



Canadian Network for Mobility Research

The Canadian Network for Mobility Research (CaNMOR) is a self-assembled musculoskeletal (MSK) consortium that serves as a mechanism to solidify relationships, foster new partnerships, increase awareness of strengths, identify synergies, and recognize collaborative opportunities among MSK leading groups across Canada.

Slogan

• Active for life! Muscle, bone and joint health research to keep Canadians moving.

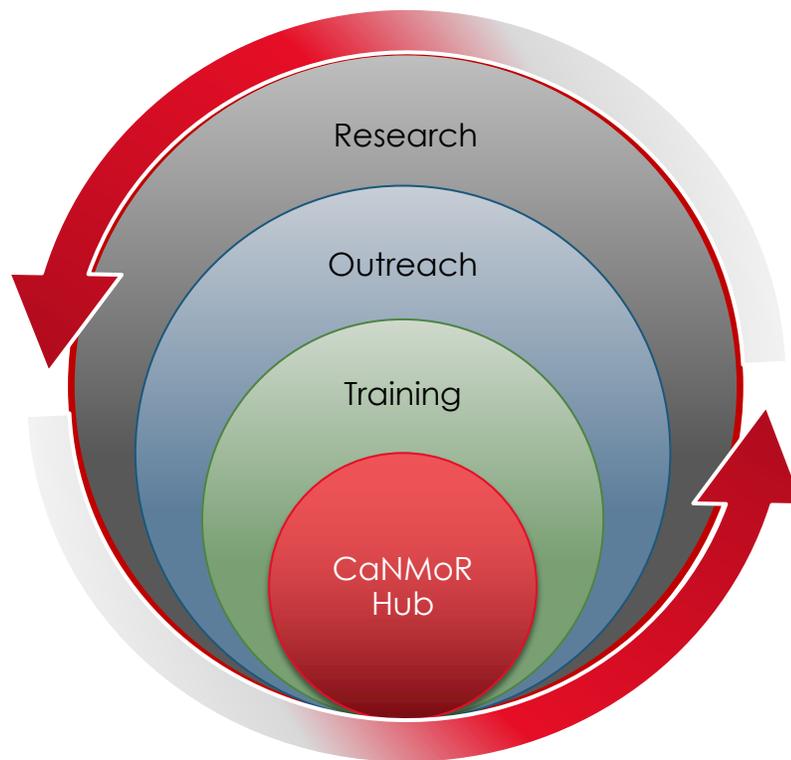
Mission

• CaNMOR's mission is to bring researchers and partners together to identify priority areas and opportunities as well as support actions that will generate solutions to improve the health of Canadians, through the prevention and management of musculoskeletal conditions.

Objectives
<ul style="list-style-type: none"> • Solidify national MSK partnerships among academics, consumers, funders, and decision-makers • Identify common research goals and synergistic activities • Build a unified action plan to increase the profile of MSK research in Canada • Capitalize on individual strengths, expertise and resources • Maximize opportunities for national MSK research projects • Enable accelerated uptake of successful innovations

Current Member Groups & Organizations	Representatives
Biomedical Research Centre (BRC) at University of British Columbia	T. Michael Underhill
Bone and Joint Imaging Group (BIG) at University of Saskatchewan	David Cooper Adam Baxter-Jones Sajja Kontulainen
Centre for Hip Health and Mobility (CHHM) at University of British Columbia	David Wilson Pierre Guy
Canadian Institute for Health Research (CIHR)	Karim Khan
Injury Repair Recovery Program (IRRP) at Research Institute McGill University Health Center	Ed Harvey Géraldine Merle
Human Mobility Research Centre at Queens University	Brian Amsden Tim Bryant
McCaig Institute for Bone and Joint Health at University of Calgary	Steve Boyd David Hart
The Bone and Joint Institute (BJI) at Western University	David Holdsworth Frank Beier
Canadian MSK Rehab Research Network	Joy MacDermid Trevor Birmingham
Research at McMaster University	Mohit Bhandari
Holland MSK Sunnybrook Research Institute	Cari Whyne Albert Yee
Network for Oral and Bone Health Research (RSBO) in Quebec	Pierre Moffatt
Orthopaedic Research at Dalhousie University and the Nova Scotia Health Authority (NSHA)	Mike Dunbar Sara Whynot
The Research Centre at Shriners Hospitals for Children - Canada	Bettina Willie Elizabeth Zimmermann René St-Arnaud
Arthritis Alliance of Canada (AAC)	Jason McDougall Deb Marshall Goldi Gill
Patient Partners Program	Anne Lyddiatt
The Arthritis Society Canadian Arthritis Patient Alliance (CAPA)	Dawn Richards
Sjogren's Society of Canada	Lee Durbon
About Face	Kariym Joachim

The consortium will continue to grow overtime to help make Canada internationally renowned for its research excellence in MSK health.



