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ABJHI Funding Research to Shed New Light on Risks for Obese Patients Undergoing Hip and Knee Replacements

Alberta researchers will attempt to shed new light on the effects of obesity on the progression of osteoarthritis (OA) in the hips and knees and on additional health risks obese patients face following surgery to replace the joints. The research will be funded by Alberta Bone and Joint Health Institute (ABJHI) and led by Dr. Benham Sharif, who has been awarded a two-year post-doctoral fellowship to conduct the work.

It is the first fellowship funded with proceeds from the 2015 Music in Motion gala to fight bone and joint disease. In addition to funding the research, ABJHI will lever the information in its large bone and joint data repository to advance the work. ABJHI has partnered with physicians and Alberta Health Services to build the only bone and joint data repository in Canada that collects information along the patient journey from referral to treatment and long-term follow-up, giving researchers a valuable end-to-end picture of hip and knee replacement patient experience and outcomes.

“This work marks an important expansion of ABJHI’s role in research using the rich and growing provincial data repository and our expertise in analytics and knowledge transfer to support post-doctoral work that has the potential to expand knowledge and significantly alter traditional approaches to treatment,” Christopher Smith, ABJHI’s Chief Operating Officer, said.

The secure repository run by ABJHI holds longitudinal data on more than 117,000 bone and joint patients in Alberta and 130,000 hip and knee replacement surgeries.

OA is the most prevalent joint disease and obesity rates are alarmingly high in Canada. Excess body weight is known to contribute to the onset of OA in weight-bearing joints such as the hips and knees. However, little is known about the degree to which the extra weight causes the OA to progress to the severest stage and there is inconclusive evidence on risks of problems during surgery and recovery.

“Obese people make up the majority of hip and knee replacement patients in Canada,” Dr. Sharif said. “Despite this high prevalence, there are gaps remaining in our knowledge about the additional risks they face and care strategies we can deploy to reduce these risks and improve their outcomes.”

Dr. Sharif’s research will have three discrete components. One will involve determining the degree to which obesity plays a role in OA progressing from early stage to severe requiring joint replacement to relieve pain and restore function. The second component will examine the risk of adverse events associated with surgery, such as blood clot and infection, and changes in quality of life that can be expected at different levels of obesity.

The knowledge gained from the first two study components will be used to shed light on the effect that weight loss in the early stages of OA would have on the disease’s progression and to design treatment pathways aimed at reducing the risk of adverse events following surgery, improving quality of life and reducing health care costs. This work will be done using a computer simulation model that allows care providers to simulate changes in different factors, such treatment protocols and resources, and immediately observe their impact. The model was developed by Dr. Sharif’s academic supervisor, Dr. Deborah Marshall, ABJHI’s Director of Health Technology Assessment and Research, and Professor, Faculty of Medicine, University of Calgary with funding from the Canadian Institutes of Health Research.

Dr. Marshall said the research will provide guidance for policy makers and clinicians in Alberta and elsewhere. “This work will answer some fundamental questions, such as when surgery should be delayed while obesity management strategies and other measures are taken to improve the patient’s readiness and reduce the risks of adverse events.”

Janet Yale, president and CEO, The Arthritis Society, said: “The relationship between excess weight and arthritis is a vicious circle. People living with chronic pain from arthritis are often less active because of their pain. Reduced activity leads to increased weight, which leads to more joint strain, which leads to increased arthritis. Studies like this will help us develop strategies to get people out of the obesity spiral, and ultimately reduce the number of joint replacements Canadians need to endure.”

Dr. Sharif has a PhD in Healthcare and Epidemiology from the School of Population and Public Health, University of British Columbia. He is an ABJHI Music in Motion postdoctoral fellow in the Faculty of Medicine, University of Calgary, under the supervision of Dr. Marshall.

The 2015 Music in Motion was held October 6. Starring Holly Cole and featuring the Alberta Ballet and special guests, it raised \$554,000 for bone and joint research with a portion of the proceeds set aside for ABJHI to fund post-doctoral research fellowships.

Alberta Bone and Joint Health Institute is Canada’s only independent institute for channeling knowledge into better bone and joint health care services and the nation’s leading organization for engaging stakeholders in adopting best practices. ABJHI is a not-for-profit institute and a registered charity. For more information and to make a donation, visit www.abjhi.com.

The Arthritis Society has been setting lives in motion for over 65 years. Dedicated to a vision of living well while creating a future without arthritis, The Society is Canada’s principal health charity providing education, programs and support to the over 4.6 million Canadians living with arthritis. Since its founding in 1948, The Society has been the largest non-government funder of arthritis research in Canada, investing more than \$190 million in projects that have led to breakthroughs in the diagnosis, treatment and care of people with arthritis. The Arthritis Society is accredited under Imagine Canada’s Standards Program. For more information and to make a donation, visit www.arthritis.ca.

The Arthritis Alliance of Canada is a coalition of over 35 organizations representing patient groups, arthritis consumer organizations, professional organizations, not-for-profits, government, industry and researchers. The Alliance’s goal is to improve the lives of Canadians with arthritis. While each member organization continues its own work, the Alliance provides a central focus for national arthritis-related initiatives. For more information, visit www.arthritisalliance.ca

OBESITY FACTS

- Obesity is defined as a body mass index (BMI) of 30 or more.
- BMI is a measure of body mass based on height and weight.
- There are three levels of obesity: Class 1, a BMI of 30 to 34; Class 2, a BMI of 35 to 39; and Class 3, a BMI of 40 or higher.
- One-quarter of adults in Canada are obese.
- Nearly 60% of Albertans who have a hip or knee replaced are obese, and nearly one third are Class 2 or 3.
- 13% of children between the ages of five and 17 in Canada are obese; another 20% are overweight and at high risk of becoming obese adults.
- The Organization for Economic Cooperation and Development places Canada fifth among 40 countries ranked for obesity prevalence.