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Canadian Leader in Neurology: Dr. Adrian Budhram

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The Canadian Leaders in Neurology series is an initiative of the Canadian Neurological Society whose objective is to showcase exceptional accomplishments by Canadian neurologists who are leaders in their respective fields. In this segment of the series, Dr. Alex Vu, a neurology resident at the University of Calgary, interviews Dr. Adrian Budhram.

Dr. Adrian Budhram is a neurologist and clinician-researcher at Western University. He played a pivotal role in developing the Neuroimmunology and Neurodiagnostic laboratory testing program at London Health Sciences Centre (LHSC) – a unique collaboration between clinical neurology and laboratory medicine that facilitates testing of neural antibodies for patients in Ontario and across Canada. He also launched the Autoimmune Neurology Clinic at LHSC. Dr. Budhram has made numerous contributions to autoimmune neurology and his work, specifically in autoimmune encephalitis, has blazed a trail for the field in Canada. He received the 2018 Distinguished Reviewer of the Year award and the 2020 Anti-NMDA Receptor Encephalitis Foundation Prize from the Canadian Neurological Sciences Federation (CNSF). He is a champion of high-quality research and his work elevates himself, his institution, and the field in its entirety. With over 100 peer-reviewed articles, Dr. Budhram continues to set a high standard for autoimmune neurology research and practice in Canada.

Alex Vu (AV): What led you to neurology and specifically autoimmune neurology?

Adrian Budhram (AB): I wasn't somebody who had an innate burning desire to do medicine. I applied to engineering initially, but when I was at a recruitment weekend for an undergraduate engineering program in Toronto, I thought “these people are way smarter than me” and it turned me in a completely different direction toward medicine. My initial interest in medicine was immunology, so I wanted to be a rheumatologist. I did most of my rotations in internal medicine

and rheumatology, but I also did a rotation in neurology with a neurologist named Dr. Michel Rathbone in Hamilton and he really got me interested in the field. I applied to neurology and internal medicine but I realized doing internal medicine call wasn't for me, so I ranked neurology programs over internal medicine.

My plan going into neurology was that I would do multiple sclerosis. I liked immunology and I liked neurology – well, that equaled multiple sclerosis was my understanding at the time. When I started residency, there wasn't a lot of discussion about autoimmune neurology as a distinct field in Canada. I think it's a rare opportunity for a trainee to be in a field as it's evolving. I remember going to a conference where Dr. Josep Dalmau, one of the international leaders in the field, was giving a talk and I felt like I was at a concert. All the seats were taken in this massive room, and I was sitting on the floor with a bunch of other people. There was this excitement about this area, and it just felt very natural to me because I really liked immunology. I changed gears probably around 3rd or 4th year of residency and applied to autoimmune neurology fellowships.

AV: It sounds like the interest was always there. Where was the shift to laboratory testing?

Adrian Budhram (AB): My interest in laboratory testing was born out of necessity because access was so terrible. There were excellent centres in the US like the Mayo Clinic, but cost was a barrier for our centre and other Canadian centres. That becomes a problem because testing is core to the diagnostic evaluation. When I talked to other neurologists across the country there were similar challenges. I was keen on improving this so I reached out to our clinical immunology laboratory here at LHSC to collaborate and they were open to it. I think that's number one - your institution has to be open to it, and I've been very fortunate that LHSC has always seen the possibility and the utility of this. Even when I was a fifth-year resident I would go to the clinical immunology lab one day a week just to learn how it operated. I had been considering a few fellowships, but I wanted it to be in a place where I would learn the laboratory side of Neuroimmunology and there's no lab like the Mayo Clinic lab. I was in contact with LHSC throughout my fellowship to develop our laboratory testing program. I would say it was just born out of need because we didn't have good access to antibody testing.

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AV: Where do you see the field of autoimmune neurology going in the future?

AB: Relative to other fields of neurology, autoimmune neurology is still young. I think we're going to see how integral it is to all the other specialties across neurology. We're already having discussions increasingly about its impact in specialties like epilepsy, cognitive, neuromuscular, and movement disorders. It forces all neurologists to have a working familiarity with autoimmune neurology because it could enter their specialty. In addition to that, one of my own personal goals is still test accessibility in Canada. It doesn't sound exciting, but it's very important. Access is much better than it was 10 years ago when I started residency, but there are still clinicians in this country that have highly suspicious cases that can't access diagnostic testing. I would say the last thing that I think is also very important is increasing recognition of these diseases. There are distinctive features between autoimmune neurologic conditions and mimicking disorders, and if you're not familiar with them it can result in misdiagnosis. I think we've made a lot of progress in the last 10 years, but it's still very much an evolving field and access, expertise, and knowledge still has a ways to go.

AV: What is your proudest professional achievement to date?

AB: My proudest professional achievement would have to be developing the Neuroimmunology and Neurodiagnostic laboratory testing program at LHSC, because it has an impact that extends beyond the clinical care I provide in London. I was recently talking to one of my colleagues about the value of relaying test results to other clinicians. If we report out an actionable positive result like a CSF anti-NMDAR, I will try to contact the ordering physician to make sure they've seen the result and understand its significance. It's fascinating to me that you can be the best lab in the world and do cutting-edge diagnostic testing, but if the ordering clinician doesn't see that positive result or understand its significance, who cares? For me, contacting physicians has also created a collaborative network of colleagues who have a shared interest in helping these patients.

AV: What is the best piece of advice you've received about life in medicine and neurology?

The best piece of advice I got in medicine is being comfortable with uncertainty. When you're a trainee I think there's a bit of an innate fear of saying "I don't know". You might talk around the uncertainty, or pontificate a bit, but ultimately every neurologist is faced with a clinical scenario

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where you simply don't know. And it's not necessarily just that you individually don't know, the collective field may not know. In autoimmune neurology there are many things that we still don't know. To me it's a great motivation to continue learning and exploring. When I was a fellow at the Mayo Clinic, I worked with Dr. Sean Pittock who's an international leader in autoimmune neurology. Despite being a true expert, I was impressed by his ability to say "I don't know" and it always stuck with me.

AV: I find your narrative works to stand out among your publications. Pieces of creative writing like "Villages"[1], "The common stroke"[2], and "Tremors"[3] stand out among the research and clinical papers. Where does the academic version of Adrian exist in relation to these reflective pieces?

AB: I've always loved writing, including creative writing. I always joke that that's one of the reasons that I've published a fair bit, because I love to write. You encounter these scenarios in daily life that can have such a significant impact on you, and you need some way to process that. I would write about my experiences, and it might not be a direct retelling, but more of a surrogate experience of something I had seen in person or in the clinic. I find it very cathartic, and it helps me process. There is a part of me that wishes I had time to do more of that now. I still write creatively, personally for myself, but don't submit. The interesting thing about creative writing pieces is they undergo peer review, and they can get rejected just like any other piece of work. So, I've actually had multiple that have been rejected and have never seen the light of day. But that sort of rejection is different from a scientific manuscript because it almost doesn't matter; you've already had the cathartic experience of writing, and I would say publication is secondary. It's valuable to me and it's something I hope I can get back into.

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Figure 1. Dr. Adrian Budhram (left) and Dr. Alex Vu (right).

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