

CNS Newsletter



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PAST AND UPCOMING EVENTS:

Combined Annual Meeting of the CNS and the German Neuromodulation Society

Quebec City, QC | June 19-21, 2025

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Contact Info:
399 Bathurst Street
Toronto, ON
M5T 2S8
Tel: 416-603-5800
ext.3130
Fax: 416-603-5622

CNS Administrator:

Danielle.Alvares@uhn.ca



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President's Note

I hope this spring edition of our CNS newsletter finds you emerging from the chill of winter and embracing the warmth of the longer days ahead!

It's been a wonderful year so far, filled with exciting developments and promising endeavors on the horizon. We continue to make great progress with the data registry for neuromodulation across Canada, and are actively working on a letter advocating for increased funding to support neuromodulation therapies which will ultimately improve patient care.

In addition, we're thrilled to announce our partnership with the German Neuromodulation Society to host a dynamic meeting this year in beautiful and historic Quebec City! This meeting will be packed with topics including non-invasive neuromodulation therapies, SNS, PNS, VNS, SCS, IDD and DBS to name a few. We are also excited to offer a Francophone session as well this year!

We look forward to sharing more updates with you soon and appreciate your continued support.

Anuj Bhatia, MD, PhD
President



Editor's Note

Dear CNS members,

I hope this winter edition of the CNS newsletter finds you in happy spirits.

We've been busy planning the upcoming **Combined Annual Meeting of the CNS and the German Neuromodulation Society** in Quebec City on June 19-21, 2025. Abstract submissions and registration information can be found here. Don't forget to register – it's sure to be our best meeting yet!

<https://neuromodulation.ca/meeting-registration/>

The CNS has been advocating for expansion of coverage for neuromodulation therapies in Canada. Recently, Ontario Health has recommended the public funding of minimally invasive percutaneous peripheral nerve stimulation for the treatment of chronic neuropathic pain in adults. The official recommendation can be found here (<https://www.hqontario.ca/Portals/0/documents/evidence/reports/recommendation-peripheral-nerve-stimulation-for-chronic-neuropathic-pain-en.pdf>).

As a reminder, we have developed a Directory of Neuromodulation services across Canada (<https://neuromodulation.ca/directory/>). Please contact us for any revisions/additions that need to be made.

In this newsletter, you will find:

- Allied health interviews (physiotherapist, psychologists) and their roles in neuromodulation
- Interview with Praxis Spinal Cord Institute
- Information about our upcoming annual meeting

Finally, if you haven't already, follow us X (previously Twitter) @CanNeuromod to stay updated on our work.

Himanshu Gupta, MD
Editor & Trainee Representative

Allied Health Spotlight

In this section of the CNS newsletter, the Editor interviews the perspectives of various allied health involved in neuromodulation. To have your work considered for a future newsletter release, please email the Editor.



David Elvish | Physiotherapy

What's your background?

David is an APA Titled Pain Physiotherapist based in Newcastle, Australia who has worked in the field of vocationally-oriented injury and pain management for more than 30 years. David is currently in his 2nd year of the registrar training program with the Australian College of Physiotherapists to become a Specialist Pain Physiotherapist. David is the Managing Director of Workplace Physiotherapy and a Co-director of Innervate Pain Management, working within a diverse interdisciplinary team. David's work transcends the prevention of persisting pain in the acute setting and the mitigation of disability and distress for people with persisting pain.



What's your practice look like?

I work within a private interdisciplinary musculoskeletal and pain centre alongside Pain Medicine Specialists, Psychiatrist, Nurses, Clinical Psychologists, other Titled Pain Physiotherapists and Exercise Physiologists. We routinely see patients prior to neurostimulation to assist with determining suitability, with work-up pre-implant and with post-implant management. Our centre is also involved with many neurostimulation research trials.

What do you wish physicians and other healthcare providers knew about the contribution of physiotherapists in the care of these patients?

That while the success of neurostimulation is often primarily focused on pain modulation, this does not always equate to a commensurate mitigation of disability. In turn, we emphasize the importance of pre and post implant rehabilitation to enable a pathway to the resumption of valued activity, social re-engagement and achievement of other important goals.

What do you most enjoy about treating this patient population?

David reports he enjoys, "Assisting with the resumption of important life activities that have often been displaced due to years living with persisting pain".

What are some of the challenges or barriers to care you see in your practice?

