



Activator & Urban Poling Studies in Canada, UK & ISR

Effects of a Renal Nordic Walking Program on Quality of Life and Fitness in renal patients- A Randomized Controlled Trial

The Nordic Walking group appeared less healthy compared to the non-Nordic Walking group at baseline. However, the Nordic Walking group had greater improvements in KDQOL-36 (Effect of kidney disease; $p=0.021$), 6-minute walk test distance (41.5m), and HGS (1.1kg) after 3 months, suggesting that a group-based supervised Nordic Walking program in a clinical care setting could provide benefits to renal patients. Chao, Neufeld, Ngo, Renouf, Squire, Hoens, Desai (2020). Journal of Renal Nutrition.

Is there a place for Activator poles in rehabilitation following Spinal Surgery? UK Pilot Study

This pilot study evaluated the posture of healthy adults when walking with Activator poles (APs) in comparison to elbow crutches and walking sticks with the aim of achieving the most upright posture. Preference between use of APs over walking sticks / elbow crutches was statistically significant. Questionnaire feedback showed 100% of participants would prefer to use Activator poles if available. 75% of participants would be willing to pay for the poles and 25% would not.

Rickenbach, Gilbert, Mandel, Lee & Bruce (current). Royal National Orthopedic Hospital, UK. Poster Presentation 2018 at the Chartered Society of Physiotherapy Conference, UK

Nordic walking intervention for individuals at risk of fracture

This ongoing study is investigating safety and efficacy of Nordic walking intervention on mobility, physical function, posture, and quality of life in individuals with osteoporosis, history of vertebral fracture or hyperkyphosis. Participants are randomly assigned to a Nordic walking or wait-list control group. The study duration is 3 months, including 3 Nordic walking sessions per week either at a mall or in a remote setting at home. Kontulainen (current) University of Saskatchewan.

A Simple Exercise Program for Patients with End Stage Kidney Disease to Improve Strength and Quality of Life: A Feasibility Study

Strength tests, pedometers, and questionnaires to assess sleep and energy, will be used for patients with end stage renal failure on dialysis who are given a Prescription to Exercise using **Activator Poles** compared to patients receiving only standard encouragement to exercise from dialysis staff. The intervention group will be given: access to a social network of study participants with similar levels of activity, an Exercise Prescription and **Activator Poles** to increase their baseline steps by 1200 to 2000 steps at least 3 days a week. If tolerated and accepted, at the 3 month mark they will increase their prescription by an additional 600 to 1000 steps. This will be followed by a 6 month period maintenance phase.

Zimmerman, Suri, Moist & Lok (current) University of Ottawa Hospital

Exploring the Effects of a Health Care Provider Led Physical Activity and Education Program on the Physical and Psychological Indicators of Fall Prevention and Subsequent Independent Living

The study was conducted at the Nova Scotia Health Authority center over a 9-week time span. The exercise sessions were based on the "Otago Falls Prevention Program" but modified by using the Activator poles. There was a significant improvement in participant performance in the following tests: Timed Up and Go, Stride Length, and Single Leg Stork Stand, which are all indicators for falls risk level.

Hudec (2018) Cape Breton University. Unpublished. Presented at the Canadian Occupational Therapy Conference in 2018 and at the International Council of Active Aging in 2020.

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Nordic Walking Using Activator® poles Increases Exercise Tolerance in Individuals with COPD Compared to Healthy Controls

VO₂, energy expenditure, heart rate, and minute ventilation were all significantly higher for participants using Activator poles. However, the distance walked during a 6-minute walk test was shorter when patients with COPD walked with Activator® poles. Dyspnea and leg fatigue ratings were similar walking with or without poles. Antoniadou, Lim, Gandhi, Montambault, Ricci & Spahija (current). McGill University

Analysis of balance and gait pattern with Stepscan Pedway© technology, in individuals 80 years and older before and after a 12-week Nordic walking program with Activator poles®

Participants in the Activator pole® Nordic walking program improved their balance as measured by the BERG balance test and there were no falls reported while the program was active. The improvement in the BERG balance test and lower falls risk outcome were not maintained after the completion of the program. Although the sample study is very small, this project suggests that Nordic walking could be an appropriate intervention to maintaining functional independence and in preventing falls in the elderly.

