

The Effects of Massage Therapy on Multiple Sclerosis

Amy Frost-Hunt, RMT
Silver Award Winner of the
2019 AMTA Student Case
Report Contest

INTRODUCTION

Multiple Sclerosis is an autoimmune disease characterized by degeneration of the myelin sheath of an axon resulting in decreased transmission of nerve impulses. Types include relapsing-remitting, acute progressive, chronic progressive attack-remitting, and benign. Symptoms vary from patient to patient and are commonly treated with medications. Common symptoms include fatigue, spasticity, swelling, and altered gait.

METHODS

A 58-year-old female diagnosed with MS 11 years earlier, presented with decreased mobility, fatigue, and left ankle edema. Assessment included:

- active and passive range of motion (ROM)
- Myotomes
- Dermatomes
- Reflexes
- Orthopedic tests
 Goals of treatments:
- increase mobility
- decrease fatigue
- decrease edema

Assessment measures:

- Timed-Up-and-Go (TUG) test
- Modified Fatigue Impact Scale (MFIS)
- Figure-8 ankle measurement

THERAPEUTIC INTERVENTION

Five massage therapy treatments were provided over a six week period. Techniques used included:

- Swedish
- Manual Lymphatic Drainage
- Passive ROM
- Golgi Tendon Organ Technique

The results suggest that massage therapy is effective in reducing fatigue and edema in a patient with MS. The patient expressed gratitude towards the therapist and appreciated that she was able to meet her treatment goals of increased energy and relaxation.

Figure-8 Measurement of the Ankle:



75% of those with MS report symptoms of fatigue, 65% report symptoms of edema.

REFERENCES

- Rattray F, Ludwig L. *Clinical Massage Therapy: Understanding, Assessing and Treating Over 70 Conditions.* Elora, ON: Talus Incorporated; 2009.
- 2. Damjanov I. *Pathology for the Health Professionals.* 5th ed. St. Louis, Missouri: Elsevier; 2017.

 Nyers T. Vora S. Patterson I. Willard IM. Catalano P. Moshy's Dictionary of Medicine, Nursing, and Health Professionals.
- 3. Myers T, Vora S, Patterson J, Willard JM, Catalano P. *Mosby's Dictionary of Medicine, Nursing, and Health Professionals.* 10th ed. St. Louis, MO: Elsevier; 2017.

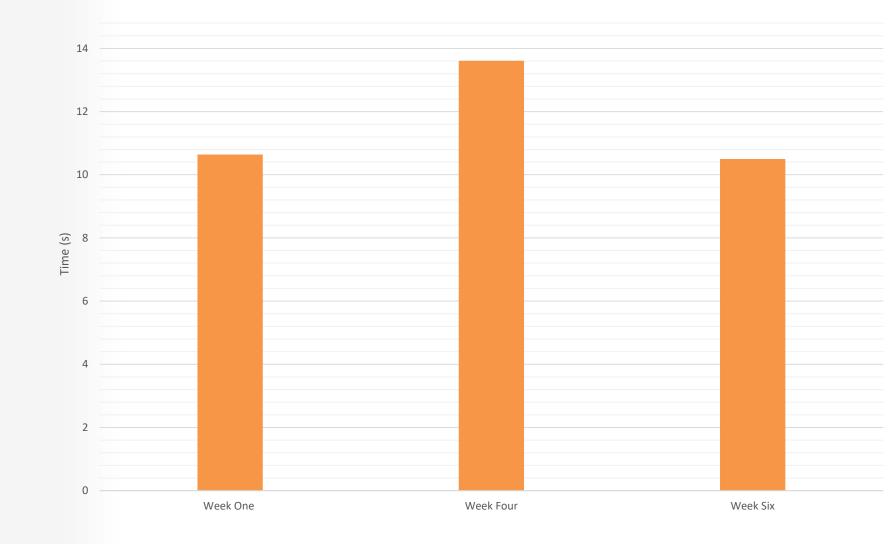
 A Bayer AD Cabill JE Rizvi SA Multiple sclerosis relapse presenting as an acute cardiomyonathy. *Mult Scler Relat Disord.* 2019:27:7-8. doi:10.1016/j.msard.2018.09.021
- Bayer AD, Cahill JF, Rizvi SA. Multiple sclerosis relapse presenting as an acute cardiomyopathy. *Mult Scler Relat Disord*. 2019;27:7-8. doi:10.1016/j.msard.2018.09.021.
- 5. Storm FA., Nair KP., Clarke AJ., Meulen JM., & Mazzà C. (2018). Free-living and laboratory gait characteristics in patients with multiple sclerosis. *PLoS One, 13*(5). doi:10.1371/journal.pone.0196463.
 6. Wihlidal L. *MTST 156: Assessment for Massage Therapists II*. Edmonton, AB: MacEwan University; 2018:47-55.
- 7. Lyders Johansen K, Derby Stistrup R, Skibdal Schjøtt C, Madsen J, Vinther A. Absolute and relative reliability of the timed 'up & go' test and '30second chair-stand' test in hospitalized patients with stroke. PLoS One. 2016;11(10). doi:10.1371/journal.pone.0165663.
- Chan PP, Tou JIS, Tse MM, Ng SS. Reliability and validity of the timed up and go test with a motor task in people with chronic stroke. Am Arch Rehabil Ther. 2017;98(11):2213-2220. doi:10.1016/j.apmr.2017.03.008.
- . Dobson F. Timed Up and Go test in musculoskeletal conditions. *J Physiother*. 2015;61(1):47. doi:10.1016/j.jphys.2014.11.003.