Potential Research Priorities

Chronic Pain & Fatigue

- Improve **self-reported measurement tools** for pain and fatigue (intensity, quality, adaptation, impact on quality of life, role of co-morbidities)
- Develop quality low cost **quantitative measurement tools** for pain and fatigue
- Expand knowledge about the **mechanism of joint pain** - why the lack of correlation between disease severity/mechanical structure and pain (biological/psychosocial influence)
- Examine **opioids and cannabis** in terms of their use, safety, drug interactions, and dosages
- **Collaborate with** pain experts and mental health experts to explore how pain impacts mobility and mental health
- Assess the impact of MSK pain **stigma** (e.g. work, perceived weakness, views about treatment)
- Build **relationships** with licensed producers as a potential source of new funding and with industry to change the conversation– “not just a deep unsolvable pit”, need to invest time, people and money to find solutions

Inflammation & Tissue repair

- Develop better **in vivo assays** to quantify inflammatory response in an objective way as a stepping stone to more specific treatments (does not interact with the system under study) - why does some inflammation resolve and others not? What are all the signaling processes involved?

- Identify better **biomarkers** for bones and soft tissues
- Improve the coordination among **MSK tissue banks** (e.g. Allographs/transplants)
- Support members facing **regulatory issues** – GMP, Quality Management (e.g. Health Canada)
- “Scaling it up”, identify the **facilities** that have the right manufacturing practices and laboratories with regulatory processes to implement the next great solutions on a large scale - address deficiencies, capitalize on existing partnerships and improve coordination across the country to save time and avoid duplication

Disability, Mobility & Health

- Identify high **risk factors** and develop **targeted prevention** (primary and secondary)
- Reduce the disparity between **tools** used in **research** versus **clinical and training settings** (e.g. imaging)
- Examine the **value and cost-effective** use of assessment tools and treatment options in clinical settings (community, secondary and tertiary settings) (e.g. use of population health and admin data, using a machine learning approach, consolidating our data)
- Develop better assessment and treatment algorithms to improve diagnostics, treatment planning, and health outcomes (e.g. How do you prescribe **exercise interventions** (dosage and relevance)?)
- “Patient Oriented Research” – improve our KT strategy for the engagement of patients and clinicians, with a goal of **establishing and evaluating guidelines, mobility tool kit and apps**
- **Explore the applicability of wearables and artificial intelligence for MSK conditions** - Implications regarding training data and partnerships, impact on access rural/urban, point of care, feedback/tracking/monitoring, smart health systems)

Potential Outreach Priorities

Raising the Profile of MSK Research in Canada

- MSK health is seen as something that contributes positively or negatively to “bigger” health problems (e.g. heart disease, stroke, cancer, diabetes, COPD, mental health); thus, everyone should care about MSK messaging
- One challenge with MSK is that healthy aging, aches and pain does not resonate with all age groups limiting the reach and impact of messages like: “*Active for life! Research for risk prevention and innovative solutions to keep people’s bone, joints and muscles healthy.*” (Note: Important to avoid duplication of public health messaging – but consider synergies, independence, and activity goals)
- CaNMOR could prioritize the development of logos, branding, marketing, visuals, social media, and doing presentations in community, but is that the right role for CaNMOR? Other existing groups could serve as a conduit for our message
- A working group of communication folks already embedded in the organizations of CaNMOR members (e.g. experts in communication/KT, marketing and business professionals, other experienced program by people like Pierre Lavoie and Heather McKay, ParticipACTION) are needed to develop messaging for various audiences and select mechanisms that would deliver a constant and ongoing message

Funding CaNMoR Research

- Mobilization of CaNMoR participants in advance of RFPs (e.g. types of calls, types of problems, types of priorities) is important to increase funding success
- Lobbying for RFPs related to CaNMoR identified priorities - unified narrative regarding the “unmet funding needs’ (canned text, consistent messaging, research \$, morbidity/impact on people and systems) is crucial to moving forward as a group
 - NCE (Nov 15 – trauma, rehab)
 - CIHR Team Grants ()
 - FRQ
 - NSERC Strategic Partnerships (Net)
 - NB: difficult – health focus
 - ORF, CHRP
 - PSP – Pharma, Ortho devices, Medex, Dairy, sports equip
 - Canadian Military (?) Canadian Military Veterans Research (talk to Joy)
 - Strategic innovation fund
 - NSERC Create
 - US Department of Defense (DOD)
 - CSA (Canadian Space Agency)
 - Bill & Melinda Gates
 - Other private philanthropic organizations
- CaNMoR members should hold seats on funders’ advisory boards
- Considering CaNMoR membership for private sector partners (need to consider IP issues) could help build mutually beneficial connections
- Inviting funders to annual meetings will enhance opportunities to direct funds to MSK

