

## FAQ

### What does the new study on multiple sclerosis show?

It shows that using remotely monitored exercises found in BrainHQ from Posit Science can significantly improve cognitive measures. You can read the study [here](#).

Cognitive impairment is reported to affect up to 70 percent of patients with MS, and there is no current, generally-recommended method of treatment. While cognitive remediation has been used, it is expensive to administer in-person and requires patients to travel to appointments.

This study explored whether advances in computer technology and telehealth would permit remote administration of computerized brain training.

The researchers enrolled 135 patients, who were randomly assigned to either the brain-training group or the computer games active comparison group. The brain-training group was assigned exercises now found in BrainHQ. The computer games group was assigned casual games.

Both groups were asked to train for an hour a day, five days a week, for 12 weeks (a total of 60 hours), according to an automated schedule. Researchers reported that compliance was high in both groups, with the games group averaging 57 hours and the brain-training group averaging 38 hours.

Both groups improved in the overall cognitive measure. However, despite training about one-third fewer hours, the brain-training group had nearly three times the gain of the games group. The gain for the brain-training group in the overall cognitive composite score was about 29 percent.

In addition to the objective neuropsychological battery, patients were asked, as a secondary measure, to self-assess whether they experienced any improvement in cognition. In the brain-training group, 56.7 percent reported experiencing improvement, as compared to 31 percent in the games group.

The researchers selected BrainHQ exercises, because most of the exercises emphasize some aspect of visual and/or auditory speed of processing. Deficits in speed of processing are a signature cognitive symptom in MS patients.

### Who ran the study?

The study was conducted at Stony Brook Medicine by independent researchers now at New York University (NYU) Langone Medical Center's Multiple Sclerosis Comprehensive Care Center. The study was published in PLOS ONE Neurology in an

article entitled "[Cognitive Function in Multiple Sclerosis Improves with Telerehabilitation: Results from a Randomized Controlled Trial.](#)"

It is believed to be the largest study, to date, measuring the impact of brain training on cognition in MS patients.

### **Who funded the study?**

This study was supported by the National Multiple Sclerosis Society, award number: RG4808A81.

### **Are there other studies of BrainHQ assessments or exercises related to Multiple Sclerosis?**

Three prior published studies review the use of BrainHQ assessments among people living with Multiple Sclerosis. <sup>1, 2, 3</sup>

One prior peer-reviewed article has been published on the use of BrainHQ exercises among people living with Multiple Sclerosis. <sup>4</sup>

<sup>1</sup> Badenes D et al (2014) [Driving competencies and neuropsychological factors associated to driving counseling in multiple sclerosis.](#) J Int Neuropsychol Soc 20(5): 555-65.

<sup>2</sup> Shawaryn MA et al (2002) [Assessing Functional Status: Exploring the Relationship Between the Multiple Sclerosis Functional Composite and Driving.](#) Arch Phys Med Rehabil 83:1123-9.

<sup>3</sup> Schultheis MT et al (2001) [The influence of cognitive impairment on driving performance in multiple sclerosis.](#) Neurology 56:1089-94.

<sup>4</sup> Hancock LM et al (2015) [Processing speed and working memory training in multiple sclerosis: a double-blind randomized controlled pilot study.](#) J Clin Exp Neuropsychol. 37(2):113-27.

### **Will there be new products to address these issues?**

As its research advances in clinical indications, Posit Science plans to approach appropriate regulatory agencies to explore the shortest path to getting a form of relevant exercises into the hands of patients who may be helped.