



TITLE: Range of Motion Therapy for Patients with Multiple Sclerosis: Clinical Effectiveness and Guidelines

DATE: 12 July 2010

RESEARCH QUESTIONS:

1. What is the clinical effectiveness of range of motion therapy for patients with multiple sclerosis?
2. What are the guidelines regarding range of motion therapy for patients with multiple sclerosis?

METHODS:

A limited literature search was conducted on key health technology assessment resources, including PubMed, Ebscohost CINAHL, the Cochrane Library (Issue 6, 2010), University of York Centre for Reviews and Dissemination (CRD) databases, ECRI (Health Devices Gold), EuroScan, international health technology agencies, and a focused Internet search. The search was limited to English language articles published between January 1, 2005 to July 6, 2010. No filters were applied to limit the retrieval by study type. Internet links were provided, where available.

RESULTS:

HTIS reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, non-randomized studies, and evidence-based guidelines.

Four non-randomized studies were identified pertaining to the clinical effectiveness of range of motion therapy for patients with multiple sclerosis. No relevant health technology assessment reports, systematic reviews, meta-analyses, randomized controlled trials (RCTs), or evidence-

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based guidelines were found. Systematic reviews and RCTs that did not specify the type of exercise under investigation were included in the appendix.

Health technology assessments

No literature identified.

Systematic reviews and meta-analyses

No literature identified.

Randomized controlled trials

No literature identified.

Non-randomized studies

1. Sosnoff J, Motl RW, Snook EM, Wynn D. Effect of a 4-week period of unloaded leg cycling exercise on spasticity in multiple sclerosis. *NeuroRehabilitation*. 2009;24(4):327-31. [PubMed: PM19597270](#)
2. Mark VW, Taub E, Bashir K, Uswatte G, Delgado A, Bowman MH, et al. Constraint-Induced Movement therapy can improve hemiparetic progressive multiple sclerosis. Preliminary findings. *Mult Scler*. 2008 Aug;14(7):992-4. [PubMed: PM18573826](#)
3. Motl RW, Snook EM, Hinkle ML. Effect of acute unloaded leg cycling on spasticity in individuals with multiple sclerosis using anti-spastic medications. *Int J Neurosci*. 2007 Jul;117(7):895-901. [PubMed: PM17613103](#).
4. Mount J, Dacko S. Effects of dorsiflexor endurance exercises on foot drop secondary to multiple sclerosis: a pilot study. *NeuroRehabilitation*. 2006;21(1):43-50. [PubMed: PM16720937](#)

Guidelines and recommendations

No literature identified.

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APPENDIX – FURTHER INFORMATION:

Systematic reviews and meta-analyses

5. Snook EM, Motl RW. Effect of exercise training on walking mobility in multiple sclerosis: a meta-analysis. *Neurorehabil Neural Repair*. 2009 Feb;23(2):108-16. [PubMed: PM18948413](#)
6. Motl RW, Gosney JL. Effect of exercise training on quality of life in multiple sclerosis: a meta-analysis. *Mult Scler*. 2008 Jan;14(1):129-35. [PubMed: PM17881388](#)
7. Khan F, Turner-Stokes L, Ng L, Kilpatrick T. Multidisciplinary rehabilitation for adults with multiple sclerosis. *Cochrane Database Syst Rev* [Internet]. 2007 Apr 18 [cited 2010 Jul 6];(2):CD006036. Review. [PubMed: PM17443610](#) Available from: <http://www.thecochranelibrary.com/view/0/index.html> Subscription required.
Structured abstract from: http://clinicalevidence.bmj.com/ceweb/conditions/nud/1202/1202_117.jsp
8. Neill J, Belan I, Ried K. Effectiveness of non-pharmacological interventions for fatigue in adults with multiple sclerosis, rheumatoid arthritis, or systemic lupus erythematosus: a systematic review. *J Adv Nurs*. 2006 Dec;56(6):617-35. [PubMed: PM17118041](#)
9. Rietberg MB, Brooks D, Uitdehaag BM, Kwakkel G. Exercise therapy for multiple sclerosis. *Cochrane Database Syst Rev* [Internet]. 2005; [cited 2010 Jul 6]; (1):CD003980. Review. [PubMed: PM15674920](#) Available from: <http://www.thecochranelibrary.com/view/0/index.html> Subscription required.

Randomized controlled trials

10. Khan F, Pallant JF, Brand C, Kilpatrick TJ. Effectiveness of rehabilitation intervention in persons with multiple sclerosis: a randomised controlled trial. *J Neurol Neurosurg Psychiatry*. 2008 Nov;79(11):1230-5. [PubMed: PM18535027](#)