

# LONGITUDINAL INDIVIDUALIZED ANALYSIS OF COMPUTER-BASED COGNITIVE REHABILITATION IN MULTIPLE SCLEROSIS

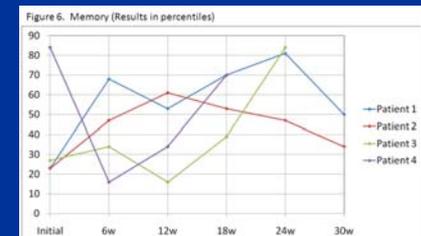
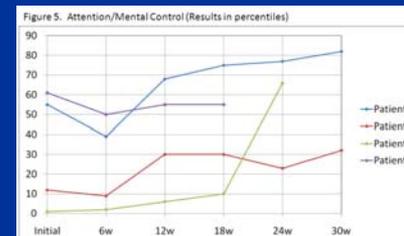
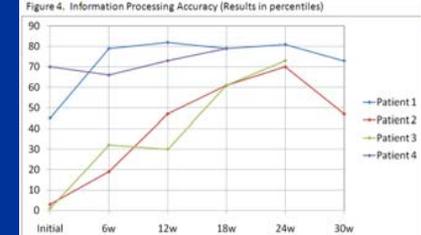
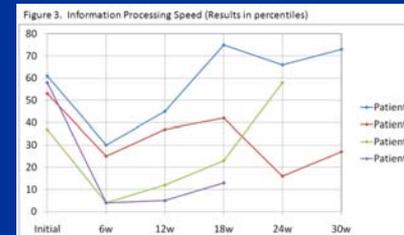
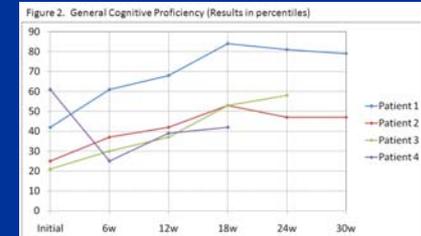
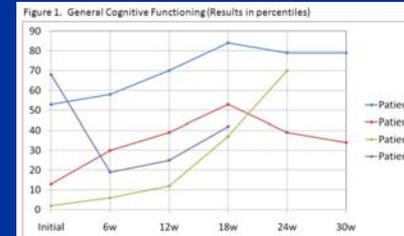
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**Introduction:** Cognitive deficits are common in MS, occurring in up to 65% of people with MS (1). Areas affected include learning and memory attention, information processing, multi-tasking, visuospatial abilities, and executive functioning; these deficits negatively impact quality of life. Research has documented the success of cognitive rehabilitation interventions (2,3), including those using computer-assisted exercises, in improving specific neuropsychological processes as well as quality of life (4,5). Recent developments in brain repair and neuroplasticity provide solid rationale for cognitive rehabilitation interventions in MS.

**Objectives:** To investigate the potential utility of computer-assisted cognitive rehabilitation (CACR) in patients with MS who have mild to moderate cognitive impairment.

**Methods:** Twelve individuals with MS demonstrating mild to moderate cognitive deficits were recruited to participate in a 30-week study. Patients were administered a baseline neuropsychological evaluation. Patients completed the MicroCog at baseline and every 6 weeks to monitor progress. All patients were required to participate in one-hour CACR sessions at the clinic every six weeks, as well as complete one hour of homework assignments five days a week and track their progress using a log.

**Results:** The data presented are for participants who have been actively enrolled for at least 18 weeks. Results from MicroCog testing indicate that General Cognitive Functioning increased an average of 22 percentile points, General Cognitive Proficiency increased an average of 19 percentile points, Attention/Mental Control increased an average of 26 percentile points, and Memory increased an average of 20 percentile points. In addition, although Information Processing Speed decreased an average of 9 percentile points, Information Processing Accuracy increased an average of 38 percentile points (figures 1 to 6).



**Conclusions:** In general, these preliminary results suggest that participating in this online cognitive rehabilitation program produced a trend toward improvements in cognitive functioning, especially with regard to attention, memory, and accuracy of information processing.

**References:**

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