



BrainAdvantage Parkinson's Client Case Report

This client is a 84 year-old male with 16 years of formal education and. He was previously diagnosed with Parkinson's Disease and has problems staying awake during the day. He has sleep apnea but is on a C-Pap machine at night. He complained of hip pain, balance issues and came into the office walking heavily on a four-footed cane. He also used a walker from time to time.

During initial assessment he fell asleep several times.

Assessment

The client was assessed for Mild Cognitive Impairment. The results were within low normal limits. The client was also assessed using TOVA (Tests of Variables of Attention) for attention and focus issues. He did have signs of impulsivity and inattention. Omission (inattention) errors in this protocol were excessive. Excessive omission errors can be associated with neurological and/or neuropsychological impairment including sleep disorders.

This indicates difficulty in sustaining attention in a highly stimulating, high frequency response activity.

The client was then tested for Brain Speed to assess for cognitive function, recall, memory and sequencing skills. Out of a possible score of 3175, the client scored 775.

The client was assessed neuromotor skills. His coordination, balance timing and sequencing were all very low as was his visual and auditory processing.

The client was assessed using HEG Neurofeedback. A 4-minute measurement was taken on both the right and left frontal lobes using HEG to measure blood oxygenation levels. The client feel asleep while doing this task. He showed marked decrease in oxygen levels on the right versus the left side.

Recommendations/Training

We recommended the client train with BrainAdvantage for 20 sessions. Re-assessments were scheduled following the 10th session and at the end of training.

Her training protocol included:

- Audio Visual Entrainment starting in Beta frequencies targeting left at a target rate of 10hz on left and 10-19hz on right.

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- HEG Neurofeedback 3x/week for 20 sessions focusing on increasing the activity on her left side.
- The Listening Program for vestibular exercise, balance and auditory processing, 30 minutes a day, 5 days a week for 10 weeks.
- Interactive Metronome 30 minutes 3x/week for rhythm, coordination, visual and auditory processing
- Cognitive software 3x/week for cognitive, memory, recall and sequencing.

During the course of his 1st 10 sessions, the client did extremely well. Patient reported that therapy has helped him dramatically. He is especially impressed with HEG neurofeedback. He is now staying awake during the day. He's walking better and is thinking much more clearly.

10th session Reassessment

The cognitive test showed Memory had increased. His Fluency and Executive Function also rose.

TOVA scores also were better after 10 sessions: The client's impulsivity and inattention scores were markedly better.

Neuromotor skills testing showed significant improvement in all areas. His Brain Speed score rose from 775 to 875

20 Sessions Assessment

Cognitive tests showed Memory, Fluency and Executive Function had increased dramatically from his initial score.

His scores for attention and impulsivity were now well into normal range. The patient also continued to improve in neuromotor skills. It was evident in his ease of walking without a cane. He now carries his cane under his arm as he walks.

His Brain Speed score rose from 775 to 1150 after 20 sessions.

Final Observations

During the last 10 sessions the client continued to improve. Patient stated he had dinner with a friend at the end of the 20 sessions. The friend asked him what had happened. He commented that he must have reinvented himself. He was walking better, talking better and looked better.

The client is happy and active. He continues to come into the office for nutritional advice. He has recommended our training to several others in his retirement community.