David mentions several challenges he regularly experiences in his practice, including:

- The difficulties with maintaining a strong person centered and collaborative team approach with often many other team members.
- The varying levels of funding available for physical rehabilitation associated with neurostimulation
- The current paucity of neurostimulation research involving a structured post implant rehabilitation protocol

Tell us about your research.

David is currently involved in 2 research projects:

1. The use of psychologically informed Physiotherapy approaches for the management of persons with acute musculoskeletal spinal injuries post motor vehicle accident
2. The use of concurrent shared model of care approach involving Specialist Physiotherapist/generalist Physiotherapist for the management of complex whiplash injuries

What do you do for fun outside of work?

He mentions several activities, including "outdoor activities with the family, riding my bikes – road, gravel, mountain biking, and weekend tinkering on the farm".

What could we be doing better in the field of neurostimulation?

According to David, "I believe that there is a huge untapped potential following neurostimulation with obtaining more profound longer-term outcomes through more consistent engagement of allied health practitioners. This will require a transition to more of a biopsychosocial approach to post-implant rehabilitation. This will also need a greater allied health representation within pain clinics."

As we have seen with the maturation of other device/prosthetic implant research, neurostimulation research now needs to consider the substantial outcomes possible through involvement of post-implant rehabilitation.

Kathryn Curtis & Abigail Muere | Psychology

What are your backgrounds?

Kathryn Curtis, PhD, C. Psych., is a Clinical and Health Psychologist at the Comprehensive Integrated Pain Program (CIPP) at Toronto Western Hospital. She completed her PhD in Clinical Psychology at York University, her clinical residency at the University Health Network, and her post-doctoral fellowship at the Transitional Pain Service at Toronto General Hospital. Dr. Curtis provides psychological services to individuals with chronic pain in the context of medical interventions, such as ketamine infusion and neuromodulation. Psychological treatment modalities that Dr. Curtis uses at CIPP include ACT, mindfulness, self-compassion, and ketamine-focused integration. Dr. Curtis has published research on chronic pain in scientific, peer-reviewed journals and she has presented at international conferences.

Abi Muere, PhD, C. Psych., is a Clinical and Health Psychologist at the Comprehensive Integrated Pain Program (CIPP) at Toronto Western Hospital. She received her PhD in Clinical Psychology from Queen's University. She completed her residency at Alberta Health Services. Dr. Muere provides psychological services to individuals with chronic pain in the context of medical interventions, such as ketamine infusion and neuromodulation. Dr. Muere provides assessments, consultations, and psychotherapy services to patients at CIPP. She uses CBT, mindfulness, and ketamine-focused integration. Dr. Muere has presented her research at national conferences and has participated in nation-wide webinars for Power Over Pain.



What is the role of psychologists in neuromodulation?

We conduct psychological assessments for candidates of Spinal Cord Stimulation (SCS) trials with the goal of determining psychological appropriateness for this intervention. These psychology appointments entail a clinical interview, a psychodiagnostic assessment, and standardized questionnaires. We screen for psychological risk factors for poor outcomes for SCS and psychosocial vulnerabilities, as well as make recommendations to the medical team.

For select patients, we provide psychological services to assist patients in preparing for neuromodulation and to optimize psychological health. We also co-facilitate a multidisciplinary Patient Education Workshop on SCS to prepare patients for their upcoming trial. For post-implant patients who experience attenuated benefit or psychological distress, we also provide psychological interventions to support these patients with adaptation, coping, and wellness.

What do you most enjoy about treating this patient population?

We are both passionate about working with individuals living with a variety of chronic pain conditions, including conditions that are relevant for SCS (e.g., neuropathic pain). Many of our patients have been living with chronic pain and navigating the healthcare system for many years, and we

appreciate having an opportunity to provide our patients with patient-centered care, validation, hope, and empowerment through information provision and psychological services.

What do you do for fun outside of work?

Katy enjoys spending time in nature, skating, and trying new recipes with her family. She is passionate about studying Eastern philosophy, and practising yoga, meditation, and Pilates.

Abi enjoys playing volleyball, reading, and spending time with her friends and family. She likes discovering new neighbourhoods in Toronto and travelling to new countries.

What do you see in terms of future developments for the role of psychology in neuromodulation?

Apart from continuing to provide psychoeducation and psychological assessments, we hope to grow our roles in the research that is being conducted on SCS at CIPP as well as to further develop interprofessionally-led programming for select, interested SCS patients. Advocacy for the role of psychology in neuromodulation, such as speaking at international conferences and multi-site collaboration, is another important domain for psychologists in this field.

