# Conservative Management to Reduce the Symptoms of Hip and Knee OA: GLA:D™ Canada

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The 2011 report "The Impact of Arthritis in Canada: Today and Over the Next 30 Years," published by the Arthritis Alliance of Canada (AAC), indicates that, with a new diagnosis of osteoarthritis (OA) every 60 seconds, there will be more than ten million (or one in four) Canadians with osteoarthritis (OA) within a generation.

OA is a disease of the whole joint, which often develops over many years. Starting with minor fluctuating symptoms – which can include swelling and/or pain and/or stiffness in the joint – the disease can progress to severe pain and physical limitations. These changes can prevent individuals from participating in their everyday physical activities, including recreational activities and going to work. Only 12% of people with hip or knee OA meet the minimum requirements for physical activity as identified in the Canadian Guidelines for Physical Activity. The pain and disability from OA not only leads to reduced quality of life, but is associated with a significant increase in all-cause mortality and serious cardiovascular events.

The clinical assessment and diagnosis of patients with hip and knee OA is difficult due to the lack of correlation between symptoms and X-ray findings. Many people with extensive X-ray changes experience no pain or problems with function, while others with minimal X-ray changes experience extensive pain and a resultant loss of function. As such, the diagnosis and associated treatment recommendations need to be made based on symptoms, clinical findings and risk factors, irrespective of the X-ray findings. In fact, when the clinical presentation clearly reflects OA, X-rays are now often not required.

The first line of treatment for individuals presenting with OA is conservative management including education about the disease, exercise, and weight control. There are a number of different types of exercises, including aerobic and strengthening exercises. Neuromuscular exercises are a form of strengthening exercise which focus on stabilizing the joint using biomechanical principles and sensorimotor feedback. These are extremely important exercises for individuals with hip and knee OA, as they address the abnormal movement patterns that occur as a result of the disease process.

Many individuals will respond to a treatment regime of education, exercise and weight control and require no further intervention. A few will require additional management and may choose to take oral medications or use assistive devices, such as braces or orthotics. A small percentage of these individuals will experience progression of their disease and require consultation with an orthopedic surgeon to discuss surgical options. With extensive research now showing the limited effectiveness of arthroscopic surgery of the knee, the surgical option that is available for individuals with hip or knee OA is total joint replacement (TJR) surgery.


Whatever the status of the disease or medical management options, education, exercise and weight control are essential components of treatment. A program has been developed in Denmark called Good Life with Osteoarthritis in Denmark or GLA:D® to help individuals with knee and/or

hip OA to reduce their symptoms and increase their physical activity levels. The GLA:D® program includes two (or three, with a program participant serving as a motivational speaker) education sessions and 12 supervised neuromuscular exercise sessions over six weeks. The program is undertaken in a group format to facilitate positive group dynamics and participant motivation. Certified therapists provide participants with individualized exercises targeted at controlling the movements of their joints to facilitate stability and control of the core and lower extremities. The exercises reflect every day activities that require coordinated movements of the knee and hip, such as sitting to standing and going up and down steps. By training muscle control in a supervised exercise environment, individuals are taught to apply these skills to their daily activities. This results in a reduction in the abnormal stresses occurring through the joint structures, which leads to reduced symptoms, improved strength, and confidence in the stability of the joint.

The program is effective for individuals who have mild, moderate and severe symptoms, including individuals waiting to undergo joint replacement surgery. GLA:D® program training has been provided to over 900 physiotherapists across Denmark, and outcome data are collected from participants at baseline, three and 12 months post program. Over 21,000 individuals have received the standardized program, which has been shown to effectively reduce symptoms by 32%, sustained over one year.

The Canadian Orthopedic Foundation (COF) has brought the program to Canada through a licensing agreement with program developers from Denmark. It is currently being implemented across Canada under the title "GLA:D™ Canada" through training provided by Bone and Joint Canada (BJC), a knowledge-translation division of COF. Under the agreement, the program content reflects Denmark's, including two (or three) education sessions, 12 exercise sessions and data collection, which occurs at baseline, three months and one year. All materials were adapted to reflect the Canadian context.

To ensure the results of the program were transferable to Canada, a pilot project was undertaken at the Holland Orthopedic and Arthritic Centre at Sunnybrook Health Sciences Centre in Toronto. It was offered to individuals who had been assessed and deemed non-TJR candidates for both hip and knee surgery, and who had decided to continue to access conservative management. The results of the study were similar to those from Denmark, with very positive qualitative comments from the therapists and patients, providing confidence that the program is appropriate for Canada.

The GLA:D™ Canada program has now been launched across Canada. Training sessions to certify eligible healthcare professionals have been provided across the country, including Ontario (supported by the Ontario Trillium Foundation), Alberta (supported by Alberta Health Services) and British Columbia (supported by The Arthritis Society). The program will reach the Prairies in June and the Atlantic region in the fall of 2017.

Further information about the program as well as clinic locations can be found on the website at *http://gladcanada.ca*, and questions can be directed to Rhona McGlasson at *rhonaamcglasson@gmail.com*.

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