COGNITIVE IMPROVEMENTS IN A TEENAGE MALE WITH POST-CONCUSION SYNDROME FOLLOWING FUNCTIONAL NEUROLOGY INTERVENTION

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Introduction

A 16-year-old male presented to a university-based chiropractic functional neurology clinic with persistent cognitive difficulties following a concussive injury sustained one year prior. Specifically, he reports difficulty reading, poor memory and inattention.

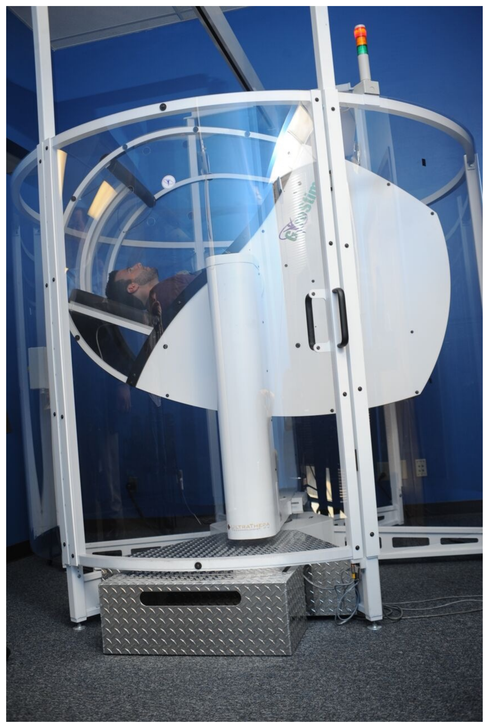
Methods

Initial evaluation included a physical examination, Computerized Dynamic Posturography (CDP), Videonystagmography (VNG), and C3 Logix evaluation. Significant findings are demonstrated within table 1. Overall deficiencies were correlated with the neurological delineates of hypofunction within the left frontal lobe, left mesencephalon and right cerebellum. He began a course of care over 5 days' time, receiving daily chiropractic spinal adjustments, off vertical axial rotation (OVARD) treatments, and specific balance and optomotor exercises.

Results

The patient demonstrated improvements upon re-examination with his balance, coordination, oculomotor function, and cognitive testing. Significant findings are demonstrated within table 1.

TABLE 1	Initial Examination	Re-Examination	% Improvement
Simple Reaction Time (C3 Logix)	385ms	357ms	7.3%
Choice Reaction Time (C3 Logix)	519ms	367ms	29.3%
CDP Stable Surface, Eyes Closed (stability score)	78.7%	87.8%	9.1%
CDP Perturbed Surface, Eyes Closed (stability score)	42.6%	72.7%	30.1%
VNG Leftward Saccadic Latency (avg)	214ms	207ms	3.3%
VNG Rightward Saccadic Latency (avg)	219ms	208ms	5.0%



Conclusion

Post-concussive syndrome may cause long term impairment with few conventional treatment options. Positive outcomes of this case suggest further investigation into the reproducibility of a chiropractic functional neurologic approach is warranted.