

# INSIGHT INTO A NEUROLOGIST'S JOURNEY TO MEDICINE AND ADVICE FOR THE NEXT GENERATION OF PHYSICIANS

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**D**r. Chelsea Schmoll, DO, is a 2018 graduate of Marian University Wood College of Osteopathic Medicine (MU-WCOM), and serves as an assistant professor of neurology at Indiana University School of Medicine. However, her scope of practice extends well beyond this role. She completed fellowship training in neuroimmunology, which led to her expertise in multiple sclerosis (MS) and other autoimmune and inflammatory conditions affecting the nervous system, and she now leads a clinic dedicated to caring for these patients. She enjoys variety in her work. In addition to following her patients in the clinic, she spends time each month working in inpatient settings treating critical neurological conditions. On Friday afternoons, you will also find her providing Botox (botulinum toxin) for various neurological symptoms. Dr. Schmoll continues her teaching in the classroom, where she shares her expertise with medical students, including those at MU-WCOM. Dr. Schmoll's interest in medicine began well before her graduate education, and I was privileged to spend a day learning from her and gaining insight that I hope will benefit student doctors, whether they have an interest in neurology or not.

## **Can you speak a little on your premedical journey and how your path led you to medical school at Marian?**

"I completed my undergraduate degree at Xavier University. They have a premedical program, so I went into undergrad knowing I wanted to

go to medical school. A lot of my family is in medicine, but I'm the first physician. My mom and older sister are nurse practitioners, and my younger sister is a nurse. I worked at my mom's office over the summer in undergrad and got a feel for how the office operated, which furthered my interest in medicine. I grew up on the Southside of Indianapolis, and I wanted to ultimately come back home, especially with my sisters having kids. Marian was relatively new at the time, but I had heard about it through various people I knew. I applied during my fourth year of undergrad, interviewed in November, and remember it feeling like home; it felt like the right place for me to be."

## **How do you feel your experience at Marian shaped your practice as a doctor now?**

"In general, I tend to focus on non-pharmacological treatment paths with a more holistic approach in managing my patients' symptoms. I frequently talk with my patients about daily stretching, physical therapy, and pelvic floor exercises to help manage common neurological symptoms."

To expand on Dr. Schmoll's holistic approach, osteopathic medicine focuses on the principle that a patient is a unit of mind, body, and spirit and is capable of self-healing and self-regulation. Through the practice of osteopathic ma-

nipulative treatment, physicians apply gentle hands-on treatment strategies to augment the healing process and target an organ system's stress at its root cause. For example, if a patient with MS is struggling with bladder control, a physician may provide a gentle treatment, such as sacral rocking, to encourage their parasympathetic nervous system to work more efficiently.

### What interested you about neurology and neurorimmunology?

"I connected with a neurologist in Avon during medical school and set up an elective rotation in my third year. I had already developed an interest in neurology from guest lectures during our neurology systems course, and I felt when going through different systems, neurology interested me more than all the others.

During my clinical rotations, I found the patient presentations particularly interesting, which motivated me to read and research complex cases. I had family members with various neurological conditions, including my grandpa, who had Parkinson's disease, which furthered my interest. When I first started, I thought I would subspecialize in movement disorders, but throughout my rotations in residency, including my continuity clinic, I was more drawn to the neuroimmunology patient population. The neuroimmunology field is changing quickly with a lot of new treatments available for MS every year, and I really enjoy that you can make a big difference in the trajectory of a patient's life, which has made this specialty very fulfilling for me. In the case of MS, you can take a debilitating disease that may require an ambulatory device and halt its progression early in the disease course, making a patient's MS almost unrecognizable."

### Are there any exciting advances happening in your field?

"The 2024 MAGNIMS-CMSC-AIMS committee recently published new criteria for diagnosing MS. The 2024 McDonald criteria help us diagnose patients and start treatments earlier. Since 2016, we have had FDA-approved therapies called anti-CD20 medications that are being more widely used. They are considered high-efficacy therapies with relatively limited side effect profiles. These medications do a really good job of preventing new lesions. The earlier we can diagnose patients, the earlier we can get them



started on disease-modifying therapy. We can keep them at that one-time relapse and have them stable over time."

As Dr. Schmoll alluded to, the most recent updates to the McDonald criteria in 2024 have allowed for earlier identification of MS and initiation of disease-modifying therapy (DMT). Most notably, the 2024 McDonald criteria added the optic nerve to the four other previously recognized sites (periventricular, juxtacortical, infratentorial, and spinal cord), allowing an MS diagnosis to be established with MRI lesions in two of the five regions, along with typical clinical presentations. In Dr. Schmoll's clinic, the most common presentation is optic neuritis with both enhancing and non-enhancing lesions on brain MRI in at least two of the five characteristic regions. In patients with relapsing-remitting MS (RRMS), characterized by relapses with full recovery, or residual deficit upon recovery, with no or minimal progression of the disease between relapses, DMT is initiated right away, as it has been shown to provide better long-term outcomes. Anti-CD20 monoclonal antibodies, which have been proven efficacious in recent

years, work by targeting the CD20 marker on the B-cell surface, rendering them inactive. It was originally thought that MS was mediated by T-cell infiltration, primarily CD8+ T cells, which were identified in the plaques of active demyelinating lesions. However, recent studies support evidence of the role of B-cells in active lesions as well. Specifically, B-cells are localized to the perivascular space of large veins where they contribute to inflammation and subsequent demyelination. Rituximab was the first anti-CD20 used in MS, followed by ocrelizumab, which was approved for use in both relapsing MS (RMS) and primary progressive MS (PPMS). Most recently, ofatumumab represents the first self-administered subcutaneous anti-CD20 therapy.

### What do you enjoy most about your career as a neurologist?

“I really enjoy the people I work with, and I have a great group of coworkers who are passionate about providing the best care for their patients. We work well as a team; anytime there is a tough case, I have an expert in that subspecialty I can consult, making it a team-based approach to patient care. I enjoy my patient population, as most are young with a full life ahead of them; I always get excited to go through major life milestones alongside my patients. I also have a passion for women’s health in neurology and enjoy guiding my female patients through big life events by helping them adapt to and manage their disease, so they can live as normal a life as possible.”

### Do you have any advice on choosing a residency program?

“When you are deciding on a residency program, it’s important to choose one primarily focused on education. Look at its didactic time, protected time, and what the curriculum looks like. For me, it was important my residency

program offered a good education, was in a city that I wanted to live in, and showed a sense of good support and camaraderie among the residents. It is beneficial to have people who will have your back and help you through various life events.”

### Do you enjoy any hobbies outside of medicine?

“I enjoy riding my bike along the Monon [Trail], reading, and spending time with my family. I have a lot of nieces and nephews in town, so it’s fun to spend time with them and watch their soccer games. My husband and I really enjoy traveling and usually take one big trip each year. My favorite place I’ve traveled to is Slovenia, where we stayed at a bed-and-breakfast in a rural mountain town that made food fresh from the farm.”

“**Neurology allows you to change the trajectory of a patient’s life.**”

During my time with Dr. Schmoll, I gained insight into the breadth of opportunities that arise with a career in medicine. Her work demonstrates that physicians can continually expand their expertise and serve increasingly specialized patient populations. The variety of settings and neurological conditions she treats on a weekly basis represent her commitment to lifelong learning and

providing quality care. Beyond her dedication to caring for her patients, Dr. Schmoll extends her medical expertise to the next generation of physicians. She is an excellent example of how physicians can contribute to the advancement of medical education and the ongoing improvement of healthcare.

### References

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