

Becoming a Surgeon-Scientist: My Transition From Fellowship to Faculty



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Recently I sat on a panel of academic obstetricians and gynecologists for a medical student interest group meeting. I represented the gynecologic oncology subspecialty and felt the weight of 60 pairs of eager medical student eyes. One brave student raised her hand and asked, “How did you know you wanted to be an academic gynecologic oncologist, and what is your life really like?” Here is what I said, along with other lessons learned from my early time in practice.

Choosing the Ivory Tower

After completing my obstetrics and gynecology residency six years ago, I matched at the University of Texas MD Anderson Cancer Center for fellowship and began a steep academic trajectory. Although I had no basic science experience, I found myself in a translational gynecologic oncology laboratory led by Dr Anil Sood. No longer was I in a fast-paced clinical environment. Now I was spending weeks on unsuccessful experiments, making innumerable pipetting errors, and dealing with contaminated cultures. After six months in the lab, my largest victory was finally seeing a band on a western blot.

During my two years of research, I assumed that I would abandon bench work after my fellowship ended. Indeed, during the final two years of my fellowship I became immersed in the clinical practice of gynecologic oncology. The long days of surgery, complex patient complications, daily end-of-life conversations, obtaining fourth opinions on rare cases, and frequently being on call prepared me well for the practical aspects of clinical practice. But I found myself longing for my days in the lab, and would often make time for “science-ing” between surgical cases. The more I learned, the more questions I had, and I appreciated being able to use my creativity in a way that I could not in clinical settings.

I began my job search shortly after recognizing my passion for scientific research. I cast a broad net, knowing that academic positions for green physician-scientists

did not come easily. I lacked independent funding and a PhD, but I possessed a track record of dedication, innovation, and tenacity. I reached out to my residency mentor at Duke, Dr Andrew Berchuck, for career advice and to inquire about a potential position. One week after graduating from fellowship, I started as an assistant professor at Duke.

The Challenge of the Academic Trifecta: Education, Research, and Clinical Medicine

Although I remained humbly aware of all the things I had yet to learn, I felt prepared to practice gynecologic oncology as soon as I completed my fellowship. I soon realized, however, that making an impact in academia requires a much different type of expertise.

My second case as an attending was a patient with high-grade uterine cancer. My first-year clinical fellow asked how I approached a para-aortic lymph node dissection. I felt confident in my own ability to open up the peritoneum overlying the great vessels, but I had never coached someone else through the procedure.

Slowly I found my teaching voice, which I now use to describe every aspect of a surgical procedure: what I am thinking, how I am moving my hands, and the subtleties of holding an instrument. Teaching in a surgical subspecialty does not rely on pedagogical slideshows or lectures. Rather, it requires calm communication in high-stakes environments, anticipatory guidance, and management of unexpected events.

Despite my full clinical days, I felt immediate pressure to obtain funding. I wrote prolifically during my first year (and still do) and applied for multiple young investigator grants and pilot awards. Although my first eight attempts were unsuccessful, I eventually received a career development award after generating some preliminary data. This opportunity has enabled me to reserve 75% of my time for research and engage in career development opportunities. Funding begets data, which generates

new ideas, and six months later, I received additional funding for a uterine cancer project. Rejection does not mean failure, and I have learned over the last few years that perseverance is half the battle of academic medicine.

Team Science

I learned quickly in my first year on faculty that although my skills were clinical, my interests were scientific. However, science and ideas rarely occur in a vacuum. After a few months of learning the logistical ropes regarding opening studies and obtaining approvals, I began to seek out research collaborators. I met Dr Kyle Strickland, a pathologist, through our weekly tumor board, and we began to meet regularly. I met another collaborator, Dr John Yi, an immunologist, after giving a lecture for a women's cancer seminar. He shared similar research interests, and after introducing him to Kyle, the three of us began having regular lab meetings. Each of us offers unique skill sets, and our collaboration has led to several projects, shared mentees, and long-lasting friendships.

One benefit of working within an academic medical center is that innovation and collaboration extend beyond the physical walls of the hospital or classroom. My most unique collaboration is with a biomedical engineering graduate team that is developing low-cost treatments for cervical cancer. Through this project, I have learned about the physics and materials side of developing an injection system; they have learned about the clinical side of cancer care. Together, we believe we can impact the care of women abroad with dysplasia.

Being part of a scientific team also lends itself to the "mentorship sandwich." As a mentee, I still depend on my senior faculty to review my work and help me navigate my career. For the first time, however, I am also a mentor to students, residents, and fellows, which has proven one of the most meaningful aspects of my career so far.

Wellness, For Real

One of my frustrations within medicine, not just academia, is that wellness has become a buzzword for workshops and quasi-mandatory after-work activities. True wellness must energize, is not prescriptive, and is individualized. I made the choice during my residency to commit to a fulfilling life outside of medicine. At that time, I lost my husband (also a resident) to suicide. The impact of his loss forced me to focus on things outside of medicine that make life worthwhile. I started seeing a therapist weekly, which I continue to do eight years later. I spend time outdoors, digging in my gardens. My friends laugh at my menagerie of unusual pets: a pair of corgis, a Persian cat, a chinchilla, a hedgehog, and a hive of bees. I make time for my family and friends, and have made a recent effort to start working out again. I began taking piano lessons during my

first year on faculty, which I had put on hold for years of training, and I practice almost every night.

I do not see balance or wellness as an end game, but as a responsibility I owe to myself and my patients. To heal and to lead, I must have my own needs met. I must feel fulfilled within myself—and that cannot come from a career alone.

I met my current husband about 18 months ago. We are working on starting a family but recently received the sad news that I miscarried. This loss devastated and shocked us—I felt powerless in a world I strive hard to control. I understand the facts, but dealing with them has been harder than I could have imagined. The events are too raw to spin positively, but the experience has reminded me of the sacredness of my life; the importance of my family, friends, mentors, and teachers; and the vulnerability of our patients.

Our bodies are so fragile. I treat patients with cancer, some of it incurable. I am humbled that they trust me to treat them for a disease about which we still know so little. As badly as we want solutions and as diligently as we seek them via tried and true assays and experiments, sometimes, no matter what the odds are, life remains unpredictable. The hardest questions about life and the future I cannot answer, but I am undeniably committed to trying.

Acknowledgements

Dr Previs's research is supported by the GOG Foundation/American Association of Obstetricians and Gynecologists Foundation and the Emerson Collective. She thanks her colleagues Dr Heather Dalton and Dr Catie Watson, and her piano teacher, Susie Greenberg, for comments that greatly improved this article.

Summary

- Academic practice blends the clinical practice of medicine/surgery with opportunities for scientific inquiry and advancing research while educating and training students, residents, and fellows.
- Team science fosters collaboration, builds relationships across disciplines, and offers innovative solutions to complex questions.
- Real wellness is not prescriptive but must be carefully practiced and individualized. Patients with cancer are vulnerable and depend on a well physician to provide evidence-based, compassionate care.

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