

Multiple Sclerosis and Exercise

Multiple Sclerosis (MS) is an unpredictable demyelinating disease of the Central Nervous System. Although there have been many suggestions as to its aetiology ranging from autoimmune conditions to dietary imbalances, the mechanisms involved remain unclear. Its effects can be devastating: spastic muscles, loss of sensation in the periphery, incontinence, problems of sight and speech, pain, fatigue, loss of balance and cognitive function. The mental faculties may deteriorate with alternating depression and euphoria. There is no cure. The disease usually is controlled through various classes of drugs.

Short sessions of light osteopathy can help reduce spasticity and relieve the pain, and stress management can improve emotional function, but exercise seems to help better symptomatically. A randomised controlled trial of exercise and yoga in MS can be found at www.neurology.org/doi/content/abstract/62/11/2058. An assessment of high quality studies at www.news-medical.net/?id=7908 provides strong evidence that exercise therapy can make a difference in daily living and quality of life of those with MS. Physios at La Trobe University also got good results www.abc.net.au/news/newsitems/200411/s1243852.htm. Ritberg, Brooks, Uitdehaag, et al in *Exercise Therapy for Multiple Sclerosis* (Cochrane Library, 1, 2005, Wiley, UK) show how exercising improves mood.

An excellent set of general exercises can be found at www.mstrust.org.uk/downloads/exercises.pdf. An article in the *Journal of Advanced Nursing*, Vol 56.6, pp 617-635 shows how low impact aerobic exercise reduces fatigue in MS patients but many of these patients suffer problems with balance, lower extremity spasticity and foot drop associated with dorsiflexor weakness. They find it difficult to walk, ride a bike or swim unaided.

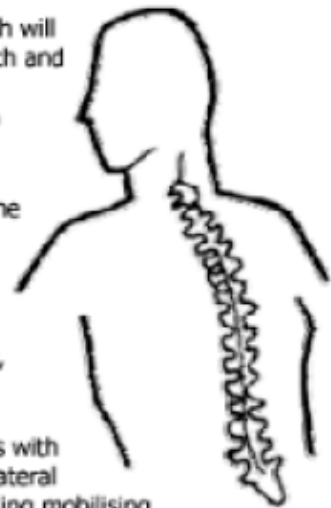
Patients' programmes need to be individually tailored to provide daily tasks which will provide interest but are not fatiguing. They should not heat the patient too much and so exacerbate symptoms. An assessment is made: What state is the patient in? What can he or she do? What can he or she not do? Why can he or she not do certain exercises?

The authors wish to concentrate on weight-bearing and stretching exercises. One author was part of a locally-funded NHS trial testing the effects of exercise on patients with advanced MS; the other is trained in advanced exercise therapy and has treated many MS patients.

In the early stages of MS, sitting on a Fit Ball, between two chairs or in a corner, helps to maintain core stability.

One author prefers using rubber bands, the other dumb-bells. The former starts with the weakest red band to test muscle tone in a biceps curl. Shoulder press and lateral raises help prevent stiffness and long-term curvature and, with pushing-and-pulling mobilising exercises, improve ROM to enable the patient to better reach for objects. Stretching the hamstrings and calves prevent adaptive shortening due to prolonged sitting.

The other author uses dumb-bells with wheelchair patients, aged 30 to 50, many of who were formerly active and are now bored and frustrated. By "spotting" and encouraging the patients to work just within limits, they can achieve a great deal of satisfaction as well as improving health. Starting with 1/2 kg weights, usually 3 sets of 10 repetitions are performed for each exercise but this is variable. 6 to 8 repetitions, if suitable, will increase strength while 15 to 20 repetitions with only a 30 second rest between sets will improve aerobic ability. The main disadvantages of such a system are that it is costly and time-consuming visiting the patients at home. Although patients are encouraged to exercise on their own in between sessions, it is doubtful whether many do so.



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