



PRAXIS SPINAL CORD INSTITUTE COMMERCIALIZATION PROGRAM

ADVANCING SPINAL CORD INJURY RESEARCH INNOVATIONS

This document is a roadmap that describes the Praxis Spinal Cord Institute's Commercialization Program, its objectives and activities. It was developed based on recommendations provided by the Praxis Commercialization Program Advisory Committee in 2013 and subsequent strategic planning meetings in 2018 and 2019.

COMMERCIALIZATION IN SPINAL CORD INJURY

The life cycle of bringing healthcare research innovations to the market and into the hands of people who will benefit from this technology is lengthy, inefficient, and often leaves high potential technology behind. For a complex condition such as spinal cord injury (SCI), this gap between innovation and commercialization is particularly significant given the relatively small size and low household income of this population. This means that people with SCI have a lower access to high quality innovation since the market for SCI is not conventionally commercially attractive for most healthcare entrepreneurs. In addition, many healthcare entrepreneurs are unaware of the unique challenges of SCI and often neglect to include important design considerations and other factors to make their products and innovations applicable to people with SCI.

Praxis has developed significant mature commercialization resources, but currently needs opportunities to diversify its funding sources and attract non-government private sources so as to be able to invest and build a sustainable interest in high potential technologies that could benefit people with SCI.

THE COMMERCIALIZATION PROGRAM AT PRAXIS

Bringing together a strong network of research expertise, consumer insight, commercialization knowledge and data, Praxis is uniquely positioned to help innovations scale regionally and internationally in the area of SCI. Praxis' Commercialization programs pair this with targeted mentorship in healthcare specific needs and regulatory and reimbursement advisory, which are key barriers for innovators in Canada. To further strengthen companies, Praxis provides targeted funding to help these companies grow and increase their ability to provide accessible, affordable products to SCI patients internationally.

OUR VISION & MISSION

VISION: A world without paralysis after spinal cord injury.

MISSION: To lead collaboration across the global spinal cord injury community by providing resources, infrastructure and knowledge; and to identify, develop, validate and accelerate the translation of evidence and best practices to reduce the incidence and severity of paralysis after SCI, improve health care outcomes, reduce long-term costs, and improve the quality of life for those living with SCI.

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AN ECOSYSTEM OF INNOVATION

Praxis Commercialization supports innovators through a continuum of programs, starting with early-stage ventures in SCI Incubate and maturing to post-prototype in SCI Accelerate.

Since 2014, Praxis has started developing a network of commercialization partners, and has funded early-stage SCI design and engineering projects across leading research and academic centres internationally including: Georgia Tech, UBC (Engineers in Scrubs, Department of BioDesign & Engineering, Creative Destruction Lab), Hebrew University, University of Waterloo, among many others. This has allowed for a number of early stage healthcare technology innovations to emerge.

To further mature later stage innovations and ease entry to the market, in 2019 Praxis launched the Praxis SCI Accelerate Program, designed for post-prototype companies (Technology Readiness Levels TRL 7+) with solutions that are relevant or have an application to people with SCI.

To bring together resources and capacity building for earlier stage innovations (TRL 2-4), Praxis launched SCI Incubate in 2020. Through these programs, Praxis provides world-class, differentiated and unique insight on spinal cord injuries by bringing its Consumer team (people with lived experience of SCI) to mentor these companies along with its Research and Clinical team, with decades of experience in SCI research and knowledge translation, and leading healthcare commercialization experts and mentors who are part of the Praxis SCI Accelerate Program.

SCI ACCELERATE

The SCI Accelerate Program provides SCI consumer and research mentorship, regulatory and reimbursement coaching, an Entrepreneur-In-Residence to provide commercialization coaching, access to Praxis network of international experts and KOLs, and \$50,000 CAD in non-dilutive funding. The program is catered to companies who have developed an initially validated prototype technology (TRL 7+) with a clear application for improving the lives of people with SCI. The company having a broader market than SCI but a clear application and benefit to SCI is essential.

PRAXIS ADVISORY COMMITTEE (PAC)

The Committee advises Praxis on our strategic direction, including the integration of the activities of the Cure, Care, Consumer and Commercialization programs, to achieve our vision, mission and operational and fundraising goals.

