



## **BrainAdvantage Autism Client Case Report**

This patient was a six-year-old female with Autism Spectrum Disorder, diagnosed at the age of 18 months after a DPT inoculation. She appeared unaware of her surroundings and did not converse, merely parroting. She did not make eye contact unless prompted by her mother.

At the recommendation of BrainAdvantage, her parents obtained a system for administering psychoacoustically modified music at home prior to her beginning BrainAdvantage assessment and training. Her mother brought in coloring book page she did as she listened. You could see the change in ability to focus and stay within lines from when she started to when she finished in one day.

### **Assessment**

The client was unable to complete any of the computer-based assessments; however, she could successfully sequence sets of three sequence cards in the correct order.

The client was assessed using HEG Neurofeedback which showed a marked decrease in oxygen levels on the right versus the left side.

Neuromotor skills testing showed she had poor coordination, timing and auditory processing skills. She was affected by sounds and light.

### **Recommendations/Training**

We recommended the client train with BrainAdvantage on a reduced program for 20 sessions. If she is able to perform any cognitive training prior to completion of the 20 sessions, this would be added to her protocol. Reassessments were scheduled following the 10<sup>th</sup> 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 15-18Hz
- HEG Neurofeedback 3x/week for 20 sessions focusing on increasing the activity on her left side.

- Psychoacoustic sound treatment for vestibular exercise, balance and auditory processing, 30 minutes a day, 3 days a week, for 10 weeks (at home).
- Training for rhythm, coordination, visual and auditory processing 30 minutes, 3x/week

## Observations

**At two sessions.** She had already showed some change in her ability to initiate communication. She started taking note of her environment, observing and commenting on a pin on her mother's blouse and a necklace in the test room. In the auditory/motor skills training, she is also beginning to understand the relationship between the tones she hears and the act of clapping.

Most noticeably, she is gaining control over her small motor skills, as evidenced by the example of her coloring while listening to the psychoacoustically modified music.

**After 8 sessions,** the client was noted to drop her expression and loose interest when a face was displayed on the computer screen. When action resumed it brought he attention back up.

We started her on a touch screen computer even though her mother said she was quite sure the client was unable to do so.

She stuck out her hand to shake hands today and gave hugs all around.

**After 11 sessions,** she became much more animated in the office though her communication appears to be lines from movies.

She drastically increased the baseline levels of oxygen in both the right and left frontal lobes using HEG.

**After 20 sessions** she was able to clap on or near the beat without help.

She can do story sequencing on the touchscreen computer without help. Her teacher has noticed the change and says the client noticed there was a computer in her classroom (the first time), walked over and picked up the mouse and knew what to do with it.

She's making more eye contact and can now spell her name. She will continue to use the auditory retraining program.