Summer 2022

STEOPOROSIS SAC LINK

Osteoporosis Canada's Scientific Advisory Council

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OC Research Program

The Osteoporosis Canada Tim Murray Short-Term Training Awardees Spring 2022



Nathalie Konstantelos BSc, PhD student

Natalia Konstantelos is a PhD student in pharmacoepidemiology at the Leslie Dan Faculty of Pharmacy, University of Toronto. The **Osteoporosis Canada Tim Murray Short-Term Training Award** will provide Natalia with the opportunity to present her research at the 2022 American Society for Bone and Mineral

Research (ASBMR) Annual Meeting in Texas. This will be Natalia's first presentation at ASBMR. Natalia's research identifies the potential for outcome misclassification when identifying hip fractures in healthcare administrative data. This important methodologic study builds off her recent scoping review that identified considerable heterogeneity in fracture definitions in the literature. Natalia's study demonstrates the importance of using consistent and accurate definitions in studies that utilize healthcare administrative data and informs future research that aims to estimate the real-world effects of medications on fracture risk.

"I'm truly grateful to all of the donors that permit the support of trainee travel awards. The Tim Murray Short-Term Training Award will support me in presenting my research <u>in person</u> at the 2022 ASBMR conference" ~ Natalia Konstantelos

Travel support from the *Tim Murray Short-Term Training Award* will enable Natalia to present her findings to an international audience in person, receive valuable feedback from researchers and clinicians, and build important connections. Her supervisor, Dr. Suzanne Cadarette, is especially grateful with memories of attending her first ASBMR as a graduate student in 1998, and how Dr. Tim Murray mentored her during the conference.

Wagner H. Souza - PT, PhD Postdoctoral Fellow Toronto Rehabilitation Institute KITE-University Health Network

This award will be used to support my oral presentation at the 2022 Exo Berlin conference. My talk is entitled *Challenges of implementing an exoskeleton-based rehabilitation facility in Canada: clinician perspectives from device application to commercial availability.* The presentation will focus on assistive overground exoskeletons to prevent fall-related injuries (e.g., bone fractures) and to promote bone health in spinal cord injury (SCI) populations. It will also discuss the challenges faced to implement exoskeleton-based clinically valid protocols in Canada.



The relevance of this work lies in the fact that in recent years, a growing body of literature indicates that automated multi-joint exoskeletons can facilitate overground gait in SCI. It is unknown, however, the extent to which currently available devices could accommodate specific demands across different clinical states, particularly among people highly prone to fragility fractures. Moreover, the lack of well-established protocols (e.g., dose and dosage), and the limited availability of exoskeletons regulated for clinical use in Canada pose as additional problems to be solved. Our research team has been working to implement a clinic (I Will Clinic, at the Lyndhurst Rehabilitation Centre, Toronto) for spinal cord injury integrated care. At the said clinic, exoskeleton gait training is to be offered as one of the main rehabilitation strategies. Fifteen exoskeleton manufactures with devices at commercialization stage were contacted for collaboration. Despite many of those devices having FDA approval, a single manufacturer reported Health Canada clearance for clinical application. As for the protocol to be implemented, a systematic review led by our group showed that very few studies properly report the parameters used to deliver increased gait, balance, and bone fracture prevention. Such parameters were highly variable across, and sometimes within manufactures.

Altogether, implementing an exoskeleton-based gait rehabilitation program can be extremely challenging in Canada. That is mainly due to the very low availability of devices with Health Canada certification, and which could be used in translational protocols for regular clinical practice. This regulatory issue limits the use of most commercialized exoskeletons to research settings, which seems to agree with some manufacturer's business models while being very restrictive to clinical translation. Furthermore, the lack of standardized guidelines for exoskeleton-based gait rehabilitation adds to the variability of protocols while fostering inconsistent evidence-based practice in this field. Presenting at Exo Berlin 2022, one of the most important events in the field of robotic assistive devices, will foster the dialog between consumers (e.g., clinicians, rehabilitation institutions) and manufacturers, which should be stimulated aiming the resolution of the current challenges involved in the translation of exoskeletons to clinical practice. That includes the collaborative development of currently unavailable best practice recommendations for specific target outcomes (e.g., bone mineral density, gait speed), as well as the acquisition of legal rights for clinical use as per regulatory bodies specific to various countries.

OC Tim Murray Short-Term Training Award Fall 2022

These awards (maximum \$1500) provide successful individuals the opportunity to learn more about osteoporosis, advance existing research skills in osteoporosis and/or present their research at a scientific meeting. It is open to undergraduate, graduate, postgraduate trainees and junior faculty members (where junior is defined as less than 5 years in their first academic appointment). The awards aim to build on Dr. Timothy Murray's impressive legacy of teaching, research and patient care by recognizing, supporting and encouraging future leaders in bone health. The application process will be administered by Osteoporosis Canada's research committee.

The proposed training or project must occur between June 2022 and March 31, 2023.

Application Forms:

OC Tim Murray Short-Term Training Award – Application 2022 >

Two rounds of awards will be available for 2022. The application deadlines for the second round is **Nov. 1, 2022.**

SAVE THE DATE - Canadian Musculoskeletal Conference 2022

Please save the following dates for the 2022 CMC:

Nov. 24th – Young Investigators Day focusing on Knowledge Translation (In Person)

Nov. 25th - CMC 2022 focusing on the new Clinical Practice Guidelines (hybrid event)

The in-person portion of the CMC will be held at the Sheraton on Queen Street in Toronto, ON.

More details will soon be available on our website.

FLS

Three new FLSs are welcomed to Osteoporosis Canada's FLS Registry:

- Windsor Regional Hospital Metropolitan Campus in Windsor, Ontario. This is an outpatientonly FLS under the umbrella of the Ontario Osteoporosis Strategy.
- Grey Bruce Health Services Owen Sound Hospital in Owen Sound, Ontario. This is an outpatient-only FLS under the umbrella of the Ontario Osteoporosis Strategy.
- Chilliwack General Hospital in Chilliwack, British Columbia. This is a combined inpatient/outpatient FLS implemented with funding support from the Brookfield Chair in Fracture Prevention.

Additionally, we would like to congratulate Peace Arch Hospital in White Rock, British Columbia for having recently expanded its FLS service. With funding support from the Brookfield Chair in Fracture Prevention, they have successfully expanded from their previous outpatient-only FLS to now also serve the patients admitted to the orthopaedic ward. The Peace Arch Hospital FLS is now classified as a combined inpatient/outpatient FLS.

What Happens to Your Gifts to Osteoporosis Canada

- Puts science into practice by educ healthcare professionals to ensure Canadians living with the disease have access to the latest prevention, diagnostic and treatment options. This includes Kerry's support of the SAC and the guidelines development committees.
- Helps individuals affected by osteoporosis and their families by providing accurate, evidencedbased information, online tools and resources, educational programs and access to support groups and community resources.
- Help implement FLS, which is by far, the most effective secondary fracture prevention method to ensure fracture patients receive the osteoporosis care they need to prevent additional fractures and the work to promote and support the implementation of quality Fracture Liaison Services (FLS) in jurisdictions across Canada.

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