National Annual MSK Meeting

- The Canadian Bone and Joint Conference currently hosted by Western’s Bone and Joint Institute allows cross talk, but it is costly to plan and host this event for any single group – could it become a CaNMoR event with a detailed revenue sharing plan (loss vs profit) and effective travel funding and sponsorships?
- CaNMoR should partner with different groups each year (avoid silos, rotate locations, established conferences like ASBMR, COA, ORS, AAOS, ORSI, IOF, AAC, and CCTC, local research days by CaNMoR members, society meetings) to increase exposure and decrease meeting costs (satellite symposium, workshops)

Potential Training Priorities

National Trainee Exchange Program

- Identify sites and targeted coop placements and consider lengths of anywhere from 2 weeks to 4-6 months with maximum support of under \$10,000
- Develop clear outlines of opportunities (contact info/equipment/benefits/conferences – consider a Canadian Infrastructure Database)
- Explore existing programs (use existing structures and processes) – consider modeling programs by the Stem Cell Network, RSBO, MITACS, TAS, COA model with travelling fellow options
- Investigate international opportunities and government support
- Prioritize unusual matches to build collaboration and transdisciplinary approach to MSK challenges
- Ensure clear messaging about the goals, value and allocation of funds to support the logistics
- Build a remote access component to learn about specialized equipment (virtual exchange) to reduce program costs/travel & accommodations

MSK Expert Matching System

- Make Canada a destination for MSK experts at all levels of training – Post-docs, PHDs, technicians, faculty --- all hires
- Establish a mechanism to share our HQP and keep them in Canada
- Support recruitment – increase knowledge of career opportunities, share postings, highlight the Canadian Advantage

ACTION ITEMS

Description	Progress
<ul style="list-style-type: none"> • Define a base budget <ul style="list-style-type: none"> – administrator (1 FTE) \$100K (1-year contract) – Ask each University for support – need clear messaging about how our activities further their research mission – Get national exposure before going to Philanthropy – Website design, launch and maintenance – Annual meeting with rotating locations 	<ul style="list-style-type: none"> ○ On-hold due to funding constraints
<ul style="list-style-type: none"> • Set an Executive Committee for 3 years to take care of sponsorship, continuity, scientific direction (5-6 reps across the country – chair, treasure, secretary, members-at-large, for example <ul style="list-style-type: none"> – Director of McCaig – Director of BJI western – Director of Hip Health – David Hart 	<ul style="list-style-type: none"> ○ On-hold – communications maintained by BJI

<ul style="list-style-type: none"> - Jason McDougall - Pierre Guy - Brian Amsden - Cari Whyne - Adam Baxter-Jones - Sara Whynot - Patients - Director of PAC - Director of MSK network - Coordinate with Arthritis Society, Arthritis Alliance 	
<ul style="list-style-type: none"> • Build a simple webpage <ul style="list-style-type: none"> - Intro - About us - People/partners - Job postings - Newsletter - RSS feeds • Need continuous movement to keep fresh • Need money for a content manager/webmaster <ul style="list-style-type: none"> - Need a non-institutional look and feel 	<ul style="list-style-type: none"> ○ Logo (finalized) ○ Secure a domain – canmor.net and canmor.org (secured) ○ Website development – currently housed under BJI (web designer and quote in hand) – on-hold due to funding constraints
<ul style="list-style-type: none"> • Communication hub – need to secure funding to establish a communication hub for the consortium (1-FTE – split into multiple location, operations around communication) 	On-hold due to funding constraints
<ul style="list-style-type: none"> • Progress update for IMHA 	Drafted
<ul style="list-style-type: none"> • Invite CaNMOR members to meetings and activities hosted by individual groups 	Information about meetings circulated upon requests made to Jann at BJI who manages the group mailing list
<ul style="list-style-type: none"> • Draft and finalize a unified narrative of unmet needs 	On-hold due to funding constraints
<ul style="list-style-type: none"> • Next annual meeting could be attached to a major conference like ASBMR – potential theme: Building on success – Nationalizing local wins <ul style="list-style-type: none"> - Role Clarity and the Relationship between CaNMOR and Advocacy Groups – research vs identifying relevant problems - Engage Clinicians on a National Scale - multi-centered trials - Nationwide Philanthropy Campaign – modeling the public lecture series by Shriners 	On-hold

<ul style="list-style-type: none"> – Unlocking the potential in Canada - Access to state-of-the-art infrastructure across the country (enabling better operation, maintenance and tech support) – Better translation and commercialization (i.e. MacMaster – large clinical trials) 	
<ul style="list-style-type: none"> • Talk to Canadian Pain Society about a rep on consortium 	On- hold – but open invitation for groups to join on webpage
<ul style="list-style-type: none"> • Find our celebrity/sponsor like mental health did with Clara Hughes/Bell - launch an Annual fundraiser to be part of our Clara Hughes-like campaign 	On-hold