Physiotherapy Works

for Multiple Sclerosis

For people with multiple sclerosis, physiotherapy delivered as part of a multidisciplinary team approach, provides a range of benefits, from improving physical health to enhancing quality of life.

What is multiple sclerosis?

Multiple sclerosis (MS) is an inflammatory, degenerative neurological disease which is most commonly diagnosed between the ages of 20-40, affecting women more than men in a ratio of 2.5:1.1

Typically, MS involves a series of relapses, often making prognosis unpredictable; however, a small proportion of people with MS (15%) have a steady progression of disability.1 Some people with MS can develop complex patterns of disability that affect physical and social function.2 Problems with mobility, balance, fatigue, and spasticity are also common.3

Physiotherapists provide unique contributions to the management of long-term MS symptoms and through the improvement and maintenance of functional abilities.3, 4 Physiotherapists provide specific rehabilitation programs, facilitate self-management, and coordinate care.1, 5

For people with more complex needs, physiotherapy should ideally be delivered within a multidisciplinary specialist team/service where regular evaluation and assessment can be provided.5, 6

There is evidence that multidisciplinary rehabilitation can improve activity and participation levels of people with MS.5

Why should physiotherapists be involved in management from the start?

The greatest potential for central nervous system adaptation and recovery occurs in the early stages of the disease.9 Physiotherapy intervention and advice closely following diagnosis can reduce disability, maximize potential for independence, improve employment sustainability, and reduce the impact the disease has on health and quality of life factors.5

Size of the problem

- 100,000 Canadians are living with MS today.7
- This number is projected to increase to over 133,000 by 20319
- MS is the “major cause of non-traumatic disability in young adults”7
- Alberta has one of the highest prevalence rates in the world - approximately 340 out of every 100,000 Albertans have been diagnosed with MS8
**CASE STUDY**

A multidisciplinary team at the Glenrose Hospital, including physiotherapists, physiotherapist assistants, mentors, and consultants, conducted a pilot study of the use of Exoskeleton (EKSO) gait training in people with progressive MS. The EKSO is a robotic skeleton with motors at the hip and knee that can assist people with leg weakness to practice walking. Its use has been tested previously in people following spinal cord injury and stroke. The Glenrose team decided to conduct a study to see if it was feasible to use the device with people with balance, gait, and endurance problems due to MS.

The pilot study included a small number of people with MS and was not designed to test if EKSO use led to clinically-important improvements. However, the pilot study demonstrated that EKSO use was safe and feasible for this patient group. The team plans to explore the possibility of future studies using this robotic technology and hopes to enable people with MS to use the EKSO clinically as part of their treatment.

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**Physiotherapy intervention**

There is a strong body of evidence demonstrating that exercise used as part of a rehabilitation program can increase activity and improve the health and well-being of people with MS.12

In addition, there is evidence that physiotherapists, as part of a specialist neuro-rehabilitative service, have a key role in managing specific symptoms of MS including pain, spasticity, and the prevention of secondary complications such as contracture.5, 6 Results from randomized controlled clinical trials of exercise programs in MS have demonstrated benefits in muscle strength, cardiovascular fitness, aerobic thresholds and activity levels, and functional improvements, such as walking ability.11, 12, 13 Exercise is generally highly valued by patients who report improvements in mood and quality of life.4, 14

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**Cost of MS**

- Up to 80% of people diagnosed with MS in Canada are unemployed15
- The mean total cost per MS patient annually in Canada is **$37,672** (CAD, 2009)
  - 46% in direct health costs
  - 33% for cost of MS treatments
  - 34% in sick leave and retirement15
- Total out-of-pocket expenses for Canadians with MS is expected to have grown from **$126 million in 2011** to **$170 million in 2031**17

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**References**