside the hospital—coffee dates, brunches, or exploring together—to build authentic personal connections before clinical work begins. A comprehensive Program Guide supports mentors with suggested activities, intern profiles (including research interests, hobbies, and dietary restrictions), timeline expectations, and contact information for program leadership. Throughout the academic year, the mentorship relationship continues organically, with mentors serving as accessible resources for interns rotating through Labor and Delivery, offering insight into nursing workflows, unit culture, and strategies for effective collaboration.

How will you implement your idea?

Pre-Program (March-April): The PANC Task Force recruits volunteer nurse mentors from Labor and Delivery and develops the comprehensive Program Guide with input from nursing leadership, residency program directors, and chief residents.

Phase 1 - Initial Pairing and Contact (May): Nurse mentors attend an orientation meeting on May 5th to select their assigned intern and receive the Program Guide. Within two weeks, all mentors complete first contact via email and phone call, establishing communication preferences and building initial rapport. A "Milestone Marker" tracking sheet helps mentors document their first contact date.

Phase 2 - In-Person Connection (June): During or shortly after intern orientation week (June 23-27), nurse mentors coordinate in-person meetings with their interns outside the hospital. The Program Guide provides 15+ local activity suggestions to facilitate planning. Mentors document their in-person meeting date on the tracking sheet. Resident liaisons check in with both mentors and interns to ensure meetings occur and troubleshoot barriers.

Phase 3 - Ongoing Mentorship (July - June): As interns begin clinical rotations, the mentorship relationship transitions to organic, ongoing support. Nurse mentors serve as accessible resources during Labor and Delivery rotations, answering questions about unit culture, providing workflow insights, and offering encouragement. The PANC Task Force sends quarterly check-in emails to gather feedback and identify needed support.

Support Infrastructure: The PANC Task Force (comprising Labor and Delivery nurses, residency representatives, and physician leaders) meets monthly to review progress. Resident liaisons serve as accessible points of contact. Faculty mentors provide oversight and ensure alignment with educational goals.

How will you evaluate your idea?
Evaluation employs a mixed-methods approach assessing individual participant outcomes and broader unit-level cultural impacts. The resident liaisons will lead data collection and analysis with faculty mentorship and potential collaboration with Duke's medical education research core.

Implementation Fidelity: Track completion rates for key milestones including first contact (by end of May), in-person meetings (June), and ongoing interactions throughout the year. The "Milestone Marker" tracking sheet serves as a primary data collection tool, identifying logistical barriers and informing program refinements.
Participant Experience: Both nurse mentors and interns complete brief surveys at three time points—immediately following the June in-person meeting (T1), at six months in December (T2), and at program completion in June (T3). Surveys measure relationship quality and trust (adapted from the Interprofessional Collaboration Scale), perceived value of the mentorship experience, satisfaction with program structure, changes in understanding of the other profession's role, and open-ended feedback about strengths and challenges.

Interprofessional Competency Development (anticipated): Interns complete pre/post assessments at program start (May) and six months later (December) including: the Readiness for Interprofessional Learning Scale (RIPLS), a validated 19-item instrument measuring attitudes toward interprofessional collaboration; a custom knowledge assessment testing understanding of nursing roles, workflows, and communication preferences; and self-efficacy scales measuring confidence in nurse-physician communication. Paired t-tests will compare pre/post scores to determine statistically significant changes.

Dissemination: Findings will be compiled into a program evaluation report presented to Duke OBGYN leadership and the Labor and Delivery nursing unit. The team plans to submit findings for presentation at medical education conferences (AAMC, ACGME, CREOG) and publication in medical education journals, with the Program Guide included as supplementary open-access material to facilitate replication at other institutions.