Praxis Spinal Cord Institute

What is Praxis and what does Praxis do?

Praxis Spinal Cord Institute (referred to as Praxis), is a Canadian-based not-for-profit organization that leads global collaboration in spinal cord injury (SCI) research, innovation and care. We accelerate the translation of discoveries and best practices into improved treatments for people with SCI. Our strategic objectives include supporting work that leads to promising neurorestorative treatments and evidence-based care that are identified as priorities by Canadians living with SCI.

How does working with people with lived experience help develop neurorestorative devices and therapies?

The Praxis Persons with Lived Experience (PLEX) Program Manager, John Chernesky, knows firsthand the importance of meaningful engagement between PLEX and researchers to develop effective technologies that address SCI priorities.



One of the ways he participates is through clinical trials. As John said, “Spinal cord injury is not fun. Participating in research is something I can do to help bring new interventions to light to make life less challenging for myself and for other people living with SCI.”

John participated in ONWARD’s Up-LIFT clinical trial which used ARC-Ex Therapy, a non-invasive spinal cord stimulator, to restore arm and hand function. John found that the therapy “improved and strengthened [his] ability to grasp objects and increased the speed and precision of [his] hand and arm movements.” His participation in the study, alongside other members of the SCI community, demonstrated the safety and efficacy of ARC-Ex Therapy – the results of which were published in 2024 in Nature Medicine. At the conclusion of the study John was “looking forward to seeing this technology develop” as “even a small improvement in symptoms can do a lot to boost the quality of life of people with SCI”.



As a result of PLEX engagement, ONWARD was able to receive FDA de novo classification and authorization to market their ARC-Ex System in the United States.

What are (some) areas/initiatives that Praxis is particularly proud of?

Praxis focuses on translation and actively engages people living with SCI in all phases of our work. This includes identifying priorities, providing input on research methods, influencing care-delivery practices and policies, and helping shape innovation development. PLEX are active members of the team and support the dissemination and implementation of knowledge. In addition, Praxis’ Innovation Program recently initiated SCI Incubate and SCI Accelerate to facilitate the translation of technologies into widespread adoption, with PLEX providing important input as ‘end users’ of these technologies. To date, there have been 40 companies enrolled in these programs, with 15 companies successfully bringing their products to market and 9 approved for sale in Canada.

To better understand the priorities of people living with SCI in the area of neuromodulation, we conducted a survey and received valuable input on how people living with SCI obtain information on neuromodulation, their priorities for recovery, and input on the clinical study designs. This data is available on the SCI Open Data Commons (see: <https://odc-sci.org/>) and a paper summarizing the key findings was published (see: <https://pmc.ncbi.nlm.nih.gov/articles/PMC10208255/>).

What does Praxis see as major challenges with treating spinal cord patients in?

Spinal cord injury is a low incidence condition compared to health conditions such as stroke or heart disease, and as a result, health care providers are often not familiar with the evidence and best practices in SCI. Praxis supports a SCI network in Canada which brings together all the relevant partners and has created an interest group for spinal cord stimulation and Activity-Based Therapy (ABT) to help

support research and translation into clinical practice. Collaboration is critical. For more information on ABT, see: <https://praxisinstitute.org/research-care/key-initiatives/activity-based-therapy/>

What does Praxis wish healthcare providers (i.e. physicians/surgeons/allied health) knew about individuals living with spinal cord injuries?

People living with SCI want to be actively engaged in research, healthcare and innovation, and there are tremendous benefits to be gained by including people with lived experience. Praxis supports a free online course called the 'North American SCI Consortium – Research Advocacy Course' for PLEX, researchers and health care providers to learn about how to engage as research partners. For more information, please see: <https://nascic.org/nascic-sci-research-advocacy-course/>. By engaging people living with SCI, health care providers will hear how in the early phases after injury the recovery of the ability to walk is a high

priority. However, over time the priorities change and regaining autonomic functions like bowel, bladder and sexual function often become more important.

How can members of the Canadian Neuromodulation Society become involved with Praxis?

