

New Directions in Osteoarthritis Research

By Deborah Marshall, PhD; Kelsey H. Collins, PhD Candidate; and S. Jeffrey Dixon, DDS, PhD

On October 22nd, 2015, the Arthritis Alliance of Canada (AAC) in partnership with the Canadian Institutes of Health Research (CIHR) Institute of Musculoskeletal Health and Arthritis (IMHA) brought together more than 200 arthritis stakeholders and leading experts in osteoarthritis (OA), including scientists, engineers, healthcare providers, trainees, specialists, and people living with arthritis. A research symposium entitled *New Directions in Osteoarthritis Research* identified knowledge gaps, highlighting research opportunities in OA and promising approaches for future studies. Presenters included a panel of engaged consumers (Ms. Alison Hoens, Mr. John Coderre, Ms. Anne Fouillard, and Dr. Jean Miller), and academic experts (Dr. Gillian Hawker, Dr. Frank Beier, Dr. Nicholas Mohtadi, Dr. Carolyn Emery, Dr. Linda Li, and Dr. Ewa Roos).

A key theme reflected in all presentations is the critical need for a paradigm shift across both basic and applied research; OA is not “just” the passive degeneration of cartilage resulting from wear and tear, but rather a complex illness of multiple tissues driven by the active participation of multiple cell types. Research has recognized OA as a

heterogeneous condition with multiple pathogenic mechanisms and clinical manifestations delineating “OA phenotypes,” potentially requiring different diagnostic and therapeutic approaches. A transdisciplinary, team-based research approach across healthcare pillars is essential to describe, evaluate, and develop interventions for these subgroups of OA.

Evidence exists for the effectiveness of non-operative conservative care for knee OA, specifically for diet and exercise.¹ We still do not have any disease-modifying drugs for OA analogous to biologics for inflammatory arthritis (IA); this remains a key research and translational opportunity. Additional research is also needed to explore the potential of regenerative medicine approaches for the prevention and treatment of OA.

An exciting example of personalized treatment was described by Dr. Roos, who studied exercise therapy personalized for OA patients to improve their joint function and reduce OA symptoms. This program, called *Good Life with Osteoarthritis in Denmark* (GLA:D),² was successfully tested through a certification program for physiotherapists.



Ms. Alison Hoens and Dr. Jeff Dixon presenting at the AAC Annual Meeting.



Ms. Linda Wilhelm, Qualman-Davies Arthritis Consumer Community Leadership Award recipient, alongside her poster at the AAC Poster Session.

Dr. Li described how implementation of research knowledge continues to lag behind discovery, and that greater efforts are needed to translate our findings. This may involve capacity building in the fields of knowledge translation, implementation science, and patient engagement. An example presented by Dr. Emery was the recommendation to implement targeted injury prevention strategies in youth sport and recreation, where studies have shown a significant reduction in injuries with a neuromuscular training warm up.

The consumer panel highlighted the ongoing need to change the culture around patient engagement and emphasized the roles of patients. Such roles include identifying relevant research questions, aiding in the design of studies, interpreting findings, and translating knowledge, as well as working with other members of the OA community to advocate for adequate research funding.

On the day following the symposium, AAC members, partners, and stakeholders met in a workshop format. Building on the outcomes of the symposium, goals of the workshop were to: Identify knowledge gaps in OA, synthesize and prioritize key research questions, and identify programs and strategies to tackle the most critical questions in OA research. A report detailing the conclusions from the symposium and workshop is presently in preparation.

PowerPoint presentations from the research symposium and workshop are available on the AAC website; please visit www.arthritisalliance.ca/en/aacannual/14-data-articles/173-2015-annual-conference-ppt to access this content.

References

1. Osteoarthritis Research Society International (OARSI). Physician Summary: Non-Surgical Treatment of Osteoarthritis of the Knee. 2014. Available at: www.oarsi.org/sites/default/files/library/2014/pdf/physiciansumfinal.pdf.
2. Roos EM, Skou ST. English Summary: GLA:D Annual Report 2014. Available at: www.glaiddk.dk/pdf/English%20Summary%20annual%20report%202014%20GLAD.pdf.





(Left to right): Dr. Deborah Marshall, Ms. Alison Hoens, Ms. Anne Fouillard, Mr. John Coderre, and Dr. Jean Miller.

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Arthritis Alliance of Canada (AAC)
Annual Meeting and Research Symposium


"Building Capacity for Sustainable Healthcare in Canada"

presented in partnership with
CIHR's Institute of Musculoskeletal Health and Arthritis
October 22-23, 2015
Delta Lodge Hotel at Kananaskis, Alberta

A Special Gala Tribute Dinner

"DR. CY FRANK AND THE ROCKY MOUNTAIN PIONEERS"

In honour of the accomplishments and legacy of Dr. Cy Frank



Dr. Cy Frank
August 3, 1949 – March 5, 2015

The Symposium, entitled "New Directions in Osteoarthritis Research", will look ahead at promising approaches for future studies, and identify knowledge gaps and research opportunities. The AAC workshops will focus on building capacity in research and health care sustainability. The programme will bring together scientists, engineers, healthcare providers, trainees, specialists, key stakeholders and, most importantly, people living with arthritis.

<p>THURSDAY, OCTOBER 22, 2015</p> <p>8:00 am - 12:00 pm CIHR - IMHA "Young Investigator Forum"</p> <p>Research Symposium: "New Directions in Osteoarthritis Research"</p> <p>12:45 pm - 1:00 pm Arthritis Alliance of Canada: Welcoming Remarks</p> <p>1:00 pm - 5:00 pm Research Symposium: "New Directions in Osteoarthritis Research"</p> <p>6:15 pm - 6:45 pm Reception</p> <p>6:45 pm - 9:00 pm Gala Tribute Dinner "Dr. Cy Frank and The Rocky Mountain Pioneers"</p>	<p>FRIDAY, OCTOBER 23, 2015</p> <p>8:30 am - 9:00 am AAC Annual General Meeting</p> <p>9:00 am - 10:15 am AAC Models of Care Workshop</p> <p>10:45 am - 12:00 pm AAC Research Workshop</p> <p>12:30 pm - 1:45 pm AAC Advocacy and Awareness Workshop</p> <p>8:00 am - 1:00 pm CIHR - IMHA "Young Investigator Forum"</p> <p>8:00 am - 1:00 pm The Arthritis Society Trainee Session</p> <p>1:00 pm - 3:00 pm Joint Poster Session: IMHA "Young Investigators", The Arthritis Society Trainees and Arthritis Consumer Organizations in Canada</p>
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