

# Mobility and movement for Multiple Sclerosis

Limited, or loss of, mobility and movement is a common complaint from people diagnosed with multiple sclerosis (MS). Symptoms can include reduced motor coordination, muscle weakness and spasticity, balance problems, fatigue, cognitive impairment and depression.

Recent studies have shown that exercise, when delivered and monitored by experienced therapists, has a wide range of benefits for adults living with MS, without any concerns of triggering symptoms or relapse. These include:

- Increased strength and endurance levels
- Maintenance of range of motion and mobility
- Decrease in severity of symptoms experienced including pain and muscle tightness
- Improved fatigue levels and increased energy to perform activities of daily living
- Improved self-esteem and confidence in movement.

**Nearly 50% of multiple sclerosis patients use an accessory device for moving following 15 years from the beginning of disease<sup>1</sup>**

## Hydrotherapy proven to improve quality of life

Aquatic therapy for MS patients is a key area where recent research has confirmed positive outcomes on quality of life. When conducted in a structured environment, hydrotherapy and aquatic exercise is proven to alleviate common physical complaints and have beneficial impacts on quality of life in MS patients<sup>2</sup>. For example:

- Aerobic aquatic exercise diminishes depression and fatigue, increases strength and muscular resistance, and improves cardiorespiratory fitness and quality of life
- Hydrotherapy is also effective in improving depression and fatigue levels, as well as alleviating pain and disability
- Ai Chi, a specific form of aquatic exercise used for recreation, relaxation, fitness, and physical rehabilitation can improve balance, functional motility and strength, while reducing fatigue.



## Decrease pain by building strength, flexibility and balance

Targeted exercise programs such as yoga, aerobics, or boxing have also been proven to provide significant benefits to someone diagnosed with MS.

While practicing mindfulness is well known to improve mental health, combining it with stretching programs, and continued over the long term, it can also be an effective way of improving quality of life. Results include significant increases in physical function, psychological wellbeing, cognitive function, and overall quality of life, as well as a significant decrease in pain<sup>3</sup>.

Clear benefits have also been identified in MS patients participating in supervised programs that include aerobic, balance, and strengthening exercises applied in individual or group settings.

When delivered appropriately, aerobic exercises and resistance training improve cardiorespiratory fitness (aerobic fitness), muscle strength, flexibility, balance, fatigue, cognition, quality of life and respiratory function in MS patients<sup>4</sup>.



In fact, when offered for 30 to 60 minutes, 2 to 3 times per week, for a duration of 8 to 12 weeks, aerobic exercise with low to moderate intensity has the potential to increase strength, mobility-related ADL and mood<sup>4</sup>.

Balance exercises also have beneficial effects on fall rates and better balance<sup>5</sup>.



## Evidence-based exercise programs

At CPA, we're passionate about incorporating the latest research findings into programs to ensure our clients continue to be provided with the gold standard of intervention.

Our Movement and Mobility programs feature strength, balance, stretch and boxing classes designed specifically for the needs of people diagnosed with MS. All programs are developed by specialised CPA exercise physiologists and based on the outcomes of qualified research and studies:

- **CPA Stretch** combines active and passive yoga stretching with elements of relaxation and mindfulness training which have been shown to improve quality of life
- **CPA Balance** is a structured class that focuses on dynamic and static balance skills. It is important to maintain this skill particular for people living with MS as it has been shown<sup>4</sup> to reduce the risk of falls through improved functional balance
- **CPA Strength** focuses on the big muscle groups and functional movements, where outcomes have been shown<sup>4</sup> to enhance strength and muscular endurance, a critical component for mobility maintenance and independence
- **CPA Boxing** offers aerobic exercise training with low to moderate intensity to help improve aerobic fitness and reduce fatigue in MS patients affected by mild or moderate disability.

<sup>1</sup> Cost and health related quality of life consequences of multiple sclerosis. Grima DT, Torrance GW, Francis G, Rice G, Rosner AJ, Lafortune L *Mult Scler*. 2000 <sup>2</sup> Corvillo I, Varela E, Armijo F, Alvarez-Badillo A, Armijo O, Maraver F. Efficacy of aquatic therapy for multiple sclerosis: a systematic review. *Eur J Phys Rehabil Med* 2017;53:944-52. DOI: 10.23736/S1973-9087.17.04570-1 <sup>3</sup> Kristen McCrane, Pei-Chun Hsieh, Effect of Yoga on QOL in Individuals with Multiple Sclerosis, Published January 3, 2017, RT Wise Owls <sup>4</sup> Halabchi F, Alizadeh Z, Sahraian MA, Abolhasani M. Exercise prescription for patients with multiple sclerosis; potential benefits and practical recommendations. *BMC Neurology*. 2017;17:185. doi:10.1186/s12883-017-0960-9 <sup>5</sup> Parminder K. Padgett, Susan L. Kasser; Exercise for Managing the Symptoms of Multiple Sclerosis, *Physical Therapy*, Volume 93, Issue 6, 1 June 2013, Pages 723–728

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