

## **Euro Health Care and Fitness Summit**

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## Patients with MS would benefit from a specific muscular stimulation to slow down the evolution of the pathology

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Multiple Sclerosis (MS) is still a mysterious pathology. A lot of investigation is on course, but it Is hard to get to a solid conclusion/ consensus about how people get MS. We have some clues (hygiene, area when you have been raised etc.) but there is still a lot to do. Some medicines do exist now to treat patients. They never cure them, but slow down the evolution of the pathology. Apart from the medication, which is really expensive and not always effective, patients can stimulate themselves cognitively and physically to slow down the evolution of their MS and reduce the frequency of relapses. We have spent 8 months in a center specialized in MS in the Hospital Vall d'Hebron of Barcelona (Cemcat) and have used the Patient Centered Methodology, based on deep interviews with patients affected with MS. We've seen all types of patients to have a good overview of the situation. I will describe what we discussed with them, our conclusions and which profile of MS patient could benefit a lot of gym training. I'll describe how physiotherapists work in Cemcat to maintain the patient active and work on their specific problems (stability problems, muscle weaknesses etc). It is proven that suitable gym training could be a very good way for patients to train their muscles and to delay the moment they will have to use a wheelchair. The trainers should have a specific formation on how to stimulate the patient and which kinds of exercises they have to do with them.

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## Exercise and health: How to obtain the best results?

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The benefits of physical activity for health are recognized and the political powers encourage its practice. The outlines of the "exercise prescription" are known. The minimum duration of a session is 30 minutes. The recommended frequency is daily, or at least 5 days a week. The intensity may be low, but a minimum level is required to achieve an impact on morbidity and mortality: Close to 50% of maximum capacity measured by an incremental exercise test to exhaustion. The possible types of exercises are varied, but for practical and security reasons, the most common activities are walking and bicycling. If these guidelines are established, it is necessary today to propose new training arrangements for the sake of individualization of practices and optimization of the desired effects. This optimization could be understood in terms of positive physical effects for the person (correction of deficiency for example) but also in terms of risk / benefit, economic or temporal terms or to have the best compliance to the training program. Various possibilities exist to improve these generic recommendations. Promising avenues involve changing the practice of exercise modalities, i.e. the use of interval training instead of constant exercises; eccentric muscle contraction regime instead of concentric; use of cold or immersion during or after the exercise to improve the tolerance of the patient. Little information is currently available regarding the effects of these various possible forms: it is time to better define exercise procedures for the optimization of the expected effects.

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