

# Brain Function Assessment of Patients with Multiple Sclerosis in the Expanded Disability Status Scale

## A Proposal for Modification

Ricardo N. Alonso, MD; Maria B. Eizaguirre, MS; Berenice Silva, MD; Maria C. Pita, MD; Cecilia Yastremiz, BS; Sandra Vanotti, PhD; Fernando Cáceres, MD; Orlando Garcea, MD

**Background:** There is no consensus regarding assessment of the brain function functional system (FS) of the Expanded Disability Status Scale (EDSS) in patients with multiple sclerosis (MS). We sought to describe brain function FS assessment criteria used by Argentinian neurologists and, based on the results, propose redefined brain function FS criteria.

**Methods:** A structured survey was conducted of 113 Argentinian neurologists. Considering the survey results, we decided to redefine the brain function FS scoring using the Brief International Cognitive Assessment for MS (BICAMS) battery. For 120 adult patients with MS we calculated the EDSS score without brain function FS (basal EDSS) and compared it with the EDSS score after adding the modified brain function FS (modified EDSS).

**Results:** Of the 93 neurologists analyzed, 14% reported that they did not assess brain function FS, 35% reported that they assessed it through a nonstructured interview, and the remainder used other tools. Significant differences were found in EDSS scores before and after the inclusion of BICAMS ( $P < .001$ ). Redefining the brain function FS, 15% of patients modified their basal EDSS score, as did 20% of those with a score of 4.0 or less.

**Conclusions:** The survey results show the importance of unifying the brain function FS scoring criteria in calculating the EDSS score. While allowing more consistent brain function FS scoring, including the modified brain function FS led to a change in EDSS score in many patients, particularly in the lower range of EDSS scores. Considering the relevance of the EDSS for monitoring patients with MS and for decision making, it is imperative to further validate the modified brain function FS scoring. *Int J MS Care.* 2020;22:31-35.

The Expanded Disability Status Scale (EDSS)<sup>1</sup> is the most popular tool for assessing disability in patients with multiple sclerosis (MS). Despite its limitations, the EDSS prevails as the main tool for assessing disability in clinical practice.<sup>2</sup> Its final score, which can range from 0 (normal neurologic examination) to 10 (death by MS), is determined by a com-

ination of intermediate scores obtained by assessing different functional systems (FSs) and mobility. Within FSs, the brain function FS is assessed and provides a score that ranges from 0 (normal) to 5 (dementia). The disadvantage of the brain function FS lies in the fact that it does not specify the tools used for defining the intermediate points. With the aim of improving reliability,

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From the Multiple Sclerosis Clinic, University Centre of Neurology, J.M. Ramos Mejía Hospital, Buenos Aires, Argentina (RNA, MBE, BS, MCP, CY, SV, OG); and Multiple Sclerosis Clinic, Buenos Aires Institute of Neurosciences, Buenos Aires, Argentina (MBE, SV, FC). Correspondence: Ricardo N. Alonso, MD, Multiple Sclerosis Clinic, University Centre of Neurology, J.M. Ramos Mejía Hospital, Urquiza 609, Buenos Aires City, C1221ADC Argentina; e-mail: ricardoalonsohrm@gmail.com.

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