The M.D.-Ph.D. double agent

It was 2 o'clock on a Saturday morning. I felt exhausted, overwhelmed, and defeated. Still wearing my scrubs from the day before, I stared blankly at the wall in the dark room, holding the once-again botched Western blot, signifying hours lost to what should have been a simple task in my Ph.D. work. I quickly bicycled home, knowing that I needed to be at the hospital in a few short hours to fulfill my additional responsibilities—as a third-year medical student. Even in the sixth year of my M.D.-Ph.D. program, my two worlds were constantly colliding. Despite these challenges, the journey to becoming a physician-scientist is one I am so glad I undertook.

My love of both molecular biology and human physiology began in my fourth-grade science class. I remember the astonishment of dissecting an earthworm; learning about the mishmash of organelles within our cells; and examining the small atherosclerotic plaques brought in by our class guest speaker, a cardiologist. When I started college, I knew I would major in something science-related—the thought of medical school had crossed my mind—but I wavered on my future plans, unable to decide whether I wanted to pursue an M.D. or a Ph.D. I had no idea what the phrases “M.D.-Ph.D.” or “physician-scientist” even meant until I joined a lab as an undergraduate researcher and began working with an M.D.-Ph.D. neuroscientist who also saw patients as a neurologist. He clued me in to the possibility of pursuing both degrees, which seemed like an ideal option for me. But I found there were very few resources for students interested in this path.

Even after I joined the Medical Scientist Training Program, a nationwide National Institutes of Health–supported M.D.-Ph.D. program, I still did not quite know what I was getting myself into. No one had mentioned that I would feel that my M.D.-Ph.D. work. I quickly bicycled home, knowing that I needed to be at the hospital in a few short hours to fulfill my additional responsibilities—as a third-year medical student. Even in the sixth year of my M.D.-Ph.D. program, my two worlds were constantly colliding. Despite these challenges, the journey to becoming a physician-scientist is one I am so glad I undertook.

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Even after I joined the Medical Scientist Training Program, a nationwide National Institutes of Health–supported M.D.-Ph.D. program, I still did not quite know what I was getting myself into. No one had mentioned that I would feel that my clinical and scientific lives were constantly dueling for my time. Working in the lab after leaving the hospital meant not completing the experiments I needed to earn my Ph.D.—not to mention finding time to relax, sleep, and catch up with family and friends.

I am by no means an expert, as I am a pediatrics intern still learning the ropes. However, now that I am a little further along in my training, I offer one piece of advice to aspiring physician-scientists: Find mentors. Surround yourself with clinicians who appreciate science and the way that scientists think, and scientists who value clinical applications of their research. And, of course, find physician-scientists, including those who balance both research and medicine; others who have chosen to pursue just one; and those who have explored alternative career paths such as startups, advocacy, and journalism.

I was lucky to find outstanding mentors who understood the tensions between science and medicine. During my Ph.D., my adviser allowed me to spend half a day each week seeing patients so that I could maintain my clinical skills while still challenging me to become a thoughtful, thorough, analytical scientist. My clinical mentor always made it a point to ask me about my basic science research, and he even attended my thesis defense.

My M.D.-Ph.D. training was incredibly grueling, extremely humbling, and so very rewarding. The best part is that so much more learning lies ahead. The tools and training I gleaned from earning a Ph.D. have allowed me to think critically; to question everything; and to be industrious, innovative, and flexible. Medical training has equipped me with the capacity to make astute medical decisions, emphasizing the importance of teamwork, empathy, and humanism. And now, I have found peace with this duality. The patients and families I take care of motivate and inspire me. They remind me every day why we need more physician-scientists who can identify important and frustrating clinical questions, find creative solutions in the laboratory, and ultimately improve patient care by bridging science and medicine.

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