 O. Mathiowetz V. Test-retest reliability and convergent validity of the fatigue impact scale for persons with multiple sclerosis. Occup Ther Rehabil. 2003;57(4):389-395. doi:10.5014/ajot.57.4.389.
- 11. Kos D, Kerckhofs E, Nagels G, et al. Assessing fatigue in multiple sclerosis: Dutch modified fatigue impact scale. Acta Neurol Belg. 2003;103(4)105-191.

 12. Learmonth Y, Dlugonski D, Pilutti L, Sandroff B, Klaren R, Motl R. Psychometric properties of the fatigue severity scale and the modified fatigue impact scale. J Neurol Sci. 2013;331(1-2):102-107. doi:10.1016/j.jns.2013.05.023.
- 13. Petersen EJ, Irish SM, Lyons CL, et al. Reliability of water volumetry and the figure of eight method on subjects with ankle joint swelling. J Orthop Sports Phys Ther. 1999;29(10):609-615. doi:10.2519/jospt.1999.29.10.609.
- 14. Mawdsley RH, Hoy DK, Erwin PM. Criterion-related validity of the figure-of-eight method of measuring ankle edema. *J Orthop Sports Phys Ther*. 2000;30(3):149-153. doi:10.2519/jospt.2000.30.3.149. 15. Reis F, Ribeiro EA, Carvalho P, et al. Analysis of the figure-of-eight method and volumetry reliability for ankle edema measurement. *Rev Bras Med Esporte*. 2004;10(6). doi:10.1590/S1517-86922004000600003
- 15. Reis F, Ribeiro EA, Carvalho P, et al. Analysis of the figure-of-eight method and volumetry reliability for ankle edema measurement. Rev Bras Med Esporte. 2004;10(6). doi:10.1590/S1517-86922004000600003. 16. Andrade CK. Outcome Based Massage. 3rd ed. Baltimore, MD: Lippincott Williams & Wilkins; 2014.
- 17. Jane S-W, Chen S-L, Wilkie DJ, et al. Effects of massage on pain, mood status, relaxation, and sleep in Taiwanese patients with metastatic bone pain: A randomized clinical trial. ISRN Pain. 2011;152(10):2432-2442. doi:10.1016/j.pain.2011.06.021
- 18. Braley TJ, Chervin RD. Fatigue in Multiple Sclerosis: Mechanisms, Evaluation, and Treatment. Sleep. 2010;33(8):1061-1067. doi:10.1093/sleep/33.8.1061