Ferland & Robbins (2018) Ste-Anne's Hospital, Montreal. Poster Presentation at the Canadian Physiotherapy Conference in 2018.

Clinical Feasibility Project: Outdoor Walking Program with Activator® Poles and Their Impact on Balance, Muscle Strength, the Risk of Falls and Bone Health of Veteran Inhabitants in a Long-Term Care Centre

Outdoor walkers with dementia used Activator poles in an innovative geriatric rehabilitation approach. These data suggest that the use of Activator walking poles contribute to the strengthening of the upper limbs while improving balance and could reduce the risk of falls in users. Bone density, walking speed and strength in the lower limbs were maintained, a result which is clinically significant for individuals in this population.

Chassé, Germain, Ferland & Gareau (2017) Ste-Anne's Hospital, Montreal.

Walking Towards Better Health, One Step at a Time

Study conducted to determine the effects of Urban Poling programs (also known as Nordic walking) in preventing and managing chronic diseases such as cardiovascular and metabolic complications as a result of sedentary lifestyles. Groups studied included Canadian Aboriginal communities, in a workplace setting and as part of diabetes education sessions in a clinical setting. Results show increased participation and adherence to a Nordic Walking program and overall improved quality of life as a direct result.

Coutinho (2018). University of Guelph-Humber. Presented at the Ninth International Conference on Sport & Society in 2018.

Effects of Walking Technique on Knee Joint Loading

Dynamic knee joint loading is positively impacted by the walking pole technique adopted. Decrease in dynamic knee joint loading was observed when poles are held away from the body and downward force was applied while walking with poles, similar to the Activator technique.

Bechard et al. (2015) University of Western Ontario. Unpublished. Presented at the Canadian Physiotherapy Conference in 2015.

Case Review with a Gait Assessment Lab using the Zeno Walkway.

Subject was an 88-year-old woman with a medical history including: bilateral hip, knee and shoulder replacements. A comparison study of the subject walking independently versus walking with Activator Poles using the Zeno Walkway was conducted at a gait assessment lab at Jewish General Hospital. The following improvements were noted: increased gait speed and stride, reduced gait variability and width, and a more normalized arm swing when subject walked with Activator Poles.

Roscher (2018) Protokinetic. Unpublished raw data.

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Athletes in Training: Perceptions of Nordic Walking Amongst Older Adults

This study evaluated the perceptions about Nordic walking as a training method for older adults. After a 5-week Nordic walking/Urban Poling program, focus groups were formed to identify barriers and facilitators, instrumental beliefs, affective beliefs and the change in participant perception of being senior athletes in training rather than patients.

Hudec (current) University of Cape Breton. Presented at the International Council of Active Aging in 2020.

Impact of Participation in an 8 Week Urban Poling Program on Mood and Balance Confidence for Adults with Acquired Brain Injury (ABI)-

A pilot study was conducted to determine the impact of an 8 week Nordic Walking program for participants with ABI on mood, energy and anxiety levels and balance confidence. Results showed that the supervised program had a positive effect on mood, energy and anxiety levels and provided increased opportunities for socialization and community participation. There was found to be no significant change to confidence levels regarding balance and falls risks although factors such as insight, frequency of intervention, memory and fatigue may have impacted the results.

Steeds (2019). Brain Injury Services Muskoka-Simcoe. Unpublished. Poster Presentation at the Canadian Therapeutic Association Conference in 2019.

Effectiveness of Urban Poling with ACTIVATOR® Poles for Residents of Long-Term Care Facilities

Although the sample size was too small to report significant results, there were notable improvements in leg and core muscles strengthening, flexibility, balancing capabilities, and perceived physical functioning of participants in an eight-week urban poling program with Activator® poles.

MacPhee & Unwin (2009) thesis Wilfrid Laurier University. Unpublished.

A study on cardiac rehabilitation in Israel is scheduled to be completed in 2021.

For more information on these research studies and the gait assessment lab results, visit urbanpoling.com under Research or contact mandy@urbanpoling.com.

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