How I Became Interested in Nuclear Medicine

Joseph Osborne M.D., Ph.D. – *Chief, Molecular Imaging and Therapeutics, Professor of Radiology, Director of the Molecular Imaging Innovations Inclusion lab (MI 4), NewYork-Presbyterian Hospital/Weill Cornell Medicine Center*

After completing the MD/PhD program at Columbia, I realized that I needed to find a subspecialty that would accept a physician-scientist to do work that was quite visual but would also include a strong basic science and connection with the patient. I did my Radiology sub-internship at Sloan Kettering where I spent time with Steve Larson. It was there that I realized that Nuclear Medicine was a really good option for me because of this combination of science and medicine.

It was helpful that some of the stronger Nuclear Medicine programs were local to New York. At the time, the Radiology Chair at Columbia was Phil Alderson, a Nuclear Medicine physician. Dr. Alderson was willing to work out a research agreement with Dr. Larson, who at the time was the Nuclear Medicine Division Chief at Sloan Kettering. Many other former Columbia Radiology Residents had settled at Cornell with Robert Min, who was Radiology Chair at Cornell. Stanley Goldsmith was the Nuclear Medicine Division Chief at Cornell.

I decided on Nuclear Medicine while working on my PhD at Richard Axel's lab at Columbia. More specifically, an experiment that required cloning green fluorescent protein (GFP) as a reporter gene in mice was consistent with similar experiments being done in the Nuclear Medicine labs at Sloan Kettering who were doing the same thing with GFP and the sodium-iodide symporter channel.

A key factor in the decision was ensuring positive clinical outcomes for patients. It was important that the practical application of medicine had a direct impact on patient lives and within the community. It was important to have a work-research balance that allowed me to be a Radiologist while utilizing my scientific background to challenge issues impacting the community. This led me to Nuclear Medicine as a subspecialty, and a focus on Prostate Cancer disparities.

Nuclear Medicine was experiencing an evolution of sorts at the time that included wider acceptance within the medical community, favorable reimbursement, improved technology and wider range of applications that would impact patient care directly. As a subspecialty, Nuclear Medicine was the optimal choice for me.

It's important that Nuclear Medicine Physician leaders teach students into making choices that reflect what drives them both professionally and personally. Equally important is to challenge students to develop an inclusive mindset and engage the communities they serve. Focus on health equity and improving access to underserved communities should be standard in any substantive program.

My students at Cornell are interested in tackling the clinical questions that are pervasive in a diverse society. The growth in PET and Theranostics provide students with flexibility, and the unique opportunity to act as gatekeepers to positive clinical outcomes. Improving access to the Nuclear Medicine profession will be what makes or breaks the future of the field.