There are lots of opportunities to get involved. Joining our mailing and newsletter lists to keep informed of upcoming events on the topic of SCI neuromodulation and other SCI research is a good place to start. As a granting organization, Praxis also often has Requests for Proposals to support research or other initiative, and there are opportunities to apply to be part of our SCI Incubate and SCI Accelerate Programs. For more information, please check out our website and sign up for our newsletter: <https://praxisinstitute.org/>

Interview prepared with Dr. Vanessa Noonan (Praxis)

Combined Annual Meeting of the CNS and the German Neuromodulation Society

Registration is now open for the upcoming joint meeting June 19–21 2025 in Quebec City, QC. This is sure to be our best meeting yet, with the conference itself being held at the castle-like Fairmont hotel in Old Quebec. Please make note of important dates:

- Abstract submission deadline: May 15, 2025
- Early bird registration deadline: May 15, 2025

For registration, agenda and more details: <https://neuromodulation.ca/meeting-registration/>



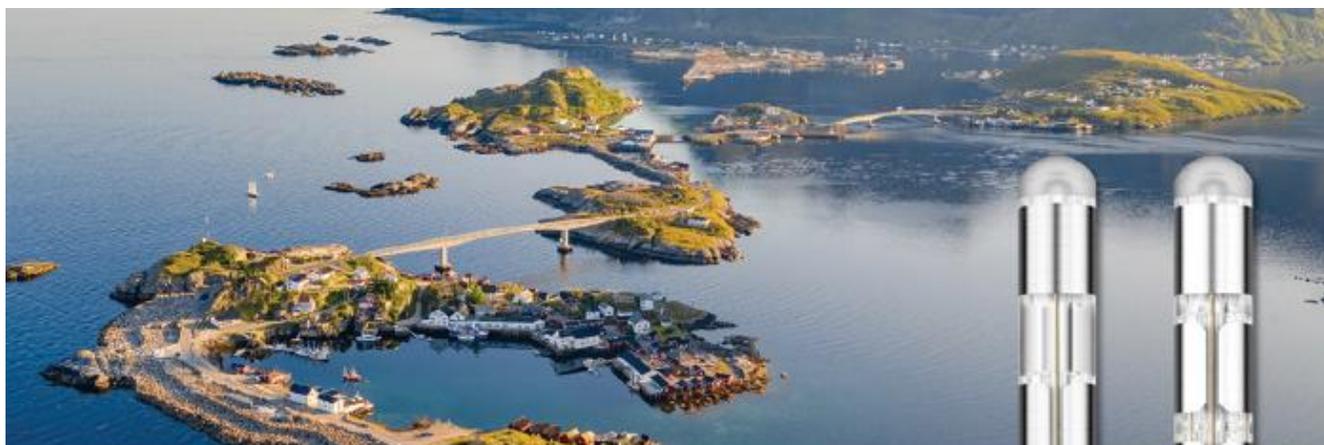
By the way

To make this newsletter happen, we would like to have your input!

You can send us your work/advancements/experience on the following topics:

- **What's out there:** Short reviews of recent advances on neuromodulation topics
- **This is how I do it:** Share with us your tips and tricks for performing neuromodulation procedures
- **My clinic/program:** Brief report on the unique features of your neuromodulation clinic/program
- **My lab:** Brief report on your neuromodulation research set-up
- **Never too late to learn:** Any educational event that you are organizing including information about upcoming national/international meetings
- **Curious cases:** Interesting case reports from your practice
- **Letter to the Editor:** Response to articles or topics addressed in the CNS newsletter

Please send your contribution to himanshu.gupta@medportal.ca. Thank you!!



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* Products that appear on this web site may not all be licensed in accordance with Canadian Law.

1. Reference data on file

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SenSight™ directional lead

1.5mm and 0.5mm spacing



Image enlarged to show detail.

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Disclaimer Notes:

*Smallest size determined by volume in cubic centimeters.

†† Within approved parameters. Refer to the Instructions for Use for full details on the MR Conditional scan parameters

††† Available on eligible Apple® mobile digital devices. For a list of personal Apple® mobile digital devices compatible with Abbott's Patient Controller app, visit <http://www.NMmobiledevicesync.com/ds> OR <http://www.NMmobiledevicesync.com/ip>

†††† Up to 10 years of battery longevity at the lowest dose setting: 0.6mA, 500 Ohms, duty cycle 30s on/360s off. NOTE: In neuromodulation therapy, "dose" refers to the delivery of a quantity of energy to tissue. Safety comparisons and specific dose response curves for each dosage have not been clinically established. Refer to the IFU for additional information.