

# IM DELIVERS A KEEN TEEN!



Cara is a 15-year-old girl who had a rough start in life. When she was a toddler, her birth mother passed away and she

was introduced to her loving adoptive family. As her adoptive family got to know her, they noticed that she had difficulty focusing and paying attention at a young age. After many visits to specialists, Cara was diagnosed with Fetal Alcohol Syndrome. Despite being healthy overall, she demonstrated many of the difficulties associated with Fetal Alcohol Syndrome such as a short attention span, impulse control and some learning difficulties. As Cara got older, the gaps in her ability to focus and concentrate seemed to get bigger, this led to difficulty in class and often turned in incomplete assignments.

After years of struggling and seeing virtually no improvement in her focus and concentration, Cara was introduced to Interactive Metronome® (IM). IM is the only training program that improves timing in the brain in an organized, systematic, flexible and engaging format. Research shows that combining movement and cognitive tasks leads to better overall outcomes and improvements in language and cognition, stronger motor control and coordination, and enhanced balance and gait. IM is a patented and unique training tool that challenges thinking and movement simultaneously, providing real-time millisecond feedback to help synchronize the body's internal clock.

At her initial assessment, she chatted all through both the standardized testing and the IM Long Form Assessment (LFA). When asked to perform the Attend Over Time task, she initially refused to participate, but was then persuaded to complete the task.

The Jebsen Test of Hand Function was administered, revealing that Cara had some fine motor issues, as well

as motor planning and execution difficulties. She was impulsive during all of the testing and typically needed directions to be repeated.

The Jebsen scores revealed that Cara's times were (+) above what they should be for her age (meaning that it took her much longer to complete the tasks).

During the LFA, Cara required constant supervision to help her attend to the program and remain on task. She was 74.6% early on her hits and very impulsive throughout the session.

She achieved an overall unadjusted score of 425.5 ms (extreme deficiency range). She was very uncoordinated in her movements and demonstrated a significant difference between her "both hands" exercises (381 ms) and "both feet" exercises (287.5 ms). She could not perform movements requiring both upper and lower body actions such as jumping jacks or jumping rope. She also demonstrated a right/left difference (425 ms/506 ms).

Initially, Cara would become confused with what the sounds and colors on the screen meant, but this changed very quickly. By the 5th session, she was able to complete simple tasks such as both hands or both feet with the guide sounds on and score below 100ms. Her attitude during our sessions began to change and she began to be motivated by her improved scores and number of achieved bursts.

Cara became very determined to teach herself to multi-task. She wanted to be able to focus even when her friends were distracting her at school. She worked on tapping to the beat while doing an online word search or by completing simple math equations. She even enjoyed being challenged to keep her balance on the Balance Master while clapping. One of her most challenging activities was to tap out certain color patterns to a tempo of 100ms.

Re-administration of the Jebsen now revealed results that were within normal limits on every single subtest. Although these tasks were not practiced, Cara was able to execute

her motor plan more efficiently and accurately, thus resulting in the decrease in time that it took to complete each task. She wasn't dropping objects or fumbling them in her fingers.

On her post LFA, her overall unadjusted score was now 40 ms which put Cara in the above average range. Her impulsivity did continue but she was able to focus on the tasks requested of her. Differences in "both hands" and "both feet" were now 25 ms apart, and right/left difference was only 8 ms. Her Attend Over Time task score was 21 ms! She had learned to focus for longer periods of time, listen to directions and follow through with tasks. At the initial LFA, Cara's SRO% was 0 on 12 out of 14 exercises, but now that she was able to hone in her focus on the tasks, her percentage ranged between 7% to 43% on all of the 14 exercises.

When it was time for Cara's reassessment, she no longer required redirection or repetition of the task directions and went much more quickly. She took great pride in her ability to beat her original scores!

Cara even became more focused and was able to keep on track during her classes at school. She did still like to chatter, but was able to remind herself to stay focused until a task was done. Even her overall appearance improved, the seemingly disheveled and flustered teen grew into a well put together young woman.

-Wendy Harron, OTR/L

