

# How Exercise Affects Fatigue in Adults with Multiple Sclerosis

Kristin Lucero SPT<sup>†</sup> and Marybeth Barkocy PT DPT<sup>†</sup>

<sup>†</sup>UNM Department of Orthopaedics and Rehabilitation

## Introduction

Fatigue is the most commonly reported symptom among those with a diagnosis of Multiple Sclerosis (MS). There are approximately 2.5 million people with MS worldwide. This is a research analysis looking at how exercise can affect fatigue in those with MS. It provides physical therapists evidence based findings regarding what interventions may positively change in patients' fatigue levels. Physical therapists play a key role in educating their patients how to positively affect fatigue and also have the ability to adapt exercise programs to suit the vastly different presentation and symptoms associated with MS.

## Methods

Research conducted utilizing electronic databases, PubMed, Cochrane, PEDro and internet searches. Keywords used included Multiple Sclerosis, exercise, fatigue, physical therapy, systematic review and 2013. Initially 87 article abstracts were reviewed and narrowed down to 8 articles chosen that had the most relevance to the topic. Inclusion of all MS sub types, ages and use of fatigue outcome measures. Exclusion of articles published before 2005 and with subject numbers less than 30.

## Findings

The evidence continually shows that exercise is beneficial to those with MS for reducing fatigue and also that decreasing fatigue has an inverse relation to patients' quality of life. With decreased fatigue comes increased quality of life. Exercise parameters are still being tested and researched in hopes of coming to more conclusive and significant findings regarding what type, dose, intensity and frequency is most appropriate for MS patients. What makes this difficult however is that MS patient presentation is heterogenous and therefore individualized programs must be made to suit each patients needs and also to ensure safe and effective patient interventions. The most commonly used fatigue outcome measures included the Fatigue Severity Scale (FSS) and the Modified Fatigue Impact Scale (MFIS).

## Conclusion

Future studies need to focus on exercise parameters and also classifying those with MS into more identifiable patient characteristic groupings so that exercise interventions can match specific disease presentations. They also need to include differing types of MS as well as wider age ranges. No studies have shown that there were adverse, deleterious or negative effects on the disease progression or symptom presentation following increased exercise and activity. Encouraging increasing exercise levels is therefore a safe, cost effective way of intervening with these patients, however should be adapted by physical therapists to suit the patients' specific disease presentation and needs. Monitoring vitals and rate of perceived exertion can be helpful for physical therapists in order to make sure not to overwork their patients or increase the risk of relapse. Also educating patients on methods of energy conservation should be emphasized to decrease patient fatigue. The FSS and MFIS fatigue scales have been shown to have good validity and reliability and can be useful tools to monitor patients' response to exercise with regards to patient reported fatigue.