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 clinical and scientific lives were constantly dueling for my time. Working in the lab after leaving the hospital meant less time to prepare for medical rounds and shelf exams, yet preparing more for rounds 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.

Jessica W. Tsai is a resident physician in pediatrics at Boston Children’s Hospital and Boston Medical Center and a member of STEM Education Advocacy Group. Send your story to SciCareerEditor@aaas.org.
Editor's Summary

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Jessica W. Tsai (December 10, 2015)

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