PAC MEMBERS

*Member of the Praxis Board of Directors

Michael Beattie (Chair)*

Professor of Neurological Surgery & Co-Director, Brain and Spinal Injury Center, University of California

Kristine Cowley*

Assistant Professor, Physiology & Pathophysiology, University of Manitoba

Graham Creasey

Paralyzed Veterans of America Professor of Spinal Cord Injury Medicine Emeritus, Stanford University

Richdeep Gill*

Minimally Invasive Upper Gastrointestinal & Bariatric Surgeon, Assistant Professor of Surgery, University of Calgary, Peter Lougheed Hospital

Hans Keirstead

Chairman & CEO, AIVITA Biomedical Inc.

Katie Lafferty

CEO, Heart & Stroke Foundation Canadian Partnerships for Stroke Recovery

Ian Rigby*

Emergency Room Physician, Foothills Medical Centre Chair, Praxis Board of Directors

Christine Sang*

Director, Translational Pain Research, Brigham and Women's Hospital

Simon Sutcliffe

Former President, BC Cancer Agency Vice Chairman, Omnitura Therapeutics

Rob Wudlick

Treasurer & Co-Founder, Get Up Stand Up Associate Professor, Harvard Medical School

SCI Accelerate received significant positive feedback from the cohort as a highly differentiated program, particularly for bringing consumer insight, and bringing leading experts in commercialization. To ensure the long-term sustainability and benefits of the program, however, Praxis needs to raise non-governmental/external and private funding to enable investment in the companies. Praxis also needs to develop a broader network of US Insurance Provider and Healthcare System leaders/administrators who could be matched with the SCI innovations for potential business development opportunities.

Initially launched in 2020, the next cohort of Praxis SCI Accelerate will run virtually from April to September 2021.

SCI INCUBATE

SCI Incubate is catered to pre-prototype technologies and research projects with an application for people with SCI. These research projects/innovations are early stage (TRL 2-4). The purpose of the program is for these projects to work closely with Praxis' Research and Consumer team to design products that would benefit people with SCI, and provide significant value and improved quality of life. In addition to research and consumer mentoring, the program also provides \$25,000 CAD in funding.

The inaugural program will launch in November 2020, and will run till March 2021. The global call for applications is open as of September 2, 2020.

OBJECTIVE OF THE COMMERCIALIZATION PROGRAM

As part of an international ecosystem of organizations dedicated to knowledge translation and increasing access to innovation to improve the lives of people with SCI, Praxis is looking to address the challenges to commercializing SCI technology by:

- Shortening the time to market,
- Reducing costs to commercialize,
- Providing access to non-dilutive and dilutive funding, among a number of related factors.

KEY NEEDS FOR COMMERCIALIZATION

The key needs for the Praxis Commercialization Program include:

- Building connections to corporate and private donors who would contribute to the program and investment in SCI innovations;
- Building connections and relationships at the leadership level with major Managed Care, Insurance Providers and Healthcare Players in the US, including but not limited to: Kaiser Permanente, Medtronic, etc.

COMMERCIALIZATION COMMITTEE MEMBERS*

Shari Hughson (Chair)

Director, Master of Entrepreneurship & Innovation,
Smith School of Business, Queens University

Jeremy Abitbol

Vice-President, Client Wealth Management, Gluskin
Sheff + Associates Inc

Ben Almond

Regional Director Canada, Jacobs

Christine Sang

Director, Translational Pain Research, Brigham
and Women's Hospital
Associate Professor, Harvard Medical School

Nava Swersky Sofer

Director, International Speaker, Innovation &
Commercialization Expert

*All are Members of the Praxis Board of Directors

STRATEGIC PARTNERSHIPS

Praxis partners with a number of local and international healthcare research, design and biomedical organizations and healthcare leaders to develop innovations geared towards improving the lives of people with SCI and broader healthcare outcomes.

MOVING FORWARD

Please refer to the [Praxis website](#) for more information.

COMMERCIALIZATION PROGRAM PRAXIS CONTACT

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Praxis Spinal Cord Institute
is proudly accredited by
Imagine Canada.

