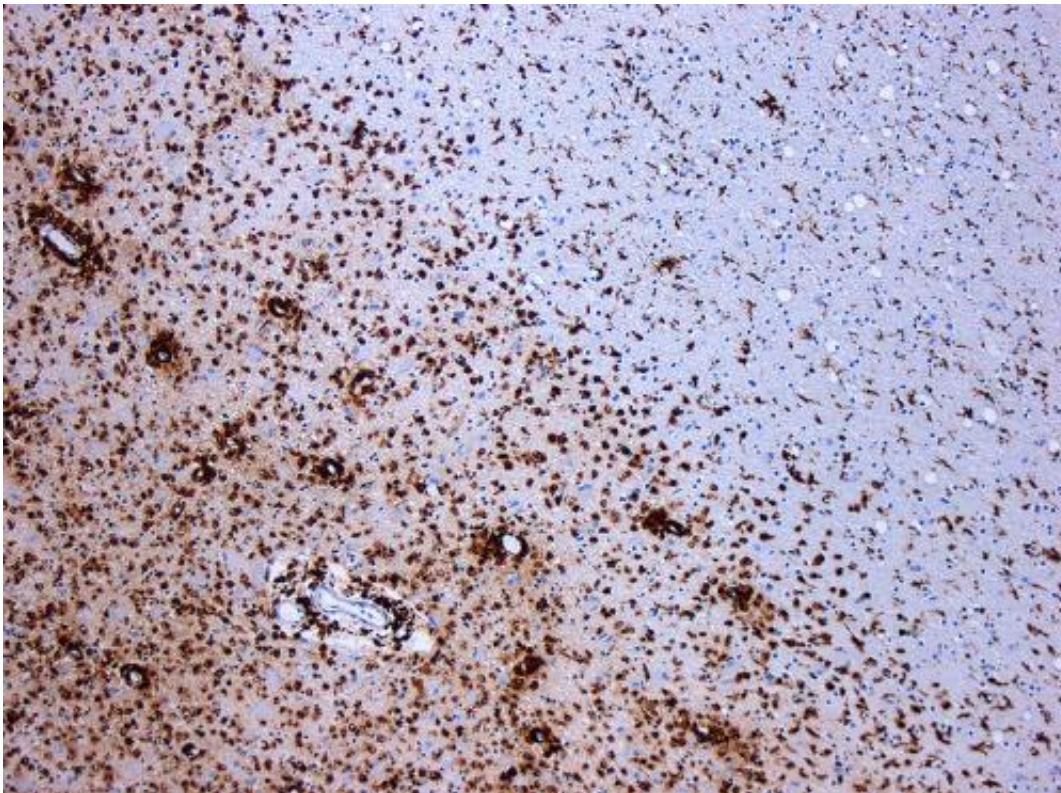


Mental visual imaging training improves multiple sclerosis patients' well-being

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Demyelination by MS. The CD68 colored tissue shows several macrophages in the area of the lesion. Original scale 1:100. Credit: [CC BY-SA 3.0](https://creativecommons.org/licenses/by-sa/3.0/) Marvin 101/Wikipedia

Patients with relapsing-remitting multiple sclerosis (RR-MS), the most common form of the disease, often have deficits in two neuropsychological functions, autobiographical memory (AM) and

episodic future thinking (EFT), which impact quality of life. In a new study published in *Restorative Neurology and Neuroscience*, researchers report that training RR-MS patients in mental visual imagery (MVI) can improve AM/EFT functioning.

AM facilitates the ability to remember personal detailed events within a specific location and timeframe. EFT enables people to imagine future personal detailed events as they might happen. When AM or EFT is impaired, patients can have difficulty participating in daily life.

"Several functions have been attributed to AM, such as its role in the construction of sense of self temporally extended, the development of new social relationships and the nurturing of existing ones, and a directive function where the past serves as a basis to guide present and future behaviors," explained Liliann Manning, PhD, Cognitive Neuropsychology and Physiopathology of Schizophrenia (INSERM UMR 1114), University of Strasbourg (France). "Taken together, AM constitutes a central process in any individual's life." EFT contributes to coping skills, goal achievement, implementation of intentions, and to a sense of personal continuity over time.

The MVI program to improve patients' AM/EFT is based on the ability to mentally construct scenes and pay close attention to details in the mind's eye. Participating patients underwent six two-hour MVI sessions, once or twice per week (depending on the patient's availability). The program comprised four steps, with mental visualisation exercises of increasing difficulty, during which the attending neuropsychologist provided continuous guidance (as much as necessary) to the patient, probing to recall general aspects to more detailed ones, adopting a "funnel-approach," and learning to work in a sequential manner.

40 RR-MS [patients](#) participated in this study, all of whom were receiving regular drug therapy and were being evaluated for disease progression

through clinical examination. All participants were also evaluated for brain abnormalities using MRI to confirm that significant signs of atrophy were present.

After establishing a baseline for each patient, AM and EFT were assessed using an adapted version of the Autobiographical Interview. Patients were divided into three groups who received MVI (the experimental group), a sham verbal treatment (verbal control group), and no treatment (stability group). The use of the control and stability groups was intended to rule out nursing and test learning effects.

Patient commentaries about the MVI program collected during this investigation noted a more general feeling of self-confidence in life, with higher levels of control and vitality.

According to Dr. Manning, "In summary, the major finding of this study is that AM and EFT impairment could be efficiently improved by means of a facilitation program and that the use of an MVI strategy seemed easily integrated and resulted in significant benefits in their [daily life](#) functioning. More generally, we hope that this study and its positive outcomes could encourage future investigations in different clinical settings."

More information: "Using mental visual imagery to improve autobiographical memory and episodic future thinking in relapsing-remitting multiple sclerosis patients: a randomised-controlled trial study," by Alexandra Ernst, Frédéric Blanc, Jérôme De Seze, and Liliann Manning. *Restorative Neurology and Neuroscience*, Volume 33, Issue 5 (September 2015), [DOI: 10.3233/RNN-140461](https://doi.org/10.3233/RNN-140461)

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