



Centre for Chronic Disease Prevention and Management

Annual Report | 2024

Director's Message

It was a banner year for growth and milestones for the Centre for Chronic Disease Prevention and Management (CCDPM).

We have established a dedicated team of scientists who work together on research questions that cut right across the translational spectrum—from cells to clinics to society. Based on the multidisciplinary nature of their work, our investigators hold grants from all Tri-Council agencies, including the Canadian Institutes of Health Research, the Natural Sciences and Engineering Research Council of Canada, and the Social Sciences and Humanities Research Council.

Cultivation of partnerships was a key theme for the past year. Our investigators developed new collaborations with industry and community partners to build research capacity for their respective labs. They have also collaborated with CCDPM investigators to leverage collective research expertise to advance the Centre's priorities.

A key highlight is the work of Dr. Chris West in developing and leading a new training course for researchers and industry professionals. In partnerships with five industry partners and the American Physiological Society, Dr. West's lab now offers a professional Masterclass training course on how to conduct cardiac pressure-volume loop studies in pre-clinical research. By conducting structured training in all aspects of this technology from study design and surgical instrumentation to data analyses and interpretation, it is expected that this course will help

align the field with how best to utilize this approach in studies, reducing between study variability and ultimately helping to allow broader conclusions across studies to be made.

Our agile team of investigators has made tremendous contributions to scientific discovery and knowledge translation on behalf of UBC. Collectively, they have secured \$6.7M in primary investigator funding and \$14.8M in co-investigator funding for 2024.

Lastly, our Trainee Engagement Committee works tirelessly to foster a supportive and welcoming community for our trainees. Throughout the year, they deliver networking and professional development opportunities for trainees to enhance their skill sets and pursue their own academic aspirations.

Our research team continues to deliver impactful research that focuses on improving the health of urban and rural communities across British Columbia and Canada. We are truly excited to see what we can accomplish in the years ahead.



Dr. Kathleen Martin Ginis

Director Centre for Chronic Disease Prevention and Management

Reichwald Family UBC Southern Medical Program Chair in Preventive Medicine



THE UNIVERSITY OF BRITISH COLUMBIA

Centre for Chronic Disease Prevention and Management
Faculty of Medicine



Researchers challenge high-intensity interval training critics

The promotion of high-intensity interval training (HIIT) for public health is a lightning rod for debate, especially from its staunchest critics within the scientific community.

CCDPM Researchers continue to advance the HIIT discussion while also calling out a lack of civility and respectful dialogue amongst scientists who may disagree with evidence-based findings.

“In our view, critics have unfairly questioned the validity of studies that show positive psychological responses to HIIT, including enjoyment of, and adherence to HIIT as an exercise intervention,” says Dr. Mary Jung. “They also argue that HIIT is only suitable for athletes or as part of a supervised fitness program.”

“What began as an open debate on the value of HIIT as a public health strategy has now devolved into attacks on researchers,” says Dr. Kathleen Martin Ginis.

Dr. Martin Ginis questions if these attacks are intended to intimidate scientists to abandon HIIT research altogether. She notes that the academic discourse has already slowed advancements in exercise science, as researchers—especially graduate students—feel intimidated. Some have decided not to conduct, publish or present research on HIIT for fear of coming under personal attack.

“Since 2015, the debate has moved beyond the practical question of whether HIIT is viable for population-level physical activity promotion, to the philosophical question of whether HIIT research should be abandoned altogether,” adds Dr. Martin Ginis. “By positioning the HIIT discourse as a binary, right or wrong ‘debate,’ discussants have created an adversarial paradigm for conversations and a breeding ground for incivility.

Defining chronic pain for high-performance athletes with disabilities



For Paralympians and high-performance athletes with spinal cord injuries (SCI), assessing chronic pain plays a key role in their training and readiness to compete. However, the source of chronic pain is often misattributed to acute trauma or overuse injuries. While the International Olympic Committee acknowledges pain management data among Paralympians and athletes with disabilities is limited, few studies have been launched investigating this dilemma.

Now, new research from the CCDPM highlights the need for more comprehensive assessment tools that can help athletes with SCI recognize and communicate neuropathic pain.

Neuropathic pain, where a person might feel pain from any part of their body, is nerve pain that occurs after a breakdown, or severe damage to the nervous system. It is often characterized as a burning, tingling and shooting pain. However, it is hard to diagnose for those living with an SCI.

School of Health and Exercise Sciences alumna Dr. Kendra Todd is a Senior Policy Analyst for the Government of Canada's Office of Public Service Accessibility and coach of British Columbia's Wheelchair Rugby team.

"Athletes often have greater bodily awareness and are better at identifying painful sensations compared with people who are comparatively inactive," says Dr. Todd. "However, athletes with SCI in this study had difficulty describing their neuropathic pain symptoms. This often means pain can be misunderstood and can result in poor diagnosis and injury management."

"If we can better understand neuropathic symptoms, we can better guide early pain management decisions for athletes who are forced to limit sports participation or have a slower return to play," says Dr. Kathleen Martin Ginis.

Dr. Ryan Hoiland receives early-career researcher award from Brain Canada



Brain Canada has selected Dr. Ryan Hoiland as part of its fifth cohort of Future Leaders in Canadian Brain Research. This year, \$2.1 million in funding has been awarded to 21 promising early-career researchers, each receiving a \$100,000 grant.

Brain Canada's flagship program continues to drive innovative research that has the potential to transform our understanding of the central nervous system and its impact on our health. The new funding will support Dr. Hoiland's research to better understand the pathophysiology of hypoxic-ischemic brain injury following cardiac arrest.

"The project will couple high-frequency patient physiology data with proteomic analysis of tissue samples including blood, cerebrospinal fluid, and brain tissue," says Dr. Hoiland. "We hope to determine the specific disease processes that are associated with brain injury due to low brain oxygen levels in humans."

BY THE NUMBERS - INVESTIGATORS

74

Research Publications

\$6.7M

Primary Investigator
Research Funding

\$14.8M

Co-Investigator
Research Funding

INVESTIGATORS

Dr. Femke Hoekstra
Dr. Ryan Hoiland
Dr. Hashim Islam
Dr. Jonathan Little
Dr. Kathleen Martin Ginis
Dr. Sarah McCorquodale
Dr. Sarah Purcell
Dr. Brodie Sakakibara
Dr. Christine Voss
Dr. Christopher West
Dr. Daryl Wile (Clinical)

AFFILIATE INVESTIGATORS

Dr. Jennifer Davis
Dr. Neil Eves
Dr. Mary Jung
Dr. Paul van Donkelaar

AFFILIATE CLINICIANS

Dr. Janet Evans
Dr. Gayle Klammer
Dr. Jennifer Locke

COMMUNITY PARTNERS

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