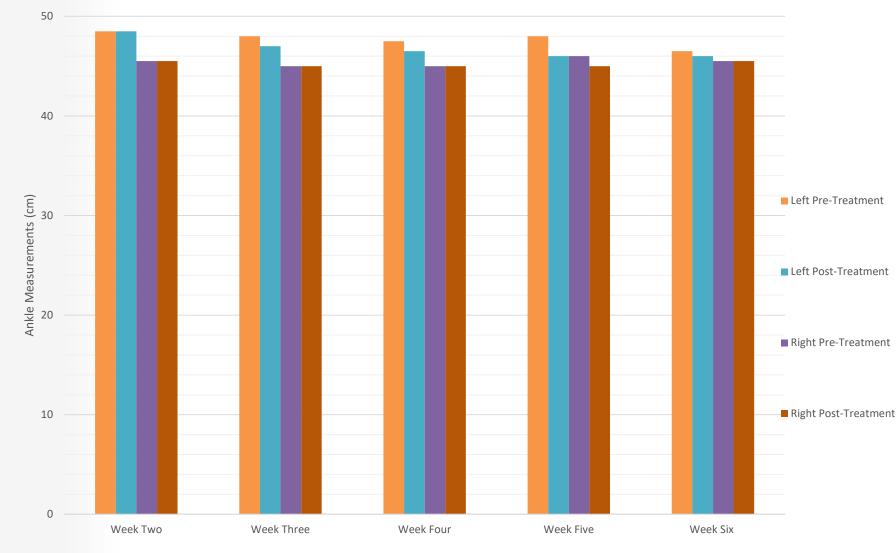
 19. Solaro C, Uccelli MM, Brichetto G, et al. Prevalence of oedema of the lower limbs in multiple sclerosis patients: a vascular and lymphoscintigraphic study. Multiple Sclerosis Journal. 2006;12(5):659-661. doi:10.1177/1352458506070681





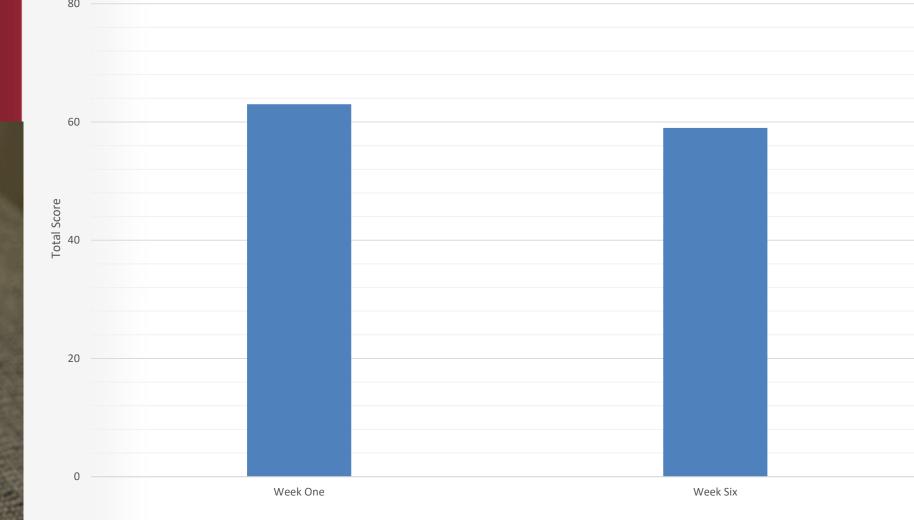
Started sitting, walked three meters without a cane and returned to sitting

Figure-8 Measurement Results



The size of both ankles was measured using a tape measure.

MFIS Results



A 21-item questionnaire which indicates levels of fatigue.

RESULTS

Little change was noted in mobility. The patient's fatigue level and left ankle edema decreased.

DISCUSSION

The results suggest that MT is effective in reducing fatigue and edema in a patient with MS. Future studies are needed to evaluate the correlation between mobility and massage.

ACKNOWLEDGEMENTS

The author would like to extend the sincerest form of gratitude to the staff and faculty of MacEwan University's Massage Therapy Program for their ongoing support and encouragement. A special thank you to Lois Wihlidal for her continuous support and guidance throughout this case report and for always going above and beyond.