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**Physical Activity in Multiple Sclerosis:
The Missing Prescription**

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Multiple sclerosis (MS) is one of the most common chronic disabling neurologic diseases in young adults, affecting approximately 1 in 1,000 persons [1, 2]. Although none of the current hypotheses on the etiology of MS is particularly convincing, there is an increasing body of evidence that suggests that this disease is mediated by an autoimmune reaction to a widespread pathogen [3, 4], ubiquitous in the developed world, often affecting susceptible people before the age of 15 years [5].

The plethora of symptoms involving multiple systems as well as side effects from medications mean that health-related quality of life (HRQOL) is often poor in individuals with MS and their families [6–15]. Hence, it is imperative to focus research efforts to search for interventions which offer to improve HRQOL in individuals with MS. One promising area is physical activity, which has been associated with improvements in HRQOL of life in individuals with MS [16].

At baseline, MS sufferers are more likely to be sedentary and inactive compared with the general population [17]. Research over the past several decades confirms the health benefits of regular physical activity, including improved cardiovascular function and HRQOL, with reduced risks of morbidity and mortality from cardiovascular heart disease [18]. However, although there is evidence of a linear inverse association between physical activity and cardiovascular comorbidities in the general population [19], this has not yet been established in individuals with MS. Motl et al. [20] provide us with the first serious attempt to examine this question. The authors recruited 561 individuals with MS who completed demographic, cardiovascular comorbidities, disability status, and physical activity self-report assessments, and then wore an accelerometer for 7 days [20]. Linear regression indicated that both self-reported physical activity and objectively measured physical activity were associated with the number of self-reported cardiovascular comorbidities, independent of disability status and other possible confounding variables, including age.

The study had several strengths, including the well thought-out approach to the statistical analyses but the study was not with-

out limitations. The main limitation is that the cross-sectional design does not establish the temporal sequence between physical activity and self-reported cardiovascular comorbidities, and the observed association could reflect pre-existing conditions and/or an effect of physical activity on cardiovascular comorbidities or cardiovascular comorbidities on physical activity. Indeed the investigators noted that future studies should be prospective longitudinal examinations of physical activity and cases of cardiovascular disease as well as laboratory-based examinations of the association between physical activity and subclinical atherosclerosis, even in the absence of overt cardiovascular symptoms. Nevertheless, even after accounting for the study limitations, the authors appear to demonstrate that physical activity is inversely and independently associated with self-reported cardiovascular comorbidities in individuals with MS in line with the general population.

Shortly after MS is diagnosed, astute clinicians begin educating the patient with an in-depth discussion about current symptoms and future symptoms that might emerge later. It appears likely that in the near future, promotion of physical activity may become part of the clinical armamentarium of any practicing clinician who treats individuals with MS. If indeed those with MS are at increased risk of developing cardiovascular events, it is incumbent on us to work in a multidisciplinary fashion to establish a suitable therapeutic approach. The research by Motl and colleagues [20] should encourage more research on how physical activity may be of benefit in individuals with MS.

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